CITY OF PORT WENTWORTH

CITY COUNCIL

AUGUST 26, 2021

Council Meeting Room	Regular Meeting	6:30 PM

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

2. PRAYER AND PLEDGE OF ALLEGIANCE

3. ROLL CALL - CLERK OF COUNCIL

4. APPROVAL OF AGENDA

5. RECOGNITION OF SPECIAL GUESTS

6. ELECTIONS & APPOINTMENTS

A. Appointment of District 1 City Council Seat

7. ADOPTION OF MINUTES

A. City Council - Regular Meeting - Jul 22, 2021 6:30 PM

B. City Council - Special Called Meeting - Aug 5, 2021 6:30 PM

C. City Council - Special Called Meeting - Aug 11, 2021 4:00 PM

8. COMMUNICATIONS & PETITIONS

A. US Census Bureau

B. Non-Operational Equipment for Surplus

9. COMMITTEE REPORTS

A. Committee Reports

10. CONSENT AGENDA

11. UNFINISHED BUSINESS

12. NEW BUSINESS

A. Request for Proposal (RFP) - Chamber of Commerce for the City of Port Wentworth

B. Georgia Municipal Association (GMA) 401(a) Defined Contribution Plan

C. Medical Director Memorandum of Understanding

D. Palmetto Fire Apparatus Maintenance Agreement Holdings, LLC

E. Contract Award for the Antrim Road Roadway Improvements Project

F. Contract Award for the Red Robin Court Roadway Improvements Project

G. Zoning Map Amendment 7-0906-01-028 Exley Highway 21 2nd Reading

- Public Hearing
- Action

H. Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21 2nd Reading

13. RESOLUTIONS/ORDINANCES/PROCLAMATIONS

14. EXECUTIVE SESSION

15. PUBLIC COMMENTS - REGISTERED SPEAKERS

16. ADJOURNMENT

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Administration
Category: Appointment
Prepared By: Shanta Scarboro
Department Head: Shanta Scarboro

AGENDA ITEM (ID # 2491)

DOC ID: 2491

Appointment of District 1 City Council Seat

Issue/Item: Appointment of District 1 City Council Seat

Background: The City of Port Wentworth posted to its City website a message seeking Port Wentworth residents, who reside within the boundaries of District 1 as shown on the Port Wentworth, Georgia Council Elections Districts map, interested in serving as District 1 Council Member to submit their resume and cover letter by the set deadline.

The appointed Council Member will be expected to attend monthly City Council meetings, held on the 4th Thursday of each month, as well as any other Special Called Meetings, City Council Workshops, special events, etc.

The chosen applicant is also asked to serve as Council Member until December 31, 2021, after which the District 1 seat will be filled by the individual who ran and is elected for the position during the November 2, 2021 General Election.

The deadline to turn in cover letters and resumes in person or via mail was listed as 4:30 p.m. on Wednesday, August 18, 2021.

As a result, three (3) Port Wentworth District 1 residents submitted their information for consideration: Georgia Benton, 135 Saussy Road, Gabrielle Nelson, 64 Burnt Oak Road and Alfonso Ribot, 17 Wild Silk Way.

Recommendation: Appointment of District 1 City Council Seat

ATTACHMENTS:

- Candidate District 1. Benton (PDF)
- Candidate District 1. Nelson (PDF)
- Candidate District 1. Ribot (PDF)

135 Saussy Road
Port Wentworth, Georgia 31407
August 16, 2021

City of Port Wentworth
Attn: Mayor Gary Norton
7224 Ga Highway 21
Port Wentworth, Georgia 31407

Dear Mayor Norton,

I am applying for the 1st district Council Member position until December 31, 2021 in the City of Port Wentworth. I've been living in the first district since 1986.

Attached is my resume. If more information is need please do not hesitate to contact me. My telephone numbers are 912-964-8571 home, 912-596-6205 cell, and 912-232-7031 business. Thank you for your consideration.

Sincerely,

Georgia W. Benton

Attachment: Candidate District 1. Benton (2491 : Appointment of District 1 City Council Seat)

Georgia W. Benton

912-964-8571 Home 912-232-7031 work
912-596-6205 Cell
135 Saussy Road
Port Wentworth, Georgia 31407

E-mail shsedna@aol.com
Married to Leroy Benton Sr. since 1968

Objective To obtain 1st district council seat in the City of Port Wentworth until December 31, 2021. Resident in the community since 1986.

Skills & Abilities Internal Revenue Service Enrolled Agent, Entrepreneur, Educator, Historian and Concrete Contractor. A member of the National Society of Tax Preparers. State of Georgia certified Mediator , a trained CASA and a member of the National Historic Preservation

Experience

1970 – 1975
Teacher of High School Mathematics, Effingham County Board of Education
- Taught various high school mathematics subjects at Effingham County High
- Involved with a peaceful integration of the high schools in the county

1970 – 1975
Worked for H&R BLOCK
Prepared income tax returns and taught the beginning tax preparers classes.
Awarded for having the highest volume as a part time worker

1975 – 2003
Teacher of High School Mathematics, Chatham County Board of Education
- Department Head of Mathematics Department
- Department Head of Remediate Education Program
- Initiated a Conflict Resolution Program

1979 – Present
Owner/operator Benton's Income Tax and Accounting
Prepare any federal and state quarterly or annual tax return
Accounting for profit and nonprofit organizations, business and churches including payroll.

1992 – Present
Owner /operator for Vector Construction Company
This is a concrete construction company that is nonoperational but we maintain our license. I read blue prints, did cost analysis, ordered supplies, prepared bids, invoices and site inspections. Did sidewalk repair under contract for the City of Savannah for about 9 years

Attachment: Candidate District 1. Benton (2491 : Appointment of District 1 City Council Seat)

Education

Savannah State College – Savannah, Georgia – Bachelor of Science 1970
Recipient of State of Georgia Board of Regent Scholarship for four years. I finished college in three years. Graduated Cum Laude. Did other graduate studies at Armstrong State and Georgia Southern College.
I attended several tax courses including those held by Internal Revenue annually. Attended classes to be trained as a CASA and State of Georgia Mediator.

Communication

I did the historic research, prepare and presented resolutions to the City of Port Wentworth for the naming of the Roderick Steele viaduct, Christmas Moultrie exchange and the Della Steele park. I assisted with the research for the historic marker for Richmond and Houston Baptist Church. I did the research and prepared the necessary paper work to Georgia Historic Society for the Historic Marker in front of First Bryan Baptist Church. I am also the first black to run for council person in Port Wentworth.

Leadership

I am member of First Bryan Baptist Church. I am founder of a mentoring organization for young men in the church. I was the Director of Youth Activity. I am the historian for the church. I am a member of the Archive Tourism Committee. I am chairperson for the 1856 Knauff Pipe Organ Fund. On the board of directors for Andrew Bryan Community Development Corporation and Savannah Yamacraw Association Inc. Received an award from the United States Department of Justice Lawyer Committee for Civil Rights for my involvement for obtaining water and sewage to the black community in Port Wentworth.

References

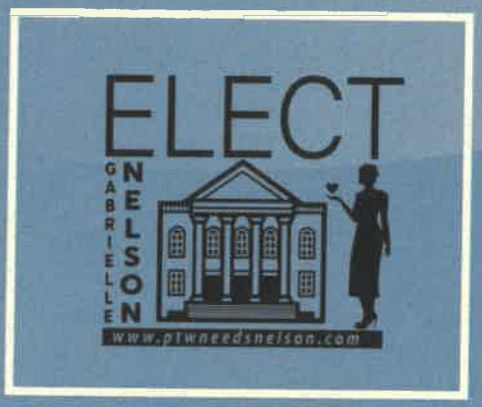
Lester Jackson
1st District Senator
Atlanta, Georgia
912-659-9394

Mary Knight
Co-Worker
Savannah, Georgia
912-663-5969

Elyse Butler
Georgia Historical Society
912-651-2125 Ext.119

Julius Robinson
Grant Road
Port Wentworth, Georgia
912-964-7765

Attachment: Candidate District 1. Benton (2491 : Appointment of District 1 City Council Seat)



Mayor of the City of Port Wentworth, City Council Members, City Administrator and Clerk of Court,
7224 GA Hwy 21 Port Wentworth GA 31407

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Warm regards,

Gabrielle Nelson

Gabrielle Nelson
Candidate for Port Wentworth District 1 City Council

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Gabrielle D. Nelson

64 Burnt Oak Rd.
Port Wentworth, Ga. 31407
(912) 660-0694
nelsongabrielled@gmail.com

Mayor of the City of Port Wentworth, City Council Members, City Administrator and Clerk of Court,

If truly having a love for people is wrong, I do not want to be right! Citizens throughout the court system and Chatham County local government have often told me I have the patience of Job and am extremely knowledgeable in many areas. I am an intelligent, self-motivated, young woman and will bring my professional skillset and goal oriented thoughts to our City as *First District Council Woman.*

I developed a love for news, politics, and the general betterment of people at a very young age and many years ago decided that I had come to a point in life where I was ready to validate the ambitions of my heart. I am a proven communicator with a service grounded mentality. I am confident that with my responsible and reasonable outlook I will be able to reach our citizens and council equally and effectively.

I have endured many obstacles in life which have provided me with quality personal & professional skills. I have also obtained many leadership qualities through different opportunities throughout the course of my career. My professional background, goals for the future of Port Wentworth and decade plus residency in this city and district mesh well with the responsibilities and expectations of a *council woman.* I am thoroughly excited to continue being formally trained in order to enhance the peaceful enjoyment of our city's constituents.

I submitted my credentials last year to fill the vacancy when Mrs. Dyal resigned but Mr. Hodges was selected instead. I want to make clear that I am not giving up and in addition to requesting this appointment, I filed the initial forms necessary to formally run a campaign for this role in June 2021 and will also be paying my required qualifying fee the week of August 16, 2021. The enclosed resume elaborates on the details of my skills and experience. I am confident that I will prove to be more than efficient as the *First District Council Woman.* I wish intensely to have a chance to work alongside our council members to make a difference and fill our current vacancy. I believe, given the chance, I will prove to be a vital part of this City's growth!

I can be reached at the above listed phone number or email address and look forward to meeting with you soon. Thank you for your fair & thoughtful consideration.

Sincerely,
Gabrielle D. Nelson

A copy of this correspondence has also been mailed to 7224 GA Hwy 21 Port Wentworth GA 31407

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

nelsongabrielled@gmail.com • 912-660-0694

Gabrielle D. Nelson

Accomplishments

- Twelve Year Chatham County government employee.
- Seventeen years of progressive administrative and customer service skills.
- Seven years of management /supervisory experience.
- Eight years of criminal justice and courtroom experience.
- Highly organized and dedicated individual with a positive attitude, who is capable of handling multiple assignments under pressure and consistently meet deadlines, while maintaining a high level of confidentiality.
- Chatham County Notary Public
- City of Port Wentworth Planning & Zoning Commissioner

Professional Experience

Planning & Development Commissioner- City of Port Wentworth Georgia
Port Wentworth, GA▪ 2020– Present

- Centrally focuses on creating a positive environment for City of Port Wentworth Georgia citizens and businesses to flourish by surveying and studying the existing conditions and probable future developments of the area to plan for physical, social and economic growth.
- Provides professional advice and assistance in matters concerning land use, construction, development, and code enforcement to be moved forward to The Council for voting.
- Meets federal, state and City-adopted mandates to assure all structures meet or exceed the minimum life safety standards of the codes, laws and ordinances enforced by the City of Port Wentworth.

Computer Support Manager-Chatham County Information & Comm. Services (ICS/IT)
Savannah, GA▪ 2017– Present

- Supervises, directs, and manages the Chatham County IT Helpdesk, Chatham County Information Line and software/hardware procurement team.
- Plans, organizes, and directs the work of departmental/ divisional personnel in completing their assignments relating to fiscal, administrative support and human resource functions.
- Motivates, coaches, and provides additional training to team side by side as well as in writing with written team standard procedures.
- Executes a variety of special projects and participates in County-wide initiative such as the Strategic Planning Process and Standards of Excellence workshops as well as the Internal Communications review panel.
- Maintains asset information by entering items into the inventory management system and salvaging them as needed.
- Takes calls and accesses email to creates, assign and dispatch work orders to specialized technical staff to allow Chatham County local government business machines to operate efficiently utilizing a work order system to document problems, communicate resolution of problems and provides training.
- Resets, unlock or changes users ESS & Windows account using sound security measures.
- Processes computer related hardware, software, network & IT system administration orders for Chatham County local government by preparing requisitions and purchase orders following State purchasing guidelines.

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

- Responsible for payment of all monthly phone, internet, cable, etc bills on behalf of Chatham County.
- Ensures the payment of invoices after reviewing they are in accordance with payment terms to mitigate any fraud risks.
- Responsible for paying IT related maintenance accounts (currently greater than 70 accounts) on behalf of Chatham County Local government as well as compiling and completing departmental financial reports to assist in annual budgeting. Manages department budget regularly, including submitting and justifying annual budget requests, monitoring spending activities, tracking the status of individual line items and accounts to provide an ongoing analysis of fund disbursement and budget status.
- Creates numerous agenda items for Chatham County Commission Board approval.
- Manages a Chatham County Purchasing card and responsible for keeping track of every transaction made as well as the receipts and applying the correct funding across various department's budgets throughout the County.
- Maintains petty cash account and responsible for request of reimbursements as the petty cash custodian. Responsible for annual petty cash reconciliation audit.
- Processed payroll and absence reports keeping confidentiality until delegating the task to subordinate (currently assisting as secondary). Kept accurate records and applied all accruals with care and accuracy manually through Sharepoint and then Munis and eventually Novatime.
- Oversees and request maintenance and custodial services as well as scheduling vehicle maintenance for the department.
- Processes departmental travel requests and accommodations including hotel, per diem, flight, car rentals, etc.
- Plans and organizes office celebrations, ICS Kitty custodian, schedules department's vehicles for service and makes office supply purchases.
- Assists in the onboarding and orientation process of new hires and provides support across the department. Prepares documents of all types and maintain files as needed, explains office policy, schedules training as well as assigns keys and equipment.
- Performs all immediate errand runs and miscellaneous shopping for departmental supplies hardware and otherwise.
- Maintains a comprehensive and current knowledge of applicable laws/regulations, maintains an awareness of new methods, trends, and advances in the profession, read professional literature, maintains professional affiliations, and participates in continuing education courses as appropriate.
- Works to maintain safe and secure working environment as well as establish and maintain effective working relationships with internal supervisors, departmental employees, other County employees, liaisons, department heads and the public.

Committed Poll Manager-Chatham County Board of Elections (during elections only)
Savannah, GA▪ 2014– 2019

- Managed 5-10 poll workers at various sites complying with state and federal regulations ensuring uncontested elections.
- Set-up of election polls to include placement of signage, opening TS machines and Express- Poll machines as well as administering Oaths.
- Process voters as they enter the poll site by verifying identification; creating and issuing voter cards; maintaining certificate numbers in accordance with elector's list; processing provisional voters where applicable and providing customer service where needed.
- Assist with evening closing procedures to include removal of signage, record total number of voters from designated sources; complete closing procedures on TS and Express-Poll machines, sign all government required forms including pay sheets and return election machines.

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Deputy Court Clerk III (Criminal and Civil Division)-Chatham County Magistrate Court,
Savannah, GA▪ 2011– 2017

- Assist Judges, attorneys, court officials and orients the public by phone, written correspondence and in person.
- Performs routine clerical work relating to the operation of the courts.
- Reviewed civil filings for accuracy, prepare summons for service, process Efile cases, enter complete cases & service sheets
- Process open records requests, good behavior bonds, pre-warrant applications, citations, bad check warrants and updated payment schedules, process civil filings, prepare service sheets, input new filings.
- Maintain and update records of evidence.
- Attend court, call docket, assist Judges on the bench and prepare complex court orders for Judges.
- Train all new employee to current office standards and legal compliance as desired by Clerk of court.

Express Poll Worker-Chatham County Voter Registration (during elections only)

Savannah, GA▪ 2011– Present

- Verify the GEMS File Title, Vote Center Number, Precinct Name and County
- Update Absentees and Deletes.
- Verify the list of voters and mark the absentee voters, voters that require identification and deleted voters.
- Complete the Express Poll Recap sheet by recording the following: Election Date, Assigned Voting Location, ExpressPoll Case Serial Number, ExpressPoll Units Serial Number.

State Court Receptionist–Chatham County District Attorney's Office
Savannah, GA▪ 2009-2011

- Assisted customers by phone as well as in person regarding legal matters.
- Performed a wide range of advanced clerical and administrative tasks requiring independent judgment and operation of technical office equipment.
- Located, typed, gathered, and disseminated legal data and information in a timely manner.
- Organized, maintained, and retrieved department files for Assistant District Attorneys and administrative assistants.

Customer Service Specialist–St. Joseph's Candler Health System
Savannah, GA▪ 2012-2013

- Updated & filed patient and guarantor information including insurance policy information.
- Researched and resolved all patient, insurance, collection agency, and other routine inquires and patient complaints about accounts in a timely, accurate, and professional manner.
- Documented all patient accounts with progress notes of research and findings.
- Maintained open communication and availability to component organizations and practitioner sites for consultation.
- Complied with the health systems credit and collection policies including bank loans, payment plans, payroll deductions, and financial assistance applications.
- Assisted with all department mailings.

Customer Service Representative–Memorial Health Hospital
Savannah, GA▪ 2008-2010

- Provided non-clinical information and referrals to callers via the telephone.
- Promoted Memorial Health and related corporate entities, physicians, services, and programs.
- Took after hours call for Patient and Family care services and logged information.
- Answered after hour's calls for contracted physician practices.

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

- Contacted appropriate physician for patient/hospital needs.
- Responsible for assisting with all department mailings.
- Assisted the project manager and customer service specialist with reports and other activities including health promotions programs.
- Facilitated hospital transfers as well as transportation to Memorial Health Hospital from various hospitals in surrounding counties.

Quality Assurance Analyst–Sitel Corporation
Savannah, GA▪ 2005-2008

- Monitored, evaluated, and documented inbound calls for quality assurance purposes.
- Empowered and equipped representatives with tools to provide extraordinary customer service.
- Provided representatives feedback on call performance strengths and areas of development.
- Facilitated training sessions for representatives to explain client quality goals and expectations.
- Facilitated monitoring sessions to ensure client satisfaction with representative performance.
- Accurately filed and organized monitoring forms in compliance with client standards.
- Handled numerous individual, time-sensitive assigned projects for clients.

Team Lead/ Mentor

- Coached and mentored representatives on selling techniques and customer service skills.
- Developed representative's abilities to efficiently handle customer service issues.
- Ensured representatives understood productivity, adherence, and job performance responsibilities.
- Assisted supervisors with daily operational and administrative tasks

Customer Sales Representative

- Met monthly sales quota.
- Received inbound calls and provided customer service for Chase, Capital One, and American Express customers.
- Reviewed and identified concerns and provided compromised yet satisfying solutions.
- Nominated for the 2006 SITEL Star Award.

Human Resource Assistant-Target Corporation
Savannah, GA▪ 2004-2005

- Responsible for administrative functions and scheduling, timekeeper.
- Assisted with entering payroll.
- Utilized company and excelled within various positions.

Operator/ Operator Trainer

- Responsible for answering multiple line switchboard phones.
- Trained new operator trainees.
- Answered customer's questions both over the phone and in person.
- Dispatched calls and made announcements over intercom.

Cashier

- Handled customer sales and processed returns and exchanges.

Education and training

Dual Sealed Diploma– Winsor Forest High School, Savannah, Georgia ▪ 2005
Bachelor of Science-Criminal Justice– Armstrong State University, Savannah, Georgia ▪ On hold
FEMA IS-00100.c, IS-00200.b & IS-00700.b ▪ 2018
Strategic Leadership & Supervision I & II – Savannah Technical College ▪ 2018
Employee Assistance Program supervisor training- EAP ▪ 2019
Diversity Equity and Inclusion in the Workplace certificate- University Of South Florida Muma College of Business ▪ 2021

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Planning and Zoning 101- University of Georgia Carl Vinson Institute of Gov. ▪ 2021

Programming and Software Skills

Microsoft Office 2013, Windows XP, GCIC, Odyssey, JIMS, SharePoint, RHSamba (Zortec), Application Xtender, Office Communicator, Service Desk, NovaTime, Munis

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Office of the Mayor Savannah, Georgia

Van R. Johnson, II
Mayor

July 24, 2021

To Whom It May Concern:

It gives me great pleasure to offer this recommendation in support of the appointment of Mrs. Gabrielle Nelson to the vacant seat on the Port Wentworth City Council.

During my tenure as Human Resources Assistant Director for Chatham County Government, I met Mrs. Nelson in 2009 upon her hire as a Customer Service Representative for the District Attorney's office. I would describe her as hard working, enthusiastic and determined.

She worked effectively and her talent was noticed by the Chatham County Magistrate Court, Voter Registration, and the Board of Elections where she was cross trained in various capacities.

Most recently, she was promoted to the position the Computer Services Manager of the County's Information and Communication Services Department. In this role, she manages the team responsible for curing computer related issues for Chatham County employees, ordering equipment, reconciling invoices, and paying maintenance bills just to name a few. She also supervises the Chatham County Information line where citizens can ask questions and be routed to the appropriate departments.

I am proud to have seen her grow and develop in Chatham County government and I believe that she is worthy of your consideration for appointment to the Port Wentworth City Council.

Please contact me with any additional questions.

Thank you!

Van R. Johnson, II, SPHR, SHRM-SCP, IMPA-SCP
Mayor

MayorJohnson@savannahga.gov • P.O. Box 1027 • Savannah, Georgia 31402 • (912) 651-6444 • Fax (912) 651-6805

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Chisolm Law Offices

Post Office Box 1701
Savannah, Georgia 31402

Larry Chisolm
Attorney at Law

7395 Hodgson Memorial Drive
Queensboro Plaza, Suite 203
Savannah, Georgia 31406

Tel. (912) 349-2880
FAX (912 303-5972
Chisolmlawoffices@comcast.net

July 27, 2021

To whom it may concern,

This letter is written to express my enthusiastic support and highest recommendation for **Gabrielle D. Nelson** for the position of City Council Woman for the City of Port Wentworth. I have been acquainted with Ms. Nelson for most of her adult life and can speak about her, both professionally and personally.

During my tenure as the District Attorney of Chatham County, Ms. Nelson was hired as a Receptionist/Customer Service Representative in our newly formed Administrative Support Services Division. Although she was young at the time of her hire, she proved herself to be a very capable professional, who was eager to learn, smart and much more mature than her age. She was well liked among the attorneys and other staff and worked well with probation officers, police officers and local citizens. She was hardworking and always exceeded expectations in both her performance, customer service skills and her willingness to put in the extra time to make sure that the office was well organized.

I have followed her career through the years and watched as she has earned promotions and higher salaries. She has been employed by Chatham County Magistrate Court, Voter Registration, the Board of Elections and the County's IT department - where she has cross-trained in various capacities. She has also become very involved in the community outside of her employment and has a very realistic perspective on politics and the land-use and planning needs of Port Wentworth – based on real experience and exposure to these issues over time.

In short, I can say unequivocally that she has tremendous heart and is wise beyond her years. She is a mission-focused and big-picture thinker, who would serve the citizens of Port Wentworth well and the Council well. I feel strongly that appointing someone with her youth, skillset and ability to bring people together is a good decision for your council and for the future of your community.

If you have additional questions, please do not hesitate to contact me.

Sincerely,

Larry Chisolm

Larry Chisolm
Attorney at Law

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Jay Jones
Former 6th District Chatham County Commissioner
August 9, 2021

Via Email: ebooth@cityofportwentworth.com
CC: Port Wentworth City Council

City Manager of Port Wentworth
Edwin Booth
7224 GA Highway 21
Port Wentworth, GA 31407

RE: Recommendation for Mrs. Gabrielle Nelson for PW District 1 Council Seat Vacancy

Dear Members of Port Wentworth City Council;

I strongly support the appointment of Gabrielle Nelson to the District 1 seat of Port Wentworth City Council. I have known Mrs. Nelson for quite some time. Her intellect is perceptive, her leadership experience well developed, and her commitment to serve is second to none! I cannot think of a more impressive individual to be appointed in the vacant seat on Port Wentworth City Council.

As one of the fastest growing communities in the state of Georgia we have to have community leaders that can keep up with the pace while serving the community. It needs thought provoking leadership who puts people first! Our future has to be shaped and molded for the growth moving quickly into our community. For that to happen it needs strong representation!

This is not just a docile moment to make a brave decision, we know in less than six months the people will make the final call. There is a reason why we have come to be in the place we stand today. The acceptance of true leadership when it affords the opportunity to serve! I can tell you one thing; Gabrielle Nelson doesn't need my letter of recommendation to prove her leadership capacity. Her resume (attached) speaks volumes for her accomplishment and willingness to serve.

I am confident that each applicant for this seat on Port Wentworth City Council has a combination of educational and professional qualification suitable for the position, but we expect the capacity of leadership to meet our greatest standards to serve the people! Gabrielle Nelson exceeds those standards and in my humble opinion is best suited to do the job! I can be reached at 912.228.2205 or return email at your convenience.

Sincerely yours,
Jay Jones
Electronic submission of this letter serves as my signature.

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

James W. Putney, Jr

161 West Tahoe Drive

Savannah, Georgia 31405

July 23, 2021

RE: Gabrielle D. Nelson

This correspondence comes on behalf of Mrs. Gabrielle D. Nelson. I have known Mrs. Nelson personally and professionally for more than 15 years. She has proven to be trustworthy, professional, and passionate. Her exceptional organizational skills will be an asset to Port Wentworth District 1 City Council. As part of the Chatham County Judicial system, she faced challenges and kept her passion for the people while providing needed services. Her communication skills are enhanced by her friendly attitude.

As a mother she put the children first as I know she will do for the 1st District. She believes that children are our future. She knows to have a strong community it must begin with a strong family, and it does take a village. As Past PTA District Director, and American Legion Post 500 Commander it is my sincere hope and pray that you choose Mrs. Gabrielle D. Nelson for the next District 1 City Council. If you need to speak with me further, please do not hesitate to give me a call. Thank You.

Sincerely Yours,

James W. Putney, Jr

James W. Putney, Jr.

American Legion Post 500 Commander

912-308-599

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

Date: 07/23/2021

To Whom it May Concern,

It is with absolute pleasure to recommend Mrs. Gabrielle Nelson for the position of Port Wentworth District 1 City Council.

For the past several years, Gabrielle has served in multiple capacities in the political arena. She has served on several campaign parties and is instrumental player on the planning & zoning committee for the City of Port Wentworth where she currently serves as one of the commissioners.

Gabrielle produces a high volume of work while consistently maintaining high standards for quality, accuracy, and professionalism. As a servant leader, she possesses the ultimate "can do" attitude while taking on all tasks with positive energy and a smile.

During my relationship with Gabrielle over the past 4 years, I have witnessed an individual who is highly motivated, hard-working and who consistently shows great dedication towards her professional duties. I strongly believe that Gabrielle will be a great addition to City of Port Wentworth and will exceed expectations in her role on the Port Wentworth District 1 City Council.

I am elated to write this recommendation for Gabrielle because I am very grateful and proud of her contributions and accomplishments, she has made for the City of Port Wentworth, the Computer Support Manager for Chatham County ICS Department, and the Planning & Zoning Commissioner. I can attest that Gabrielle is an impressive, reliable, consistent, and creative person who supports her colleagues, takes initiative, and is an absolute pleasure to work with.

Please do not hesitate to contact me if you should require any additional information.

Sincerely,

Rovonda Fleming, MBA
Business Systems Manager – ICS
Chatham County GA
President/CEO of Gifted Concepts, Inc
(912)661-6819

Attachment: Candidate District 1. Nelson (2491 : Appointment of District 1 City Council Seat)

19 July 2021

Mr. Gary Norton
Mayor
City of Port Wentworth
7224 GA Highway 21
Port Wentworth, GA 31407

Dear Mayor Norton,

As previously stated in conversation regarding the Vacant First District seat, this is a formal request to be considered for the appointment to fill the seat and its responsibilities. I agree to the terms of this position to serve ALL the residents of the First District as best as I humanly can and to the best of my abilities.

Since I am a USAF Retired Military Veteran of over 24 years of service I will not have to contend with other distractions and will focus on helping the council move forward and continue the work that Mr. Hodges and the council started for the district. I believe that I will be a real valuable and ideal professional to fill the vacant position until a someone is elected in the November 2, 2021, municipal elections.

The combination of education, military training, community volunteerism, experience, knowledge, and skills in many industries, political settings, multicultural groups, and in multidisciplinary areas of responsibility have provided me with an unsurmountable wealth of relationship building skills that that I will use to help Council move forward should I get appointed.

I bring a capable free-thinking individual with integrity, honesty, team player, leadership, and the love of God and country, that is not bound by outside political interests that do not reflect the persona of the First District nor the City of Port Wentworth. I will be a convener and straight shooter who will do what's right the right way always to make my home First District a Great place to Live, Work, and Play.

Attached you will find a summary style resume. I will send you a more detail one if requested.

Thank you for taking the time to review my resume. I look forward to hearing from you.

Sincerely,

Alfonso Ribot
President Founder / CEO
RHC Training and Development Consultants Inc

RHC
DEVELOPMENT CONSULTANTS INC

(912) 495-7276
17 Wild Silk Way
Port Wentworth, GA 31407
http://www.alfonsoribot.com/

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

ALFONSO RIBOT

17 Wild Silk Way, Port Wentworth, GA 31407

Home (904) 422-5019 Email: aribot@rhcdevelopment.com

BILINGUAL / MULTI-CULTURAL SENIOR LEVEL MANAGER

Combines 30+ years Management & Organizational/Operating Leadership Experience in:

Engineering and Installations Management
Electronic Communications Maintenance
Quality Control/Assurance Specialist
Program Compliance & Evaluation
IT and Computer Customer Support
Network Administrator
Field Maintenance Engineering Technician
Workforce Diversity Facilitator
Computer Programmer / Analyst
Data Center Manager
Youth Sports Program Coordinator
Independent Travel Agent
Proposal Development Specialist
Logistics Support Coordinator
International Sales Support
Personnel Management & Training
Production/Workload Control Supervisor
Special Events Coordinator
Community-Based Programs Coordinator
Jewellery Manufacturing Equipment Maintenance
Electroplating Maintenance Technician
Telecommunications Specialist
Network Marketing Professional

30+ years' experience in Human Resource Development, Training, and Management, in both, civilian and military setting. Strong problem-solving and decision-making skills with the ability to develop and implement effective action plans. Excellent written and oral communication, research, and presentation skills. Self-starter, able to interact with multiple functional areas and personnel of a diverse nature. Active military Secret Clearance holder.

Work Experience

Partnership Specialist - Bilingual

US Dept. of Commerce - Census Bureau - Savannah, GA - 2019 to 2020

- Plan, develop, and coordinate the partnership agreements to ensure activities at all levels are carried out, resolves problems encountered, and determines the need for renegotiation.
- Address questions, concerns and issues related to current and potential partners and stakeholders.
- Establish partnership agreements with federal, state local, and tribal governments, and/or local businesses and community groups to develop specific strategies to eliminate enumeration barriers in specific regions in support of the Decennial Census.
- Develop presentations, give briefings, conduct meetings and promote partnerships with various governments, local businesses and community groups.

President /CEO

Metropolitan Savannah Hispanic Chamber of Commerce - Savannah, GA – 2014 - 2021
June 2014 to 2021

- Founder of the only Chamber of Commerce targeting the Hispanic entrepreneur;
- Developed the foundational aspects of the organization such as Board development, policies, management procedures, by-laws, and several government required documentation;
- Implemented innovative programs and benefits to expand and retain membership;
- Established long-term, mutually beneficial and profitable corporate liaisons and alliances;
- Established a network of contacts to maintain the strong community tie.

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

Senior Business Consultant

RHC Development Consultants - Savannah, GA 2011 to Present

• Developed and presented business start-up and Growth seminars for small and home business entrepreneurs
• Expanded operations of company to an international level in 2 countries in less than 3 months
• Established a network of Hispanic business support services in the Savannah, GA area
• Founded the Metropolitan Savannah Hispanic Chamber of Commerce serving business owners and entrepreneurs in a four (4) county area.

Network Administrator

YMCA of Coastal Georgia - Savannah, GA 2011 to 2016

• Developed Information Technology benchmarking plans.
• Coordinated Broadband Upgrade for seven (7) association branch locations.
• Installed and serviced security devices performed hardware installation and configuration of all computer devices. Trained and developed training materials for site level IT coordinators as well as MS office users.

Inside Sales Assistant

DANIEL DEFENSE - Savannah, GA February 2011 to July 2011

• Coordinated inside and outside sales support to representative partners in 7 countries
• Prepared and translated various sales agreements, contracts as well as online bid proposals for a projected $750,000 in future direct company sales and brokering agreements
• Developed and co-wrote a Manufacturing Cooperation Agreement with a foreign government with an implementation forecast value of $65M in 5 years.

Field Maintenance Technician

SBS/FAA Project - Savannah, GA 2009 to 2011

• Performed field preventive and corrective maintenance to site electronics and infrastructure equipment at more than 25 geographically dispersed communication tower sites in 6 southeast states.
• Assisted management in technician training and safety program development, and site configuration and inventory control system design.

Site Support Technician/Manager

ITT Systems - Quito, Ecuador / Bogotá, Colombia 2007 to 2009

• Served as the US MIL GROUP-EC Technical Specialist to the Ecuadorian Air Force HQ
• Responsible for operation, maintenance and custody of $1.4M CST5000 Satellite Earth Terminal and associated support tools and equipment.
• Coordinated host nation logistical support for in-bound and out-bound transportation of USAF assets.
• Provided documentation, reporting, scheduling and training to enhance the Daily Maintenance Status Report process at the Bogota, Colombia HNCC Site.
• Established procedures and scheduling arrangement to improve morale and job satisfaction of 5 host nation technicians.

Electronics Communications Engineer

Computer Sciences Corporation (CSC) Manta Ecuador 2006 to 2007

• Developed special maintenance troubleshooting job aids responsible for $25,000 in maintenance equipment cost avoidance.
• Responsible for engineering, maintenance and troubleshooting of base support communications systems
• Responsible for the supervisory and administrative functions for the section and served as the subject matter expert for base communications to the CSC/C4I Manager.

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

Chief Electronics-Communications Branch
Electronics Mechanic Radio WG - 141ACS PRANG, Aguadilla, PR 2000 - 2005

• Supervised, trained, promoted, deployed, and conducted performance evaluation of 24 assigned electronic technicians
• Managed, maintained, and conducted detailed inventory control of equipment, tools and test equipment worth over $3.5M.
• Improved morale and work satisfaction of assigned technicians by regularly scheduling morale and welfare squadron activities such as softball tournaments, family outings, and after work socialization.
• Improved unit maintenance support procedures effectiveness by serving as the Quality Assurance Evaluator, decreasing equipment failure rate by 30%
• Improved equipment up-time ratio by developing sound maintenance practices and improving equipment preventive maintenance inspections.

Telecommunications Technician
RAM Inc - Fort Buchanan, PR 1998 to 2000

• Developed procedures for base customer service
• Wrote work instructions on the use of Video Teleconferencing and circuit activation procedures.

Electronics Branch Manager GS0856 - 217EIS ILANG – Chicago, IL
Illinois Air National Guard – O'Hare ARFF Wing, IL - 1995 to 1998

• Supervised, trained, promoted, deployed, and conducted performance evaluation of 32 assigned electronic technicians
• Assembled a Self-Evaluation Team in preparation for an Organizational Readiness Inspection resulting in an EXCELLENT rating.
• Managed several engineering and installation projects all completed ahead of schedule and with an average customer satisfaction of 95%.
• Remotely used available office automation tools to coordinate and direct the deployment of assets and human resources to relocate communications equipment racks at Dyes AFB, TX completing the mission in 30 days with 90% customer satisfaction on a highly complex installation. This had never been done before by an Air National Guard unit.
• Deployed assets and personnel to US and NATO military installations worldwide.
• Managed, maintained, and conducted detailed inventory control of equipment worth over $950,000. Improved the OJT process and training program resulting in the promotion in rank of assigned personnel.

Community-Based Student Recruitment Project Coordinator
City Colleges of Chicago - Chicago, IL - 1991 to 1995

• Develop and implemented a concept idea into a college recruitment and retention partnership program between City Colleges and Community-Based Organizations (CBOs) to ensure minority students access to higher education.
• Coordinated a proposal team to developed budgeting and program requirements to secure a $250,000 grant
• Coordinated and trained staff from 6 community colleges, 14 CBOs, State Senators office, higher education officials and local vendors.
• All project activities and reports were performed and completed within budget and on -time.

Electronics Workload Controller - 217EIS
ILANG - Chicago, IL Chicago, IL - 1989 to 1995

• Innovated the procurement of training workload process, resulting in a 200% increase in training opportunities to keep guardsmen's wartime skills proficient during peacetime.
• Increased unit visibility in high profile installation projects by 150%.
• Developed and trained users on the Workload Management and Reporting System increasing the accuracy of milestones, resource, constraints, and status reports.

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

Data Processing Manager US Census Bureau
Chicago, IL - 1989 to 1991

- Manages Data Center Operation for the 1990 Census
- Recruited, trained, and supervised 15 data entry clerks and 2 shift supervisors.
- Received Outstanding Performer Award from the US Department of Commerce
- Assigned to work as an Ad-Hoch community liaison to the Puerto Rican community of Chicago Westside-Humboldt Park areas

Computer Programmer/Analyst - Chicago Board Options Exchange,
Chicago, IL - 1983 to 1989

- Promoted from Computer Operator to Junior Programmer/Analyst within the first year of employment
- Developed procedures to download key financial data from the mainframe to personal computers in the Information Center (IC)
- Trained Community College interns on JCL/COBOL programming routines
- Assisted in the development of customer service surveys and collected data analysis which improved brokers' awareness of available IC support services.

Industrial Production Specialist – AVON-Mirabella,
Aguadilla, PR 1979 to 1982

- Promoted to various positions of responsibilities within 6 months of hiring.
- Assigned to various maintenance and production such as Metal Plating, centrifugal mold casting machine operator, automatic spot welding and cam operated linking machine as a mechanic.

Education

2014	Master in Business Administration – South University Savannah, Georgia, GPA: 3.2
1997	A.A.S., Electronic Systems Technology - Community College of the Air Force. Maxwell-Gunter AFB
1995	Bachelor of Arts, Human Resources, Minor: Business Data Processing - Northeastern Illinois University. Chicago Illinois - GPA: 3.16, Major GPA: 3.28
1984	Computer Operations Certificate 30 credits. Harry S. Truman, City Colleges of Chicago

Skills

- Business Consulting
- Process Improvement
- COBOL
- Public Personnel Administration
- Outside Sales
- Program Development
- Human Resources
- Translation
- Inside Sales

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

Technical / Leadership Training

GENERAC Air Cooled Generator Maintenance Training
USAF Ground Radio Communications Specialist Course
AVAYA Communication Manager Administration Training
Motorola QUANTAR/QUATRO Maintenance Course
Advanced DC Power Training
USAF AN/TRC-170 O/I Maintenance Course
USAF Tactical SATCOM System O/I Maintenance Course
USAF Standard Installations Practices Training Course
USAF Instructor Certification Program
ANG Pollution Prevention Opportunity Assessment Course
C-E Maintenance Support Procedures
ANG Team Tools and Techniques Course
USAF Maintenance Management Seminar
OSHA Hazard Communications Reg 29CFR 1910.1200
ANG Workforce Diversity Facilitator Training
Information Assurance Training
Anti-Terrorism Training Certificate - USAF
USAF Equipment Custodian Training
Supervisor Safety Training - USAF
(EAR) Export Administration Regulations Training
Independent Travel Agent - License
CPR Instructor Certification
International Traffic in Arms Regulations (ITAR) Training

Military Service

Branch: United States Air Force
Rank: USAF MSGt - E7 Retired 24 years of service, July 23, 2005
USAF Veteran

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

Community / Volunteer Service

Served on board of directors of at least half dozen community-based organization in Chicago and Puerto Rico.

Colombia - Involved in At-Risk Youth programs, technical support to local foundations, and volunteer work with at-risk children in various locations in Ecuador and Colombia.

Savannah Area -Organized a partnership with St Josephs/Candler hospital, and other partner to start mobile vaccination units at four mobile home locations in Garden City and Savannah. A total of 168 women, children and men were vaccinated.

Ecuador - Developed 12 baseball schools in poor and rural communities in Ecuador. Baseball schools attracted many other resources to the community from the USAID and MILGROUP in Ecuador. Baseball was not played until then at the capital city of Quito. US government started to fund like projects as a result of our success.

Ecuador - Developed and created awareness of the street kid problems in the capital city by creating local business, media, local government, church and US Embassy partnerships resulting in 20 rescued youths enrolling in a professional soccer farm system league. They were given all the tools to succeed and helped change the lives of those who stayed with the program. US government started to fund like projects as a result of our success.

Chicago - Developed and delivered workforce training, business start-up workshops, youth leadership programs, and mentoring programs to include parents and local prominent personalities.

Chicago - Used Sports as an organizational tool to get at-risk teenagers focused on their baseball skills and not on youth gang involvement. Partnership with several agencies and non-profit like the Fullerton YMCA, Chicago Police department, Chicago CUBS, Association House of Chicago, and Youth Gang Leadership.

Savannah Area - Founded the Hispanic Chamber of Commerce and provided multiple opportunities for local Savannah Area businesses to have access to resources that would help them start, run, and grow a successful business.

Savannah Area – Served as speaker about ethnic diversity at major conferences through South Georgia including Savannah Interagency Diversity Council, US Bureau of Prisons, US Census Bureau, and at churches within Savannah.

Served a Chatham County Sheriff's volunteer, interpreter, and translator.

Serve on various boards and or commissions such as Chatham County Transit Authority Focus Group, City of Savannah Hispanic Outreach, Leadership and Advocacy, Greater Savannah International Alliance, Savannah Technical College Foundation Board, Savannah Affordable Housing Task Force, Savannah Business Alliance Task Force, and Compassion Christian Church Hispanic Ministry among other.

Attachment: Candidate District 1. Ribot (2491 : Appointment of District 1 City Council Seat)

CITY OF PORT WENTWORTH

CITY COUNCIL

JULY 22, 2021

Council Meeting Room | **Regular Meeting** | **6:30 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

Mayor Gary Norton called the meeting to order.

2. PRAYER AND PLEDGE OF ALLEGIANCE

Reverend Paul Mongin, Pastor of First Baptist Church of Port Wentworth, led in prayer and Mayor Norton led in the Pledge of Allegiance.

3. ROLL CALL - CLERK OF COUNCIL

Attendee Name	Title	Status	Arrived
Gary Norton	Mayor	Present	
Linda Smith	Mayor Pro Tem	Present	
Mark Stephens	Council Member	Present	
Lynwood Griner	Council Member	Present	
Glenn Jones	Council Member	Present	
Thomas Barbee	Council Member	Present	
James L. Coursey	City Attorney	Present	
Edwin L. Booth	City Manager	Present	
Shanta Scarboro	Clerk of Council	Present	
Brian Harvey	Director of Development Services	Absent	
Lance Moore	Chief of Fire Operations	Present	
Yolanda Irizarry	Director of Human Resources	Present	
Tiffany Lancaster	Director of Leisure Services	Present	
Matt Libby	Chief of Police	Present	

4. APPROVAL OF AGENDA

Council Member Glenn Jones made a motion to approve the agenda. Seconded by Mayor Pro Tem Linda Smith. Vote was unanimous.

5. RECOGNITION OF SPECIAL GUESTS

There were none to report.

6. ELECTIONS & APPOINTMENTS

There were none to report.

7. ADOPTION OF MINUTES

A. City Council - Regular Meeting - Jun 24, 2021 6:30 PM

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

RESULT:	**ACCEPTED [UNANIMOUS]**
MOVER:	Lynwood Griner, Council Member
SECONDER:	Glenn Jones, Council Member
AYES:	Smith, Stephens, Griner, Jones, Barbee

8. COMMUNICATIONS & PETITIONS

A. City Manager Updates

City Manager Edwin Booth was present to update Mayor and Council on the following matters:

1. Red Robin Court and Antrim Road projects being prepared to go out for bids
2. SPLOST funding
3. Sugary refinery request to connect their affluent to the City
4. Thanked Council for their hardwork related to the Veterans Memorial and Fire, Police and Administrative building being proposed behind City Hall
5. Thanked the City of Pooler Finance Director, Chris Lightle, for his assistance with the ad valorem and millage rate tax calculations
6. Gave notice of a planned vacation August 2nd - 8th to Telluride, Colorado
7. Stated that the Boil Water Notice was advertised properly according to the State of Georgia, but that going forward door hangars will be placed at the doors of senior residents, as well as
notification placed on the City website and Facebook page; also the City is looking into a system that will allow mass text messaging for emergent situations

9. COMMITTEE REPORTS

A. Committee Reports

Director of Leisure Services, Tiffany Lancaster, announced that the City's next outdoor movie night will be held on Friday, July 23, 2021 followed by the August 13, 2021 movie viewing of "Hook". Mrs. Lancaster also extended an invitation to everyone to attend the first ever Leisure Services Day event, being held to promote the various activities offered by the City of Port Wentworth, on Saturday, July 24, 2021 from 11:00 am until 2:00 pm behind City Hall. Free hotdogs and drinks will be served, along with a tumbling show, bouncy house and slides to be onsite. FREE school supplies will also be given away.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Glenn Jones, Council Member
SECONDER:	Lynwood Griner, Council Member
AYES:	Smith, Stephens, Griner, Jones, Barbee

10. CONSENT AGENDA

There were none to report.

11. UNFINISHED BUSINESS

There were none to report.

A. DRAFT City of Port Wentworth 2021 - 2041 Comprehensive Plan

Cole Mullis, Regional Planner, and Eric Carpenter were present to update Mayor and Council as to the status of the 2021-2041 City of Port Wentworth Comprehensive Plan. Mr. Mullis stated that the DRAFT plan will be sent to the Department of Community Affairs (DCA) and that there will be a forty (40) day comment period on the plan for the citizens of Port Wentworth. All comments can be made via the regional plan website, https://crcplanning.org/regional-plan.

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

Council Member Mark Stephens commented that he didn't see any references to North Port Wentworth and stated that there are some concerns north of I95 that need to be included.

Mayor Pro Tem asked if the Veterans Memorial had been included in the DRAFT plan, to which Mr. Mullis responded no but that there is still time to make additions and changes to the plan.

Public Comments

LeRay Benton, representing 135 Saussy Road, expressed his opinions regarding the comprehensive plan and the lack of inclusion for the residents of Saussy Road.

Malicia Coleman, 7 Stemson Way, addressed Mayor and Council regarding her ongoing sewer issue at her property and asked if there was any assistance that the City could provide to get the problem fixed.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Lynwood Griner, Council Member
SECONDER:	Linda Smith, Mayor Pro Tem
AYES:	Smith, Stephens, Griner, Jones, Barbee

12. NEW BUSINESS

A. Zoning Map Amendment 7-0906-01-028 Exley Highway 21

Murray Marshall, BEP Rice Hope, was present to represent the Exley family and to answer any questions of Mayor and Council.

Council Member Thomas Barbee asked if there were any plans to widen the canal because of the amount of trees?

Public Comments

Georgia Benton, 135 Saussy Road, inquired about the number of residential properties the project is proposing and if they will be marketed as rental properties?

Jill Litten, 8 Tiller Way, asked if the project would include a landscape buffer?

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Lynwood Griner, Council Member
SECONDER:	Linda Smith, Mayor Pro Tem
AYES:	Smith, Stephens, Griner, Jones, Barbee

B. Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21

Phillip McCorkle, Johnson, McCoy, LLP, and Chad Zittrouer were present to answer any questions of Mayor and Council. Gerald L. Pouncey Jr. was also present to address the environmental issues related to the project. Mr. Pouncey laid out the following six (6) untruths that the project will affect:
1. wetlands;
2. stormwater;
3. drinking water quality;
4. certain federal executive orders;
5. the Georgia National Area Resource Act; and
6. flood plain development.

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

Council Member Glenn Jones pointed out that FEMA requires certain approvals, but those approvals are not required during the zoning phase of the project.

Council Member Lynwood Griner asked if all state and federal requirements have to be met before moving forward with the project?

Mayor Norton called upon the City Engineer, Trent Long of T.R. Long Engineering, P.C., to ask if all permits are complete and if all recommendations by the City of Port Wentworth have been met?

Public Comments
Janet Hester, 440 Meinhard Road, spoke **against** the project and read into the hearing of Council the six (6) criteria for re-zoning.
Georgia Benton, 135 Saussy Road, spoke **against** the project.
LeRay Benton, representing 135 Saussy Road, spoke **against** the project and presented Council with state and federal laws.
LeRoy Benton, representing 135 Saussy Road, spoke **against** the project.
Tonya Brown, 150 Berrien Road, spoke **against** the project.
Patricia Bowers-Cooper, spoke **against** the project and stated that her family's property is land locked in.
Glenn Jeffers, 222 Jeffers Road, spoke **in favor** of the project.
Curly Cooper, resident of Garden City, Georgia, spoke **in favor** of the project.

Council Member Lynwood Griner moved to make a motion to approve the project with the following conditions:
1. All masonry constraints be met;
2. No access on Berrien Road;
3. Berms be put in place;and
4. The red line area indicated on Table 4 of the plans not be developed.

Councilman Griner then went on to state for the record that he has nothing against the residents on Saussy Road but that cities grow by stretching out. The motion was seconded by Council Member Glenn Jones who explained his decision to vote in favor of the project. Council Member's Mark Stephens and Thomas Barbee voted No/Nay.

Mayor Pro Tem also commented that since the warehouses were added in the area near her home, the area has improved.

RESULT:	**APPROVED [3 TO 2]**
MOVER:	Lynwood Griner, Council Member
SECONDER:	Glenn Jones, Council Member
AYES:	Smith, Griner, Jones
NAYS:	Stephens, Barbee

C. Site Plan Review Application (General) Jasper Village Phase II

Shane Malek, Next Chapter Neighborhoods, was present to answer any questions of Mayor and Council.

Council Member Thomas Barbee asked the following questions.

1. If the street from where the Jasper Village Phase II project begins will be fixed up to Highway 21? Mr. Malek responded yes that the road will be fixed.

2. If the drainage will tie in to the existing drainage? Mr. Malek stated that the drainage for the new project will drain into the existing detention pond.

3. If the project will interfere with the George Washington monument? Mr. Malek stated that the project will not interfere with the monument.

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

4. If the Intergovernmental Agreement is complete as to whom will receive the taxes generated from the project and if Council approves will the contract affect the project from moving forward? Mr. Malek's response was that they are engaging in a contract with the City of Port Wentworth and Effingham County on the subject matter and are still working out the particulars regarding utility services, but are working as quickly as possible to get everything resolved.

Council Member Mark Stephens asked if the homes in Jasper Village will be for rent or purchase? Mr. Malek responded by stating that the homes will be rental properties.

Mayor Norton called upon Omar Senati-Martinez to ask if he knows anything about the project? Mr. Martinez stated that Mr. Malek did present his project to the Development Services Department for all of the proper approvals and that the City of Port Wentworth does in fact own the little stretch of road that leads into Phase II of the Jasper Village project.

Public Comments

Murray Marshall, BEP Rice Hope, commented that Mr. Exley did put a gate at Moore Avenue at the intersection of Old Augusta Road, which was his driveway until it was moved, but that the gate was eventually removed at the request of the City due to the space being public right- a-way up to the County line. Mr. Marshall suggested to give half the road to the Moore's and the other half to Jasper Village which will allow the City to still own the strip in the center that will eventually become a problem for the City over the years.

Georgia Benton, 135 Saussy Road, expressed that the road in question belongs to the State of Georgia, the people of Georgia, and not the City of Port Wentworth due to it being a historic road. Mrs. Benton also inquired about the distance between the homes and the monthly rental fee, to which Mr. Malek responded that the homes will be (10) feet apart and will rent from $1,200 to $2,000.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Glenn Jones, Thomas Barbee
SECONDER:	Mark Stephens, Council Member
AYES:	Smith, Stephens, Griner, Jones, Barbee

D. Site Plan Review Application (Specific) 7-0977-01-028 Lineage

Chad Zittrouer, Kern & Co. LLC, was present to answer any questions of Mayor and Council. Mr. Zittrouer went on to state the following conditions related to the project to include:

1. Roadway improvements of Hendley Road;
2. Intersection improvements at Hendley Road and Highway 21; and
3. Outstanding comments on the design indicated by Thomas Hutton.

Mayor Norton asked if this is cold storage? Mr. Zittrouer stated that yes, it is still cold storage.

Council Member Lynwood Griner asked if the water and sewer as originally designed will still run off Meinhard Road? Mr. Zittrouer replied by stating that yes, everything that was originally included will be incorporated.

Council Member Glenn Jones asked if the truck turn around will also be included? Mr. Zittrouer stated that yes, the truck turn around is still being planned at the southern most access point.

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

Council Member Glenn Jones made a motion to approve with the conditions as stated by Chad Zittrouer with all comments being indicated by Thomas and Hutton being fully resolved before development. Seconded by Council Member Lynwood Griner. Council Member Mark Stephens voted No/Nay.

Public Comments

Georgia Benton, 135 Saussy Road, asked if this is the same project where a traffic light was supposed to be put in at Henley Road and Highway 21? Mr. Zittrouer stated that the Department of Transportation (DOT) has not made a decision on the matter, but that they will install whatever DOT approves once the approval has been given.

RESULT:	**APPROVED [4 TO 1]**
MOVER:	Linda Smith, Mayor Pro Tem
SECONDER:	Lynwood Griner, Council Member
AYES:	Smith, Griner, Jones, Barbee
NAYS:	Stephens

E. Professional Services Agreement with ClearWater Solutions, LLC

Tim Mitchell, Regional Manager, ClearWater Solutions, LLC, was present to answer any questions of Mayor and Council and thanked Council for the opportunity to serve the citizens of Port Wentworth and hopes to continue working with the City.

Council Member Thomas Barbee stated that he is all for having a contract with ClearWater but that we should invest in the citizens of Port Wentworth by having its own Public Works Department.

Council Member Lynwood Griner made a motion to continue with the Professional Services Agreement with ClearWater Solutions, LLC on a month-to-month basis from July 1, 2021 until December 31, 2021. Seconded by Mayor Pro Tem Linda Smith. Council Member Mark Stephens voted No/Nay.

RESULT:	**APPROVED [4 TO 1]**
MOVER:	Lynwood Griner, Council Member
SECONDER:	Linda Smith, Mayor Pro Tem
AYES:	Smith, Griner, Jones, Barbee
NAYS:	Stephens

13. RESOLUTIONS/ORDINANCES/PROCLAMATIONS

There were none to report.

14. EXECUTIVE SESSION

There were none to report.

15. PUBLIC COMMENTS - REGISTERED SPEAKERS

Georgia Benton, 135 Saussy Road, addressed Mayor and Council to ask if the nine (9) acres of land between Highway 30 and Berrien Road (near the water tower) that the City of Port Wentworth paid over $300,000 could be used for some type of recreation or tourism?

Jill Litten, 8 Tiller Way, thanked the City of Port Wentworth Fireman and EMT's for their quick, cordial, professional and compassionate service that they provide to her mother who happens to fall a lot. Ms. Litten also addressed the issue that the construction company agreed that once the Newport project was finished that they would fix the old portion of Newport Boulevard and wanted to know if this could be revisited.

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

Janet Hester, 440 Meinhard Road, spoke on the damn that has been created as a result of the construction of a road in front of her home that is causing her vegetables to be underwater, as well as the lack of ditch cutting that has not been completed by her property.

16. ADJOURNMENT

There being no further discussion, Council Member Glenn Jones made a motion to adjourn. Seconded by Council Member Thomas Barbee. Vote was unanimous.

_____
Mayor Gary Norton

The foregoing minutes are true and correct and approved by me on this _____ day of _____, 2021.

ATTEST:

_____
Shanta M. Scarboro, Clerk of Council

Minutes Acceptance: Minutes of Jul 22, 2021 6:30 PM (Adoption of Minutes)

CITY OF PORT WENTWORTH

CITY COUNCIL

AUGUST 5, 2021

Council Meeting Room | **Special Called Meeting** | **6:30 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

Mayor Norton called the meeting to order.

2. PRAYER AND PLEDGE OF ALLEGIANCE

Mayor Norton led in prayer and the Pledge of Allegiance.

3. ROLL CALL - CLERK OF COUNCIL

Attendee Name	Title	Status	Arrived
Gary Norton	Mayor	Present	
Linda Smith	Mayor Pro Tem	Present	
Mark Stephens	Council Member	Remote	
Lynwood Griner	Council Member	Present	
Glenn Jones	Council Member	Absent	
Thomas Barbee	Council Member	Present	
James L. Coursey	City Attorney	Present	
Edwin L. Booth	City Manager	Absent	
Shanta Scarboro	Clerk of Council	Present	
Brian Harvey	Director of Development Services	Absent	
Lance Moore	Chief of Fire Operations	Present	
Yolanda Irizarry	Director of Human Resources	Present	
Tiffany Lancaster	Director of Leisure Services	Absent	
Matt Libby	Chief of Police	Present	

4. APPROVAL OF AGENDA

Council Member Lynwood Griner made a motion to approve the agenda. Seconded by Council Member Thomas Barbee. Vote was unanimous.

5. RECOGNITION OF SPECIAL GUESTS

There were none to report.

6. ELECTIONS & APPOINTMENTS

There were none to report.

7. ADOPTION OF MINUTES

There were none to report.

8. COMMUNICATIONS & PETITIONS

A. City Hall To Serve As An Early Voting Polling Site

Clerk of Council, Shanta Scarboro, was present to answer any questions of Mayor and Council. Mrs. Scarboro announced to Council that the Director and Customer Service Representative Supervisor for the Chatham County Voter Registration office completed a

Minutes Acceptance: Minutes of Aug 5, 2021 6:30 PM (Adoption of Minutes)

site visit on Thursday, July 29, 2021 to review the 2nd floor Council Chambers as a possible location for early voting. The Voters Registration Office would provide all voting equipment and materials needed for the location, but wanted to seek approval of Council should the City of Port Wentworth be needed for the upcoming and/or future elections.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Mark Stephens, Council Member
SECONDER:	Thomas Barbee, Council Member
AYES:	Smith, Stephens, Griner, Barbee
ABSENT:	Jones

B. Request for Proposal (RFP) - Metropolitan Savannah Hispanic Chamber of Commerce

A representative of the Metropolitan Savannah Hispanic Chamber of Commerce attended the meeting to make a presentation on behalf of their organization.

C. Request for Proposal (RFP) - Port Wentworth Chamber of Commerce

Vickie Waters and Trisha Growe attended the meeting to present on behalf of the Port Wentworth Chamber of Commerce.

D. Request for Proposal (RFP) - Port Wentworth Tourism Bureau

Avril Roy-Smith and Ken Miller, Archaeologist of the Mulberry Grove Foundation, attended the meeting to present on behalf of the Port Wentworth Tourism Bureau.

9. COMMITTEE REPORTS

There were none to report.

10. CONSENT AGENDA

There were none to report.

11. UNFINISHED BUSINESS

There were none to report.

12. NEW BUSINESS

There were none to report.

13. RESOLUTIONS/ORDINANCES/PROCLAMATIONS

A. ORDINANCE NO. 21-02, Millage Rate, First Reading

City Manager, Edwin Booth was present to answer any questions of Mayor and Council. Mr. Booth explained to Council that the millage rate will remain the same as the year 2020 and that there will not be an increase in taxes.

14. EXECUTIVE SESSION

There were none to report.

15. PUBLIC COMMENTS - REGISTERED SPEAKERS

There were none to report.

16. ADJOURNMENT

There being no further business, Council Member Lynwood Griner made a motion to adjourn. Seconded by Council Member Thomas Barbee. Vote was unanimous.

Minutes Acceptance: Minutes of Aug 5, 2021 6:30 PM (Adoption of Minutes)

_____
Mayor Gary Norton

The foregoing minutes are true and correct and approved by me on this _____ day of _____, 2021.

ATTEST:

_____
Shanta M. Scarboro, Clerk of Council

Minutes Acceptance: Minutes of Aug 5, 2021 6:30 PM (Adoption of Minutes)

CITY OF PORT WENTWORTH

CITY COUNCIL

AUGUST 11, 2021

Council Meeting Room | **Special Called Meeting** | **4:00 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

Mayor Norton called the meeting to order.

2. PRAYER AND PLEDGE OF ALLEGIANCE

Mayor Norton led in Prayer and the Pledge of Allegiance.

3. ROLL CALL - CLERK OF COUNCIL

Attendee Name	Title	Status	Arrived
Gary Norton	Mayor	Present	
Linda Smith	Mayor Pro Tem	Present	
Mark Stephens	Council Member	Absent	
Lynwood Griner	Council Member	Absent	
Glenn Jones	Council Member	Present	
Thomas Barbee	Council Member	Present	
James L. Coursey	City Attorney	Absent	
Edwin L. Booth	City Manager	Present	
Shanta Scarboro	Clerk of Council	Present	
Brian Harvey	Director of Development Services	Absent	
Lance Moore	Chief of Fire Operations	Present	
Yolanda Irizarry	Director of Human Resources	Present	
Tiffany Lancaster	Director of Leisure Services	Present	
Matt Libby	Chief of Police	Present	

4. APPROVAL OF AGENDA

Mayor Pro Tem Linda Smith made a motion to approve the agenda. Seconded by Council Member Glenn Jones. Vote was unanimous.

5. RECOGNITION OF SPECIAL GUESTS

City Manager, Edwin Booth, recognized Tomi Rikkinen as the City's new Accountant.

6. ELECTIONS & APPOINTMENTS

There were none to report.

7. ADOPTION OF MINUTES

There were none to report.

8. COMMUNICATIONS & PETITIONS

A. Greenline Architecture, Inc.

Keith Howington of Greenline Architecture was present to answer any questions of Mayor and Council. Mr. Keith displayed via the television monitors in the 2nd floor Council Chambers the cost models for the proposed Administrative, Fire and Police buildings to

Minutes Acceptance: Minutes of Aug 11, 2021 4:00 PM (Adoption of Minutes)

include estimates for the Veteran's Memorial that is to be constructed behind the current City Hall. Mr. Keith stated that he would be sure to provide Council and Department Heads with a hard copy of each cost model. The overall costs for construction is approximated to be $20 million.

9. COMMITTEE REPORTS

There were none to report.

10. CONSENT AGENDA

There were none to report.

11. UNFINISHED BUSINESS

There were none to report.

12. NEW BUSINESS

There were none to report.

13. RESOLUTIONS/ORDINANCES/PROCLAMATIONS

A. ORDINANCE NO. 21-02, Millage Rate, Second Reading

City Manager, Edwin Booth was present to answer any questions of Mayor and Council. Mr. Booth explained to Council that the millage rate will remain the same as the year 2020 and that there will not be an increase in taxes.

Council Member Glenn Jones stated that as a growing City and in looking ahead to continue to provide the City of Port Wentworth citizens what they need, the millage rate will eventually have to be raised. The small increase in taxes will help pay for the extra services needed throughout the City.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Glenn Jones, Council Member
SECONDER:	Thomas Barbee, Council Member
AYES:	Smith, Jones, Barbee
ABSENT:	Stephens, Griner

14. EXECUTIVE SESSION

There were none to report.

15. PUBLIC COMMENTS - REGISTERED SPEAKERS

Janet Hester, 440 Meinhard Road, expressed her opinion regarding the overall costs to construct the proposed Veteran's Memorial and Administrative, Fire and Police buildings and asked if there was anyway that any of the monies being received from outside funding sources could be allocated towards ditch repairs and other unkept areas within the community.

16. ADJOURNMENT

There being no further business, Council Member Glenn Jones made a motion to adjourn. Seconded by Council Member Thomas Barbee. Vote was unanimous.

_____

Mayor Gary Norton

Minutes Acceptance: Minutes of Aug 11, 2021 4:00 PM (Adoption of Minutes)

The foregoing minutes are true and correct and approved by me on this _____ day of _____, 2021.

ATTEST:

_____
Shanta M. Scarboro, Clerk of Council

Minutes Acceptance: Minutes of Aug 11, 2021 4:00 PM (Adoption of Minutes)

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: City Administrator
Category: Presentation
Prepared By: Shanta Scarboro
Department Head: Edwin L. Booth

AGENDA ITEM (ID # 2494)

DOC ID: 2494

US Census Bureau

Issue/Item: US Census Bureau

Background: Data collected and published through the 2020 US Census Bureau has determined that the City of Port Wentworth population has increased by 102.9% over the last 10 years. The population makeup, in the largest segments, is listed below:

Black/African American alone 46.0%
White (non-Hispanic/Latino) 44.6%
Hispanic 5.6%

The overall population is listed as 10,878 for the year 2020 as compared to 5,359 as shown on the 2010 US Census.

Recommendation: Review the data collected and continue to plan diverse community services as needed.

ATTACHMENTS:

- US Census Bureau Report (PDF)

You Count I Count
Chatham Counts 2020

August 13, 2021

Port Wentworth, GA

The US Census Bureau recently published data collected through the 2020 US Census.

By measuring not only population numbers, but how populations are changing in both size and make-up, the US Census impacts issues across a wide spectrum.

- Redistricting for government representation
- Distribution of federal funding
- Infrastructure planning
- Education
- Health care
- Business
- And more…

Port Wentworth's population increased by 102.9% over the last 10 years. (Land incorporation included during the time between 2010 and 2020)

2010 US Census	**5,359**
2020 US Census	**10,878**

Population Makeup (largest segments)

Black/African American alone	**46.0%**
White (non-Hispanic/Latino)	**44.6%**
Hispanic	**5.6%**

SOURCE: US Census Bureau Quick Facts

https://www.census.gov/quickfacts/fact/table/portwentworthcitygeorgia/PST045219

Attachment: US Census Bureau Report (2494 : US Census Bureau)

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: City Administrator
Category: Presentation
Prepared By: Shanta Scarboro
Department Head: Edwin L. Booth

AGENDA ITEM (ID # 2492)

DOC ID: 2492

Non-Operational Equipment for Surplus

Issue/Item: Non-Operational Equipment for Surplus

Background: An inspection was completed of the equipment, heavy machinery and vehicles used by the City's Public Works Department under the direction of ClearWater Solutions, LLC. The attached pictures show some of the equipment and damage as a result of non-usage and overall neglect.

Because of this, the City has determined that the need has been satisfied with each piece of equipment and is now ready to sale the remains for parts and/or scraps.

The non-operational equipment for surplus include:
- Generator
- 2-Backhoe
- F-450 Super Duty
- 2001 Ford Ranger
- Water tank
- Brush Hound

Recommendation: Approval

ATTACHMENTS:

- Non-Operational Equipment for Surplus (PDF)

List of non-operational equipment for surplus.

- **Generator**
- **2-Backhoe**
- **F-450 Super Duty**
- **2001 Ford Ranger**
- **Water tank**
- **Brush Hound**

Generator

It was brought in from Well # 1 by CWS about 3 years ago. Seems to be very damage.



Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)

Backhoe Series 2

It has not been operational for more than 8 years.

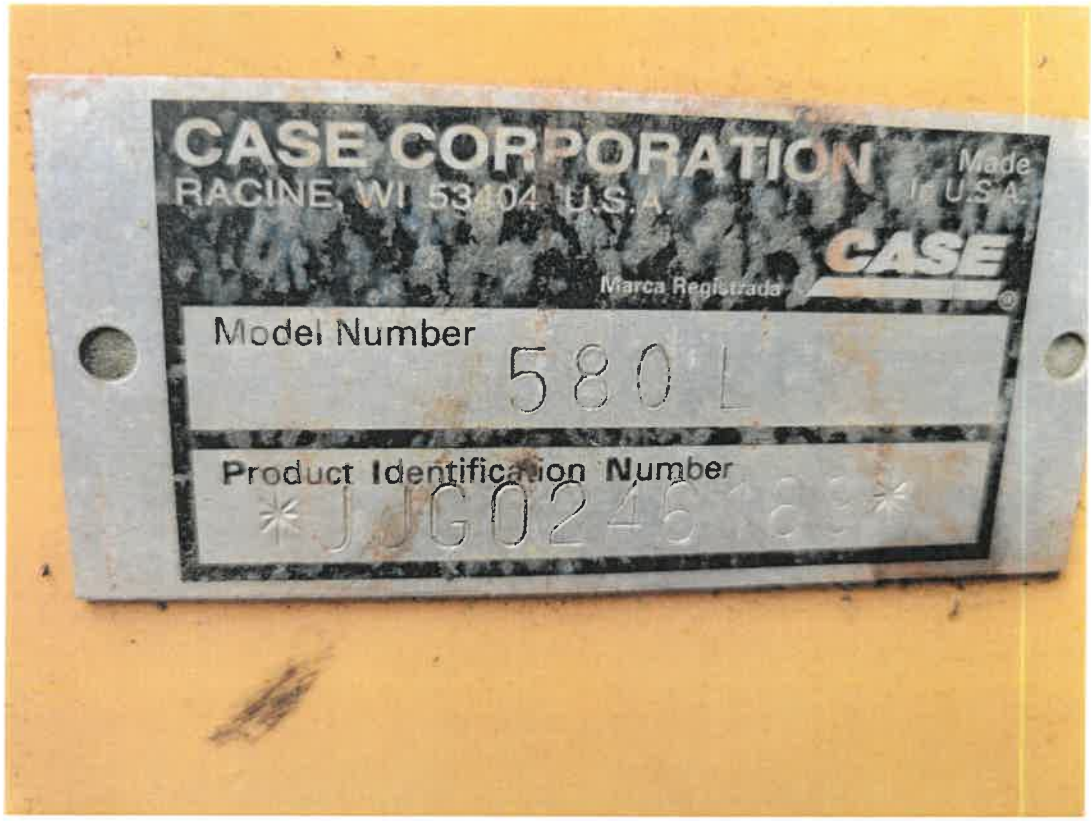


Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)



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Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)

Backhoe Series 2

It has not been operational for more than 6 years.



Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)





Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)



Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)





Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)

F-450 Super Duty

It has not been operational for about 4 years. The last known issues are: need a new engine, the rear window is broken, and there is a large dent on the side and rear. The City already tray to sell it once.



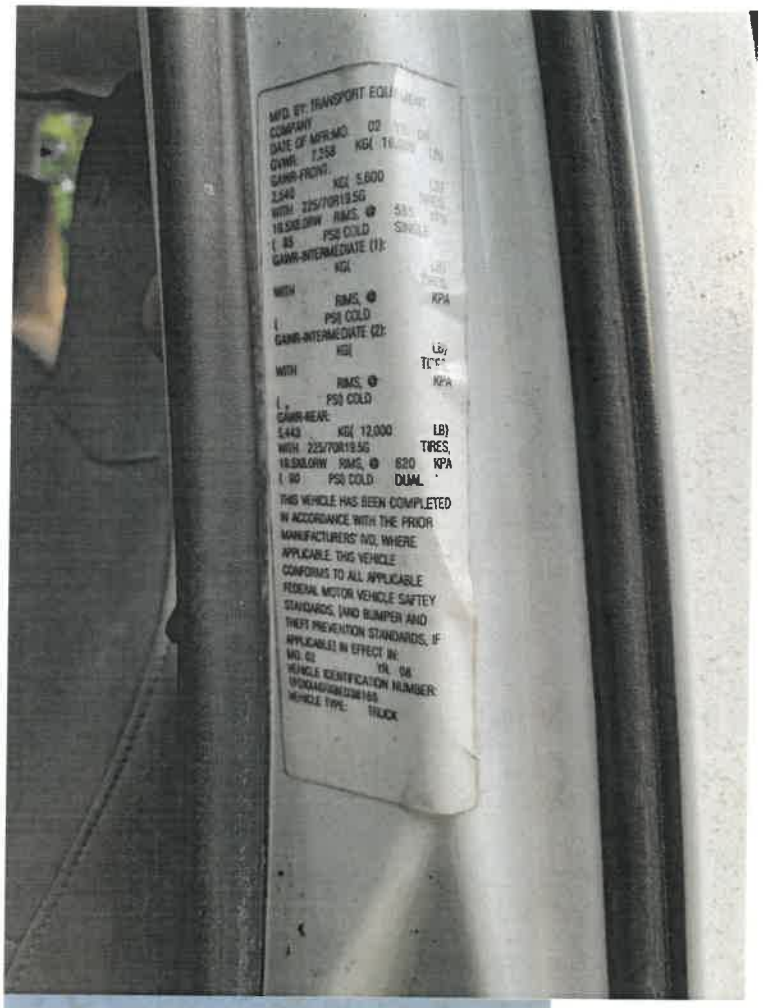
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Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)



Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)

2001 Ford Ranger

It has not been operational for about 5 years. The last known issues are: need a new transmission, when it rains the rainwater enters the vehicle. The City already tray to sell it once

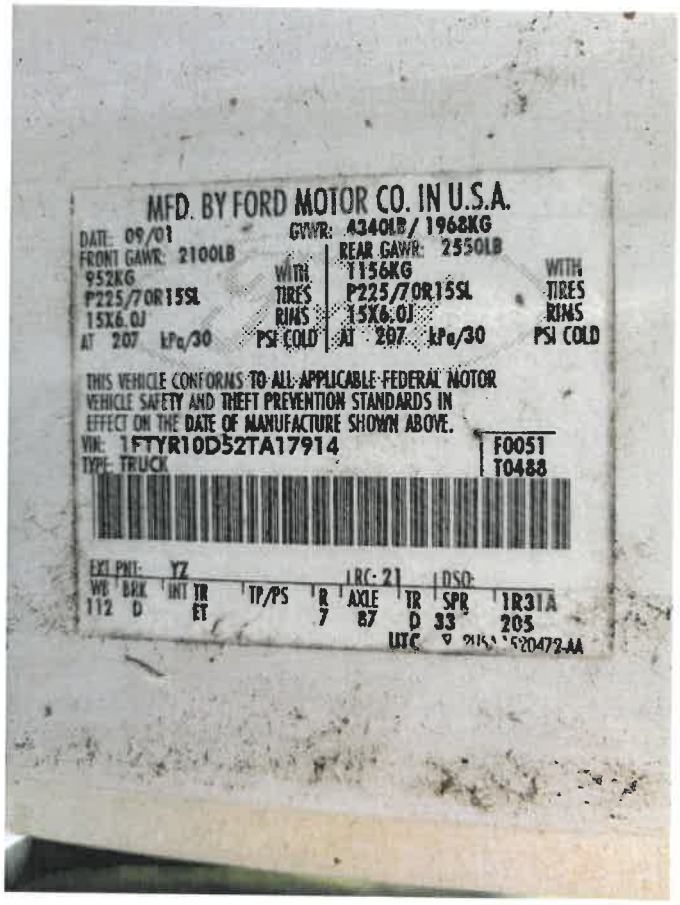


Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)


GEORGIA



Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)


MFD. BY FORD MOTOR CO. IN U.S.A.
DATE: 09/01
GVWR: 4340LB/1968KG
FRONT GAWR: 2100LB
REAR GAWR: 2550LB
952KG
WITH TIRES RIMS
1156KG
P225/70R15SL
15X6.0J
AT 207 kPa/30 PSI COLD
THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
VIN: 1FTYR10D52TA17914
TYPE: TRUCK
F0051
T0488
EXT PNT: YZ
RC: 21
DSO:
WB BRK INT TR TP/PS R AXLE TR SPR 1R31A
112 D ET 7 87 D 33 205



Water tank

The pipes are broken.



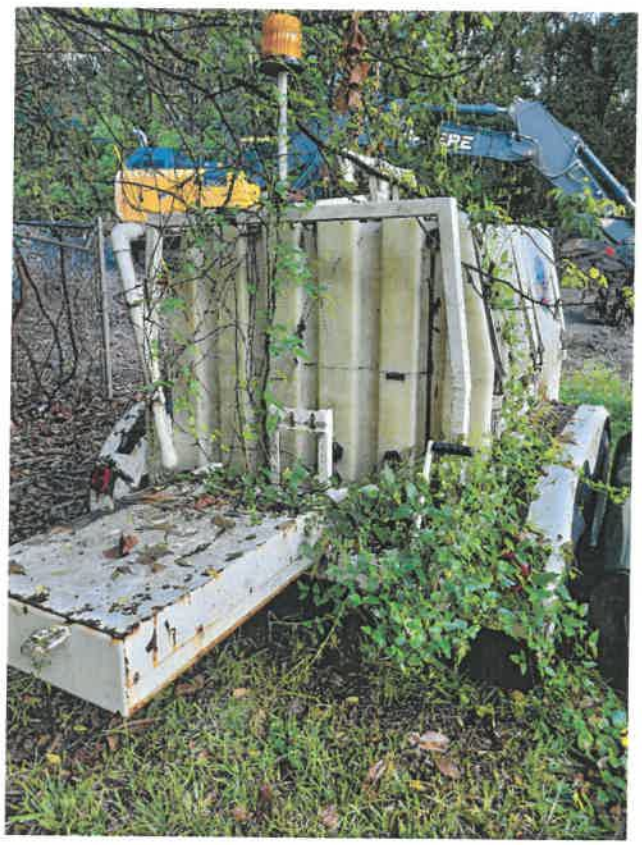
Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)





Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)





Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)

Brush Hound

Status of the equipment is known.



Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)





Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)





Attachment: Non-Operational Equipment for Surplus (2492 : Non-Operational Equipment for Surplus)

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: All
Category: Report
Prepared By: Shanta Scarboro
Department Head: Brian Harvey

AGENDA ITEM (ID # 2484)

DOC ID: 2484

Committee Reports

ATTACHMENTS:

- Development Services Department Monthly Report July 2021 (DOCX)
- Fire Department Monthly Report July 2021 (PDF)
- Leisure Services Department Monthly Report August 2021 (PDF)
- Police Department Monthly Report August 2021 (PDF)
- ClearWater Solutions, LLC Monthly Report August 2021 (PDF)

DEVELOPMENT SERVICES MONTHLY REPORT / JULY 2021

INSPECTIONS / P&Z

Building Permits Issued: 36
Building Estimated Cost: $4,214,192.02
Permit Fees Paid: $157,088.81
Inspections Completed: 346
Plan Reviews Completed: 36

Attachment: Development Services Department Monthly Report July 2021 (2484 : Committee Reports)

To: Mayor Norton and City Council

From: Chief Lance Moore

Date: August 18, 2021

Ref: Committee Report

Sir,

The following is a summary of the incident responses and activity for the Fire Department between the dates of June 1, 2021 and July 31, 2021.

2 building fires

0 vehicle fires

117 emergency medical calls

12 motor vehicle collisions

0 carbon monoxide investigation

9 public service

12 dispatched and cancelled in route.

14 fire alarms

1 open area fires

2 hazardous materials related.

0 elevator rescues

0 power line related

1 extrication from industrial equipment

Total: 170

- **Hydrant maintenance completed.**
- **3 employees promoted to Sergeant.**
- **Began recruiting additional staff**
- **Attended Leisure service day at City Hall**

Attachment: Fire Department Monthly Report July 2021 (2484 : Committee Reports)

August 2021 LEISURE SERVCIES DEPARTMENT REPORT

08/16/2021 Leisure Service Programs and Events for August and September

- Outdoor Movie Night August 13th The Indian in Cupboard.
- Pumpkin Patch and Fall family fun, Outdoor Movie October 22nd. 5:00 -9:30.
- Tumbling classes are August 6 – 28th, September 4th – 30th.
- Feeding program ended as soon as school started back August 3rd.
- Girls Scouts in community House August - December.
- Adult Volleyball on Monday's in August then on Friday's in September-December.
- Football season practice started July 26th. (Put Football and Cheer on hold until August 24th due to COVID-19) Games start September 20th with a RAMA 16-18.
- Soccer season practice starts August12th. (Games start September 6th).
- Micro Soccer starts on August 23rd and games start September 27th.
- Cheerleading practice starts August 24th.
- Registration for Fall sports started June 15th – August 15th (Football, Cheerleading, Soccer, Volleyball and Tumbling)
- CPR, First Aide and AED training Blended Learning in class training August 18th
- Skate Night October 15th.
- Lemonade Day August 24th.

Ed Young Senior Center

- Daily in person lunch will be served at 12:00 in the dining hall. Must pre-register the day before.
- Continue the meals on wheels for Seniors that cannot come out by driving to pick up meals the meals will be taken to their house.
- Senior Olympics August 2nd.

Ed Young Senior Center weekly numbers are an average for the weeks in July

July 1-2 Meals ordered (15) Meals served (15) Clients attended (15)
July 5-9 Meals ordered (15) Meals served (15) Clients attended (15)
July 12-16 Meals ordered (17) Meals served (17) Clients attended (17)
July 19-23 Meals ordered (17) Meals served (17) Clients attended (17)
July 26-30 Meals ordered (20) Meals served (20) Clients attended (20)

Administrative and Operations

- Work on Impact Fees Study Data Needs
- Review applications for MNT position and set up interviews.
- Continue to create, update and import all upcoming programs into Tyler Parks and Rec online system.
- Bi-Weekly payroll.
- Continue to complete refunds, transfers of daily payments of programs and rentals monthly.
- Create ongoing Leisure Services employee bi-weekly work schedule.
- Keep Leisure Services Facebook page and City web page up to date on social media.
- Continue monitoring daily deposits and credit card import/export for all sports and rentals

Attachment: Leisure Services Department Monthly Report August 2021 (2484 : Committee Reports)

through our payment portal and Tyler Parks and Rec program.

- Host meeting and create CAA/South Ga youth Football League Schedule on August 11th and August 18th.
- Continue to manage the cash and receivables from our Tyler Parks and Rec system. Daily deposits.
- Continue to manage team in maintaining cleanliness of all Leisure Services Departments facilities.
- Department reports due August 16th for Council meeting August 26th.
- Reconcile Monthly July P-card Statement and turn in to accounts payable by July 13th.

Mobley Park

- Repair roof and siding of restrooms and press box.
- Have electric Pole straighten out and add Pick nick tables and shade on slab.
- Build brick stand for Mobley Park Sign for entrance to park.
- Line football field ready for Fall ball.
- Continue to weed-eat all around building and fences.
- Disinfect weekly all playgrounds, benches, pic-nick tables with pressure washer at all parks, concession stands and pavilions. Keep parking lot at Mobley Park cut and clean.
- Take trash cans in and out of park weekly for pick up, Weekly Clean bathrooms and kill ants on all fields.
- Keep parking lot clean and weed eat.

Armadale Walking Path

- Spray ant spray on ant beds.
- Continue to cut grass, weed-eat and edge walking path.
- Consistently change out doggie station.

Festival Site/Soccer Fields and Tommy Thomas Pavilion

- Set up Bleachers for soccer parents.
- Cut area low for August Movie Drive in nights. (set up parking for drive in movie)
- Line for Fall soccer programs.
- Start gathering quotes for new bathrooms and concessions.
- Change out dog trash stations and add new dog waste bags. Cut grass, weed eat and edge park weekly.

Houlihan Boat Landing

- Add new picknick tables and shade to boat landing.
- Cut and weed eat boat ramp area and retention ponds.
- Update Kiosk at boat landing. Roll up water hoses bi weekly and clean up trash in parking lot bi weekly.

Houston Church

- Get a letter of occupancy and Fire inspection.
- Cut and weed-eat Houston Church weekly.
- Clean, dust and mop church monthly.

Warren Drive Playground / Park

- Add new benches and pick nick tables with shade.
- Continue to disinfect playground area bi weekly. Continue to cut grass, weed eat, edge weekly. Cleanou doggie station.

Della Steel Park

- Disinfect playground area, picnic tables and pavilion area.
- Clean parking lot and pull trash cans to front of park.

Attachment: Leisure Services Department Monthly Report August 2021 (2484 : Committee Reports)

- Cleanout doggie station.

P.B. Edwards Jr. Gym

- Have tumbling equipment set up on Friday's and Saturday's.
- Have gym ready for weekend rentals.
- Setting up volleyball net on Monday's.
- Disinfect gym after each daily use.
- Re-stripe handy-cap parking spaces in August/September on gym side.
- Continued to buff and clean gym floor as needed.
- Cut, weed-eat and edge around gym and annex building weekly.

Community House

- Repair A/C unit and fuse/electrical boxes.
- Church Rental on Sunday's until December.
- Elegant Dolls Dance team on Tuesday and Thursday 5:00-7:00.
- Continue to manage Leisure services team in cutting, weed eating, edging and blowing grass and mainta the gym/annex/senior center/warren drive park/ Dela Steel Park/Houston Church and Community Hous
- Continue to weekly clean bathrooms, kitchen, main area.
- Have community house painted on inside in September.

Fountain

- Trim bushes, cut grass, pull weeds at fountain every other week.
- Refill fountain with water when it drops weekly.

Annex Building

- Keep building outside neat and clean.

Attachment: Leisure Services Department Monthly Report August 2021 (2484 : Committee Reports)

To: Mayor Norton
From: Chief Libby ML
Date: August 18, 2021
Ref: Committee report
Sir,

Below is summary of the all the department's activity for the period of **July 14, 2021, through August 18, 2021.** The summary will provide Council the total number of calls for service police units responded to as well as citations issued.

Police:

Since **July 14, 2021,** the police department has issued **1443 citations**. Officers conducted **1526** traffic stops. The department has made **111** arrests. **16** DUI cases were made along with **19** cases for possession of controlled substance and drug objects. The department was **3943** issued case report numbers for service calls. The department conducted **1314** residential and business checks. The department conducted **107** suspicious persons / vehicles stop. The department has responded to **117 accidents**. The department responded to **33** EMS calls. The department has taking **427** incident reports. The department has also conducted **85** combined walking patrols of both schools the Renasant Bank and other businesses.

Officers have attended **over 249** hours of training this month.

Lt. Dale Sylvester died from a line of duty exposure to COVID-19 on August 11, 2021. He was buried on August 15, 2021.

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

POLICE CALLS DISPATCHED
BY DAY OF THE MONTH
BY AGENCY

CHATHAM 911 COMMUNICATIONS SERVICES

STARTING DATE: 07/01/2021
ENDING DATE: 07/31/2021

	BL	CC	GC	PL	PW	SP	TB	TOTAL
07/01/2021	10	336	64	97	57	852	9	1,425
07/02/2021	6	284	66	111	140	921	6	1,534
07/03/2021	13	236	95	74	130	881	3	1,432
07/04/2021	8	265	80	63	160	1,071	11	1,658
07/05/2021	10	343	56	86	133	802	13	1,443
07/06/2021	14	415	51	91	92	789	23	1,475
07/07/2021	20	278	63	59	122	797	9	1,348
07/08/2021	7	213	73	59	122	848	8	1,330
07/09/2021	28	325	66	91	126	772	16	1,424
07/10/2021	37	445	64	70	132	729	23	1,500
07/11/2021	39	454	45	56	108	609	14	1,325
07/12/2021	17	277	41	91	110	762	9	1,307
07/13/2021	19	186	45	67	91	837	4	1,249
07/14/2021	15	512	47	62	124	929	10	1,699
07/15/2021	3	423	72	77	118	915	7	1,615
07/16/2021	33	252	67	64	95	774	5	1,290
07/17/2021	34	216	86	72	108	730	6	1,252
07/18/2021	24	211	44	52	107	621	5	1,064
07/19/2021	7	437	64	71	116	692	12	1,399
07/20/2021	24	369	59	105	165	780	5	1,507
07/21/2021	30	283	58	99	97	905	6	1,478
07/22/2021	9	253	53	84	96	752	4	1,251
07/23/2021	5	293	59	72	137	763	5	1,334
07/24/2021	3	257	56	72	139	872	9	1,408
07/25/2021	7	276	47	81	116	758	21	1,306
07/26/2021	19	262	47	66	93	704	2	1,193
07/27/2021	16	244	59	65	115	819	5	1,323
07/28/2021	18	326	50	68	91	840	9	1,402
07/29/2021	6	405	56	56	109	757	9	1,398
07/30/2021	8	253	59	90	108	760	5	1,283
07/31/2021	13	192	50	53	104	813	9	1,234
TOTAL	502	9,521	1,842	2,324	3,561	24,854	282	42,886

**NOTE: Excludes calls where Animal Services was primary responder*

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

Citation Violations reported between 7/14/2021 and 8/18/2021

Violation:	Code:	Total:
DISCHARGING FIREARMS, BB GUNS, ETC.		1
IMPROPERLY PARKING TRUCKS IN STREET	13-2	1
TRUCK ON A CITY STREET	13-5	8
DISORDERLY CONDUCT	15-1	3
CONTEMPT OF COURT-STATE	16-1-4	1
FALSE STATEMENTS OR WRITINGS; CONCEAL FACTS OR FRAUDULENT DOCUMENTS IN MATTERS OF GOVERNMENT	16-10-20	1
OBSTRUCTION/HINDER LAW ENFORCEMENT OFFICER-MISD	16-10-24A	7
GIVING FALSE NAME, ADDRESS, OR BIRTHDATE TO LAW ENFORCEMENT OFFICER	16-10-25	1
TAMPERING WITH EVIDENCE - MISDEMEANOR	16-10-94	2
POSSESSION OF FIREARM OR KNIFE DURING COMMISSION OF OR ATTEMPT TO COMMIT A CRIME	16-11-106	2
TERRORISTIC THREATS AND ACTS	16-11-37	2
SEXUAL EXPLOITATION OF CHILDREN VIA COMPUTER (ENTICING A CHILD FOR INDECENT PURPOSES)	16-12-100.2(D)(1)	2
POSS/MAN/DISTRIBUTION/SALE OF LOW THC OIL	16-12-191	1
DISTRIBUTING OBSCENE MATERIALS	16-12-80	2
POSESSION OF MARIJUANA	16-13-2(B)	3
POSSESSION MARIJUANA- LESS THAN 1 OZ.	16-13-2(B)	5
POSSESSION OF CONTROLLED SUBSTANCE	16-13-30	6
POSSESSION CONTOLLED SUBSTANCE MDMA	16-13-30(A)	1
POSSESSION W INTENT TO DISTRIBUTE CONTROLL SUBSTANCE	16-13-30B	1
POSSESSION OF MARIJUANA MORE THAN 1 OZ	16-13-30J	1
POSSESSION OF MARIJUANA WITH INTENT TO DISTRIBUTE	16-13-30J1	1
TRANSACTIONS IN DRUG RELATED OBJECTS	16-13-32.1	1
POSSESSION AND USE OF DRUG RELATED OBJECTS	16-13-32.2	9
USE OF COMMUNICATION FACILITY FOR CRIMINAL USE	16-13-32.3	1
DRUGS NOT IN ORIGINAL CONTAINER - MISDEMEANOR	16-13-75	1
PARTY TO A CRIME	16-2-20	1
AGGRAVATED ASSAULT	16-5-21	4
AGGRAVATED ASSAULT-STRANGULATION	16-5-21(B)(3)	1
BATTERY	16-5-23.1	1
SIMPLE BATTERY DVA	16-5-23F	3
CRUELTY TO CHILDREN 3RD DEGREE OR 3RD SUBSEQUENT OFFENSE	16-5-70D	3
ENTICING A CHILD FOR INDECENT PURPOSES	16-6-5(B)	2
CRIMINAL TRESPASS	16-7-21	1
THEFT BY DECEPTION - FELONY	16-8-3	1
THEFT BY RECEIVING STOLEN PROPERTY - FELONY	16-8-7	2
THEFT BY RECEIVING STOLEN PROPERTY - MISDEMEANOR	16-8-7	1
FORGERY - 3RD DEGREE	16-9-1(D)	1
OBSTRUCTING CITY STREETS OR SIDEWALKS	20-5	1
DOG AT LARGE	4-20	1
NO OR DEFECTIVE BRAKE WARNING DEVICE	40-1-8(H) 393.51	3

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TAG/ REGISTRATION REQUIREMENTS	40-2-20	8
IMPROPER USE OF DEALER PLATE	40-2-38	1
OBSCURING TAG FRAME OR TINTED TAG COVERS PROHIBITED	40-2-41	3
ACQUIRING LICENSE PLATE FOR PURPOSE OF CONCEALING IDENTIFICATION OF MOTOR VEHICLE	40-2-5	2
USE OF LICENSE PLATE WITH INTENT TO CONCEAL	40-2-7	3
EXPIRED REGISTRATION	40-2-8	102
FAILURE TO AFFIX DECAL TO PLATE	40-2-8	3
IMPROPER DISPLAY OF TAG	40-2-8	2
NO TAG	40-2-8	11
OPERATE MOTOR VEHICLE WITH OBSCURED TAGS	40-2-8(B).1	1
FAILURE TO OBTAIN GA TAG IN 30 DAYS	40-2-90	4
DRIVING WHILE LICENSE SUSPENDED OR REVOKED-MISDEMEANOR	40-5-121	48
SUSPENDED COMMERCIAL LICENSE	40-5-146(B)1	1
DRIVING WITHOUT A VALID LICENSE- MISDEMEANOR	40-5-20	52
FAILURE TO OBTAIN GEORGIA LICENSE IN 30 DAYS	40-5-20(C)	1
EXPIRED DRIVER'S LICENSE6 MONTHS OR MORE	40-5-20C	2
WRONG CLASS OF LICENSE	40-5-23	2
CLASS CP LICENSE (INSTRUCTIONAL PERMIT)	40-5-24	5
VIOLATION OF CLASS MP RESTRICTIONS	40-5-24(C)	1
LICENSE TO BE EXHIBITED ON DEMAND	40-5-29B	13
IMPROPER NAME/ADDRESS ON LICENSE	40-5-33	12
VIOLATION OF CONDITIONS ON LIMITED DRIVING PERMIT	40-5-64	3
NO INSURANCE	40-6-10	31
IMPROPER LEFT OR RIGHT TURN	40-6-120	11
IMPROPER U-TURN	40-6-121	54
FAILURE TO SIGNAL WHEN TURNING OR CHANGING LANES	40-6-123	2
IMPROPERLY STOPPED IN ROADWAY	40-6-123C	3
FAILURE TO USE TURN SIGNAL	40-6-124	3
STOPPING ON RAILROAD TRACKS	40-6-140€	1
SUSPENDED REGISTRATION	40-6-15	45
APPROACHING AUTHORIZED EMERGENCY VEHICLE	40-6-16(B)	28
IMPROPER TAG	40-6-166	4
TOO FAST FOR CONDITIONS	40-6-180	51
SPEEDING IN EXCESS OF MAXIMUM LIMITS	40-6-181	375
IMPEDING THE FLOW OF TRAFFIC	40-6-184	3
SLOW POKE LAW (LEFT LANE DRIVING PROHIBITED)	40-6-184 (C)	7
SPEED LIMITS ON A BRIDGE	40-6-185	2
FAILURE TO OBEY AUTHORIZED PERSON DIRECTING TRAFFIC	40-6-2	1
FAILURE TO OBEY TRAFFIC CONTROL DEVICE	40-6-20	56
LEAVING VEHICLE UNATTENDED	40-6-201	1
STOPPING, STANDING, OR PARKING OUTSIDE OF BUSINESS OR RESIDENTIAL DISTRICTS	40-6-202	13
IMPROPER STOPPING	40-6-203	20
PARKING IN ROADWAY	40-6-203	6
IMPROPER BACKING	40-6-240	3
FAILURE TO EXERCISE DUE CARE	40-6-241(B)	1

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UNLAWFUL USE OF WIRELESS DEVICE	40-6-241(C)	28
UNLAWFUL USE OF WIRELESS DEVICE (CMV)	40-6-241(D)	1
UNSECURED LOAD	40-6-248.1	1
LAYING DRAG	40-6-251	1
OPEN CONTAINER OF ALCOHOL IN MOTOR VEHICLE	40-6-253	4
UNSECURED LOAD/LITTERING FROM VEHICLE	40-6-258.1	1
HIT AND RUN; DUTY OF DRIVER TO STOP AT OR RETURN TO SCENE OF ACCIDENT	40-6-270	3
FAILURE TO REPORT ACCIDENT WITH INJURY/DEATH/DAMAGE	40-6-273	1
MOTORCYCLE PASSING IN SAME LANE AS VEHIC	40-6-312B	1
MOTORCYCLE - NO HELMET	40-6-315A	1
RECKLESS DRIVING	40-6-390	5
DUI - REFUSAL	40-6-391	2
DUI/ALCOHOL/LESS SAFE	40-6-391A1	10
DUI/DRUGS/LESS SAFE	40-6-391A2	2
DUI/ALCOHOL/.08 OR MORE/21 YOA OR OLDER	40-6-391A5	4
FLEEING/ATTEMPTING TO ELUDE POLICE OFFICER MISDEAMOR	40-6-395A	1
FLEEING/ATTEMPTING TO ELUDE POLICE OFFICER FELONY	40-6-395B5A	1
AGGRESSIVE DRIVING	40-6-397	1
DRIVING ON WRONG SIDE OF ROADWAY	40-6-40	5
DRIVING WRONG SIDE OF ROAD	40-6-40A	1
IMPROPER PASSING	40-6-42	2
UNLAWFUL PASSING ON RIGHT	40-6-43A	2
IMPROPER PASSING ON RIGHT	40-6-43B	15
PASSING IN A NO PASSING ZONE	40-6-46	3
FAILURE TO MAINTAIN LANE/IMPROPER LANE CHANGE	40-6-48	70
FOLLOWING TOO CLOSELY	40-6-49	6
DRIVING IN DIVIDED HIGHWAY, CONTROLLED ACCESS ROADWAYS, AND EMERGENCY LANES	40-6-50	1
DRIVING IN THE EMERGENCY LANE/SHOULDER	40-6-50B	20
LEFT LANE VIOLATION	40-6-52	7
TRUCKS OVER 6 WHEEL MUST STAY TO RIGHT	40-6-52	1
BUSES/MOTORCOACHES IN LEFT LANE	40-6-53	1
FAILURE TO YIELD RIGHT OF WAY AT INTERSECTION	40-6-70	1
FAILURE TO YIELD WHILE TURNING LEFT	40-6-71	4
FAILURE TO STOP AT STOP SIGN	40-6-72	11
FAILURE TO YIELD WHEN ENTERING ROADWAY	40-6-73	3
FAILURE YIELD WHEN ENTERING ROADWAY	40-6-73	1
DRIVING THROUGH A SAFETY ZONE	40-6-98	1
FAILURE TO USE HEADLIGHTS AFTER DARK/WHEN RAINING	40-8-20	3
HEADLIGHT REQUIREMENTS	40-8-22	12
TAIL LIGHTS REQUIRED	40-8-23	9
TAG LIGHT REQUIRED	40-8-23 (D)	6
NO BRAKE LIGHTS OR WORKING TURN SIGNALS	40-8-25	5
STANDARDS FOR BRAKE LIGHTS/SIGNAL DEVICES	40-8-26	9
NO AMBER LIGHTS	40-8-27	4
NO LIGHT OR FLAG ON PROJECTING LOAD	40-8-27	1

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FAILURE TO DIM HEADLIGHTS	40-8-31	1
OPERATING VEHICLE W/ALTERED SUSPENSION	40-8-6	1
DRIVING UNSAFE/IMPROPERLY EQUIPPED VEHICLE	40-8-7	2
OPERATING UNSAFE VEHICLE	40-8-7	1
NO HORN/IMPROPER USE OF HORN	40-8-70A	1
WINDSHIELD/WINDOW/WIPER REQUIREMENTS	40-8-73	2
WINDOW GLAZING VIOLATION/TINTED WINDOWS	40-8-73.1	14
SAFETY RESTRAINT / MINOR UNDER 8	40-8-76	14
SEATBELT- CHILD	40-8-76	11
SAFETY RESTRAINT--OVER 18 YEARS	40-8-761	18
SEATBELT VIOLATION-CMV	40-8-761	1
SAFETY RESTRAINT/MINOR 8 TO 17 YOA	40-8-761000	3
UNLAWFUL USE OF BLUE LIGHTS ON VEHICLE	40-8-90	1
FLASHING OR REVOLVING LIGHTS WITHOUT PERMIT	40-8-92	2
OPERATING VEHICLE DURING SUSPENSION OF LICENSE	40-9-8	1
14 HOUR RULE VIOLATION	4018	1
PROBATION VIOLATION	42-8-32	1
"USING TELEPHONE COMMUNICATIONS FOR OBSCENE, THREATENING, OR HARASSING PURPOSES"	46-5-21	1
DISORDERLY CONDUCT/PROHIBITED ACTS- CITY ORDINANCE	5-203	4
Total Events:		1443

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ACCIDENT REPORTS BETWEEN 7/14/2021 AND 8/18/2021

Location:	Date \ Time Received:	Case Number	Vehicles	Injuries	Fatalaties
SCOTT ST	7/14/2021	210714024	2	0	0
SR-21	7/14/2021	210714024	2	0	0
INTERSTATE 95	7/15/2021	210715063	2	0	0
SR 21	7/15/2021	210715063	2	0	0
I 95 NB RAMP	7/16/2021	210716052	1	0	0
STATE ROUTE 21 NB	7/16/2021	210716052	1	0	0
OLEARY RD	7/16/2021	210716056	2	0	0
S.R. 21 SB	7/16/2021	210716056	2	0	0
HWY 30	7/16/2021	210716058	2	0	0
NEWPORT	7/16/2021	210716058	2	0	0
	7/16/2021	210716059	3	0	0
I-95	7/16/2021	210716059	3	0	0
GULFSTREAM ROAD	7/16/2021	210716068	2	0	0
SR 21	7/16/2021	210716068	2	0	0
SR-21	7/16/2021	210716077	2	0	0
TRAVELER'S WAY	7/16/2021	210716077	2	0	0
SR 21	7/16/2021	210716069	2	0	0
TRAVLERS WAY	7/16/2021	210716069	2	0	0
	7/17/2021	210717023	1	0	0
417 PINEHURST PLACE	7/17/2021	210717023	1	0	0
HWY 21	7/17/2021	210717046	1	0	0
RICE CREEK RD	7/17/2021	210717046	1	0	0
	7/19/2021	210719058	2	0	0
INTERSTATE 95	7/19/2021	210719058	2	0	0
BONNY BRIDGE RD	7/19/2021	210719030	2	0	0
SR-21	7/19/2021	210719030	2	0	0
	7/19/2021	210719052	2	0	0
S.R. 21	7/19/2021	210719052	2	0	0
GA 21	7/20/2021	210720049	2	0	0
HENDLEY RD	7/20/2021	210720049	2	0	0
	7/20/2021	210720053	2	0	0
7001 GA HWY 21	7/20/2021	210720053	2	0	0
	7/20/2021	210720054	2	0	0

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Location:	Date \ Time Received:	Case Number	Vehicles	Injuries	Fatalaties
S.R. 21	7/20/2021	210720054	2	0	0
	7/22/2021	210722035	2	0	0
1 BIRKENHEAD RD	7/22/2021	210722035	2	0	0
	7/22/2021	210722048	2	0	0
GA-21 NORTH	7/22/2021	210722048	2	0	0
	7/22/2021	210722055	2	0	0
SR-21	7/22/2021	210722055	2	0	0
OLEARY RD	7/22/2021	210722049	2	0	0
STATE ROUTE 21	7/22/2021	210722049	2	0	0
	7/22/2021	210722060	2	0	0
JIMMY DELOACH PKWY	7/22/2021	210722060	2	0	0
	7/22/2021	210722074	2	0	0
HWY 21	7/22/2021	210722074	2	0	0
	7/22/2021	210722080	1	0	0
BONNY BRIDGE RD	7/22/2021	210722080	1	0	0
BOURNE AVE	7/23/2021	210723021	2	0	0
SR-21	7/23/2021	210723021	2	0	0
GRANGE RD	7/24/2021	210725039	2	0	0
S.R. 25	7/24/2021	210725039	2	0	0
	7/24/2021	210724116	2	0	0
7110 SR-21	7/24/2021	210724116	2	0	0
	7/25/2021	210725084	2	0	0
7306 GA 21	7/25/2021	210725084	2	0	0
I-95	7/26/2021	210726029	2	0	0
SR-21	7/26/2021	210726029	2	0	0
	7/26/2021	210726030	2	0	0
SR-21	7/26/2021	210726030	2	0	0
COLDBROOK STATION DR	7/26/2021	210726062	2	0	0
HWY 21	7/26/2021	210726062	2	0	0
	7/27/2021	210727034	2	0	0
SR-21	7/27/2021	210727034	2	0	0
CRABAPPLE CIR	7/27/2021	210727060	1	0	0
PARKSIDE BLVD	7/27/2021	210727060	1	0	0

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ACCIDENT REPORTS BETWEEN 7/14/2021 AND 8/18/2021

Location:	Date \ Time Received:	Case Number	Vehicles	Injuries	Fatalaties
MARKET BLVD	7/27/2021	210727081	2	1	0
S.R 21 NB	7/27/2021	210727081	2	1	0
	7/28/2021	210728026	2	0	0
SR 21	7/28/2021	210728026	2	0	0
O'LEARY RD.	7/29/2021	210729021	2	0	0
SR-21	7/29/2021	210729021	2	0	0
	7/29/2021	210729030	2	0	0
SR-21	7/29/2021	210729030	2	0	0
	7/29/2021	210729035	3	2	0
I-95	7/29/2021	210729035	3	2	0
	7/29/2021	210729036	2	0	0
INTERSTATE 95	7/29/2021	210729036	2	0	0
	7/29/2021	GET RID OF	0	0	0
INTERSTATE 95	7/29/2021	GET RID OF	0	0	0
HWY21S	7/29/2021	210729058	2	0	0
MARKET BLVD	7/29/2021	210729058	2	0	0
COLBROOK STATION CIR	7/29/2021	210729081	2	0	0
S.R. 21	7/29/2021	210729081	2	0	0
	7/29/2021	210729077	2	0	0
STATE ROUTE 21	7/29/2021	210729077	2	0	0
OLD MILL ROAD	7/30/2021	210730006	1	0	0
TWELVE OAKS ROAD	7/30/2021	210730006	1	0	0
	7/30/2021	210730042	2	0	0
S.R. 21 NB	7/30/2021	210730042	2	0	0
SR-21 N	8/2/2021	210802053	2	0	0
TRAVELERS WAY	8/2/2021	210802053	2	0	0
	8/2/2021	210802055	2	0	0
SR 21	8/2/2021	210802055	2	0	0
HWY 30	8/3/2021	210803059	2	0	0
SR-21 S	8/3/2021	210803059	2	0	0
BENTON BLVD	8/3/2021	210803066	2	0	0
HWY 30	8/3/2021	210803066	2	0	0
I-95	8/3/2021	210803069	2	0	0

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Location:	Date \ Time Received:	Case Number	Vehicles	Injuries	Fatalaties
SR-21	8/3/2021	210803069	2	0	0
INTERNATIONAL TRADE PKWY	8/3/2021	210803070	2	0	0
SR-21	8/3/2021	210803070	2	0	0
GEORGIA HIGHWAY 21/SR 21	8/3/2021	210803075	2	0	0
TRAVELER'S WAY	8/3/2021	210803075	2	0	0
COLDBROOK STATION CIRCLE	8/3/2021	210803074	2	1	0
SR 21	8/3/2021	210803074	2	1	0
	8/3/2021	210803076	2	0	0
INTERSTATE 95	8/3/2021	210803076	2	0	0
GEORGIA HIGHWAY 21 NORTHBOUND	8/3/2021	210803078	2	0	0
TRAVELLER'S WAY	8/3/2021	210803078	2	0	0
COOK ST.	8/3/2021	210803079	3	1	0
SR-21	8/3/2021	210803079	3	1	0
HODGEVILLE ROAD	8/5/2021	210805068	3	1	0
STATE ROUTE 30	8/5/2021	210805068	3	1	0
	8/5/2021	210805080	1	0	0
HWY-30	8/5/2021	210805080	1	0	0
	8/6/2021	210806005	2	0	0
70 TILLER WAY	8/6/2021	210806005	2	0	0
	8/6/2021	210806037	2	0	0
7110 SR-21 N	8/6/2021	210806037	2	0	0
	8/7/2021	210807031	2	1	0
I-95	8/7/2021	210807031	2	1	0
	8/8/2021	210808004	2	0	0
SR-21	8/8/2021	210808004	2	0	0
	8/8/2021	DELETEEE ME	2	0	0
SR-21	8/8/2021	DELETEEE ME	2	0	0
CROSSGATE RD	8/8/2021	210808028	2	0	0
OSTEEN STREET	8/8/2021	210808028	2	0	0
	8/9/2021	210809042	2	0	0
I-95	8/9/2021	210809042	2	0	0
RICE CREEK	8/9/2021	210809047	2	0	0
SR-21	8/9/2021	210809047	2	0	0

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HENDLEY RD	8/9/2021	210809049	2	0	0
SR 21	8/9/2021	210809049	2	0	0
HODGEVILLE	8/9/2021	210809052	2	0	0
HWY-30	8/9/2021	210809052	2	0	0
	8/9/2021	210809091	1	0	0
INTERSTATE 95	8/9/2021	210809091	1	0	0
COLDBROOK STATION CIRCLE	8/9/2021	210809093	2	2	0
SR-21 NORTH	8/9/2021	210809093	2	2	0
	8/9/2021	210809095	2	0	0
7001 SR 21	8/9/2021	210809095	2	0	0
	8/10/2021	210810062	1	0	0
HENDLEY RD	8/10/2021	210810062	1	0	0
COLDBROOK STATION RD	8/10/2021	210810069	2	1	0
SR 21	8/10/2021	210810069	2	1	0
OLEARY RD	8/10/2021	210810073	2	0	0
SR-21	8/10/2021	210810073	2	0	0
HENDLEY RD	8/11/2021	210811015	2	0	0
S.R. 21 SB	8/11/2021	210811015	2	0	0
HENDLEY RD	8/11/2021	210811018	2	0	0
SR 21	8/11/2021	210811018	2	0	0
SR 21	8/11/2021	210811043	2	0	0
SR 307	8/11/2021	210811043	2	0	0
	8/11/2021	210811054	2	0	0
200 MAGNOLIA BLVD	8/11/2021	210811054	2	0	0
	8/11/2021	210811059	2	0	0
GEORGIA HIGHWAY 21	8/11/2021	210811059	2	0	0
	8/11/2021	210811061	2	0	0
MAGNOLIA BLVD	8/11/2021	210811061	2	0	0
SR 21	8/11/2021	210811066	3	0	0
TRAVELERS WAY	8/11/2021	210811066	3	0	0
	8/11/2021	210811067	2	0	0
MONTIETH ROAD	8/11/2021	210811067	2	0	0
MARKET BLVD	8/11/2021	210811068	2	0	0

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Location:	Date \ Time Received:	Case Number	Vehicles	Injuries	Fatalaties
SR-21	8/11/2021	210811068	2	0	0
SR 21	8/11/2021	210811069	2	0	0
TRAVELERS WAY	8/11/2021	210811069	2	0	0
I-95	8/12/2021	210812024	2	0	0
SR21S	8/12/2021	210812024	2	0	0
	8/12/2021	210812040	2	0	0
SR-21 S	8/12/2021	210812040	2	0	0
	8/12/2021	210812065	2	0	0
STATE ROUTE 21	8/12/2021	210812065	2	0	0
MAGELLAN BLVD	8/12/2021	210812068	2	1	0
SR 30	8/12/2021	210812068	2	1	0
CROSSGATE RD	8/12/2021	210812071	2	0	0
SR 21	8/12/2021	210812071	2	0	0
	8/13/2021	210813050	2	0	0
605 EXPANSION BLVD	8/13/2021	210813050	2	0	0
	8/13/2021	210813061	2	0	0
200 MAGNOLIA BLVD	8/13/2021	210813061	2	0	0
I-95	8/13/2021	210813081	2	0	0
SR-21	8/13/2021	210813081	2	0	0
	8/16/2021	210816022	2	0	0
SR 25	8/16/2021	210816022	2	0	0
	8/16/2021	210816055	3	0	0
SR 21	8/16/2021	210816055	3	0	0
	8/17/2021	210817039	2	0	0
GRANGE RD	8/17/2021	210817039	2	0	0
INTERSATE 95 EXIT	8/17/2021	210817044	1	0	0
SR21	8/17/2021	210817044	1	0	0
	8/17/2021	210817056	1	0	0
NOBLE JONES COURT	8/17/2021	210817056	1	0	0
	8/17/2021	210817060	2	0	0
250 GRANGE RD.	8/17/2021	210817060	2	0	0
INTERNATION BLVD	8/17/2021	210817063	2	0	0
STATE HIGHWAY 21	8/17/2021	210817063	2	0	0

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Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

ACCIDENT REPORTS BETWEEN 7/14/2021 AND 8/18/2021

Location:	Date \ Time Received:	Case Number	Vehicles	Injuries	Fatalaties
BENTON BLVD	8/17/2021	210817076	2	0	0
SR 30	8/17/2021	210817076	2	0	0
COLDBROOK STATION CIR	8/17/2021	210817079	2	2	0
SR 21	8/17/2021	210817079	2	2	0

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

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CRASH LOCATION REPORT

For Crashes occurring between 7/14/2021 and 8/18/2021

REPORT GENERATED ON: 8/18/2021 1:33:11 PM

Port Wentworth PD

ACCIDENT#	ROAD OF OCCURRENCE/LOCATION	AT INTERSECTION WITH	ACCIDENT DATE	TIME
210806037			8/6/2021	12:20
210811054			8/11/2021	15:00
210813050			8/13/2021	10:12
210817060			8/17/2021	11:00
210722035	1 BIRKENHEAD RD		7/22/2021	06:50
210813061	200 MAGNOLIA BLVD		8/13/2021	12:28
210717023	417 PINEHURST PLACE		7/17/2021	03:40
210806005	70 TILLER WAY		8/6/2021	03:00
210809095	7001 HIGHWAY 21, PORT WENTWORTH,		8/9/2021	17:39
210725084	7306 GA 21 PORT WENTWORTH, GA		7/25/2021	14:45
210803066	BENTON BLVD	HWY 30	8/3/2021	13:53
210722080	BONNY BRIDGE RD		7/22/2021	18:39
210719030	BONNY BRIDGE RD	SR-21	7/19/2021	10:13
210724116	CIRCLE K		7/24/2021	18:20
210727060	CRABAPPLE CIR	PARKSIDE BLVD	7/27/2021	09:00
210722048	GA-21 NORTH		7/22/2021	09:56
210811059	GEORGIA HIGHWAY 21		8/11/2021	15:24
210803078	GEORGIA HIGHWAY 21 NORTHBOUND	TRAVELLER'S WAY	8/3/2021	18:08
210803075	GEORGIA HIGHWAY 21/SR 21	TRAVELER'S WAY	8/3/2021	17:00
210817039	GRANGE RD		8/17/2021	06:12
210810062	HENDLEY RD		8/10/2021	13:58
210720049	HENDLEY RD	GA 21	7/20/2021	06:20
210811015	HENDLEY RD	S.R. 21 SB	8/11/2021	05:25
210809049	HENDLEY RD	SR 21	8/9/2021	08:15
210811018	HENDLEY RD	SR 21	8/11/2021	06:28
210809052	HODGEVILLE	HWY-30	8/9/2021	08:15
210722074	HWY 21		7/22/2021	17:18
210726062	HWY 21	COLDBROOK STATION DR	7/26/2021	17:00
210717046	HWY 21	RICE CREEK RD	7/17/2021	14:35
210716058	HWY 30	NEWPORT	7/16/2021	15:00
210805080	HWY-30		8/5/2021	21:05
210729058	HWY21S	MARKET BLVD	7/29/2021	15:00
210716059	I-95		7/16/2021	15:15
210729035	I-95		7/29/2021	09:32
210807031	I-95		8/7/2021	06:00
210809042	I-95		8/9/2021	06:36
210726029	I-95	SR-21	7/26/2021	06:50
210817044	INTERSATE 95 EXIT	SR21	8/17/2021	06:40
210719058	INTERSTATE 95		7/19/2021	04:00
210729036	INTERSTATE 95		7/29/2021	10:15
GET RID OF	INTERSTATE 95		7/29/2021	10:15
210803076	INTERSTATE 95		8/3/2021	17:50
210809091	INTERSTATE 95		8/9/2021	16:40

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

CRASH LOCATION REPORT

For Crashes occurring between 7/14/2021 and 8/18/2021

REPORT GENERATED ON: 8/18/2021 1:33:11 PM

Port Wentworth PD

ACCIDENT#	ROAD OF OCCURRENCE/LOCATION	AT INTERSECTION WITH	ACCIDENT DATE	TIME
210722060	JIMMY DELOACH PKWY		7/22/2021	13:50
210811061	MAGNOLIA BLVD		8/11/2021	16:04
210811067	MONTIETH ROAD		8/11/2021	17:00
210817056	NOBLE JONES COURT		8/17/2021	10:15
210808028	OSTEEN STREET	CROSSGATE RD	8/8/2021	09:10
210720053	PILOT TRAVEL CENTER		7/20/2021	07:01
210727081	S.R 21 NB	MARKET BLVD	7/27/2021	15:40
210719052	S.R. 21		7/19/2021	15:18
210720054	S.R. 21		7/20/2021	07:33
210729081	S.R. 21	COLBROOK STATION CIR	7/29/2021	17:20
210730042	S.R. 21 NB		7/30/2021	13:55
210716056	S.R. 21 SB	OLEARY RD	7/16/2021	12:45
210725039	S.R. 25	GRANGE RD	7/24/2021	08:08
210728026	SR 21		7/28/2021	07:43
210802055	SR 21		8/2/2021	16:00
210816055	SR 21		8/16/2021	15:50
210817079	SR 21	COLDBROOK STATION CIR	8/17/2021	16:35
210803074	SR 21	COLDBROOK STATION CIRCLE	8/3/2021	17:05
210810069	SR 21	COLDBROOK STATION RD	8/10/2021	16:16
210812071	SR 21	CROSSGATE RD	8/12/2021	20:00
210716068	SR 21	GULFSTREAM ROAD	7/16/2021	17:25
210715063	SR 21	INTERSTATE 95	7/15/2021	10:38
210811043	SR 21	SR 307	8/11/2021	13:30
210811066	SR 21	TRAVELERS WAY	8/11/2021	16:59
210811069	SR 21	TRAVELERS WAY	8/11/2021	17:15
210716069	SR 21	TRAVLERS WAY	7/16/2021	22:41
210816022	SR 25		8/16/2021	10:10
210817076	SR 30	BENTON BLVD	8/17/2021	15:28
210812068	SR 30	MAGELLAN BLVD	8/12/2021	18:38
210726030	SR-21		7/26/2021	07:25
210729030	SR-21		7/29/2021	08:13
210808004	SR-21		8/8/2021	01:30
DELETEEE ME	SR-21		8/8/2021	01:30
210722055	SR-21		7/22/2021	11:20
210727034	SR-21		7/27/2021	06:20
210723021	SR-21	BOURNE AVE	7/23/2021	03:28
210803079	SR-21	COOK ST.	8/3/2021	18:15
210803069	SR-21	I-95	8/3/2021	14:50
210813081	SR-21	I-95	8/13/2021	15:35
210803070	SR-21	INTERNATIONAL TRADE PKWY	8/3/2021	15:15
210811068	SR-21	MARKET BLVD	8/11/2021	17:10
210729021	SR-21	O'LEARY RD.	7/29/2021	05:45
210810073	SR-21	OLEARY RD	8/10/2021	16:40

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

CRASH LOCATION REPORT

For Crashes occurring between 7/14/2021 and 8/18/2021

REPORT GENERATED ON: 8/18/2021 1:33:11 PM

Port Wentworth PD

ACCIDENT#	ROAD OF OCCURRENCE/LOCATION	AT INTERSECTION WITH	ACCIDENT DATE	TIME
210809047	SR-21	RICE CREEK	8/9/2021	07:40
210714024	SR-21	SCOTT ST	7/14/2021	06:14
210716077	SR-21	TRAVELER'S WAY	7/16/2021	19:47
210802053	SR-21 N	TRAVELERS WAY	8/2/2021	00:00
210809093	SR-21 NORTH	COLDBROOK STATION CIRCLE	8/9/2021	17:00
210812040	SR-21 S		8/12/2021	09:45
210803059	SR-21 S	HWY 30	8/3/2021	12:10
210812024	SR21S	I-95	8/12/2021	05:45
210817063	STATE HIGHWAY 21	INTERNATION BLVD	8/17/2021	12:00
210729077	STATE ROUTE 21		7/29/2021	22:43
210812065	STATE ROUTE 21		8/12/2021	17:43
210722049	STATE ROUTE 21	OLEARY RD	7/22/2021	13:41
210716052	STATE ROUTE 21 NB	I 95 NB RAMP	7/16/2021	10:23
210805068	STATE ROUTE 30	HODGEVILLE ROAD	8/5/2021	16:37
210730006	TWELVE OAKS ROAD	OLD MILL ROAD	7/30/2021	00:47

TOTAL CRASHES ON REPORT 101

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

PORT WENTWORTH PD CRASH ANALYSIS REPORT	2021

Total Number of Crashes:	**101**
Accidents with Injuries:	**10**
Accidents with Fatalities:	**0**

FREQUENCY

Monday:	**17**
Tuesday:	**25**
Wednesday:	**12**
Thursday:	**23**
Friday:	**15**
Saturday:	**5**
Sunday:	**4**

00:01 - 08:00 Hours:	**26**
08:01 - 16:00 Hours:	**45**
16:01 - 24:00 Hours:	**30**

00:01 - 06:00 Hours:	**12**
06:01 - 12:00 Hours:	**34**
12:01 - 18:00 Hours:	**45**
18:01 - 24:00 Hours:	**10**

Top Contributing Factors (top 4 listed)

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

PORT WENTWORTH PD CRASH ANALYSIS REPORT	2021

Most Frequent Crash Locations and Quantity:

Traffic Conditions Complaint / Request Locations:

Speed Buggy Locations:

Traffic Citation Analysis Period: 7/14/2021 to 8/18/2021

Total Citations Issued: 1443

Top Citations Issued (top 4 listed)

40-6-181 - SPEEDING IN EXCESS OF MAXIMUM LIMITS (375)

40-2-8 - EXPIRED REGISTRATION (102)

40-6-48 - FAILURE TO MAINTAIN LANE/IMPROPER LANE CHANGE (70)

40-6-20 - FAILURE TO OBEY TRAFFIC CONTROL DEVICE (56)

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

PORT WENTWORTH PD CRASH ANALYSIS REPORT	2021

Previous Month's Enforcement Activities:

Analysis Prepared By: LIBBY, MATTHEW on 8/18/2021

Disseminated To:

Comments:

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

Incident Types reported between 7/14/2021 and 8/18/2021

Events:	Total:
"USING TELEPHONE COMMUNICATIONS FOR OBSCENE, THREATENING, OR HARASSING PURPOSES"	1
ABANDONED VEHICLE TOWED	3
AGGRAVATED ASSAULT	1
AGGRAVATED ASSAULT DVA	2
AGGRAVATED ASSAULT-STRANGULATION	1
AGGRAVATED CHILD MOLESTATION	1
AMPHETAMINE- POSSESSION OF	4
AMPHETAMINE- SALE OF	1
AUTO THEFT	1
BATTERY	1
BATTERY (FV)- 1ST OFFENSE	3
CIVIL MATTER	5
COMPUTER THEFT	1
CONTEMPT OF COURT	1
CRIMINAL DAMAGE TO PROPERTY - 1ST DEGREE	1
CRIMINAL TRESPASS	5
CRUELTY TO CHILDREN-1ST DEGREE	1
CRUELTY TO CHILDREN-3RD DEGREE	2
DAMAGE TO PROPERTY	8
DEATH INVESTIGATION	4
DISCHARGE OF FIREARMS ON PROPERTY OF ANOTHER	1
DISCHARGING FIREARMS, BB GUNS, ETC.	1
DISORDERLY CONDUCT	9
DISORDERLY HOUSE	1
DOG AT LARGE	2
DOMESTIC DISPUTE	22
DRIVING AWAY WITHOUT PAYING FOR GASOLINE	1
DRIVING IN DIVIDED HIGHWAY, CONTROLLED ACCESS ROADWAYS, AND EMERGENCY LANES	1
DRIVING ON WRONG SIDE OF ROADWAY	1
DRIVING WHILE LICENSE SUSPENDED OR REVOKED- FELONY	3
DRIVING WHILE LICENSE SUSPENDED OR REVOKED- MISDEMEANOR	43
DRIVING WITHOUT A VALID LICENSE- MISDEMEANOR	46
DRIVING WRONG SIDE OF ROAD	1
DRUGS NOT IN ORIGINAL CONTAINER - MISDEMEANOR	1
DUI - DRIVING UNDER THE INFLUENCE OF ALCOHOL - CONCENTRATION IS 0.08G OR MORE WITHIN 3 HRS OR MORE	4
DUI - LESS SAFE- ALCOHOL	8

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DUI - LESS SAFE- DRUGS	2
DUI - REFUSAL	2
DUI/ALCOHOL/LESS SAFE	2
ENTERING AUTOMOBILE OR OTHER MOTOR VEHICLE WITH INTENT TO COMMIT THEFT OR FELONY	8
EXPIRED REGISTRATION	11
FAILURE TO MAINTAIN LANE/IMPROPER LANE CHANGE	8
FAILURE TO OBEY TRAFFIC CONTROL DEVICE	1
FAILURE TO REPORT ACCIDENT WITH INJURY/DEATH/DAMAGE	1
FAILURE TO STOP AT STOP SIGN	1
FAILURE TO USE HEADLIGHTS AFTER DARK/WHEN RAINING	2
FAILURE TO USE TURN SIGNAL	1
FAILURE TO YIELD WHILE TURNING LEFT	1
FLEEING OR ATTEMPTING TO ELUDE A POLICE OFFICER	3
FLEEING OR ATTEMPTING TO ELUDE A POLICE OFFICER FOR A FELONY OFFENSE	1
FLEEING/ATTEMPTING TO ELUDE POLICE OFFICER FELONY	1
FORGERY - 3RD DEGREE	1
FRAUDULENT TELEPHONE SOLICITATION	1
HARASSING COMMUNICATIONS	3
HEADLIGHT REQUIREMENTS	1
HIT AND RUN; DUTY OF DRIVER TO STOP AT OR RETURN TO SCENE OF ACCIDENT	3
IMPROPER BACKING	1
IMPROPER NAME/ADDRESS ON LICENSE	1
IMPROPER U-TURN	5
IMPROPER USE OF DEALER PLATE	1
LICENSE TO BE EXAMINED ON DEMAND	3
LOITERING OR PROWLING	1
LOST/MISLAID PROPERTY	1
MEDICAL CALL	3
MENTAL HEALTH TRANSPORT	1
MISCELLANEOUS REPORT	24
MISSING PERSON	1
MOTORCYCLE-OPERATING BETWEEN LANES OF TRAFFIC	1
NO AMBER LIGHTS	1
NO INSURANCE	10
NUISANCE	1
OBSTRUCTION OF LAW ENFORCEMENT OFFICERS - MISDEMEANOR	4
OPEN CONTAINER OF ALCOHOL IN MOTOR VEHICLE	2
OPERATING VEHICLE DURING SUSPENSION OF LICENSE	1
POINTING OR AIMING GUN OR PISTOL AT ANOTHER	1
POSESSION OF MARIJUANA	3
POSS/MAN/DISTRIBUTION/SALE OF LOW THC OIL	1
Possesion of controlled substance wih intent to distribute	1
POSSESSION AND USE OF DRUG RELATED OBJECTS	9
POSSESSION OF CONTROLLED SUBSTANCE	2
POSSESSION OF FIREARM OR KNIFE DURING COMMISSION OF OR ATTEMPT TO COMMIT A CRIME	2
PROBATION VIOLATION	1
RAPE	1
RECKLESS CONDUCT	1
RECKLESS DRIVING	4
RECOVERED PROPERTY-NOT STOLEN	1
RECOVERED STOLEN MOTOR VEHICLE	2
RUNAWAY JUVENILE	1
SAFETY RESTRAINT--OVER 18 YEARS	2
SEATBELT- ADULT	1
SEXUAL BATTERY	1
SIMPLE ASSAULT	1
SIMPLE BATTERY	1
SIMPLE BATTERY - FAMILY VIOLENCE	1
SPEEDING IN EXCESS OF MAXIMUM LIMITS	17
STALKING	1
STANDARDS FOR BRAKE LIGHTS/SIGNAL DEVICES	1
SUICIDE THREAT/ATTEMPT	4
SUSPENDED REGISTRATION	4

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SUSPICIOUS INCIDENT	1
TAG LIGHT REQUIRED	3
TAG/ REGISTRATION REQUIREMENTS	1
TAIL LIGHTS REQUIRED	2
TAMPERING WITH EVIDENCE - FELONY	1
TERRORISTIC THREATS AND ACTS	4
THEFT BY DECEPTION - FELONY	3
THEFT BY RECEIVING PROPERTY STOLEN IN ANOTHER STATE - FELONY	1
THEFT BY RECEIVING STOLEN PROPERTY - FELONY	1
THEFT BY TAKING - FELONY	6
THEFT BY TAKING - FIREARM	1
THEFT BY TAKING - MISDEMEANOR	4
THEFT BY TAKING FIREARM/EXPLOSIVE	1
THEFT BY TAKING- MOTOR VEHICLE	4
TOO FAST FOR CONDITIONS	4
TRAFFIC STOP	1
UNGOVERNABLE CHILD	3
USE OF COMMUNICATION FACILITY FOR CRIMINAL USE	1
WANTED PERSON	7
WINDOW GLAZING VIOLATION/TINTED WINDOWS	1
Total Events:	427

Attachment: Police Department Monthly Report August 2021 (2484 : Committee Reports)

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	July 14 2021 - August 16 2021	
9 Kissimee	Grass	Open
221 Turnberry	Grass	Open
206 Turnberry	Grass	Open
106 Turnberry	Grass	Open
104 Turnberry	Grass	Open
102 Turnberry	Grass	Open
711 Barnsley	Grass	Open
306 Birkenhead	Grass	Open
308 Birkenhead	Grass	Open
312 Birkenhead	Grass	Open
314 Birkenhead	Grass	Open
324 Birkenhead	Grass	Open
313 Aberfeldy	Grass	Open
307 Aberfeldy	Grass	Open
7 Lanvale	Grass	Open
9 Treadway	Grass	Open
102 Chiswick	Grass	Open
106 Antrim	Grass	Open
107 Antrim	Grass	Open
115 Antrim	Grass	Open
203 Antrim	Grass	Open

Building communities. | Impacting lives.

Port Wentworth, Ga
Monthly Operating Report
July 2021

Water Distribution:

Hydrant Flushing program:

- Established a flushing program to obtain a safe and stable water supply.
- Volume of flushing since the beginning has been stabilized due to an established and consistent flushing program.
- Auto flusher at Mossy Oak Cove flushed for 60 mins per day
- Auto flusher at Armadale Road flushed for 30 mins per day
- Auto flusher at Magnolia Blvd flushed for 20 mins per day

Ground Water Withdrawal:	1,015,200 Gallons
Purchase Water from Savannah I&D:	28,123,085 Gallons

Compliance:

- Took monthly Micro-Biological samples and sent to lab. **(Results: Passed)**
- All monthly reports turned into EPD.

Maintenance:

- Repaired water leak at 205 Phillips Ave.
- Repaired water leak at 85 Roseberry Cir.

Wastewater Collection:

- Checked all lift stations (17) at least twice a week and performed routine maintenance.
- Cleaned probes, transducers, and floats as needed.
- Grounds maintenance at lift stations.
- Repaired manhole at intersection of Turnberry St and Crossgate Rd.

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

Port Wentworth, Ga
Monthly Operating Report
July 2021

Cold Stream Lift Station					Horne Place Lift Station				
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	*		*		6	*		810.1*	2.9
7					7				
8	182.7*	41.4	*		8	*		811.7*	1.6
9					9				
10					10				
11					11				
12	217.8*	35.1	*		12	*		814.4*	2.7
13					13				
14	230.6*	12.8	*		14	*		815.5*	1.1
15					15				
16	239.6	9.0			16			816.5	1.0
17					17				
18					18			820.0	3.5
19	256.4*	16.8	*		19	*		*	
20	*		*		20	*		*	
21	*		*		21	*		823.3*	3.3
22	285.7*	29.3	*		22	*		824.5*	1.2
23	297.5*	11.8	*		23	*		826.2*	1.7
24					24				
25					25				
26	315.9	18.4			26				
27	*		*		27	*		*	
28	333.9*	18.0	*		28	*		827.9*	1.7
29	*		*		29	*		*	
30	343.4*	9.5	*		30	*		829.2*	1.3
31	*		*		31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

CWS
Building communities. | Impacting lives.

Port Wentworth, Ga
Monthly Operating Report
July 2021

	Armadale Lift Station					Rideshare Lift Station			
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	1101.5*	0.1	21408.1*	10.5	6	2566.5*	13.9	9070.6*	11.0
7					7				
8	1112.8*	11.3	21419.7*	11.6	8	*		*	
9					9				
10					10				
11					11				
12	1155.0*	42.2	21433.3*	13.6	12	2597.6*	31.1	9095.0*	24.4
13	1155.6	0.6	21440.3	7.0	13				
14	1159.5*	3.9	21444.2*	3.9	14	2615.0*	17.4	9098.0*	3.0
15					15				
16	1164.9	5.4	21449.5	5.3	16	2654.8	39.8	9101.5	3.5
17					17				
18					18				
19	1175.6*	10.7	21459.0*	9.5	19	*		*	
20	*		*		20	*		*	
21	*		*		21	*		*	
22	1191.7*	16.1	21478.2*	19.2	22	2741.7*	86.9	9111.2*	9.7
23	1199.0*	7.3	21485.7*	7.5	23	2751.5*	9.8	9112.9*	1.7
24					24				
25					25				
26	1209.9	10.9	21496.4	10.7	26	2788.5	37	9117.8	4.9
27	*		*		27	*		*	
28	1218.8*	8.9	21505.3*	8.9	28	*		9125.8*	8.0
29	*		*		29	*		*	
30	1222.5*	3.7	21508.7*	3.4	30	2793.8*	5.3	9129.6*	3.8
31	*				31	*		*	

* or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

Port Wentworth, Ga
Monthly Operating Report
July 2021

Waffle House Lift Station					Pine Forest Lift Station				
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	66.9*	16.7	75.8*	18.4	6	*		*	
7					7				
8	*		*		8	*		*	
9					9				
10					10				
11					11				
12	91.5*	24.6	101.8*	26.0	12	*		*	
13					13				
14	99.2*	7.7	110.1*	8.3	14	11743.6*	93.9	13099.6*	51.5
15					15				
16	104.9	5.7	116.4	6.3	16	11747.7	4.1	13102.7	3.1
17					17				
18					18				
19	*		*		19	*		*	
20	*		*		20	*		*	
21	*		*		21	*		*	
22	129.2*	24.3	144.1*	27.7	22	11812.5*	64.8	13131.5*	28.8
23	135.5*	6.3	150.3*	6.2	23	11835.5*	23.0	13142.5*	11.0
24					24				
25					25				
26	148.0	12.5	163.7	13.4	26	11878.5	43.0	13178.6	36.1
27	*		*		27	*		*	
28	157.0*	9.0	173.3*	9.6	28	11885.3*	6.8	13183.1*	4.5
29	*		*		29	*		*	
30	162.8*	5.8	179.6*	6.3	30	11889.1*	3.8	13186.6*	3.5
31	*		*		31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

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Port Wentworth, Ga
Monthly Operating Report
July 2021

	Lakeside Lift Station					Cherry St. Lift Station			
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	10712.2*	23.3	11868.9*	23.5	6	2567.7*	10.6	4555.4*	12.0
7					7				
8	10721.4*	9.2	11880.0*	11.1	8	2573.2*	5.5	4561.8*	6.4
9					9				
10					10				
11					11				
12	10737.7*	16.3	11896.8*	16.8	12	2581.1*	7.9	4570.4*	8.6
13					13				
14	10746.6*	8.9	11905.8*	9.0	14	2584.4*	3.3	4574.1*	3.7
15					15				
16	10754.9	8.3	11913.0	7.2	16	2587.5	3.1	4577.3	3.2
17					17				
18					18				
19	*		*		19	*		*	
20	*		*		20	*		*	
21	*		*		21	2599.9*	12.4	4590.9*	13.6
22	10781.7*	26.8	11940.8*	27.8	22	2602.7*	2.8	4594.1*	3.2
23	10786.7*	5.0	11946.7*	5.9	23	*		*	
24					24				
25					25				
26	10799.3	12.6	11960.1	13.4	26	2608.4	5.7	4600.5	6.4
27	*		*		27	*		*	
28	10808.4*	9.1	11968.9*	8.8	28	2612.2*	3.8	4604.5*	4.0
29	*		*		29	*		*	
30	10816.4*	8.0	11976.6*	7.7	30	2615.4*	3.2	4608.0*	3.5
31	*		*		31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

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Port Wentworth, Ga
Monthly Operating Report
July 2021

Cold Creek Pass Lift Station					Goose Neck Lift Station				
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	8014.6*	16.1	7327.3*	15.5	6	5336.3*	14.1	4965.6*	8.9
7					7				
8	8021.9*	7.3	7333.6*	6.3	8	5337.0*	0.7	4969.5*	3.9
9					9				
10					10				
11					11				
12	8032.1*	10.2	7345.2*	11.6	12	5343.1*	6.1	4976.3*	6.8
13					13				
14	8039.7*	7.6	7351.7*	6.5	14	5346.7*	3.6	4980.0*	3.7
15					15				
16	8045.0	5.3	7356.6	4.9	16	5349.8	3.1	4983.0	3.0
17					17				
18					18				
19	*		*		19	*		*	
20	*		*		20	*		*	
21	*		*		21	*		*	
22	8063.7*	18.7	7375.0*	18.4	22	5362.1*	12.3	4993.4*	10.4
23	8067.4*	3.7	7378.7*	3.7	23	5364.6*	2.5	4995.4*	2.0
24					24				
25					25				
26	8098.7	31.3	7388.9	10.2	26	5371.0	6.4	5000.4	5.0
27	*		*		27	*		*	
28	8148.2*	49.5	7395.2*	6.3	28	5376.0*	5.0	5004.0*	3.6
29	*		*		29	*		*	
30	8190.7*	42.5	7399.7*	4.5	30	5380.6*	4.6	5007.4*	3.4
31	*		*		31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

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Port Wentworth, Ga
Monthly Operating Report
July 2021

Amberly Lift Station					Lake Shore Lift Station				
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	3624.7*	12.6	3622.9*	0	6	2040.7*	7.2	212.4*	7.7
7					7				
8	3629.9*	5.2	3622.9*	0	8	2043.8*	3.1	215.7*	3.3
9					9				
10					10				
11					11				
12	3634.2*	4.3	3627.1*	4.2	12	2049.0*	5.2	221.4*	5.7
13					13				
14	3636.3*	2.1	3629.2*	2.1	14	2051.8*	2.8	223.8*	2.4
15					15				
16	3638.3	2.0	3631.2	2.0	16	2056.3	4.5	223.8	0
17					17				
18					18				
19	*		*		19	*		*	
20	*		*		20	*		*	
21	*		*		21	*		*	
22	3644.7*	6.4	3637.6*	6.4	22	2063.7*	7.4	231.8*	8.0
23	3645.8*	1.1	3638.6*	1.0	23	2064.9*	1.2	233.2*	1.4
24					24				
25					25				
26	3648.9	3.1	3641.7	3.1	26	2068.6	3.7	237.3	4.1
27	*		*		27	*		*	
28	3651.2*	2.3	3644.0*	2.3	28	2071.4*	2.8	240.3*	3.0
29	*		*		29	*		*	
30	3653.1*	1.9	3645.8*	1.8	30	2074.1*	2.7	242.1*	1.8
31	*		*		31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

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Port Wentworth, Ga
Monthly Operating Report
July 2021

Newport Lift Station					Saussy Rd. Lift Station				
Date	Pump #1	Usage	Pump #2	Usage	Date	Pump #1	Usage	Pump #2	Usage
1	*		*		1	*		*	
2	*		*		2	*		*	
3	*		*		3	*		*	
4					4				
5					5				
6	*		*		6	1691.1*	1.4	2451.9*	1.6
7					7				
8	3120.4*	22.5	3032.7*	22.6	8	*		*	
9					9				
10					10				
11					11				
12	3179.5*	59.1	3091.9*	59.2	12	1693.1*	2.0	2454.1*	2.2
13					13				
14	3182.8*	3.3	3095.1*	3.2	14	1693.7*	0.6	2454.8*	0.7
15					15				
16	3193.4	10.6	3105.5	10.4	16	1694.1	0.4	2455.3	0.5
17					17				
18					18				
19	*		*		19	*		*	
20	*		*		20	*		*	
21	*		*		21	*		*	
22	3206.1*	12.7	3127.1*	21.6	22	1696.1*	2.0	2457.6*	2.3
23	3207.7*	1.6	3128.7*	1.6	23	1696.7*	0.6	2458.2*	0.6
24					24				
25					25				
26	3212.7	5.0	3133.7	5.0	26	1697.6	0.9	2459.2	1.0
27	*		*		27	*		*	
28	3216.3*	3.6	3137.6*	3.9	28	1698.2*	0.6	2459.9*	0.7
29	*		*		29	*		*	
30	3219.4*	3.1	3140.4*	2.8	30	1698.6*	0.4	2460.4*	0.5
31	*		*		31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

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Port Wentworth, Ga
Monthly Operating Report
July 2021

Crossgate Lift Station				
Date	Pump #1	Usage	Pump #2	Usage
1	*		*	
2	*		*	
3	*		*	
4				
5				
6	1083.3*	0.1	104.1*	0.1
7				
8	1083.4*	0.1	104.2*	0.1
9				
10				
11				
12	1083.6*	0.2	104.4*	0.2
13				
14	1083.7*	0.1	104.5*	0.1
15				
16	1083.8	0.1	104.6	0.1
17				
18				
19	1083.9*	0.1	104.6*	0
20	*		*	
21	*		*	
22	1084.1*	0.2	104.8*	0.2
23	1084.1*	0	104.8*	0
24				
25				
26	1084.2	0.1	104.9	0.1
27	*		*	
28	1084.3*	0.1	105.1*	0.2
29	*		*	
30	1084.4*	0.1	105.1*	0
31	*		*	

* Or * = Rain Day

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

Recommendations for Wastewater Collection System:

- Upgrade Coldstream Lift Station Force Main to 12”
- Upgrade lift station pumps in Rice Hope Subdivision.
- Complete rehabilitation of Coldstream Lift Station wet well and effluent pipes.
- Inflow/Infiltration on the Downtown Area Sewer System needs to be investigated, found, and repaired.

Streets & Drainage:

Ditch Mowing	34,598 Ft
Ditches Dug	25 Ft
Ditch Debris Removal	0 Tons
Culverts Cleaned Out	1
Shoulder Mowing	149,120 Ft
Shoulder Litter Picked Up by Hand	4 Bags
Debris Pick Up Tonnage Landfill	0 Tons
Shop Dumpster Tonnage for Shoulder Litter	2.12 Tons
Potholes Fixed	0
Street Signs Replaced/Repaired	1 + 1 New sign installed
Sign Pole Replaced	1
Catch Basin Repair	0
Street Sweeping Curbs	0 Ft
Street Sweeping Tonnage	0 Tons

Maintenance:

- Cut & cleared storm ditch entrance at Turnberry St & Crossgate Rd.
- Dug out ditch at 901 Barnsley Rd.
- Repaired collapsed storm drain at 11 Laurel Ln.
- Mow/trim easement at 312 Phillips Ave.
- Cleared trash/debris from storm drains on Butler Memorial Bridge.
- Cleared trash/debris from ditch (storm damage) on Saussy Rd.
- Cleared down tree (storm damage) at 210 Turnberry St.
- Straightened leaning street sign at Holly Spring Cir & Lakeshore Blvd.
- Straightened Community Housing sign on Appleby Rd.
- Grounds maintenance at 305 South Coastal Hwy (2x).
- Grounds maintenance at 7224 Highway 21 (2x).
- Grounds maintenance at well #1, well #2, Appleby water tower.

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

Solid Waste:

Damaged Trash Cans	0
Trash Cans Picked Up	0

Wastewater Treatment Plant:

Maintenance:

- Plant grounds maintenance (grass, ditches, brush, weeding, herbicide, etc.) (x3).
- Mowed roadside, fields and shooting range.
- Emptied and washed out disk filter basins (x3).
- Washed out UV trough (x2).
- Cleaned turbidity meter (Weekly).
- Greased bar rack, effluent pumps, reuse pumps, sidestream pumps (Weekly).
- Ran belt press (Weekly).
- Greased belt press.
- Replenished nutrient for biological odor control (x2).
- Sprayed down belt press and area (Weekly).
- Pulled and cleaned UV racks (x2).
- Cleaned and mopped admin weekly.

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

Port Wentworth, Ga
Monthly Operating Report
July 2021

Compliance:

Raw Wastewater Treated monthly avg. **1.431** MGD, Total raw waste 4**4.367** MG

Parameter	Monthly Performance Indicator Discharged from plant	Target or Limit
BOD % Removal	99%	**≥85%**
Suspended Solids % Removal	99%	**≥85%**
Effluent: Total Phosphorous Monthly Avg.	0.32 mg/L	**≤1.0mg/L**
Total Ammonia (as N) Monthly Avg.	0.62 mg/L	**≤1.0mg/L**
Ultimate Oxygen Demand Monthly Avg.	0.0 lbs./day	**0.0 lbs./day**
Injected Dissolved Oxygen Monthly Avg.	143.2 lbs./day	**≥36 lbs./day/ Million Gallon**
Solids Disposal: Sludge, total dry weight in lbs.	31,924 lbs.	**Report**

Rainfall Monthly Total: **20.09”**

Attachment: ClearWater Solutions, LLC Monthly Report August 2021 (2484 : Committee Reports)

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: City Administrator
Category: Appointment
Prepared By: Shanta Scarboro
Department Head: Edwin L. Booth

AGENDA ITEM (ID # 2493)

DOC ID: 2493

Request for Proposal (RFP) - Chamber of Commerce for the City of Port Wentworth

Issue/Item: Request for Proposal (RFP) - Chamber of Commerce for the City of Port Wentworth.

Background: The City of Port Wentworth, Georgia is authorized by the State of Georgia to levy and collect an excise tax upon hotels and motels in the City. The City may spend a percentage of the excise taxes for the purpose of promoting tourism, trade shows and for promoting, attracting, stimulating, and developing conventions and tourism in the City, etc.

As a result, a Request for Proposal (RFP) for any organization defined under Official Code of Georgia, Section 48-13-50.2 as being eligible to receive such designated tax funds and use them for the purposes intended by law was posted on June 3, 2021 with a deadline for submissions being set for July 6, 2021 by 5:00 p.m.

Those organizations that submitted a proposal were given the opportunity to elaborate on how their organization would use the funds for the benefit of the City and the Citizens of Port Wentworth during a Special Called Meeting that was held on Thursday, August 5, 2021 at 6:30 p.m.

Council decided during the August 5th meeting that they would hold all questions and concerns for each organization to the next regular meeting set for the 4th Thursday of August.

Recommendation: Appointment

ATTACHMENTS:

- Proposal - Metropolitan Savannah Hispanic Chamber of Commerce (PDF)
- Proposal - Port Wentworth Chamber of Commerce (PDF)
- Proposal - Port Wentworth Tourism Bureau (PDF)

HISPANIC
CHAMBER OF COMMERCE OF METROPOLITAN SAVANNAH
Tu Cámara de Comercio En Español
info@msavhcc.org
www.msavhcc.org

Bylaws Of The

Metropolitan Savannah

Hispanic Chamber of Commerce, Inc.

As of: 27 November 2014

Attachment: Proposal - Metropolitan Savannah Hispanic Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce

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Attachment: Proposal - Metropolitan Savannah Hispanic Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce

ARTICLE I – NAME AND PURPOSE

Section 1.1. Name - This organization is incorporated under the laws of the State of Georgia and shall be known as Metropolitan Savannah Hispanic Chamber of Commerce, herein after referred to as the "MSAVHCC", or The Chamber.

Section 1.2. Incorporation - The MSAVHCC is organized pursuant to the Georgia Nonprofit Corporation Code. MSAVHCC shall observe all local, state, county and federal laws that apply to tax-exempt entities as defined in 501(c) (6) of the Internal Revenue Code. No part of the net earnings of this corporation inures to the benefit of any private shareholder or individual.

Section 1.3. Purpose – The mission of the Chamber is to provide leadership and support to the economic development of the Hispanic business community of the Savannah Metropolitan Area. Our vision is to be the economic development organization of choice in the Savannah metropolitan area for Hispanics when starting, operating, and growing a successful business enterprise, and to the community at large when seeking to partner with Hispanic businesses.

Section 1.3. Goals - The goals of the Chamber are:

a. To develop and strengthen the relationship with Hispanic companies, organizations, professionals, corporations, and many cultural and civic entities in Metropolitan Savannah.

b. To promote programs, events, resources and activities aimed at improving the economic development of Hispanics in the region.

c. To serve as the gateway for large organizations and national corporations to connect with the Hispanic business community in Metropolitan Savannah.

d. support other organizations that recognize the contributions Hispanic businesses bring to the nation, and the community at-large.

e. e.To support and promote those entities that actively recognize the Hispanic integration and allowing for the preservation of the Hispanic heritage.

f. To recognize the achievement of Hispanic individuals and companies that have been a positive influence in the Metropolitan Savannah area.

Section 1.4 Parliamentary Procedure. All Board of Directors (hereinafter "The Board" or "Directors") and General Membership meetings shall be governed by the latest edition of the Robert's Rules of Order, in as much as the rules do not conflict with these Bylaws.

Section 1.5 Financial Records. The financial records of the Chamber shall be either audited or reviewed, as decided by its duly elected Board of Directors, on an annual basis by either an auditor or Certified Public Accountant, as decided by the Board, to be recommended by the President and approved by the Executive Committee of the Board.

Section 1.6 Registered Office. The principal office of this organization shall be in Savannah, Chatham County, Georgia with address of 105 Blueberry CT, Savannah, GA 31419.

Attachment: Proposal - Metropolitan Savannah Hispanic Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce

ARTICLE II – MEMBERSHIP

Section 2.1. Eligibility. All individuals, organizations, governmental agencies, business owners, entrepreneurs, and entities doing business with or who wish to engage in business with Hispanic individuals, Hispanic-owned organizations, or serve the Hispanic communities located mainly in Metropolitan Savannah and Southeast Georgia Coastal Area shall be eligible to apply for membership in the MSAVHCC.

For purposes of these Bylaws, the term "Hispanic" shall mean a person of Cuban, Mexican, Puerto Rican, Dominican, South or Central American descent regardless of color, age, religion, gender, or political affiliation.

Section 2.2. Approval. An applicant, who meets the guidelines set and approved by the Board, shall become a member upon approval by the President of MSAVHCC or by approval of the Chairperson of the Membership Committee, if such a committee is established.

Any other applicant shall become a member upon approval by the Board, which has full authority to establish and maintain any criteria regarding categories and types of membership, and the components of each category of membership, including membership period and the dues amount for each such category. Either the Board or the President may deny membership to any entity or individual with or without cause. Said membership shall be non-transferable.

Section 2.3. Membership. Each member must meet the eligibility requirements set forth in Section 1 of this Article and the criteria set by the Board for entitlement to membership, and shall pay dues as established by the Board. All membership is annual unless the membership category is assigned an alternative membership period. There will be three (3) types of membership; General, Associate, and Corporate.

a. General membership – has all the benefits of the membership category that dues were paid for and is entitled to vote on Chamber issues or direction including the election of Chamber Board of Directors.

b. Associate membership – has all the benefits of the membership category that dues were paid for but cannot vote on Chamber issues or direction.

c. Corporate member - Each corporate member that is paying dues at a $5,000 or higher membership category may designate up to three (3) persons to represent its interests and to exercise all rights and privileges of the organization's membership in the MSAVHCC.

Section 2.4. Dues. Membership dues, by classification, shall be in such amounts and shall be paid at such a time and a place as may be prescribed from time to time by the Board.

Section 2.5. Membership Meetings. Membership meetings shall be held at a minimum once per year to review the actions taken during the prior year.

ARTICLE III - BOARD OF DIRECTORS

Section 3.1. Composition of the Board. The Board shall be composed of a minimum of seven (7) persons and a maximum of twenty-one (21) persons. Only individuals who are dues-paying members of the MSAVHCC and who are current in payment of their dues may be elected to the Board. MSAVHCC aspires to have a Board reflective of the diverse interests of the Hispanic community and attuned to its needs; therefore, Board Members should be able to demonstrate cultural competence in dealing with the Hispanic community, including proficiency in the Spanish language. Unless otherwise determined by the Board, at least seventy percent (70%) of all members of the Board shall be Hispanic. Exceptions to these criteria will be made at the discretion of the Board. To be eligible to be elected to the Board, all individuals must meet all other criteria for Board membership eligibility that are adopted by the Board including signing MSAVHCC Board Code of Ethics and MSAVHCC Confidentiality Agreement. Members in good standing that elect not to sign both agreement will not be able to become Directors.

Attachment: Proposal - Metropolitan Savannah Hispanic Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce

Section 3.2. Election of the Board. Members of the Board ("Board Members") at least annually or otherwise as needed based on vacancies on the Board.

Section 3.3 Votes. Officers and Directors shall be part of the Board and shall have the right to participate in and vote on the decisions of the Board.

Section 3.4. Management and Control. The Board shall be the governing body of the MSAVHCC. The Board shall have the authority to hire the MSAVHCC President to manage the day-to-day operation of the MSAVHC. It is the authority of the President to hire or terminate employees subject to any restrictions on such authority as imposed by the Executive Committee. The President is responsible for the daily operations of the Chamber as well as for employees and personnel hired to carry the Chamber's Mission.

Section 3.5. Organization of the Board. The Board shall establish the number of committees and their respective functions.

a. Executive Committee. The MSAVHCC's Executive Committee shall consist of Chair of the Board, President, Vice Chair, Treasurer, Secretary and up to three (3) other Directors appointed by the Chair. The Board of Directors hereby delegates to the Executive Committee all of the powers of the Board of Directors, except power to amend the Bylaws, but such delegated power may be revoked by the Board.

The Executive Committee, under the leadership of the Chair of the Board, shall be responsible for reviewing the MSAVHCC's compliance with rules and regulations, reviewing organizational documents such as the Bylaws, reviewing all suggestions for nominees to become directors or officers of the MSAVHCC and any committees, and serve as brand ambassadors for the MSAVHCC. The Executive Committee will be responsible for any action and performance evaluations of the President as well as fixing its compensation structure.

b. Directors At Large. Directors At Large will:

1. Chair standing committees and sub-committees to which they have been appointed by the Chair of the Board.
2. Contribute membership referrals regularly and help secure at least three (3) new members (Small Business level or higher) per year.
3. Participate in At Large Board of Directors meetings and decision making process of the organization.
4. Participate and contribute as members of committees and sub-committees.
5. Serve as brand ambassadors for the MSAVHCC.
6. Maintain all records relating to their office.

c. Special Committees. When the Board deems it advisable or convenient, it shall establish special committees of the Board to manage and operate the MSAVHCC's affairs and to implement the MSAVHCC's programs and policies.

Section 3.6 Compensation. Officers and Directors shall not be entitled to compensation unless otherwise approved by the two-thirds (2/3) of the Board elegible to vote. All full and part-time compensation packages shall be recommended by the President and approved by the Board. Employment at the MSAVHCC is subject to a comprehensive agreement approved by the Board and in accordance with the laws of the State of Georgia.

Section 3.7 Standing. All members of the Board must be members in good standing and remain in good standing as members of the Chamber during their entire term of office.

Section 3.8 Tenure. The Chair of the Board will hold office for a maximum period of 24 months, approved annually by the Board of Directors, and may serve for one (1) term. Directors of the MSAVHCC shall hold office from the first day of the fiscal year beginning after their election, until the expiration of a thirty-six (36) month term, unless a Director's tenure is terminated earlier by his or her death, disability, removal or resignation. Directors may serve for no more than three (3) consecutive terms.

At the first election of Board Members and after this date, between four (4) and seven (7) Board Members as determined by the Board will be elected to one-year initial terms with the remaining Board Members elected to three year initial terms so that all Board Members will have staggered terms.

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Section 3.9. Replacement. Should a Board member become unable to complete his/her term, or should he/she be removed as provided in herein, the Chair shall promptly appoint a member in good standing to complete the term, subject to prior approval of the Board by majority vote.

Section 3.10. Removal or Resignation. A director may be removed from office with or without cause by a two-thirds (2/3) majority vote of the MSAVHCC's Board at a meeting called for the purpose of removing the director, provided that the fact of the vote on a director's removal must be included in the notice of the meeting at which such removal is to be voted upon. Any director may resign at any time by giving written notice to the Board, the Chair or the Secretary of the MSAVHCC, and unless otherwise specified in such notice, such resignation shall take effect upon its delivery to the Board or individual to whom such notice was properly given. A resignation need not be accepted before it becomes effective.

Section 3.11 Other Duties. In addition to the duties stated under Article VI below, each Board member shall perform such other duties as may be required or assigned from time to time by the members or the Board, as well as duties customarily incident to his/her office.

Section 3.12. Vacancies. The Board shall fill any vacancies arising on the Board.

ARTICLE IV - OFFICERS

Section 4.1. Officers. The MSAVHCC's Officers shall consist of a Chair of the Board, President, Vice Chair, Secretary, and a Treasurer each of whom shall be elected in accordance with the Bylaws. The election or appointment of any Officer shall not itself create contract rights for any such officer. Any officers of the MSAVHCC shall exercise such powers and perform such duties as shall from time to time be determined by the Board.

Unless otherwise determined by the Board, each officer of the MSAVHCC shall be a current Board Member, Hispanic and Spanish-fluent. For purposes of these By-Laws, the term "Spanish-fluent" or "Spanish proficient" shall mean the ability to communicate effectively in oral and written form in Spanish.

During the first year of the Chamber, two (2) or more offices may be held by the same person. The Chair may appoint an individual to hold the other office if necessary. After the first year and thereafter two (2) offices may be held by the same person except the offices of Chair, President and Secretary.

Section 4.2. Election and Term of Office. The officers of the MSAVHCC shall be elected by the Board from nominees recommended by the Executive Committee to terms of two (2) years. All nominees shall be current Board Members. No officer may be elected to or may serve more than two (2) consecutive terms in the same office. New officer positions may be created and filled at any meeting of the Board.

A. Procedures for Election of the Officers of the Board of Directors

1. General elections of the Board will be held in the last quarter of the year ending appointment time frame in accordance with Section 3.8.
2. An Elections Committee Chair shall be appointed by the Chair of the Board in concurrence with the President.
3. The Chair of the Elections Committee will appoint the members of the committee. The President of the MSAVHCC will be a non-voting member of this committee.
4. Nominations for elections as a Board member shall be submitted in writing to the committee chair. Any member can nominate any other member, and can nominate him/herself, unless the standing for election by the potential nominee would otherwise be prohibited by these Bylaws.
5. The Elections Committee will determine and prepare a proposed slate of nominees. The proposed slate shall go to the Board for approval no later than the December board meeting of the year ending the Director's time in office. After Board approval, the slate will be emailed to the General Membership for election and vote prior to December 31 of the year ending the Director's time in office.
6. The election will be by electronic vote requiring a majority. In the case of a tie, there will be a runoff vote.
7. The Elections Committee Chair will certify the Elections.
8. The Elections Committee will approve all election materials prior to its distribution via newsletter, internet or other

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media. All election materials that are submitted in favor of candidates shall be published simultaneously, whether by newsletter, Internet or other.

Section 4.3 Vacancies. Any vacancy in any officer position because of death, resignation, removal, or otherwise, shall be filled by the Board. The Board, at its discretion, may delegate this responsibility to the President or to any other officer of the board.

Section 4.4 Chair of the Board. The Chair of the Board shall be an officer and, subject to the direction of the Board, shall perform such executive, supervisory and management functions and duties as may be assigned to him or her by the Board. The Chair of the Board will preside over MSAVHCC's Board meetings and lead the Executive Committee.

Section 4.5 President. The President is a permanent position and part of the full time staff of the MSAVHCC. The President shall be reimbursed for all expenses incurred during the course of his or her job duties which include memberships to clubs and professional associations within the Savannah Metro area as budgeted and/or approved by the Board. The President shall be an officer and, subject to the direction of the Executive Committee, shall perform such executive, supervisory and management functions and duties as may be assigned to him or her by the Board. The President will preside over meetings whenever the Chairman of the Board and Vice Chair are not available. Additionally, the President shall:

1. Serve as the spokesperson and primary leadership point of contact for the MSAVHCC.
2. Lead and manage the day-to-day operations of the MSAVHCC, full and part-time staff, and all associated parties.

Section 4.6 Vice Chair. The Vice Chair shall be an officer and, subject to the direction of the Board, shall perform such executive, supervisory and management functions and duties as may be assigned to him or her by the Board. The Vice Chair will preside over meetings or act on behalf of the Chair whenever MSAVHCC's Chair is not available.

Section 4.7 Secretary. The Secretary shall attend the meetings of the Board and record all votes and the proceedings of the meetings to be kept for that purpose, and shall perform like duties for committees if requested or required. The Secretary will give notice of all meetings (through electronic communication or any other approved means) of the Board and shall perform such other duties as may be prescribed by the Board, Chair of the Board, or President. The Secretary shall act under the supervision of the Chair of the Board and President. The Secretary shall maintain and update Bylaws and other governing documents as directed by the Chair of the Board.

Section 4.8 Treasurer. The Treasurer shall oversee MSAVHCC's funds and other valuable assets, including securities, and shall keep full and accurate accounts of receipts and disbursements in books belonging to MSAVHCC, and shall deposit all moneys and other assets in MSAVHCC's name and to its credit in such depositories as may be designated by the Board. The Treasurer shall disburse the MSAVHCC's funds as may be ordered by the Board, taking proper vouchers or such disbursements, and shall render to the Chair of the Board and the Board whenever required an account of the Treasurer's transactions and of the MSAVHCC's financial condition. Additionally, the Treasurer shall:

1. Prepare monthly financial statements for the Board.
2. Coordinate the membership renewal notice to each member 30 days before their anniversary date.
3. Be one of the checking or savings account co-signers.

Section 4.9 Conduct. All Officers, Directors and staff are expected to demonstrate the organization's core values and conduct themselves in a manner that is professional, respectful and appropriate for their positions.

Section 4.10 Compensation of Officers. Officers, except the President, shall not be compensated, except that they submit in writing a request for reimbursement for activities undertaken on behalf of the Board. Such activities will have gained the prior approval and consent of the Board.

ARTICLE V - INDEMNIFICATION AND COMPENSATION

Section 5.1 Indemnification In General. To the greatest extent permitted by applicable law, the MSAVHCC shall indemnify each director, officer, employee, committee member and any other person acting on behalf of the MSAVHCC or at

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the direction of an officer or the Board against liability, fines, penalties and claims imposed on or asserted against him or her, including any amounts paid in settlement and any attorney's fees or other expenses incurred in connection therewith by reason of having been a director, officer, employee, committee member or any other person acting on behalf of the MSAVHCC or at the direction of an officer of the Board as the case may be, whether or not the individual is then continuing in that capacity. This right of indemnification is not exclusive of any other rights any officer or director may have against any person.

Section 5.2 Gross Negligence or Willful Misconduct. No person shall be indemnified in connection with any matter in which: (1) he or she shall have been finally adjudged to have been guilty of gross negligence or willful misconduct in the performance of his or her duties as a director, officer, employee, committee member and any other person acting on behalf of the MSAVHCC or at the direction of an officer or Board or (2) if there is a settlement, the MSAVHCC is advised by its Board that the person, if a director, officer, employee, committee member or any other person acting on behalf of the MSAVHCC or at the direction of an officer or Board, was guilty of gross negligence or willful misconduct in the performance of his or her duties as a director or officer, employee, committee member or any other person acting on behalf of the MSAVHCC or at the direction of an officer or the Board.

Section 5.3 Definitions. Every reference to "director", "officer", "committee member", "employee" or any other person acting on behalf of the MSAVHCC or at the direction of an officer or Board, in this article includes both serving and former directors, officers, committee members, employees and any other person acting on behalf of the MSAVHCC or at the direction of an officer or Board and persons who may have served at the request of the MSAVHCC as a director or officer of another trust or corporation in which the MSAVHCC is the granter, a beneficiary, owns shares of stock, is a creditor, or to which it contributes in the case of a non-stock corporation. It also includes the administrators, personal representatives and executors of the estates of such persons.

ARTICLE VI - AUTHORITY

Section 6.1 Authority - The primary power and authority of the MSAVHCC shall be vested in its Board; provided however, that the President and his officers shall manage the day-to-day affairs of the MSAVHCC. The Chair of the Board and the President shall be the primary spokespersons for the MSAVHCC and shall be empowered to act in any official capacity on any and all matters pertaining to the MSAVHCC. No action by any Board member or employee shall be binding upon or constitute an expression of or the policy of the MSAVHCC until it has been approved or ratified by the Board.

ARTICLE VII - FINANCES

Section 7.1. Deposits. All funds of the MSAVHCC shall be deposited daily to the credit of the MSAVHCC in such banks, trust companies or other depositories as shall be determined by the President and/or Treasurer and approved by the Board.

Section 7.2. Signatures. All checks, drafts, promissory notes and other evidence of indebtedness of the MSAVHCC shall be signed by the Treasurer (or a designee which has been approved by the Board) and countersigned by the President (or a designee which has been approved by the Board). The Board may approve limitations on the signatures by the designees.

Section 7.3. Fiscal Year. The business year of the MSAVHCC shall be a fiscal year from January 1 to December 31st, inclusive. However, the Board shall have the authority to change the fiscal year.

Section 7.4. Annual Audit. The accounts of the MSAVHCC shall be audited (uncertified) annually after the close of its business year by a certified public accountant selected by the Board. Compiled financial reports and/or audit reports shall be presented to the Board annually. A certified audit may be required every other year. All Board Members of the MSAVHCC shall have the right, at the office of the MSAVHCC, to review any final audit report during regular business hours and upon appointment.

Section 7.5 Disbursements. Notwithstanding the powers of the Executive Committee, unbudgeted expenses exceeding one thousand dollars ($1000) per occurrence and/or one thousand dollars ($1000) per event (in total) must be approved by the Board. Any disbursements or payments above one thousand dollars ($1000) must be countersigned or approved by the Treasurer and the Chair, or in the absence of the Board Chair, by the Vice Chair.

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ARTICLE VIII – VOTING RIGHTS AND MEETINGS

Section 8.1 Voting. At any meeting of the MSAVHCC Board, each director shall be entitled to one (1) vote on any matter. Proxy votes will be allowed in writing for specific actions or decisions that need to be made by the Board. Proxy votes must be communicated to the Chair and Secretary, in writing, at least three days prior to the meeting and must state which voting items are included.

Section 8.2 Majority Vote. Voting at any Board and General Membership meetings will be decided by a simple majority, unless otherwise stated by these Bylaws.

Section 8.3. Notice. Notice of each regular meeting shall be given at least seven (7) days before each meeting is called. Notice shall be provided to all members of the Board in writing or via electronic mail.

Section 8.4 Order of Business. At any meeting of the MSAVHCC Board, or Commitees, ordinary parlamentary procedures will be followed, and the Chair of the meeting shall establish the order of business. The order of business shall, in all events, include the following items:

1. Calling of the meeting to order
2. Declaring that notice of the meeting has been given or waived
3. Declaring that a quorum is present
4. Reading and approving the minutes of the prior meeting, or waiver thereof
5. Transacting new and old business
6. Receiving reports
7. Electing officers and directors, where appropriate
8. Adjourning

Section 8.5 Minutes. A written record of the actions taken at any meeting of the Board will be made by the MSAVHCC's Secretary or by any other person requested by the chair of the meeting (collectively, the "Chair of the Meeting").

Section 8.6 Quorum. A quorum of the MSAVHCC's Board is required for action to be taken at any meeting. A quorum is at least 50% of the number of directors elected. The act of a majority of the members of the Board present at a meeting at which there is a quorum constitutes an act of the Board. Less than a quorum of the Board may adjourn a meeting.

Section 8.7 Secretary of the Meeting. The Secretary of all Board meetings shall be (in order ofpriority):

1. MSAVHCC's Secretary
2. Anyone appointed by the Chair

Section 8.8 Board Meetings. The MSAVHCC Board shall take all actions at meetings to be held, at such time and place as the Board shall determine. All actions at such meetings shall be taken by resolution adopted by an affirmative vote of a majority of the members voting and entitled to vote at such meeting. The Chair of the Board shall lead and facilitate all meetings. In the absence of the Chair, the Vice Chair will conduct the meetings. If the Vice Chair is unavailable, the President or other officer will run the meeting as requested by the Chair.

Section 8.9 Annual Meeting. The MSAVHCC Board shall have an annual meeting each year at a time and place to be determined by the Board. During this meeting strategies, budgets, and all pertinent matters relating to the next fiscal year shall be discussed.

Section 8.10 Regular Meetings. The MSAVHCC Board shall have such additional regular meetings as it may determine.

Section 8.11 Special Meetings. Special meetings of the MSAVHCC Board may be called by the Chair of the Board or the affirmative vote of a majority of the Board of Directors for any purpose which the Chair of the Board, or a majority of the Board of Directors, deems appropriate.

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Section 8.12 Action without Meeting. The Board may act without a meeting, in the event of an emergency where a time sensitive decision needs to be made and the Board cannot meet or a quorum be established. Consent must be submitted in writing by each Board Member setting forth the actions authorized. Majority approval by elected Board Members is required. The consent must be sent to the Chair, President and Secretary. A written consent and electronic approval may be accomplished by one or more electronic transmissions as approved by the Executive Committee and coordinated by the Secretary and/or staff.

ARTICLE IX - DISSOLUTION

Section 9.1. In the event of dissolution, no part of the net earnings of the Chamber shall inure to the benefit of any member, trustee, director, officer of the organization, or any private individual (except that reasonable compensation may be paid for services rendered to or for the organization), and no member, trustee, officer of the Chamber or any private individual shall be entitled to share in the distribution of any of the organization's assets upon dissolution.

ARTICLE X - AMENDMENTS

Section 10.1. These Bylaws of the MSAVHCC may be altered, amended or repealed and new bylaws may be adopted only after a vote of at least two-thirds (2/3) of the members of the Board who are present at any regular meeting of the Board or at any special meeting of the Board, if at least fifteen (15) days notice is given of the general intention to alter, amend, repeal or to adopt new by-laws at such meeting.

Section 10.2 Bylaws may be amended, repealed or changed as recommended by a two-thirds (2/3) majority vote by the Board. The Board may also amend the Bylaws by two-thirds (2/3) majority vote without having received recommendations by an appointed Bylaws Committee.

Section 10.3 Should a particular article or clause in the Bylaws be found to be unenforceable, the remaining Bylaws shall remain the official mandate and be binding in the manner of which they were intended.

Section 10.4 These Bylaws shall come into force as of the date of approval by the Board. Any Director who holds office as of the date of approval shall count his/her present term as the first term for purposes of counting the limit of consecutive terms in accordance with Section 3.8 of this document.

Section 10.5 Voting for Amendments to the Bylaws shall be reserved for Directors with at least six (6) months tenure on the Board of Directors.

ARTICLE XI - GENERAL

Section 11.1. Certificate of Membership. The Board may provide for the issuance of a certificate evidencing membership in the MSAVHCC, which certificate shall be signed by the President and sealed with the seal of the MSAVHCC. The name of each member and the date of issuance of the certificate shall be entered on the records of the MSAVHCC. If any certificate is lost, mutilated, or destroyed, a new certificate may be issued on such terms and conditions as the Board may determine. The MSAVHCC may deliver such certificate to a member in person or through use of the mail. Members will also receive a Membership sticker to be placed on establishment door, and a wallet size membership card.

Section 11.2. Books and Records. The MSAVHCC shall keep at the principal office, complete and accurate books and records which shall include, at a minimum, all financial records, all minutes of its meetings, a listing of the names and addresses of its Board and its membership and all such records necessary to carry out business purposes of the MSAVHCC.

Section 11.3. Seal. The Board may provide a corporate seal, which shall be enclosed and contain the name of the MSAVHCC.

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Section 11.4. Inspection of Bylaws. The corporation shall keep in the principal office for the transaction of business, the original or a copy of these By-Laws as amended, duly certified by the Secretary, which shall be open to inspection by all of the MSAVHCC's members and to all then current members of the Board of the MSAVHCC at all reasonable times upon their written request.

ARTICLE XII – PARLIAMENTARY PROCEDURE

Section 12.1 Procedures - All questions of parliamentary procedure shall be governed by the charter of the MSAVHCC and/or by these By-Laws, if applicable. Where not applicable, Roberts Rules of Order – Newly Revised, by Gen. Henry M. Robert, revised by Sarah Corbin Robert, and shall govern.

ARTICLE XIII - LANGUAGE

Section 13.1 Language - The language to be used in the business dealings within Chamber members will be either Spanish or English. These By-Laws once approved will be translated into Spanish by a Certified Translator and approved by the Board. The translated document will be considered an official document of the Chamber.

ARTICLE XIV STANDING AND SPECIAL COMMITTEES

Section 14.1 Appointment. All Committee Chairs will be appointed by the Chair of the Board with the concurrence of the MSAVHCC's President.

Section 14.2 Business Development Committee. The Business Development Committee shall consist of a number of members as determined by the Board of Directors. Overall, the Business Development Committee will be responsible for the membership growth and will be the main revenue growth engine of the MSAVHCC. The Business Development Committee may be comprised of Sub-Committees as the Board sees applicable.

Section 14.3 Media and Public Relations Committee. The Media and Public Relations Committee is responsible for creating brand recognition and awareness for MSAVHCC with both members and non-members while maintaining good relations with all media outlets. This committee is responsible for ensuring MSAVHCC events and news are released to city and regional publications and media outlets in an effort to gain awareness of what MSAVHCC and business members do for, and in, our community and attract new professionals to the Chamber in cooperation with Membership. Members of the media industry could be invited by the President, with concurrence of the Chair of the Board, to join the Media and Public Relations Committee. This committee has two main purposes which are:

1. For the region and membership to be considered THE place to come for Small Business resource expertise, and;
2. To promote the programs and value of MSAVHCC to drive more members to ACTIVATE their membership participation. The ultimate purpose is to advance the small business resource as part of the business community to work with large corporations.

Section 14.4 Finance and Administration Committee. The Finance and Administration Committee will be responsible for maintaining, reviewing and communicating all financial data to the Board on a monthly basis. This Committee will be developing budgets, financial forecasts and make recommendations to the Board on financial and administrative matters. An annual budget must be approved by the Board no later than December 31st of each year for the following calendar year. This committee will oversee all Human Resource functions and decisions, develop plans, and make recommendations to the Chair and Board for approval. It is also responsible for documenting and reporting the inventory of the Chamber and identifying all donations received as well as all inventory items sold or disposed of in any manner.

Section 14.5 Reporting. Each committee shall report to the Board on the activities and goals of the committee on a regular basis, or as requested by the Chair of the Board.

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Section 14.6 Other Committees. The Board may, by majority vote, establish such other standing or special committees and/or sub-committees as it deems advisable and may fix the number of members of such committees, their terms of office and their authority.

Section 14.7 – General Rules Governing Committees. Any committee established by the Board may hold regular and special meetings. Each committee shall establish its own rules of procedure and shall meet at such times and places as may be provided for in such rules. Committee members are required to be members in good standing with the Chamber.

Section 14.8 Exception to this Article. In the event that any standing or special committee cannot be formed, including for reasons of cost or expediency, the duties and functions of these committees shall be performed by the Executive Committee. The Executive Committee, however, will strive to establish all of the committees in this article within 2 years of the execution of these bylaws.

ARTICLE XV CONFLICT OF INTEREST, CONFIDENTIALITY, AND ETHICS

Section 15.1 Code of Ethics. Board members have a duty to subordinate personal interests to the welfare of MSAVHCC and those we serve. Conflicting interests can be financial, personal relationships, status or power.

Board members and employees are prohibited from receiving gifts, fees, loans, or favors from suppliers, contractors, consultants, or financial agencies, which obligate or induce the board member or employee to compromise responsibilities to negotiate, inspect or audit, purchase or award contracts, with the best interest of MSAVHCC in mind.

Board members and employees are prohibited from knowingly disclosing information about MSAVHCC to those who do not have a need to know or whose interest may be adverse to MSAVHCC, either inside or outside MSAVHCC. Nor may board members or employees in any way use such information to the detriment of MSAVHCC.

Board members or employees may not have a significant financial interest in any property which MSAVHCC purchases, or a direct or indirect interest in a supplier, contractor, consultant or other entity with which MSAVHCC does business.

Since it is not possible to write a policy that covers all potential conflicts, board members and employees are expected to be alert for and avoid situations which might be construed as conflicts of interests.

Any possible conflict of interests on the part of any board member should be disclosed to the other board members and made a matter of record, either through an annual procedure or when the interest becomes a matter of board action.

Any board member having a conflict of interests or possible conflict of interests should not vote or use his/her personal influence on the matter, and he/she should not be counted as part of a quorum for the meeting. The minutes of the meeting should reflect that a disclosure was made, the abstention from voting and the quorum situation.

These restrictions should not be construed as preventing the board member from briefly stating his/her position in the matter, nor from answering pertinent questions of other board members, since his or her knowledge could be of assistance to the deliberations.

Section 15.2 Conflict of Interest Statement. All board members will be required to complete the Conflict of Interest Statement. This policy will be reviewed by the board and given to each board member for signature annually.

Section 15.3 Confidentiality Agreement. As a requirement for service on the MSAVHCC board, all board members will be required to read and sign the Confidentiality Agreement annually as a requirement for service on the MSAVHCC board, all board members will be required to read and sign the confidentiality agreement annually.

Section 15.4 Code of Ethics Pledge. As a member of the MSAVHCC board, Board Members shall read and understand the Code of Ethics Pledge in the **Board Member Assurances - Attachment 1.**

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ATTACHMENT 1 – BOARD MEMBER ASSURANCES

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Board Member Conflict of Interests Agreement

I have read and am familiar with the MSAVHCC board policy concerning conflict of interests, and I have initialed the line opposite the appropriate paragraph below.

_____During the past year, neither I, nor to the best of my knowledge, any member of my family has had an interest or taken any action which would contravene the policy of this board.

_____During the past year, neither I, nor to the best of my knowledge, any member of my family has had an interest or taken any action which would contravene the policy of this board, except such interest or action fully disclosed below:

_____

_____

_____

_____

_____

Board member signature _____ Date _____

Board Member Name _____

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Board Member Confidentiality Agreement

As a member of the MSAVHCC board, I acknowledge the importance of confidentiality with respect to the affairs of MSAVHCC. In light of this acknowledgement, I agree to keep confidential, during and after service on the board, all confidential information acquired pertaining to MSAVHCC and any related activities in the course of membership on the board.

_____I particularly recognize the sensitivity of information regarding capital decisions, real estate purchases, decisions regarding closures, mergers and other strategic plans that may have impact on MSAVHCCs competitive position relative to other organizations.

_____I agree that this confidentiality agreement includes, but is not limited to:

Information pertaining to performance of MSAVHCC employees or staff including evaluation data, compensation, and grievances.
Issues related to the board's legal, moral and regulatory responsibility for the oversight of statistical data, risk management information and litigation information, and reviews of attitudes and opinions from those who work at MSAVHCC.

_____I understand that it is the board chairperson's responsibility to address infractions of confidentiality by individual board members and to take action to remedy the problem.

_____I also understand that if infractions of confidentiality by individual board members continue, it is the expectation that the board chairperson will ask for the resignation of the individual board member who has violated this confidentiality agreement.

_____I agree to resign my board membership if requested by a majority vote of the board members for any confidentiality infraction.

_____ _____

Board member signature Date

_____

Board Member Name

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The MSAVHCC Board Code of Ethics Pledge

As a member of the MSAVHCC board, I will...

- ✓ listen carefully to my teammates, and those served by MSAVHCC.
- ✓ respect the opinion of other board members.
- ✓ respect and support the majority decisions of the board.
- ✓ recognize that all authority is vested in the board when it meets in legal session and not with individual board members.
- ✓ keep well-informed of developments that are relevant to issues that may come before the board.
- ✓ participate actively in board meetings and actions.
- ✓ call to the attention of the board any issues that I believe will have an adverse effect on MSAVHCC or those we serve.
- ✓ attempt to interpret the needs of constituents to MSAVHCC and interpret the action of MSAVHCC to its constituents.
- ✓ refer constituent or staff complaints to the proper level on the chain of command.
- ✓ recognize that the board member's job is to ensure that MSAVHCC is well managed, not to manage MSAVHCC.
- ✓ vote to hire the best possible person to manage MSAVHCC.
- ✓ represent all constituents of MSAVHCC and not a particular geographic area or special interest groups.
- ✓ consider myself a " trustee" of MSAVHCC and do my best to ensure that MSAVHCC is well maintained, financially secure, growing and always operating in the best interests of constituents.
- ✓ always work to learn more about the board member's job and how to do it better.
- ✓ declare any conflict of interests between my personal life and my position on the MSAVHCC board, and avoid voting on issues that appear to be a conflict of interest.

As a member of the MSAVHCC board I will not...

- ✓ be critical, in or outside of the board meeting, of other board members or their opinions.
- ✓ use MSAVHCC or any part of MSAVHCC for my personal advantage or the personal advantage of my friends or relatives.
- ✓ discuss the confidential proceedings of the board outside the board meeting.
- ✓ promise prior to a meeting how I will vote on any issue in the meeting.
- ✓ interfere with duties of the executive Board or undermine the executive's Board authority.

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I hereby certify that these Bylaws of the Metropolitan Savannah Hispanic Chamber of Commerce consisting of fifteen (15) Articles and seventeen (17) pages including attachments have been adopted by at least two-thirds (2/3) majority vote of the Board of Directors as provided in the Bylaws at the time of the vote, on November 27, 2014.

SIGNED: _____ **Date:** 12/19/14

Diana Arevalo, BOARD SECRETARY

Attachment: Proposal - Metropolitan Savannah Hispanic Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce

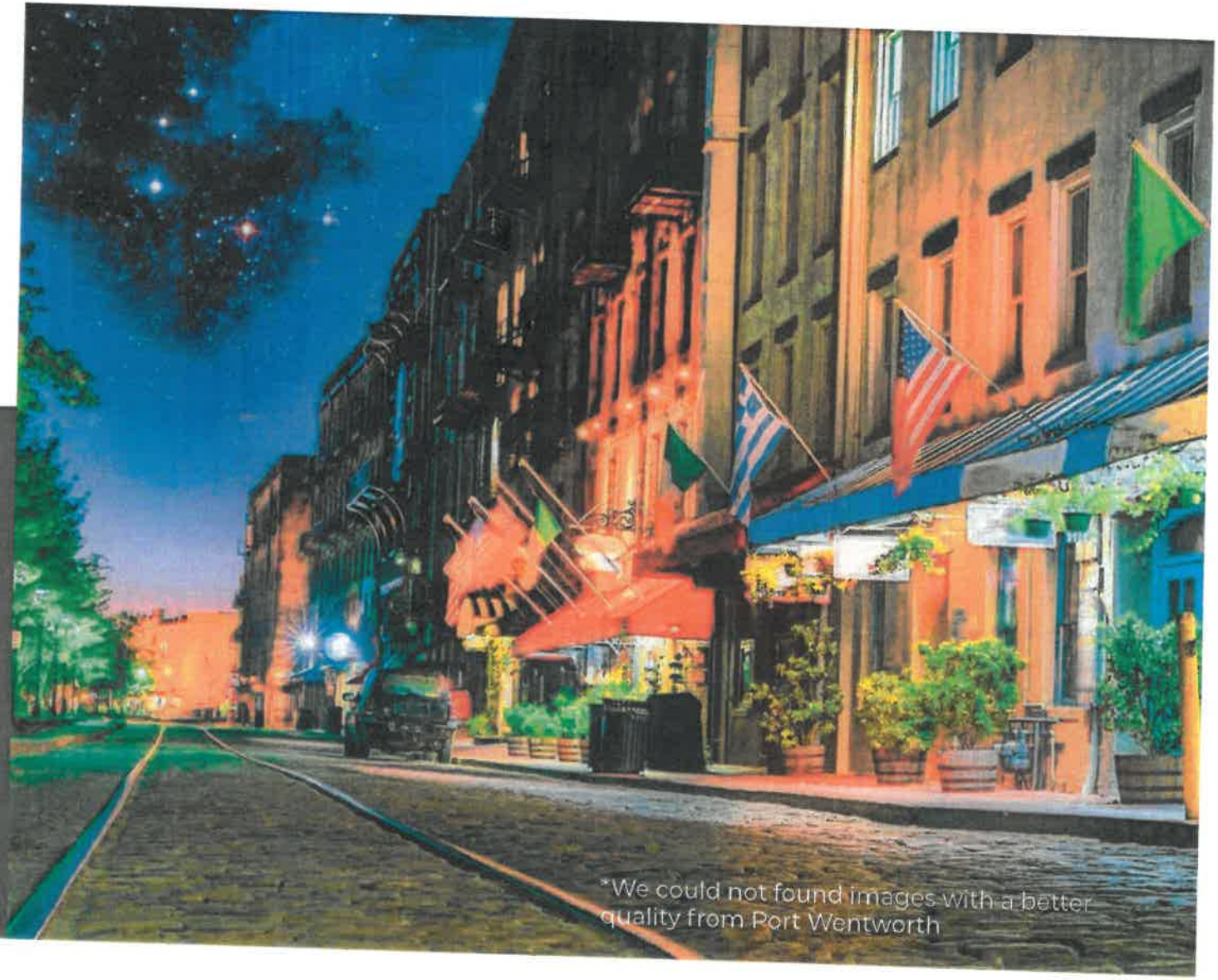
ULTIM MARKETING

PROPOSAL

July 1st, 2021

Port WentWorth

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PORT WENTWORTH

"The perfect city to anchor in"

Port Wentworth is only minutes away from many comforts, services and attractions-Savannah/Hilton Head International Airport, Atlantic Ocean and Tybee Island beaches. Their high quality of life and low cost of living have attracted the favor of many large companies such as International Paper, Dynacraft, Gulfstream, and Georgia Power. As more and more people discover Port Wentworth high-quality life, attractions, affordable restaurants, accommodations, and convenient options, the City continues to grow and expand to a future that is incredibly exciting. All of this makes Port Wentworth unquestionably the perfect place to anchor in, because it provides unimaginable top-quality at low cost compared with the offerings from other neighboring cities.



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How we want Port Wentworth to be known?

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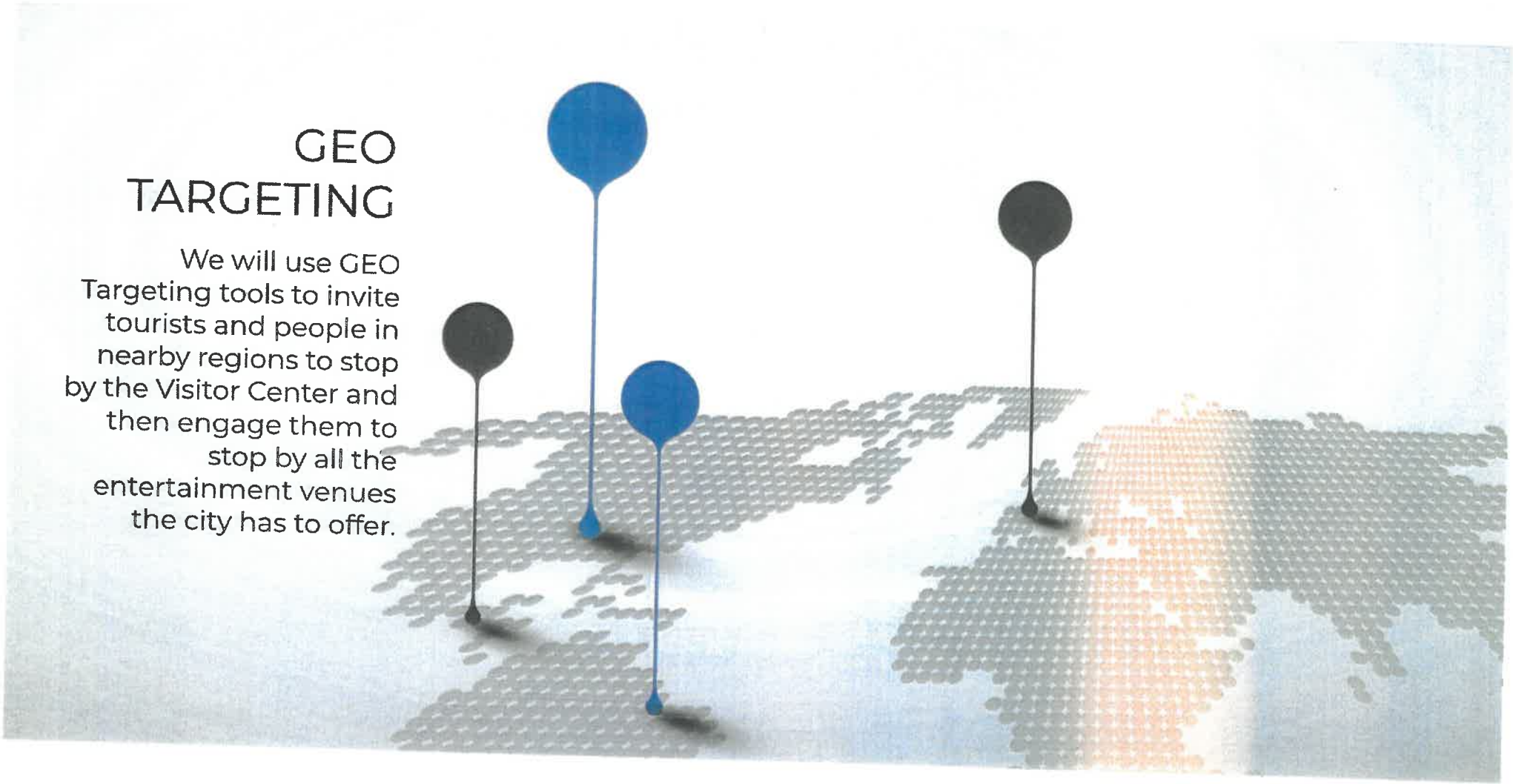
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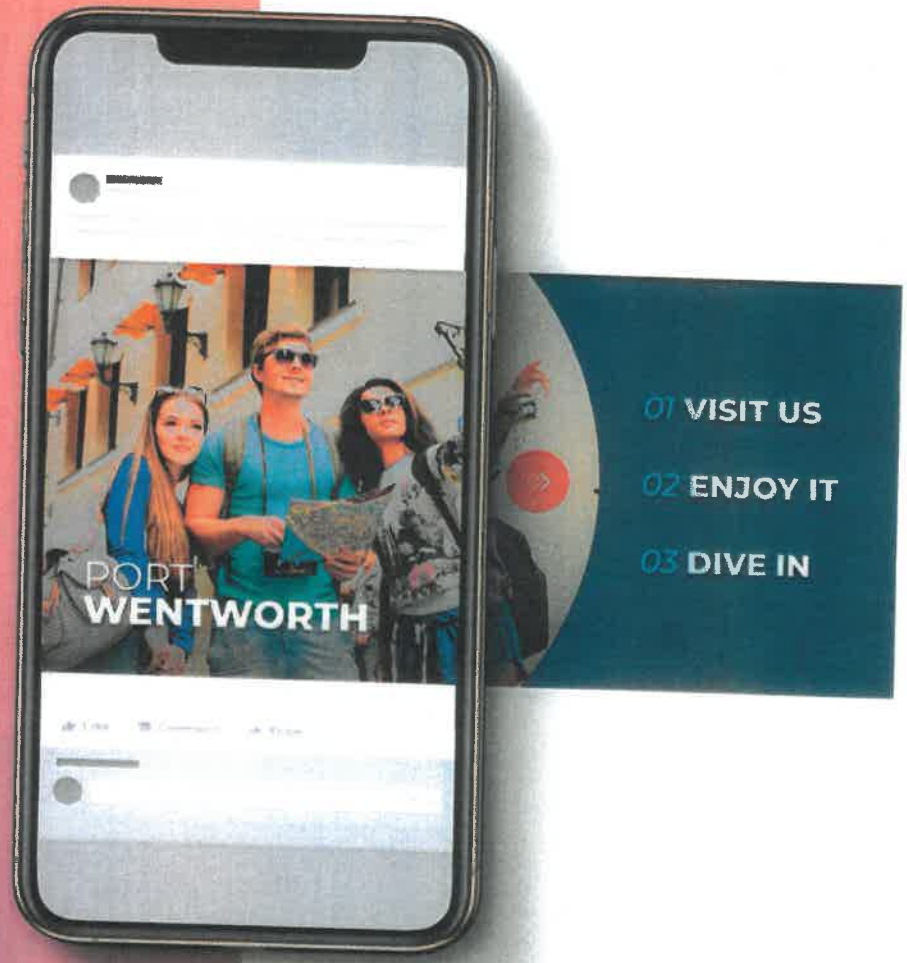
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Homero González
homero@ultimmarketing.com
THANK YOU

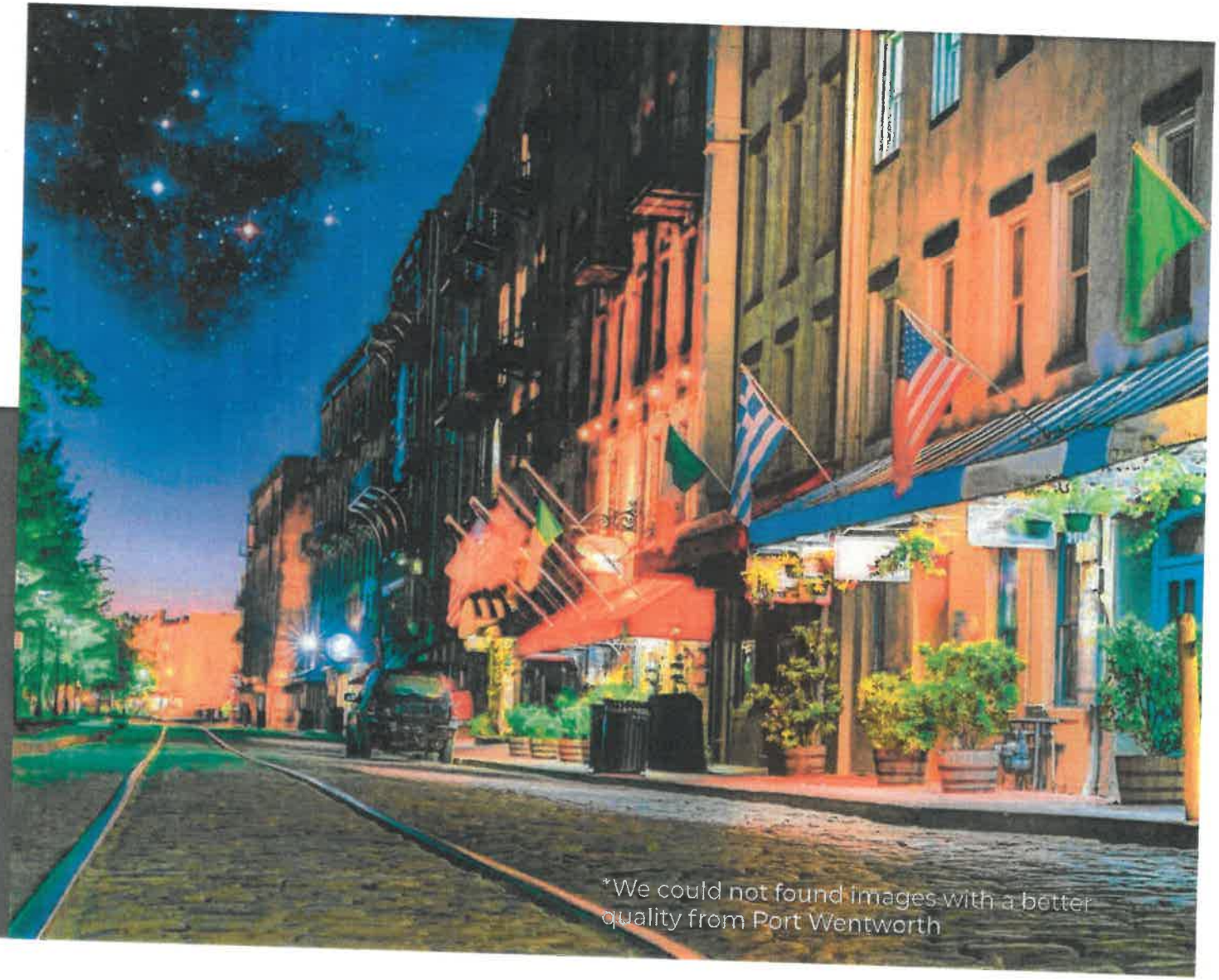
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This campaign will be divided into two sections, the first one focusing on a young audience with a more active presence on social networks. For this section, We will use Youtube, Google, and Facebook ads that will focus on inviting these young people into visiting the town. The second section of this campaign will target a more adult audience with key incentive information about the progress of the city/region, places for local entertainment, and the benefits of investing in Port Wentworth for living and businesses.

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BILLBOARDS

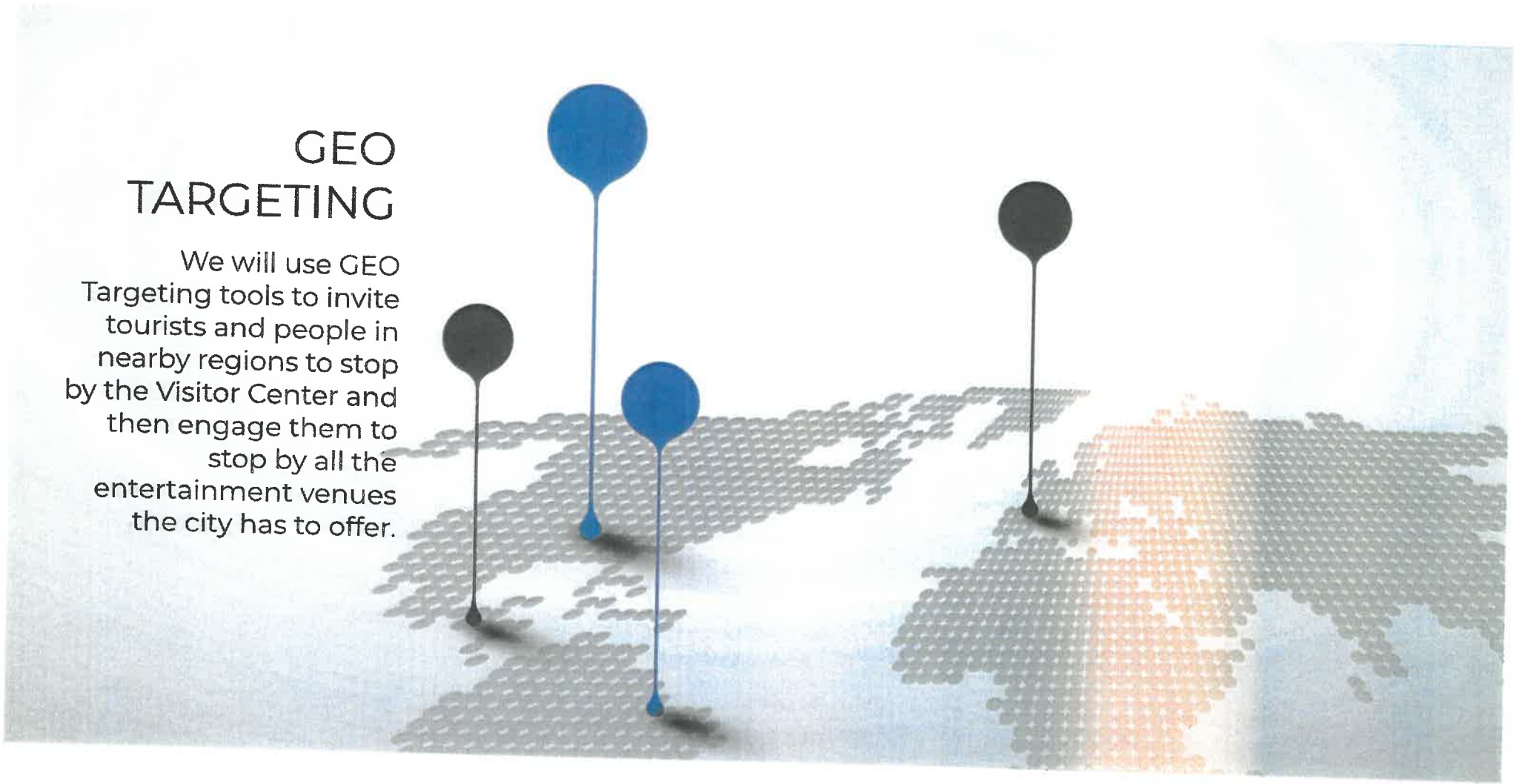
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LET'S TALK ABOUT WHAT
WE CAN DO FOR YOU!

United States	+1 (770) 209 2802
México	+52 (229) 300 9010
Colombia	+57 (1) 508 7685
Spain	+34 (919) 155 509

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Homero González
homero@ultimmarketing.com
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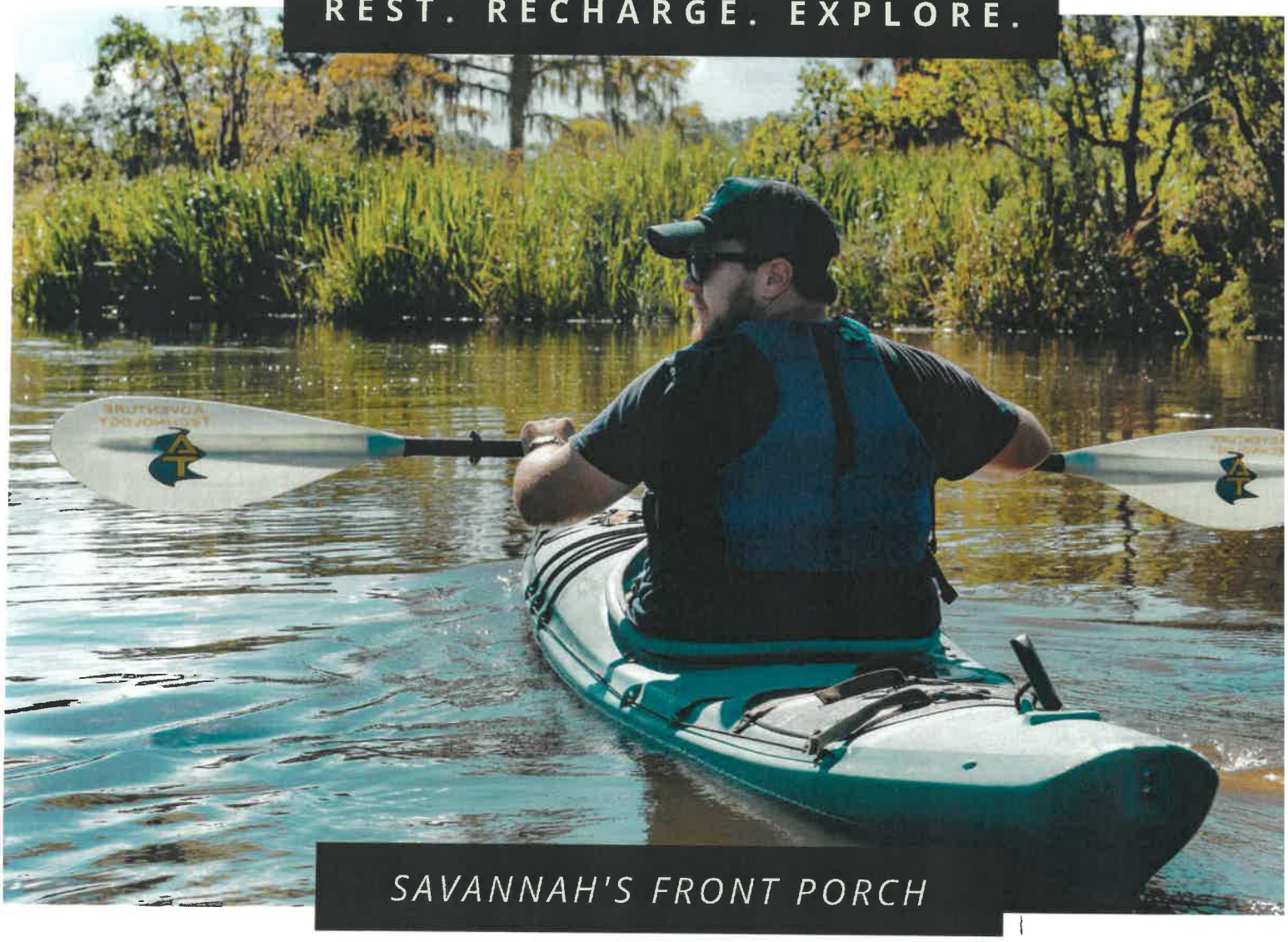
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2021 - 2022 DESTINATION MARKETING PLAN FOR

PORT WENTWORTH
GEORGIA

REST. RECHARGE. EXPLORE.



SAVANNAH'S FRONT PORCH

PREPARED BY:

PORT WENTWORTH
CHAMBER OF COMMERCE
VISITOR & TOURISM BUREAU

www.VisitPortWentworth.com

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

PORT WENTWORTH
CHAMBER OF COMMERCE
GEORGIA

July 2, 2021

Mr. Edwin L. Booth
City Manager
City of Port Wentworth
7224 GA Hwy 21
Port Wentworth, GA 31407
(912) 964-4379
ebooth@cityofportwentworth.com

Dear Mr. Booth and Evaluation Committee Members,

Please find enclosed a copy of the Port Wentworth Chamber of Commerce's initial proposal in response to the City of Port Wentworth's Request for Proposal (RFP) publicized June 2021 to produce and execute a Destination Marketing Plan for the City of Port Wentworth. The digital copy, sent by e-mail, includes hyperlinks to view further information.

Please note that our organization, established in 1997, is a 501(c)6 non-profit corporation organized under the laws of the State of Georgia that engages in the promotion of tourism, conventions and trade shows and meets all requirements outlined in the Request for Proposal. This organization has been actively involved in these activities for over twenty years.

The Port Wentworth Chamber of Commerce - Visitors and Tourism Bureau is also recognized by Explore Georgia, the tourism division of the Georgia Department of Economic Development, as a Qualified Destination Marketing Organization (DMO), is a member of the Georgia Association of Convention and Visitors Bureaus, Georgia Coast Travel Association, Southeast Tourism Society, the Savannah Chamber of Commerce and many other state and regional associations.

The chamber is positioned to execute this contract immediately, and all financial and legal requirements are in place to ensure compliance with the state regulated hotel-motel tax law. This includes a Certified Public Accounting firm with expertise in local government and hotel-motel tax accounting and reporting requirements and a law firm capable of working through a broad range of complex legal issues for governmental entities and organizations.

The chamber's Tourism Advisory Committee, comprised of local hospitality owners and managers, is a group of industry professionals dedicated to promoting Port Wentworth as a tourism destination. This past year and a half has been extremely challenging for our local economy, especially for businesses that rely heavily on drawing tourists to this city and to their business's doorstep. Many businesses have suffered permanent losses. The TAC's main priority is attracting visitors and growing Port Wentworth's tourism industry to expand its tourism-related revenues.

This organization, in cooperation with the city, has thrived by working together to promote tourism and brand Port Wentworth as an attractive and welcoming community to visit, to live, and to do business. The Port Wentworth Chamber of Commerce - Visitors and Tourism Bureau, is a group of local businesses, hospitality businesses, professionals, and concerned citizens who strive to work together for the advancement of our city, the first city travelers visit when they enter the state of Georgia from South Carolina.

The chamber looks forward to the city releasing more details on the proposed budgetary figure, to include FY21 hotel-motel tax collections held in reserves and the projected FY22 budget figure, so that our organization can create a direct and indirect cost allocation schedule for the Evaluation Committee Members to review.

Please review the attached initial proposal. All information and content included within this proposal are the sole property of the Port Wentworth Chamber of Commerce, Inc. and is not to be used without the written permission of the chamber.

The chamber continues to be focused on the success of Port Wentworth and looks forward to continuing our partnership with the city and advancing the goals of this community. It is time to get back to business and once again attract visitors and tourism dollars to our community.

Sincerely,

Port Wentworth Chamber of Commerce Board of Directors

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

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04 Community Profile

05 Where We Are Now

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08 Hotel-Motel Tax Collections

09 Community Branding

10 Community Involvement

11 Identifying Port Wentworth's Tourism Competitive Edge

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13 Heritage Tourism Development

14 Welcome to the Houston Museum

15 Events & Festivals

16 PR Efforts

17 Digital Marketing

18 Websites

19 Getting Social

20 Print

21 Video Marketing Campaign / Publications & Newsletters

22 Interactive Consumer Messaging

PORT WENTWORTH CHAMBER OF COMMERCE ©2021

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

MISSION STATEMENT

Your chamber is citizens, businesses and professional people working together to make your community a better place for everyone.

Established in 1997, the Port Wentworth Chamber of Commerce, Inc. is a private sector non-profit 501(c)6 organization.

This member-driven association of businesses, professionals, and concerned citizens was created to:

- Promote, support and strengthen businesses in the community
- Solicit for, promote and encourage businesses to locate in the incorporated area of Port Wentworth, Georgia
- Encourage travelers to visit Port Wentworth by marketing the city as a travel destination regionally, domestically and internationally
- Create a viable environment for business interest
- Promote sustainable economic growth in Port Wentworth, Region 12, and the State of Georgia
- Work for effective government to facilitate the goals of the Chamber of Commerce
- Enhance the overall quality of life in our community

Date of Incorporation:	March 11, 1997, Chatham County, Georgia
Accounting Firm:	Coomer, Coomer & Routhier
Attorney:	Leamon R. Holliday - Bouhan Falligant Attorneys & Counselors at Law

PORT WENTWORTH CHAMBER OF COMMERCE ©2021

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

COMMUNITY PROFILE

Port Wentworth, Georgia is known as "Savannah's Front Porch" – and you'll feel the warm embrace of welcome the minute you set foot inside the city limits.



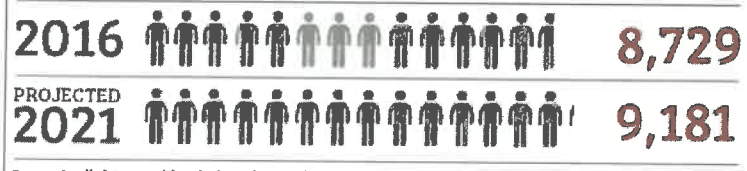
With Interstates 95 and 16 delivering visitors and new residents monthly, Port Wentworth, Georgia is a growing community of people who recognize that this city offers families good housing values, safe neighborhoods, great educational opportunities for children, a growing retail sector, a history of which to be proud, and a future that means more jobs and prosperity for everyone. Visitors know they can rest easy in Port Wentworth's safe, comfortable, affordable accomodations, convenient to every fun thing to see and do in the area.

Demographics

Port Wentworth, Georgia is an incorporated city within Chatham County on Georgia's coast, only 11 miles from Savannah's historic district. Savannah is the largest city within Chatham County.

Port Wentworth is 11.22 square miles with a total population of 9,641 (2019 estimates). This Chatham County city is conveniently located near neighboring counties Effingham and Bryan, and is minutes from the Savannah/Hilton Head International Airport, Tybee Island Beach, Historic Savannah District and the Georgia Ports Authority.

Population



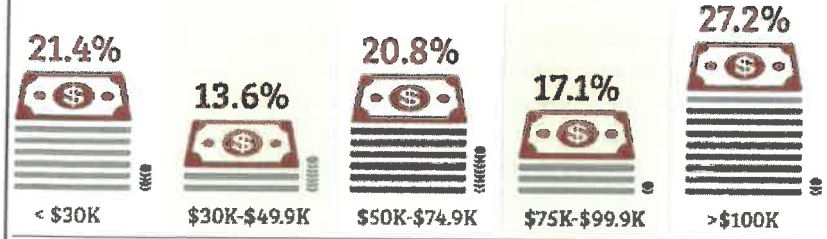
Source: Applied Geographic Solutions via Georgia Power/Select Georgia, 2016

Age Distribution



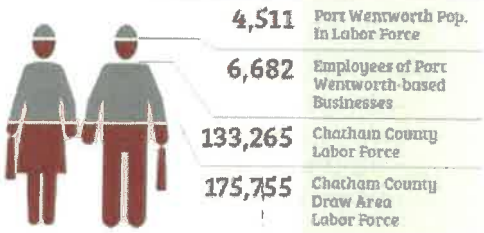
Source: Applied Geographic Solutions via Georgia Power/Select Georgia, 2016

Annual Household Income



Source: Applied Geographic Solutions via Georgia Power/Select Georgia, 2016

Labor Force



Source: Applied Geographic Solutions via Georgia Power/Select Georgia, 2016; GA Department of Labor, Chatham County Area Labor Profile 2015

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recovering from COVID-19 pandemic

WHERE WE ARE NOW

The Port Wentworth Chamber of Commerce has -- and will continue to make -- a lasting impact on Port Wentworth's business and tourism community. As the business organization in the area, we've led the way for years in terms of business growth and development, destination marketing, support for existing business, and raising awareness for the opportunities that exist within our region.

The previous and current years have been extremely challenging for the travel industry and our organization has been working to track data, stay up to date on state and local directives, and pivoted marketing efforts to keep visitors, residents and businesses informed. The chamber launched the #Together4PW campaign in 2020 to support local businesses and keep Port Wentworth out front and top of mind with consumers.

As part of the FY21 amended budget, Governor Brian P. Kemp and the Georgia General Assembly allocated $1 million to Explore Georgia, the tourism division of the Georgia Department of Economic Development, to support marketing efforts to bolster the recovery of Georgia's Tourism industry from the COVID-19 pandemic. Half of those funds ($500,000) were allocated to create the Explore Georgia Tourism Recovery Marketing Program. Demand was so high, that Explore Georgia then contributed an additional $1 million to the grant funds. The grant requirements stated that the applicant must be a qualified Georgia-based tourism DMO and have received hotel-motel excise tax collections for FY19 and FY20. Our organization did qualify under those terms. Unfortunately, due to the chamber not being under contract with the city at the time the grant was announced, Port Wentworth lost out on the opportunity to apply to receive grant funding to support our local hospitality businesses. The chamber's Tourism Advisory Committee (TAC) has identified applying for any new grants available once the chamber is actively working with the city to promote Port Wentworth again.

Longwoods International reported that 90% of American travelers now have travel plans within the next six months which are the highest figures in over one year. *Source: Longwoods International*

The opportunity to attract the largest share of these anticipated travelers is now, while they are still in the market, and finalizing their travel plans. The chamber has the resources in place to coordinate in-market and out-of-market advertising to help stimulate destination visitors to our city. This marketing is critical to area businesses impacted by reduced occupancy and reduced average daily rates, which lead to drastically declined revenues, due to COVID-19.

Recent data shows figures gradually climbing upwards as potential visitors begin to make travel plans. The chamber is prepared to promote Port Wentworth to these consumers by continuing to focus on outdoor assets, natural resources, historical assets and our close proximity to historic downtown Savannah. Americans are fighting cabin fever - now more than ever - and Savannah's Front Porch is the perfect setting to unwind.

Branding Port Wentworth as Savannah's Front Porch was designed to reflect the natural elements that make this region of Georgia a desirable place to visit: productive and historic land, a flowing river, burgeoning industry that began with mill villages, proximity to historic downtown Savannah, a friendly city and welcoming people. This marketing plan is designed to assure those who see Port Wentworth's branding that our city is a friendly, safe, active, conveniently located, culturally diverse and welcoming city with plenty of nature and history to enjoy.

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FY19 vs. FY20 YTD

Hotel-Motel Tax Collections

CORONAVIRUS AFFECT ON PORT WENTWORTH TRAVEL

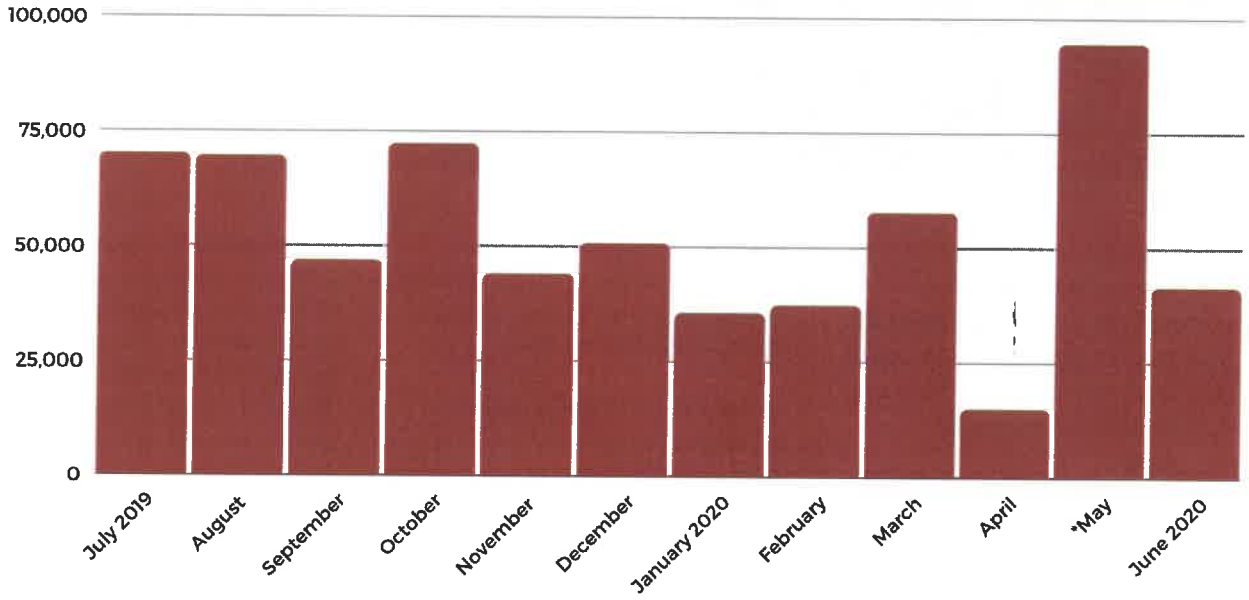
-29%

collections FY20 vs FY19

-38%

occupancy rates

**Spike in May collections was due to several months of late hotel-motel collections being made in May.*



According to Georgia Department of Economic Development's latest report on current traveler behavior and forecast scenarios, the following points were taken into account:

- Total tourism spending losses reach $11.2 billion in 2020, a 34% drop compared to 2019. 69,300 jobs supported by tourism spending are lost.
- The negative impact has been severe in the tourism sector, and hotels are amongst the hardest hit businesses, but GA's hotels are doing better than the US as a whole.
- Recovery rates will largely depend on a destination's market mix.
- **Destinations with high share of domestic and transient visitors will recover faster, along with destinations with recreation opportunities that allow for social distancing.**
- Return to "normal" levels will be a multi-year effort, with domestic travel leading followed by regional, international and finally long-haul international.
- Half of the US population will likely be vaccinated in the early summer and this will significantly boost the tourism sector's recovery.

Sources: Tourism Economics; STR; US Travel ; Oxford Economics,; CDC

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

ATTRACTING VISITORS TO OUR CITY

Measuring the Economic Impact of Tourism on Port Wentworth



"The chamber is committed to supporting the business community in Port Wentworth, and attracting visitors through destination marketing is a key component of the local economy."

- Vicki Waters, Past-Chair

The Port Wentworth Chamber of Commerce has been Port Wentworth's Destination Marketing Organization (DMO) for over twenty years.

As the DMO, the chamber has been dedicated to creating tourism programs and events that benefit both the visitors we attract to the area and the local business community. In addition, the festivals and tourism programs that the chamber executes provide activities for our citizens to participate in and be proud of.

The chamber creates and carries out an annual destination marketing plan which is designed to attract more visitors to Port Wentworth and increase the city's accomodation and hospitality taxes. These taxes are collected by the city and a portion is then reinvested back into tourism and marketing activities.

The purpose of the chamber's destination marketing plan is to promote Port Wentworth, Georgia as a travel destination, encourage residential and commercial growth, and to make the community the best place possible for existing residents.

The FY22 plan and subsequent plans are designed to grow each target project outcome from year to year and to fully support the advertising and marketing needs of the City of Port Wentworth, its citizens, tourists and business community.

The following sections outline how the hotel-motel taxes are collected and distributed by the City of Port Wentworth, how the chamber markets the city to attract visitors and the economic impact that tourism has on our community.

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Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

HOTEL-MOTEL TAX COLLECTIONS

FY19 & FY20

GOAL: Increase visitation and extend length of stay by positioning Port Wentworth as the year-round top choice of stay when visiting the Savannah and Coastal Georgia area.

The chamber's objective was to increase hotel-motel bed tax revenues, occupancy rates and average daily rates (ADR) through increased media placement and targeted PR efforts. Pre COVID-19 pandemic collections out-performed the budgeted collection figures in FY19. Once the COVID-19 restrictions began, collections and local businesses bottom lines were drastically impacted.

FY19 OUTCOME: The City of Port Wentworth, in conjunction with the Port Wentworth Chamber of Commerce, has again exceeded the hotel-motel tax collection goal for the fiscal year. **In FY2019, collections totaled $899,459.99, which is $49,457 over the figure of $850,000 that the city budgeted for the year.**

FY20 OUTCOME: The last hotel-motel tax collection report received by the chamber from the City of Port Wentworth showed a total of $634,711.61 in collections through the end of fiscal year 2020 which was June 2020. **Collections were down $264,748.38 over the previous year due to the pandemic.**

The Port Wentworth Chamber of Commerce receives 33.33% of the 6% lodging tax. The chamber uses those funds on promoting tourism, conventions and trade shows, marketing, branding, public relations, advertising, sponsoring of special events, and providing assistance to other Port Wentworth organizations and businesses for purposes of promoting the city.

The city sends 16.66% of the total collections to the Savannah Convention Center. Every municipality in Chatham County does the same. www.savconventioncenter.com

The city keeps 50.01% of the total collections which is budgeted as income to the general fund. These proceeds are considered "unrestricted" and can be used for any legal general fund purpose. The general fund is the primary fund used by the city and the activities being paid through this fund constitute the core administrative and operational tasks. The city and chamber working together to execute the hotel-motel tax agreement is beneficial to the business community and to the residents that live in Port Wentworth. As the hotel-motel tax collections increase, the tax burden to the residents decreases.

IMPACT: In FY19, **$450,629.46** (50.1% of collections) in unrestricted funds were reported as income to the city's general fund through hotel-motel tax collections.

IN FY20, **$317,990.51** (50.1% of collections) in unrestricted funds were reported as income to the city's general fund through hotel-motel tax collections.

Port Wentworth benefits from the city and chamber of commerce working together to expand and increase Port Wentworth's tax base through tourism promotion.

Source: City of Port Wentworth Hotel-Motel Tax Fund for the Year Ended 6/30/19, FY20 YTD May 2020, Smith Travel Research (STR) July 2018 - June 2019, July 2019 - June 2020

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

COMMUNITY BRANDING

Building equity among citizens, investors, and visitors by telling Port Wentworth's story through imagery and a cohesive brand message.

PORT WENTWORTH
CHAMBER OF COMMERCE
P W
GEORGIA

PORT WENTWORTH
CHAMBER OF COMMERCE
VISITOR & TOURISM BUREAU

The Port Wentworth logos were designed to reflect the natural elements that make this region of Georgia a desirable place to visit: productive and historic land that once belonged to cotton and rice plantations, a flowing river, friendly city and welcoming people. There are two logos, one for the Chamber and one for Tourism.

The logos use the same colors and fonts. The dark blue color in the logos represents the Savannah River that invites outdoor recreation as well as industry thanks to the Georgia Ports Authority and the Port of Savannah; abstractly, the color symbolizes loyalty, strength, wisdom and trust. The red color in the logos is associated with energy, strength, power, determination and passion. Taken together and with the white accents in the logos, the red and blue also symbolize patriotism and the thoroughly appropriate colors for the city that annually presents "Stand Up for America Day."

The third color in the two logos is a tint of olive green, which is the traditional color to represent peace, diplomacy, harmony. This color also indicates a strength of character that can overcome adversity.

The combination of colors, shapes, fonts and elements in the two logos for Port Wentworth are meant to subliminally assure those who see the logo that Port Wentworth is a friendly, safe, active, welcoming city with a lot of nature and history to enjoy.

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COMMUNITY INVOLVEMENT

To carry out our mission statement, the chamber staff, Board of Directors and membership are greatly involved in the Port Wentworth community. We participate in, support and sponsor many community organizations, events and local businesses. In FY2022, our organization is committed to carrying out projects that support our mission statement.



Producing New Tourism Videos



Working with Chamber Members to Drive Business to Our City



Working for the Community



New Businesses Breaking Ground



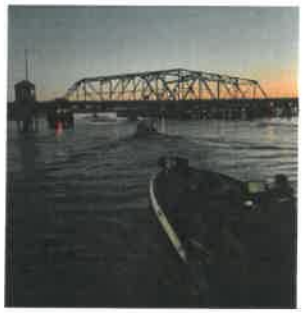
Supporting Our Local Veterans



Working with Local Partners to Attract Visitors



Creating Business Opportunities Through Local Festivals & Events



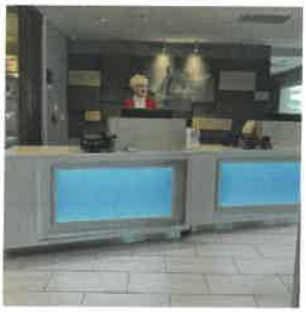
Sponsoring Local Events That Feature Our Community Assets



Hosting Events That Foster Community Interaction



Creating Fun, Family Friendly Activities



Supporting Business Expansion



Youth Volunteer Opportunities

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Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

IDENTIFYING PORT WENTWORTH'S TOURISM COMPETITIVE EDGE

Packaging Port Wentworth's historic, natural, and outdoor assets to attract visitors during uncertain times.

Just off I-95's Exit 109, you can learn about the Savannah River plantations, explore the living history of Sherman's infamous "March to the Sea", visit African-American praise houses, go on your own photo safari in the Savannah National Wildlife Refuge, and more. And the best thing – most activities in Port Wentworth are free! There is something for everyone.



Georgia is open for business and so is the first city in Georgia - Port Wentworth!

Port Wentworth is in a unique position to attract visitors from other states as well as from within our region. By promoting assets such as free access to the Savannah River, the Historical Driving tour and our locally owned and operated farms and food markets such as Promised Land Farm and Woods Seafood Market - we can attract many visitors to our city to spend money and infuse the economy.



The chamber is in possession of numerous historical documents, pictures, historic artifacts, oral histories - both audio and video, and many other items that have been donated to our organization for safe keeping. All items are being safely stored until the day when they can be displayed in a permanent home.

In FY22, the chamber will continue to market these assets and create attractions to entice new visitors to our doorstep.



Projects include:

- Savannah River Adventure promotion (min. 6 month lead time)
- Houston Baptist Church (circa 1886)
- African American Heritage tourism / story telling
- Industrial Heritage / Mill Village
- Outdoor Recreation
- Sporting events
- Georgia Made / Georgia Grown

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Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

OUTDOOR RECREATION

Investing in outdoor recreation both drive tourism and make communities a more desirable place to live.

#VisitPW #FishPW #ExplorePW #SavannahRiverAdventure

@HoulihanBoatRamp
@SavannahRiverAdventure



"When visitors participate in outdoor recreation, they spend their hard-earned money on gear, equipment, food, lodging and more, and contribute $65.3 billion in annual tax revenue to federal coffers and untold billions to state and local community funding streams." - Outdoor Industry Association

The Houlihan Boat Landing in Port Wentworth, with free public access to the Savannah River, has the potential to generate economic impact for Port Wentworth by attracting tourists and outdoor enthusiasts throughout the region and beyond with the promise of kayaking, boating, fishing, nature/wildlife viewing, interesting historical facts about Savannah River Plantations, development of Port Wentworth as a mill town to present day and the development of the ports. As our website statistics show - VisitPortWentworth.com/river-outdoor-adventures is one of the most visited pages on our website (refer to Websites page of this marketing plan for details). **Note - all tourism pages of the website are not live due to end of tourism contract*

OPPORTUNITIES:

Free public access to the Savannah River is a unique opportunity for Port Wentworth due to lack of other public access points this side of Savannah to South Carolina.

The convenience of the Houlihan Boat Landing, just off South Coastal Highway / 25 / 17 and minutes from I-95, makes visitors feel as if they can take advantage of nature while not having to leave an urban setting.

Promoting the history of the area, recreational opportunities, and natural assets will attract visitors outside the region to Port Wentworth. Visitors to our city will spend money at our restaurants, our retail stores, and fill up their gas tanks at our fueling stations.

This promotion increases the opportunity to attract visitors to Port Wentworth for overnight stays, day trips and as an extension of their stay in the greater Savannah area. The chamber plans to work with Visit Savannah by running advertising on VisitSavannah.com (refer to Digital Marketing page of this marketing plan for details).

Attract visitors, locals, school groups through story-telling:

- History of the Savannah River Plantations by water. These areas are not accessible to the public by land.
- History of Port Wentworth and the development of the area as a mill town / village to present day
- Port Tours
- Participants will help to enhance depth of promotion by uploading content from their experience on the water. Savannah River Adventure program will be interactive and promotion will grow through fresh user-generated content (UGC).

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

HERITAGE TOURISM DEVELOPMENT

When communities' travel-related entities partner with public or private organizations, the historic, cultural, and natural resources are more effectively promoted to meet the heritage traveler's desire for an integrated and enriching experience.

@HoustonMuseumPortWentworth
www.HoustonMuseum1886.org

#VisitPW #ExplorePW #HistoricPW #HoustonMuseum



Winner of the 2012 Historic Savannah Foundation's Presidentia Award for Historic Preservation

"Tourism, the world's largest industry, is essential to a community's economic vitality, sustainability, and profitability. In Georgia, tourism is the state's second largest industry and heritage tourism is its fastest-growing segment. Georgia is among the top 10 states in the country in heritage tourism visitation. More travelers than ever are walking the historic streets of Savannah . . . visiting the remnants of Native American culture . . . exploring antebellum plantations . . . learning about the Civil Rights Movement . . . and discovering agricultural history around the state."

-Heritage Tourism Handbook: A How-To-Guide for Georgia | Georgia Department of Natural Resources, Historic Preservation Division

The Board of Directors, community leaders, local business owners and citizens realize that this fast growing community is in need of developing a Port Wentworth "community site" that will benefit the business, tourism and residential sectors as a whole and provide a much needed brick and mortar attraction for Port Wentworth.

The continued growth of the community, the recent opening and planning of many new businesses and other development both inside and outside of the city limits, offer new opportunities to recraft the City's public perception while honoring its long standing appreciation of the rich history and people of the area.

The chamber has made several proposals over the years to the City of Port Wentworth to utilize the Houston Museum site as a tourism draw for the area. Once again, we ask for the city to consider opening the doors of Houston to the public. Due to the historic and faith based nature of this site - there are still Port Wentworth residents who have family buried here - and due to the fact that this site is still an active burial site - the chamber feels it is only appropriate to do this with the guidance and partnership of the North Port Wentworth Citizens Council. The NPWCC were the previous owners of the historic site.

If done the proper way, and with respect, this will be an opportunity to invite the public to look into the past and explore the cultural heritage of African-Americans during the Civil War / Post-Civil War Era on the Savannah River Plantations.

The chamber has hosted events at Houston in the past, open-houses, interpretive story telling, private events, weddings - the opportunities are endless.

OPPORTUNITIES:

- Open Houston to the public - start with a few days a month and revise schedule as needed
- Invite school groups to tour building and historic cemetery to learn about the history of the area
- Interactive app with plot of gravesites and information on people buried there / include on interactive tour app of PW
- Host small group meetings / private events - potential for new revenue stream for Leisure Services
- Schedule community events and invite interpretive story tellers and historians to participate - give lectures
- Honor the descendants by opening the doors

Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

WELCOME TO THE HOUSTON MUSEUM

Houston Baptist Church and its adjoining cemetery were organized in 1886 under the leadership of Reverend Ulysses L. Houston, minister of First Bryan Baptist Church in Savannah.

Stretching back for centuries, African American heritage has shaped life in Georgia. From the Gullah-Geechee culture near Sapelo Island, to the civil rights movement, Georgia has deep, historic African American roots. Paying homage to the strengths, struggles, and steps taken by African Americans, the Peach State has numerous museums, memorial sites and historical centers. These honored historical hubs educate and inspire visitors of all backgrounds.

- ExploreGeorgia.com







COMMUNITY EVENTS

Opportunity to open the site up to the public and provide programs of information on history of Houston, African American Praise Houses, and Port Wentworth. The Chamber of Commerce is in possession of many historic artifacts, documents, pictures, and more to house in the museum.

PRIVATE EVENTS

Opportunity to package event rentals for weddings, family reunions, and other small gatherings with local hotels for lodging, event rental space, restaurants for catering and transportation to and from museum site.

PARTNER OPPORTUNITIES -

U.S. Civil Rights Trail - Deadline fast approaching July 15, 2021

Rural Placemaking Innovation Challenge grant - Deadline fast approaching July 26, 2021

ExploreGeorgia.com: African American Historical Sites in Georgia | African American Heritage Three Day Tour: Coast to Atlanta

Visit Savannah: Savannah Black Heritage Experience







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Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

EVENTS & FESTIVALS

Pre-COVID, the Port Wentworth Chamber of Commerce hosted, sponsored, collaborated on and sent representatives to a number of events every year. The events ranged from large-scale community celebrations to small training workshops and advocacy trips. In FY22, the chamber plans on producing and/or supporting the following tourism and community events in addition to our chamber member and networking events if restrictions permit.





FY22 Events:

12th Annual Oyster Roast, BBQ & Music Festival
Saturday, November 20, 2021

2019 Estimated Attendance: 3,500

Event draws over 80% of attendees from outside of the city limits of Port Wentworth. This event is an economic driver for the city and generates over $130,000 is direct sales, $208,781 total sales and $4,925 in local taxes.

This event also generates income for Port Wentworth businesses that supply products and services for the event and businesses that participate as vendors the day of the event.

Source: Georgia Department of Economic Development / Destinations International Events Impact Calculator

St. Patrick's Day Promotional Program
March 17, 2022

Goal: Capture largest market share of visitors coming to the greater Savannah area for the event that are seeking lodging.

Outcome: Historically March is the largest hotel-motel collection month for the City of Port Wentworth.

14th Annual Savannah River Spring Classic
Friday, April 29, 2022 – Saturday, April 30, 2022

Goal: Create an event to compliment Stand Up for America Day that will draw out of town visitors, highlight Port Wentworth's natural resources, honor veterans and raise money for veterans organizations.

Outcome: The chamber has grown the event to become one of the largest bass fishing tournaments in the area and host over 100 anglers and their families every year while raising money for injured veterans.

50th Annual Stand Up for America Day
(if city chooses to have the event)
Saturday, April 30, 2022

Goal: Support the advertising and marketing needs of the City of Port Wentworth for Stand Up for America Day. Coordinate interviews with the media, parade coverage and advertising.

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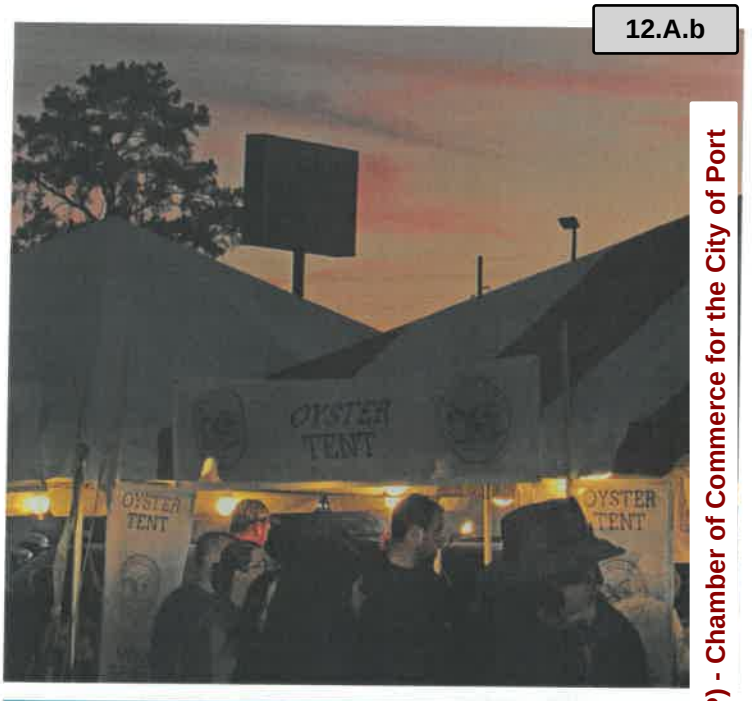
PR EFFORTS

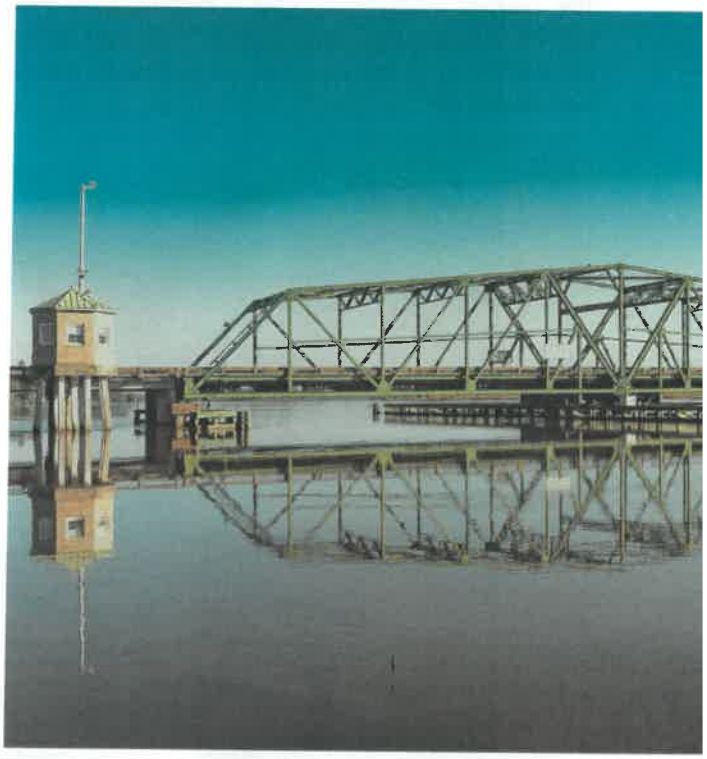
As Port Wentworth's Destination Marketing Organization (DMO) the Chamber of Commerce is responsible for promoting tourism, conventions and trade shows, marketing, branding, public relations, advertising, sponsoring of special events, and providing assistance to other Port Wentworth organizations and businesses for purposes of promoting the city. To execute these goals, the chamber is regularly featured in local television news broadcasts, newspaper articles, radio interviews, online publications and e-newsletters. Chamber representatives are frequently requested as an interviewee by the press for stories on local business development, tourism programs, Port Wentworth's public events and community initiatives.

The chamber regularly compiles and distributes press releases to the local media notifying the public of updates in the Port Wentworth community, tourism initiatives, events, member news and general updates as needed.

The Port Wentworth Chamber of Commerce's PR efforts in FY20 generated over 4.3 million opportunities to see. The equivalent advertising spend was $43,373.83.

Source: Meltwater Media Intelligence, July 2019 - June 2020







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Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

DIGITAL MARKETING

In Fiscal Year 2021, the Port Wentworth Chamber of Commerce focused more solidly on digital marketing and due to the success of our campaigns, the same strategy will be used in FY22. While traditional formats -- print, TV, radio and billboards -- are still reliable methods for reaching potential customers, clients, visitors and consumers, digital marketing offers a plethora of additional benefits. Utilizing social media advertising, online placements, blogs and website improvements has allowed us to reach a much broader swath of the marketplace. In addition, digital marketing is very cost effective, allowing us to reach more people for a fraction of the cost of traditional advertising. The chamber's online campaigns have helped us track responses to our marketing efforts and even allowed us to interact with prospects to learn what they're looking for.

Furthermore, maintaining a strong digital presence is of utmost importance in this day and age. Most online users expect every business or organization to at least maintain a website and a Facebook page. We try to exceed that with a presence on additional social media accounts, regular e-newsletters, online ad campaigns and more.

The chamber maintains a strong presence on the State of Georgia's website, www.exploregeorgia.org, and the RTA website, www.visitcoastalgeorgia.org. The heavily promoted sites drive referrals to our website and to our local partner sites. FY22 plans include digital advertising on www.visitsavannah.com to target visitors looking to visit the greater Savannah area.











Attachment: Proposal - Port Wentworth Chamber of Commerce (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

WEBSITES

The Chamber of Commerce website, VisitPortWentworth.com, incorporates the Port Wentworth brand images and message to create a very visually appealing experience. The website provides information for current residents, prospective residents, tourists and business prospects. The chamber also manages SavannahRiverSpringClassic.com, the bass tournament event site, and owns numerous domain's which reflect the Port Wentworth brand and key attractions for future use. The chamber plans to unveil a brand new website in FY22.



In the past year, VisitPortWentworth.com has attracted more than **85% brand new website visitors** looking for authoritative information on the destination. With this higher than industry average percentage of new users, the site has maintained high engagement metrics.

The website's visitors span almost evenly across all ages, proving the wide audience VisitPortWentworth.com is serving.

VisitPortWentworth.com has been the authority for Google search (organic source) and for users who know to come to this domain to find the information they need (direct source). In addition, the social channels VisitPortWentworth runs delivers 14% of all site sessions, far above industry averages.

TOP PERFORMING PAGES

1. Home page
2. News/Oyster Roast event
3. Events
4. What to do
5. What to do arts & culture
6. Where to stay
7. List/featured event
8. Events/Oyster Roast details
9. River Outdoor Adventures
10. Events Calendar

The top 25 pages viewed on VisitPortWentworth.com show the type of content people are coming to VisitPortWentworth.com to see, and they are all direct, low-funnel drivers of tourism and lodging tax collection.

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GETTING SOCIAL

#VisitPW
#PortWentworth
#FishPW
#PWOyster
#PWGA
#ExplorePW
#PWChamber

The Port Wentworth Chamber of Commerce is very active on social media, engaging with thousands of citizens and visitors on a regular basis about business opportunities, community events, current initiatives, new developments and a range of other topics, which are addressed as needed. Port Wentworth utilizes Facebook, Twitter, YouTube and Instagram. The following statistics exhibit the chamber's social media presence between July 2020 to June 2021.

Social media provides an opportunity for people to remain highly engaged with our community and give visitors a reason to come back again and again.

Over 10,500 people follow us on social media!

Facebook	6,496 followers	Chamber page
	507 followers	Sav. River Spring Classic
	759 followers	Oyster Roast Festival
Twitter	1,478 followers (21,400+ impressions)	
Instagram	1,219 followers	
YouTube:	56 subscribers (10,353 video views / 14,147 impressions)	





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PRINT

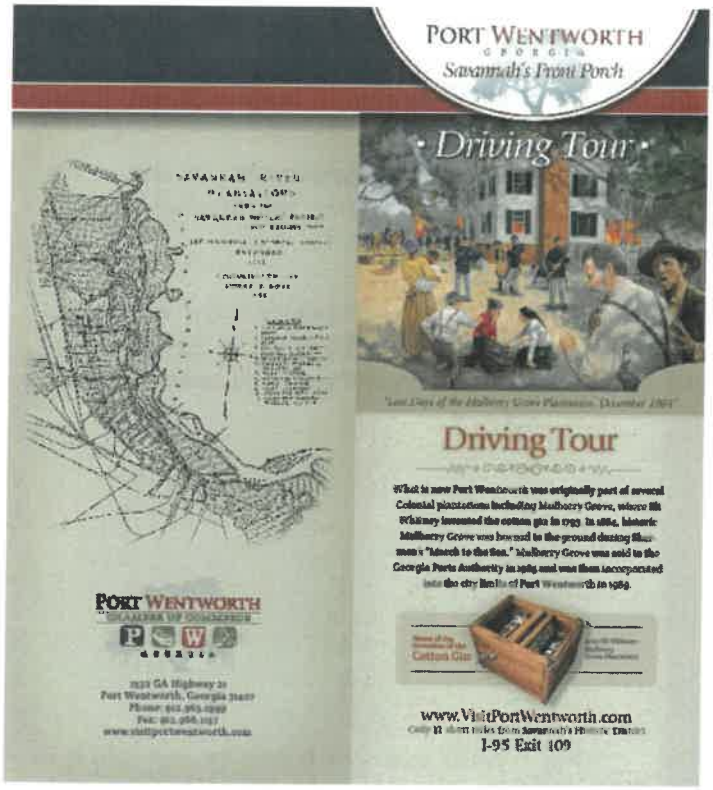
The chamber produces several print pieces, which are also available on VisitPortWentworth.com in digital format for visitors to download. The Visitors Guide and Driving Tour brochures are available at the Chamber Visitors Center, Georgia State Welcome/Visitors Centers, Savannah Welcome/Visitors Centers, area hotels, the Savannah/Hilton Head International Airport, Savannah Convention Center and numerous other distribution locations.

The chamber partners with Official Guides of Savannah to distribute our brochures around the greater Savannah area. The company also delivers brochures to our visitors center to ensure that the welcome center always has current information for visitors.

The chamber also places ads in several annual and monthly publications to attract visitors to Port Wentworth. Examples include the Georgia State Travel Guide, Visit Savannah's Insider's Guide and Georgia Coast Travel Association's Guide to the Coast.

The chamber plans to print and distribute new visitors brochures in FY22.







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VIDEO MARKETING CAMPAIGN







The Port Wentworth Chamber of Commerce launched the first phase of the new video marketing campaign in an effort to help local businesses as COVID-19 restrictions continue as well as to highlight the community's area merchants, local landmarks and attractions. The initiative is an important facet of the chamber's overall mission to promote tourism and support area businesses.

The Chamber partnered with Elevated Coastal Productions on this project, which is designed to boost awareness for businesses during this difficult time and to showcase the city's normally-thriving business and tourism climate while homing in on what makes the community unique. The first video is now available for viewing at **https://bit.ly/3e2jAqq**. More tourism videos will soon be available for viewing on the chamber's website, www.visitportwentworth.com, as well as on their social media accounts.

PUBLICATIONS / NEWSLETTERS

To promote tourism activities, highlight chamber and community accomplishments, as well as the achievements of chamber members, the Port Wentworth Chamber of Commerce will produce monthly informative e-newsletters targeted to each interest group.

In FY20, the chamber sent out 12 monthly e-newsletters and 20 tourism e-updates to our visitors that have subscribed to our tourism updates. Updates had an average open rate of 34%, which is 15% above the industry standard average of 19%. The chamber also sent out e-updates regarding special events, annual events, chamber events and business updates.

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INTERACTIVE CONSUMER MESSAGING

Interactive post cards will be available for visitors to customize and send online through the VisitPortWentworth.com website. The post cards will also be available to download and print.



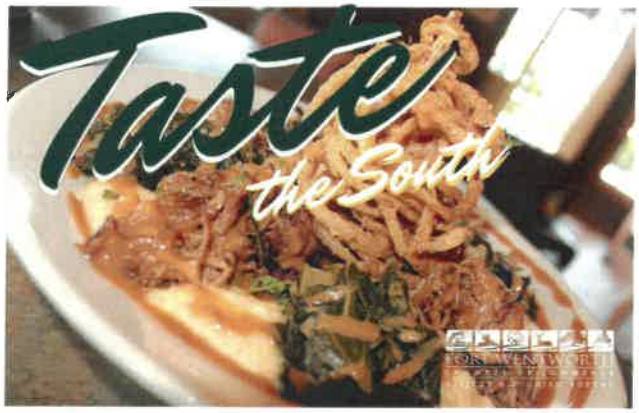
SAVANNAH NATIONAL WILDLIFE REFUGE | VISITPORTWENTWORTH.COM



PORT WENTWORTH COMMUNITY HOUSE 1939 | VISITPORTWENTWORTH.COM



ANNUAL OYSTER ROAST, BBQ & MUSIC FESTIVAL | VISITPORTWENTWORTH.COM



SWEET TEA GRILLE | VISITPORTWENTWORTH.COM



SAVANNAH RIVER, PORT WENTWORTH | VISITPORTWENTWORTH.COM

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"ONE OF MY PRIMARY OBJECTS IS TO FORM THE TOOLS SO THE TOOLS THEMSELVES SHALL FASHION THE WORK AND GIVE TO EVERY PART ITS JUST PROPORTION."

- ELI WHITNEY
INVENTOR OF THE COTTON GIN, MULBERRY GROVE PLANTATION

PORT WENTWORTH
CHAMBER OF COMMERCE
GEORGIA

Fiscal Year 2022 Destination Marketing Plan

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Port Wentworth Tourism Bureau, Inc.
Response to City of Port Wentworth Request for Proposals

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Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

City of Port Wentworth
Attn: Edwin L. Booth, City Manager
7724 GA Highway 21
Port Wentworth, Georgia 31407

Avril Roy-Smith
President/CEO
Port Wentworth Tourism Bureau, Inc.
16 Roseberry Circle
Port Wentworth, Georgia 31407

June 6, 2021

Dear Sir,

The Port Wentworth Tourism Bureau, Inc. is a 50(c)6 organization, incorporated is a private sector, non-profit organization with the State of Georgia. We would like to tender our proposal in response to your Request for Proposals, of June 3, 2021.

The Port Wentworth Tourism Bureau, Inc. certifies that it was incorporated March 11, 2020, and that the Internal Revenue Service determined the corporation was exempt from federal income tax, under Internal Revenue Code Section 501(c) (6) on February 10, 2021.

Although a newly organized non-profit corporation, the Port Wentworth Tourism Bureau, Inc. has enlisted a diverse and educated Board, whose skills and relevant experience would guide and help the corporation operate as an effective and responsive destination marketing organization for the City of Port Wentworth through its promotion of the City .

The Port Wentworth Tourism Bureau, Inc. certifies that it has read, understands, and has the ability to comply with the applicable ordinances and resolutions of the City, the regulations, and ordinances of the County in which the work is to be performed, the laws of the State of Georgia and those of the United States.

The Port Wentworth Tourism Bureau, Inc. certifies that, if awarded the contract with the City of Port Wentworth, the corporation consents to an annual audit from an independent certified public accounting firm to ensure full compliance with Georgia Law and City ordinances. The Tourism Bureau understands that such annual audits shall be made public in such a manner as the City shall designate.

In support of our proposal, please find attached an executive summary, statements about the Port Wentworth Tourism Bureau, Inc., the composition of its Board of Directors, details of support from the community and from non-profit organizations with relevant goals, and an itemized proposal of services offered as our tender.

Thank you for considering the Port Wentworth Tourism Bureau, Inc. for the contract with the City of Port Wentworth.

Yours Sincerely,



Avril Roy-Smith
President/CEO
Port Wentworth Tourism Bureau
818-926-9468
President@PWTB.org

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

Executive Summary
Port Wentworth Tourism Bureau, Inc.
Response to City of Port Wentworth Request for Proposals

Port Wentworth Tourism Bureau, Inc. is a new 501(c) 6 non-profit, organized and incorporated for the purpose of promoting the City of Port Wentworth and its tourism, engaging in such activities as are consistent with the promotion of the City of Port Wentworth, and supporting those activities and events within the City of Port Wentworth with the potential to attract visitors to the city.

The Port Wentworth Tourism Bureau , Inc. understands that the funding from the City of Port Wentworth consists primarily of a percentage of the excise taxes the city levies on hotels and motels in the city, as authorized under GA Code 48-13-51. The Tourism Bureau's promotional activities will be scaled to reflect the budget provided by the city, and to make the best usage of those funds for the promotion of tourism in the city.

If awarded the contract with the City of Port Wentworth, the organization will provide the services including, but not limited to, the following:

- Creation, maintenance, and regular updating of a modern website, to include integrated use of social media and links to local businesses and organizations websites and social media presences.
- Creation and updating of leaflets and brochures, and its distribution to the various State and Savannah based Welcome Centers.
- Other advertising, both online and in various printed publications, through such companies as Visit Savannah (https://www.visitsavannah.com) and Go South Savannah (https://gosouthsavannah.com) to raise the profile of the City of Port Wentworth. Advertising will also be placed with relevant travel magazines and/or travel websites.
- Support for, and promotion of, local events.
- Support for, and promotion of, Port Wentworth related organizations, businesses, entities, persons, and landmarks such as Mulberry Grove Foundation and Promised Land Farms.
- Seek out corporate sponsors to fund projects related to the discovery and preservation of the history and heritage of the city, to include actively supporting the creation and maintenance of a Port Wentworth Museum to showcase the city's history from pre-history to the present.
- Work to build a strong working relationship with the Mayor and Council members of the City of Port Wentworth.

About Us
Port Wentworth Tourism Bureau, Inc.
Response to City of Port Wentworth Request for Proposals

Port Wentworth Tourism Bureau, Inc. is a new 501(c) 6 non-profit, organized and incorporated for the purpose of promoting the City of Port Wentworth and its tourism, engaging in such activities as are consistent with the promotion of the City of Port Wentworth, and supporting those activities and events within the City of Port Wentworth with the potential to attract visitors to the city.

Board

The Port Wentworth Tourism Board, Inc. is a Port Wentworth based non-profit corporation. The Board of Directors will consist of City of Port Wentworth residents, allowing for the inclusion of non-residents who possess strong ties to the city or who are the representative of an organization whose interests are based in, or around, the City of Port Wentworth. While the Port Wentworth Tourism Bureau is still actively recruiting for our Board of Directors, the following have accepted positions on the Board of Directors of the Port Wentworth Tourism Bureau, Inc.:

Avril Roy-Smith, President/CEO. A resident of the City of Port Wentworth for more than six years, Avril Roy-Smith trained as an advertising copy writer at J. Walter Thompson, Sydney. Her career in Australia centered on the film and television industry. Since moving to the US, she continued to work in film and television as a writer and editor. The last ten years have been spent designing, writing, and maintaining websites for non-profit corporations.

Derrick Sample: Derrick Sample is a lifelong resident of the City of Port Wentworth. Amongst his many achievements, he is currently President of the local Metal Workers Union.

Ken Miller: Ken Miller is the Mulberry Grove Foundation's Archaeologist Advisor He served in the United States Air Force from 1967-1971, retiring as a Staff Sergeant after a two year tour in Vietnam. He holds a Bachelor of Science degree in Anthropology, a Bachelor of Science degree in Judaic Studies, a master's degree in Judaic Studies, and worked on the Tel Gezer Archaeological Excavation from 2007-2014.

Dr Patricia D Brown: A resident of the City of Port Wentworth for almost a decade, Dr Patricia Brown has a background in Nursing, holding an Associate Degree in Applied Science, a bachelor's degree in Nursing, and a Master of Science Degree in Integrative Nursing. She also earned two Doctorates in Education.

Captain Bryan H. Roy-Smith (US Army Ret): Captain Roy-Smith is a combat veteran with multiple tours in both Iraq and Afghanistan. He served in the Army Chemical Corps, which is the branch of the US Army tasked with defending against chemical, biological, radiological, and nuclear weapons. Captain Roy-Smith was medically retired after injuries sustained in both theatres. Captain Roy-Smith holds a Bachelor of Arts Degree in Communication, with Minors in American History and Leadership. He also earned a Master of Science Degree in Environmental Science.

Experience

Although the Port Wentworth Tourism, Inc. is a newly incorporated non-profit organization, the Board of Directors have been chosen for the experience that they bring relative to an organization tasked with the promotion of the City of Port Wentworth and to its tourist potential.

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

Community Support

As of this time, the Port Wentworth Tourism Bureau, Inc. has the full support of the Mulberry Grove Foundation. The Foundation and the Tourism Bureau have created a secure working relationship, which includes a concrete commitment of support. This working relationship will strengthen the depth of experience and the resources available to the Port Wentworth Tourism Bureau, Inc. The Mulberry Grove Foundation's personnel as listed below, and Ken Miller, their Archeological Advisor and a Port Wentworth Tourism Bureau, Inc. Board member, would be volunteering their time and expertise, making a valuable contribution to the Tourism Bureau's mission.

Key among the Mulberry Grove Foundation personnel with regards their support for the Port Wentworth Tourism Bureau, Inc. are:

- Dr. Simona Perry is a pioneer in community-based practices for understanding environmental and social change. She is founder and director of c.a.s.e. Consulting Services, communications coordinator, and director of infrastructure & livelihoods for Livelihoods Knowledge Exchange Network, and a board member of Mulberry Grove Foundation.

- Marty Barnes, a respected historian with an extensive background as the Managing Editor of three travel oriented magazines in her career. She is also on the Board of the Mulberry Grove Foundation.

Among the Mulberry Grove Foundation Advisors, who the Tourism Bureau will have as extra support, are the following:

- Stan Deaton: Ph.D., Senior Historian, Georgia Historical Society; Elaine B. Andrews Historian, Georgia Historical Society.

- Hugh Golson: Historian, former Chatham County School Board Chairman and descendant of a family who once owned the Mulberry Grove Plantation.

- Michael Jordan: Historian, author, and documentary film producer.

- Stratton Leopold: Hollywood movie producer and owner of Leopold's Ice Cream Co.

- Martha McCullough: Granddaughter of Christmas Moultrie, one of the last persons born into slavery at Mulberry Grove and a long-time caretaker of the Plantation.

- Mary Morrison: Philanthropist and owner of Lebanon Plantation.

- Mark Murphy: Medical doctor and author

The Port Wentworth Tourism Bureau, Inc. is in the process of reaching out to other organizations, businesses, and individuals, such as the Promised Land Farm, that are located within the City of Port Wentworth.

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

Proposed Services
Port Wentworth Tourism Bureau, Inc.
Response to City of Port Wentworth Request for Proposals

Overview:

- The Port Wentworth Tourist Bureau, Inc. is an organization whose mission is to promote the City of Port Wentworth and to promote the tourist potential within the city. If awarded the contract with the City of Port Wentworth, the organization will provide the services including, but not limited to, the following proposed services.

- The Port Wentworth Tourism Bureau, Inc. will use the internet, advertising in print media, and the production and display of brochures at State and other Welcome Centers to publicize the history and the available amenities of the City of Port Wentworth in order to increase the number of visitors to the city. The Port Wentworth Tourism Bureau, Inc. will promote the City of Port Wentworth's proximity to both the City of Savannah, and its tourist attraction, and to Interstate 95, and conveniences offered to overnight visitors seeking to break their trips. The Port Wentworth Tourism Bureau will support and promote local events, including Stand Up for America Day.

- The Port Wentworth Tourism Bureau, Inc. will seek a strong working relationship with the Mayor and Council members of the City of Port Wentworth, to include seeking their input and advice on projects and activities undertaken by the Tourism Bureau.

- The Port Wentworth Tourism Bureau , Inc. understands that the funding from the City of Port Wentworth consists primarily of a percentage of the excise taxes the city levies on hotels and motels in the city, as authorized under GA Code 48-13-51. The Tourism Bureau's promotional activities will be scaled to reflect the budget provided by the city, and to make the best usage of those funds for the promotion of tourism in the city. To this end, the Tourism Bureau proposes to perform the majority of the promotional work in house, outsourcing only those processes, such as mass printing of promotional materials, that are normally performed by third-party businesses.

Office:

- The Port Wentworth Tourism Bureau, Inc. will be setting up welcoming offices, open to the public, for in-person visits or for contact via phone and emails, at a location within the City of Port Wentworth. These offices can be at an address as directed or suggested by the City of Port Wentworth, and at a reasonable rent as suggested or directed by the City of Port Wentworth. These offices will maintain regular posted hours for the convenience of local residents, and of tourists seeking information about the City of Port Wentworth and surrounding areas and will feature displays of historical and cultural relevance. The office will be a distribution point for the any brochures and leaflets produced by the Tourism Bureau.

Staff:

- The President/CEO of the Tourism Bureau will perform much of the design work for the web site and publications, as well as acting as a liaison with local businesses, organizations, and individuals.

- A well-qualified assistant who will be a resident of the City of Port Wentworth, will be hired to facilitate reliable and regular hours at the Tourism Bureau offices.

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

Memberships:

- The Port Wentworth Tourism Bureau, Inc. will sell both Citizen and Business level memberships in the organization to engage and involve local residents, businesses located within the City of Port Wentworth, and other interested parties. These memberships will provide a secondary form of funding.. The income from these Membership fees will be directly applied to the Tourism Bureau's mission of promoting the City of Port Wentworth and encouraging tourists.

- The Port Wentworth Tourism Bureau, Inc. will hold regular meetings, open to the public.

Website:

The primary method, employed by the Port Wentworth Tourism Bureau, Inc., to promote the City of Port Wentworth will be the creation of promotional materials, consistent with current technology, which will be available online. These promotional materials will include:

- A modern accessible website with effective SEO and links to City attractions and businesses.

- A Social Media presence on Facebook, Twitter, and Instagram.

- A regular blog promoting historical aspects of the city, as well as local businesses and events, available on the Tourism Bureau website.

- Links will be provided to the web sites and social media presences of businesses in the City of Port Wentworth.

- A 'virtual museum' showcasing the history and heritage of the City of Port Wentworth. Documents and photos will be solicited from residents and others to be converted into digital copies for this museum.

Print and Other Media:

- The Port Wentworth Tourism Bureau, Inc. will create, and have printed, promotional brochures and leaflets, to be physically distributed, amongst other locations, at the Tourism Bureau offices, at the Georgia Welcome Centers located at the Savannah/Hilton Head Airport, at I-95 South, Mile Marker 111, and at the Savannah Welcome Center at 214 Boundary St, the Savannah Visitors Center at 301 Martin Luthor King Jr Blvd, and the Visitor Center at 1 W River Street. These brochures and leaflets will also be available online.

- The Port Wentworth Tourism Bureau, Inc. will create and place print media advertisements highlighting the City of Port Wentworth, its history, and amenities. This activity would be an ongoing process, with the advertisements and publicity being constantly updated and refreshed. The process will require researching and contacting the various print media, with the aim of either buying advertising space in the media or obtaining free publicity by means of news articles and publicity releases.

- The Port Wentworth Tourism Bureau, Inc. will also utilize the advertising available, both online and in various printed publications, through such companies as Visit Savannah (https://www.visitsavannah.com) and Go South Savannah (https://gosouthsavannah.com) to raise

the profile of the City of Port Wentworth. Advertising will also be placed with relevant travel magazines and/or travel websites.

- The Port Wentworth Tourism Bureau, Inc. will create and distribute signage as might be necessary to promote events within the City of Port Wentworth.

Support for City of Port Wentworth Organizations:

- The Port Wentworth Tourism Bureau, Inc. will support and publicize Port Wentworth related organizations, businesses, entities, persons, and landmarks such as Mulberry Grove Foundation and Promised Land Farms.

- The Port Wentworth Tourism Bureau, Inc. will seek out corporate sponsors to fund projects related to the discovery and preservation of the history and heritage of the city, which will then be showcased to promote tourism.

- The Port Wentworth Tourism Bureau, Inc. will actively foster and support the creation and maintenance of a Port Wentworth Museum. The proposed museum will showcase the history of the city from prehistory to the present and will bring attention to not only Mulberry Grove's extensive history, but also to the Battle of Monteith, the Houston Baptist Church, and other significant historical events and locations. The offices of the Tourism Bureau will feature a small museum as an initial effort to foster the exploration and documentation of the history of the city in an accessible form.

- The Port Wentworth Tourism Bureau, Inc. will support like-minded organizations within the City of Port Wentworth or otherwise relevant to the promotion of the city.

Support for City of Port Wentworth Events:

- The Port Wentworth Tourism Bureau, Inc. will support and publicize Port Wentworth events that are of interest to both residents and tourists. These events would include the long-running Stand Up for America Day. The Port Wentworth Tourism Bureau, Inc. will provide support for these events with publicity online, and in print media, brochures, publicity releases, signage, and other means.

Attachment: Proposal - Port Wentworth Tourism Bureau (2493 : Request for Proposal (RFP) - Chamber of Commerce for the City of Port

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Human Resources
Category: Agreement
Prepared By: Shanta Scarboro
Department Head: Yolanda Irizarry

AGENDA ITEM (ID # 2495)

DOC ID: 2495

Georgia Municipal Association (GMA) 401(a) Defined Contribution Plan

Issue/Item: Georgia Municipal Association (GMA) 401(a) Defined Contribution Plan

Background: The Department of the Treasury Internal Revenue Service offered an opinion letter regarding the form of plan identified for use by employers for the benefit of employees under Internal Revenue Code (IRC) Section 401 and determined that the 401(a) Defined Contribution Plan offered by the Georgia Municipal Association (GMA) for City of Port Wentworth employees is acceptable.

As a result, the plan provider (City) must forward a signed resolution and agreement to GMA to countersign to make the adoption of the restated plan official. Enclosed are the following documents in relation to the 401(a) Defined Contribution Plan:

- Department of the Treasury Internal Revenue Service Opinion Letter
- Georgia Municipal Association (GMA) Letter Re: Action Required; Restatement of City of Port Wentworth's GMA 401(a) Defined Contribution Plan
- Georgia Municipal Association (GMA) 401(a) Defined Contribution Master Plan
- Georgia Municipal Association (GMA) 401(a) Defined Contribution Resolution and Adoption Agreement
- Georgia Municipal Association (GMA) 401(a) Defined Contribution Summary of Changes to the Restated Plan

One additional correction to the plan that is not listed on the Summary of Changes to the Restated Plan is the change in name from City Administrator to City Manager per the adoption of the amended City Charter in July 2020. This change will take effect along with all other Master Plan updates.

Recommendation: It is asked that Council adopt the Resolution and Agreement for the Restated 401(a) Defined Contribution Plan.

ATTACHMENTS:

- GMA 401(a) Defined Contribution Plan Department of the Treasury IRS Opinion Letter (PDF)
- GMA 401(a) Defined Contribution Plan Letter (PDF)
- GMA 401(a) Defined Contribution Plan Master Plan Document (PDF)
- GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (PDF)
- GMA 401(a) Defined Contribution Plan Summary of Changes (PDF)



TAX EXEMPT AND
GOVERNMENT ENTITIES
DIVISION

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224

Plan Description: Non-Standardized Pre-Approved Money Purchase Pension Plan
FFN: 317E0630001-000 Case: 201900681 EIN: 58-0907810
Letter Serial No: Q702380a
Date of Submission: 12/31/2018

GEORGIA MUNICIPAL ASSOCIATION INC
201 PRYOR STREET SW
ATLANTA, GA 30303

Contact Person:
Janell Hayes
Telephone Number:
513-975-6319
In Reference To: TEGE:EP:7521
Date: 06/30/2020

Dear Applicant:

In our opinion, the form of the plan identified above is acceptable for use by employers for the benefit of their employees under Internal Revenue Code (IRC) Section 401.

We considered the changes in qualification requirements in the 2017 Cumulative List of Notice 2017-37, 2017-29 Internal Revenue Bulletin (IRB) 89. Our opinion relates only to the acceptability of the form of the plan under the IRC. We did not consider the effect of other federal or local statutes.

You must provide the following to each employer who adopts this plan:
. A copy of this letter
. A copy of the approved plan
. Copies of any subsequent amendments including their dates of adoption
. Direct contact information including address and telephone number of the plan provider

Our opinion on the acceptability of the plan's form is a determination as to the qualification of the plan as adopted by a particular employer only under the circumstances, and to the extent, described in Revenue Procedure (Rev. Proc.) 2017-41, 2017-29 I.R.B. 92. The employer who adopts this plan can generally rely on this letter to the extent described in Rev. Proc. 2017-41. Thus, Employee Plans Determinations, except as provided in Section 12 of Rev. Proc. 2020-4, 2020-01 I.R.B. 148 (as updated annually), will not issue a determination letter to an employer who adopts this plan. Review Rev. Proc. 2020-4 to determine the eligibility of an adopting employer, and the items needed, to submit a determination letter application. The employer must also follow the terms of the plan in operation.

Except as provided below, our opinion doesn't apply to the requirements of IRC Sections 401(a)(4), 401(l), 410(b), and 414(s). Our opinion doesn't apply to IRC Sections 415 and 416 if an employer maintains or ever maintained another qualified plan for one or more employees covered by this plan. For this purpose, we will not consider the employer to have maintained another defined contribution plan provided both of the following are true:
. The employer terminated the other plan before the effective date of this plan
. No annual additions have been credited to any participant's account under the other plan as of any date within the limitation year of this plan

Also, for this purpose, we'll consider an employer as maintaining another defined contribution plan, if the employer maintains any of the following:
. A welfare benefit fund defined in IRC Section 419(e), which provides post-retirement medical benefits allocated to separate accounts for key employees as defined in IRC Section 419A(d)

Attachment: GMA 401(a) Defined Contribution Plan Department of the Treasury IRS Opinion Letter (2495 : Georgia Municipal Association

. An individual medical account as defined in IRC Section 415(l)(2), which is part of a pension or annuity plan maintained by the employer
. A simplified employee pension plan

Our opinion doesn't apply to Treasury Regulations Section 1.401(a)-1(b)(2) requirements for a money purchase plan or target benefit plan where the normal retirement age under the employer's plan is lower than age 62.

Our opinion doesn't constitute a determination that the plan is an IRC Section 414(d) governmental plan. This letter is not a ruling with respect to the tax treatment to be given contributions which are picked up by the governmental employing unit within the meaning of IRC Section 414(h)(2).

Our opinion doesn't constitute a determination that the plan is an IRC Section 414(e) church plan.

Our opinion may not be relied on by a non-electing church plan for rules governing pre-ERISA participation and coverage.

Our opinion applies to the requirements of IRC Section 410(b) if 100 percent of all non-excludable employees benefit under the plan.

Employers who choose a safe harbor allocation formula and a safe harbor compensation definition may also rely on this opinion letter for the non-discriminatory amounts requirement under IRC Section 401(a)(4).

If this plan includes a cash or deferred arrangement (CODA) or otherwise provides for contributions subject to IRC Sections 401(k) and/or 401(m), the employer may rely on the opinion letter regarding the form of the non-discrimination tests of IRC Sections 401(k)(3) and 401(m)(2), if the employer uses a safe harbor compensation definition. For plans described in IRC Sections 401(k)(12) or (13) and/or 401(m)(11) or (12), employers may rely on the opinion letter regarding whether the plan's form satisfies the requirements of those sections unless the plan provides for the safe harbor contribution to be made under another plan. For SIMPLE plans described in IRC Sections 401(k)(11) and 401(m)(10), employers may also rely on the opinion letter regarding whether the plan's form satisfies the requirements of those sections.

The provisions of this plan override any conflicting provision contained in the trust or custodial account documents used with the plan, and an adopting employer may not rely on this letter to the extent that provisions of a trust or custodial account that are a separate portion of the plan override or conflict with the provisions of the plan document. This opinion letter does not cover any provisions in trust or custodial account documents.

An employer who adopts this plan may not rely on this letter when:
. the plan is being used to amend or restate a plan of the employer which was not previously qualified
. the employer's adoption of the plan precedes the issuance of the letter
. the employer doesn't correctly complete the adoption agreement or other elective provisions in the plan
. the plan is not identical to the pre-approved plan (that is, the employer has made amendments that cause the plan not to be considered identical to the pre-approved plan, as described in Section 8.03 of Rev. Proc. 2017-41)

Our opinion doesn't apply to what is contained in any documents referenced outside the plan or adoption agreement, if applicable, such as a collective bargaining agreement.

Our opinion doesn't consider issues under Title I of the Employee Retirement Income Security Act (ERISA) which are administered by the Department of Labor.

If you, the pre-approved plan provider, have questions about the status of this case, you can call the telephone number at the top of the first page of this letter. This number is only for the provider's use.

Attachment: GMA 401(a) Defined Contribution Plan Department of the Treasury IRS Opinion Letter (2495 : Georgia Municipal Association

Individual participants or adopting eligible employers with questions about the plan should contact you.

You must include your address and telephone number on the pre-approved plan or the plan's adoption agreement, if applicable, so that adopting employers can contact you directly.

If you write to us about this plan, provide your telephone number and the best time to call if we need more information. Whether you call or write, refer to the letter serial number and file folder number at the top of the first page of this letter.

Let us know if you change or discontinue sponsorship of this plan.

Keep this letter for your records.

Sincerely Yours,

Khin M. Chow

Khin M. Chow
Director, EP Rulings & Agreements

Letter 6186 (June-2020)
Catalog Number 72434C

Attachment: GMA 401(a) Defined Contribution Plan Department of the Treasury IRS Opinion Letter (2495 : Georgia Municipal Association

GEORGIA MUNICIPAL ASSOCIATION

July 26, 2021

RISK MANAGEMENT AND EMPLOYEE BENEFIT SERVICES BOARD OF TRUSTEES

Chairman
W. D. Palmer, III
Councilmember, Camilla

Vice Chairman
Rebecca L. Tydings
City Attorney, Centerville

Secretary-Treasurer
Larry H. Hanson
Executive Director

Trustees:

Shelly Berryhill
Councilmember, Hawkinsville

Linda Blechinger
Mayor, Auburn

Ronald Feldner
City Manager, Garden City

Marcia Hampton
City Manager,
Douglasville

Meg Kelsey
City Manager, LaGrange

Sam Norton
Mayor, Dahlonega

David Nunn
City Manager, Madison

James F. Palmer
Mayor, Calhoun

John Reid
Mayor, Eatonton

Kenneth L. Usry
Mayor, Thomson

Clemontine Washington
Mayor Pro Tem, Midway

Donna Whitener

Vince Williams
Mayor, Union City

TRANSMITTED VIA E-MAIL
(yirizarry@cityofportwentworth.com)

TO: Ms. Yolanda Irizarry, Human Resources Coordinator

FROM: Gwin Hall, Senior Associate General Counsel and Caroline Dorsey, Associate General Counsel

SUBJECT: Action Required; Restatement of City of Port Wentworth's Georgia Municipal Association 401(a) Defined Contribution Plan

---

The City of Port Wentworth previously adopted the Georgia Municipal Association ("GMA") 401(a) Defined Contribution Plan ("DC Plan"), which is comprised of the Master Plan document ("Master Plan") and Adoption Agreement. GMA recently restated the DC Plan and received a favorable determination letter from the Internal Revenue Service ("IRS"). An employer providing retirement benefits through the GMA DC Plan has the assurance that GMA is maintaining a qualified defined contribution program.

To ensure continued tax-favored treatment for GMA member plans, the IRS requires that all employers participating in the GMA DC Plan adopt the enclosed draft Adoption Agreement reflecting the benefit design currently in place under your DC Plan. We have also enclosed a conformed copy of the Master Plan and a Summary of Key amendments that have been made to the DC Plan since it was last approved by the IRS in 2014.

Please take this time to review the provisions of the Adoption Agreement to ensure it accurately reflects your current practices. Page AA-1 of the Adoption Agreement states that the City does not have another defined contribution plan. Additionally, the Adoption Agreement provides that the City will make a non-matching contribution in the amount of 8.2% of gross bi-weekly earnings. If these provisions are no longer accurate, please let us know.

The draft Adoption Agreement will take effect on its date of approval by the City. Please review the restated DC Plan documents and Summary of Key Amendments. If the Adoption Agreement is acceptable as drafted, please execute it where indicated (p. 5 and p. AA-16). Following execution please scan the entire document and email it to Gina Gresham at rgresham@gacities.com. **We ask that you complete this process by September 16, 2021.**

GMA will then countersign the Adoption Agreement and return it to you for your files. **Please keep the fully executed Adoption Agreement, along with the conformed copy of the GMA 401(a) DC Master Plan document, as part of the permanent records for your GMA 401(a) DC Plan**. **The City does not need to adopt the Master Plan.**

Please contact GMA Legal Assistant Gina Gresham at 678-686-6258 or rgresham@gacities.com with any questions.

C: James Coursey, City Attorney, City of Port Wentworth (w/ encl.)
Michelle Warner, Director, Retirement Field Services and DC Program (w/o encl.)

Attachment: GMA 401(a) Defined Contribution Plan Letter (2495 : Georgia Municipal Association (GMA) 401(a) Defined Contribution Plan)

THE GEORGIA MUNICIPAL ASSOCIATION, INC.
401(a) DEFINED CONTRIBUTION PLAN

MASTER PLAN DOCUMENT
Amended and Restated
As of January 1, 2018

Administered by:
Georgia Municipal Association, Inc.
201 Pryor Street, SW
Atlanta, Georgia 30303
Telephone: 404-688-0472
Facsimile: 678-686-6289

Attachment: GMA 401(a) Defined Contribution Plan Master Plan Document (2495 : Georgia Municipal Association (GMA) 401(a) Defined

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THE GEORGIA MUNICIPAL ASSOCIATION, INC.
DEFINED CONTRIBUTION PLAN

The Georgia Municipal Association, Inc. Defined Contribution Plan ("Plan") is hereby amended and restated, generally effective January 1, 2018, except as otherwise provided herein, pursuant to a resolution of the Board of Trustees of the Georgia Municipal Association, Inc. ("GMA") Defined Contribution and Deferred Compensation Program, adopted September 25, 2020. The Plan is a governmental qualified defined contribution money purchase plan under Sections 401(a) and 414(d) of the Internal Revenue Code and is part of the GMA Defined Contribution and Deferred Compensation Program, as established by resolution of the Board of Directors of GMA.

Plan provisions are intended to comply with Internal Revenue Code Section 401(a) and applicable provisions of additional changes in federal law and guidance from the Internal Revenue Service under Internal Revenue Service Notice 2017-37 (the 2017 Cumulative List) and are effective as of the applicable effective dates set forth in the Plan.

The Plan consists of the provisions set forth in this Master Plan document, along with the provisions set forth in the Adoption Agreement and any Addendum of any Participating Employer, and any amendments to the Master Plan, the Adoption Agreement, and any Addendum.

ARTICLE I - DEFINITIONS

1.01 **"Account"** means an account maintained for a Participant by the Administrator, which may include the following subaccounts and any other subaccounts established by the Administrator pursuant to Section 6.01: the Employer Contribution Account, the Employer Matching Contribution Account, the Employer Non-Matching Contribution Account, the Rollover Account, and the Transfer Account.

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1.02 "**Addendum**" means any Addendum to an Adoption Agreement entered into by an Employer.

1.03 "**Administrator**" means GMA, and includes the Service Manager with regard to functions delegated by the Trustees to the Service Manager.

1.04 "**Applicable Form**" means the appropriate form as designated and furnished by the Administrator to make an election or provide a notice as required by the Plan. If a written election or consent is not specifically required by the Code, the Administrator may prescribe a verbal, electronic, or telephonic instruction in lieu of or in addition to a written form.

1.05 "**Adoption Agreement**" means the agreement entered into by an Employer to participate in this Plan.

1.06 "**Beneficiary**" means the person or persons designated by a Participant to receive any benefit payable upon the Participant's death.

1.07 "**Code**" means the Internal Revenue Code of 1986, as amended and as applicable to governmental plans as defined in Code Section 414(d). The term also includes the Internal Revenue Code of 1954, as amended and as applicable to governmental plans as defined in Code Section 414(d).

1.08 "**Compensation**" means all of a Participant's wages as defined in Code Section 3401(a) for the purposes of income tax withholding at the source but determined without regard to any rules that limit the remuneration included in wages based on the nature or location of the employment or the services performed (such as the exception for agricultural labor in Code Section 3401(a)(2)); provided, however, compensation shall also include the amount of any elective deferrals, as defined in Code Section 402(g)(3), and any amount contributed or deferred by the employer at the election of the Employee and which is not includable in the gross income

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of the Employee by reason of Code Section 125 or 457, and elective amounts that are not includable in the gross income of the Employee by reason of Code Section 132(f)(4). If so elected in the Adoption Agreement, Compensation also includes certain additional amounts if paid no later than 2½ months after severance from employment or the end of the calendar year that includes a Participant's severance from employment that, absent a severance from employment, would have been paid to the Participant while the Participant continued in employment with the Participating Employer. The compensation of each Participant for any Plan Year shall not exceed $275,000 (for 2017), as adjusted for cost of living increases in accordance with Code Section 401(a)(17)(B).

1.09 "**Deferred Compensation Plan**" means any eligible deferred compensation plan of the Employer under Code Section 457(b), including but not limited to the Georgia Municipal Association Deferred Compensation Plan.

1.10 "**Disability**" **or** "**Disabled**" means a total and permanent disability determined as follows: (i) by the Social Security Administration for a Participant who is covered by Social Security; or (ii) by the Employer, for a Participant who is not covered by Social Security. With respect to (ii), an individual shall be considered to be Disabled if he is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or to be of long-continued and indefinite duration; provided, however, an individual shall not be considered to be Disabled unless he furnishes proof of the existence thereof in such form and manner as the Secretary of the Treasury may require.

1.11 "**Eligible Employee**" means an Employee who by the Adoption Agreement is eligible to participate in the Plan.

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1.12 "**Employee**" means any person who is regularly employed in the services of the Employer as an employee and shall include elected or appointed members of the Governing Authority and Municipal Legal Officers if they are included as Eligible Employees in the Adoption Agreement. However, notwithstanding any other provision of the Plan to the contrary, the term "Employee" does not include: (a) an individual who is a nonresident alien and who receives no earned income (within the meaning of Code Section 911(d)(2)) from an Employer which constitutes income from sources within the United States within the meaning of Code Section 861(a)(3); (b) a leased employee; or (c) any person treated in good faith by an Employer as an independent contractor, regardless of whether such person is later determined to be a common law employee for tax purposes.

1.13 "**Employer**" means any municipal corporation, consolidated government, political subdivision, or other governmental instrumentality in the State.

1.14 "**Employer Contribution Account**" means the subaccount maintained by the Administrator to which Employer Contributions pursuant to Article IV, if any, may be credited.

1.15 "**Employer Contributions**" means Matching Contributions and Non-Matching Contributions determined under the Adoption Agreement and made by a Participating Employer to an Account for a Participant.

1.16 "**Employer Matching Contribution Account**" means the subaccount maintained by the Administrator to which Employer Matching Contributions pursuant to Article IV, if any, may be credited.

1.17 "**Employer Non-Matching Contribution Account**" means the subaccount maintained by the Administrator to which Employer Non-Matching Contributions pursuant to Article IV, if any, may be credited.

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1.18 "**Governing Authority**" means the entity authorized by law to act for the Employer and adopt this Plan through the Adoption Agreement.

1.19 "**Investment Fund**" means an investment fund which forms part of the Trust Fund as established by the Trustees.

1.20 "**Matching Contribution**" means the Participating Employer matching contributions as determined under the Adoption Agreement and made pursuant to Article IV.

1.21 "**Non-Matching Contribution**" means the Participating Employer non-matching contributions as determined under the Adoption Agreement and made pursuant to Article IV.

1.22 "**Normal Retirement Age**" means the date a Participant attains age sixty-five (65).

1.23 "**Participant**" means an Eligible Employee who participates under this Plan by enrolling (including a default enrollment) and maintaining an Account balance.

1.24 "**Participating Employer**" means any Employer who elects to participate in the Plan pursuant to Article II with respect to the Eligible Employees of one (1) or more departments.

1.25 "**Payroll Period**" means the period during which payroll is determined by the Participating Employer.

1.26 "**Plan Year**" means the plan year as determined by a Participating Employer in the Adoption Agreement.

1.27 "**Provider**" means Georgia Municipal Association, Inc., who is the Provider sponsoring the Plan on behalf of the Trustees.

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1.28 "**Rollover Account**" means the subaccount maintained by the Administrator to which rollovers pursuant to Article XIV will be credited. The Administrator may establish one or more rollover subaccounts for a Participant.

1.29 "**Separation from Service**" means severance of a Participant's employment with the Participating Employer for any reason, including retirement. A Participant shall be deemed to have Separated from Service with the Participating Employer for purposes of the Plan when, in accordance with the established personnel practices of the Participating Employer, the employment relationship is considered actually terminated. If a Participant has not been terminated, but the Participant has not performed services for the Participating Employer for a period of six (6) consecutive months and the Participant is not on a paid leave of absence, the Participant shall be deemed Separated from Service for purposes of this Plan at the end of the six (6) month period.

1.30 "**Service Manager**" means the person or organization appointed by the Trustees to perform service and administrative functions delegated by the Trustees.

1.31 "**State**" means the State of Georgia.

1.32 "**Transfer Account**" means the subaccount maintained by the Administrator to which transfers to the Plan pursuant to Article XV will be credited. The Administrator may establish one or more transfer subaccounts for a Participant.

1.33 "**Trust**" means the trust established by the Trustees pursuant to a written agreement that constitutes a valid trust under the law of Georgia.

1.34 "**Trustees**" means the Board of Trustees of the GMA Defined Contribution and Deferred Compensation Program.

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1.35 "**Rules of Construction**" words used herein in the masculine gender shall be construed to include the feminine gender where appropriate, and words used herein in the singular or plural shall be construed as being in the plural or singular where appropriate.

ARTICLE II - PARTICIPATION BY EMPLOYERS

2.01 **Participating Employer.** An Employer may make the Plan available to its Employees if it takes the following actions:

(a) The Governing Authority of the Employer must pass a resolution formally adopting this Plan for its Employees and approving the Adoption Agreement.

(b) The resolution must indicate the date of adoption.

(c) The resolution must commit to the terms of an Adoption Agreement as completed by the Employer.

(d) the resolution must specify that the Employer shall abide by the terms of the Plan and the Trust, including all investment, administrative, and service agreements of the Plan, and all applicable provisions of the Code and other applicable law.

(e) The resolution must acknowledge that the Trustees are only responsible for the Plan and have no responsibility for other employee benefit plans maintained by the Employer.

(f) Employers whose Employees are participating in a defined contribution plan under Code Section 401(a) and 414(d) as of the effective date of the Adoption Agreement must inform the Administrator of the name of and the provider of that plan and must provide any other information requested by the Administrator.

The Trustees shall determine whether the resolution complies with this section. If it does, and provided the other requirements of the Plan and Trust are met, the Trustees shall execute the Adoption Agreement and provide appropriate forms for the Employer to implement its participation in the Plan.

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2.02 Multiple Employer Plan. An Employer may include in its Resolution coverage for additional employers, such that the Plan will cover multiple employers, who will be treated as Participating Employers. These additional employers shall be governed by the terms of the Plan as adopted in the Adoption Agreement.

ARTICLE III - ELIGIBLE EMPLOYEE PARTICIPATION

3.01 Participation Procedure. Only Eligible Employees as defined by the Adoption Agreement may be Participants in the Plan. The Administrator shall prescribe the enrollment form for Eligible Employees to become Participants.

3.02 Cessation of Plan Participation. An Eligible Employee shall cease to be a Participant on the distribution and/or forfeiture of the Participant's entire interest in the Plan.

ARTICLE IV - CONTRIBUTIONS

4.01 Contributions. Contributions shall be made to the Plan in accordance with this Article, the Adoption Agreement, and subject to the limitations under Article V. A Participating Employer shall specify in the Adoption Agreement whether it will make Matching Contributions and/or non-Matching Contributions. Matching Contributions shall be made to match all or a portion of the Participant's contributions to a Deferred Compensation Plan, in accordance with the formula and method specified by the Participating Employer in the Adoption Agreement. Non-Matching Contributions are not tied to Participant contributions to a Deferred Compensation Plan and shall be made in accordance with the formula and method specified by the Participating Employer in the Adoption Agreement.

The Adoption Agreement establishing the amount and method of calculating contributions continues in effect from Plan Year to Plan Year until amended or repealed by the Governing Authority or until the Participating Employer's participation in the Plan is terminated.

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4.02 Matching Contributions. If the Adoption Agreement provides for Matching Contributions, the Governing Authority shall determine and specify in the Adoption Agreement the formula for calculating the Matching Contributions, which may be all or a specified portion of a Participant's contribution to a Deferred Compensation Plan. In the Adoption Agreement, the Participating Employer may establish different classes of Participants who are eligible or ineligible to receive Matching Contributions. The Employer may also establish different Matching Contribution amounts or formulas applicable to different classes of Eligible Employees.

4.03 Eligibility for Matching Contributions.

(a) If the Adoption Agreement provides for Matching Contributions, a Participant shall be eligible for Matching Contributions for any Payroll Period only if the Participant meets the conditions set forth in the Adoption Agreement.

(b) In no event shall a Participant receive any Matching Contributions for any Payroll Period for which the Participant does not have an effective payroll deferral to a Deferred Compensation Plan for that Payroll Period.

4.04 Non-Matching Contributions. If the Adoption Agreement provides for Non-Matching Contributions, the Governing Authority shall determine and specify in the Adoption Agreement the formula for calculating the Non-Matching Contributions, which may be a fixed amount or a specified portion of a Participant's Compensation. In the Adoption Agreement, the Participating Employer may establish different classes of Participants who are eligible or ineligible to receive Non-Matching Contributions. The Employer may also establish different Non-Matching Contribution amounts or formulas applicable to different classes of Eligible Employees.

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4.05 Eligibility for Non-Matching Contributions. If the Adoption Agreement provides for Employer Non-Matching Contributions, a Participant shall be eligible for Non-Matching Contributions only if the Participant meets the conditions set forth in the Adoption Agreement.

4.06 Changes in Employer Contributions. A Participating Employer may adjust the amount or method of Employer Contributions throughout the Plan Year by adopting a resolution to amend its Adoption Agreement in accordance with Section 20.02. The resolution must be sent to the Administrator. The Trustees must approve or disapprove the amendment and, if approved, establish the effective date of any change to the Employer Contributions.

4.07 Employee Contributions, Rollovers, and Transfers. Employee contributions under the Plan are not required or permitted. However, a Participant may rollover eligible rollover distributions to the Participant's Rollover Account, pursuant to Article XIV. In addition, the Plan may accept transfers to a Participant's Transfer Account, pursuant to Article XV.

4.08 Remittance of Contributions. The Employer Contributions shall be paid as specified in the Adoption Agreement. All amounts of Employer Contributions under the Plan shall be transferred by the Participating Employers to the Trust within the time limits described in this Section. Contributions shall first be remitted to the Trust only after the Employer's Adoption Agreement is approved by the Trustees. Upon approval of the Adoption Agreement, the Trustees shall specify the date Employer Contributions are to commence. In no event shall contributions under the Plan be transferred by the Participating Employer to the Trust later than fifteen (15) business days after the Payroll Period specified in the Adoption Agreement or after the end of the Plan Year with respect to Employer Contributions made on a Plan Year basis.

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4.09 Delinquent Contributions. It is the Participating Employer's responsibility to correctly calculate and timely remit the appropriate Employer Contributions. The Administrator reserves the right to give notice to the highest elected official, the designated representative of the Employer and/or the Eligible Employees of the delinquent Participating Employer in the event it comes to the Administrator's attention that Employer Contributions are not being remitted in a timely manner or that Employer Contributions are otherwise not being made in accordance with the terms of the Plan or in accordance with state or federal law or regulation.

Neither GMA, the Trustees, nor the Administrator have any liability for the delinquency of a Participating Employer or for a Participating Employer's failure to make Employer Contributions in accordance with the terms of the Plan or in accordance with state or federal law or regulation.

ARTICLE V - LIMITATIONS ON CONTRIBUTIONS

5.01 Applicability of Article. Notwithstanding any provision of the Plan to the contrary, contributions to the Plan and additions to Accounts of Participants shall be limited as provided in Code Section 415 as provided in this Article.

5.02 Limitation under Code Section 415. Notwithstanding anything in the Plan to the contrary, the following limitations shall apply:

(a) To the extent required under Code Section 415(c), in no event shall the "annual addition," as defined in this Section for a Participant for any limitation year, exceed the lesser of:

(1) Forty Thousand Dollars ($40,000), as adjusted for cost of living under Code Section 415(d) ($55,000 for 2017); or

(2) One hundred percent (100%) of Compensation (as defined in Article I) actually paid or includable in gross income during such limitation year. Compensation also includes certain additional amounts if paid no later than 2½ months after severance

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from employment or the end of the calendar year that includes a Participant's severance from employment that, absent a severance from employment, would have been paid to the Participant while the Participant continued in employment with the Participating Employer. Such additional amounts include regular compensation for services during the Participant's regular working hours or compensation for services outside the Participant's regular work hours (such as overtime or shift differential), commissions, bonuses, or other similar payments; and, payments for unused accrued bona fide sick, vacation or other leave, but only if the Participant would have been able to use the leave if employment had continued. Any payment to a Participant paid by the Participating Employer not described above is not considered compensation if paid after severance from employment, even if it is paid within 2½ months following severance from employment.

An Employee who is in qualified military service (within the meaning of Internal Revenue Code Section 414(u)(1)) shall be treated as receiving compensation from the Participating Employer during such period of qualified military service equal to (i) the compensation the Employee would have received during such period if the Employee were not in qualified military service, determined based on the rate of pay the Employee would have received from the Participating Employer but for the absence during the period of qualified military service, or (ii) if the compensation the Employee would have received during such period was not reasonably certain, the Employee's average compensation from the Participating Employer during the twelve month period immediately preceding the qualified military service (or, if shorter, the period of employment immediately preceding the qualified military service).

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Compensation of each Participant shall not exceed the applicable limit established by Code Section 401(a)(17) as of the first day of the limitation year, as increased for the cost of living adjustment ($275,000 for 2017). The cost of living adjustment in effect for a limitation year applies to compensation for the Plan Year that begins with or within such limitation year.

(b) The Plan shall be administered so as to comply with the limitations of Code Section 415.

(c) For purposes of this Section, all defined contribution plans of a Participating Employer are to be treated as a single defined contribution plan. However, each Participating Employer is to be considered as a separate employer.

(d) Any corrections required under this Article V may be made pursuant to the IRS Employee Plans Compliance Resolution System. For limitation years prior to July 1, 2007, if the annual addition for a Participant under the Plan, determined without regard to the limitation of paragraph (a), would have been greater than the annual addition for such Participant as limited by paragraph (a), then the excess, if due to a reasonable error in estimating compensation or such other circumstances as found by the Secretary of the Treasury to justify application of this paragraph, shall be reduced, to the extent necessary to satisfy such limitation by holding the excess unallocated in a suspense account and using it to reduce Participating Employer contributions in subsequent Plan Years.

(e) For purposes of this Section, "annual addition" means the annual addition as defined in Code Section 415(c) and as modified in Code Sections 415(l)(1) and 419A(d)(2). In general, Code Section 415(c) defines the annual addition as the sum of the following amounts

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credited to a Participant's accounts for the limitation year under this Plan and any other defined contribution plan maintained by a Participating Employer:

(1) employer contributions;

(2) employee contributions;

(3) forfeitures;

(4) amounts allocated to an individual medical account, as defined in § 415(1)(2) of the Code, which is part of a pension or annuity plan maintained by the employer are treated as annual additions to a defined contribution plan. Also amounts derived from contributions paid or accrued which are attributable to post-retirement medical benefits, allocated to the separate account of a key employee, as defined in § 419A(d)(3) of the Code, under a welfare benefit fund, as defined in § 419(e) of the Code, maintained by the employer are treated as annual additions to a defined contribution plan; and

(5) allocations under a simplified employee pension.

(f) For purposes of this Section, limitation year means the calendar year.

5.03 Participating Employer Responsibility for Contribution Limits. The Participating Employer must monitor contributions to the Plan on behalf of a Participant to this Plan and any other 401(a) plan maintained by the Participating Employer to determine compliance with this Article. The Participating Employer must cease contributions to avoid exceeding the limits of Section 5.02 and must notify the Administrator if excess annual additions are made. The Participating Employer may amend the Adoption Agreement to the extent necessary to satisfy Code Section 415.

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ARTICLE VI - ACCOUNTS AND REPORTS

6.01 Account. The Administrator shall maintain applicable Accounts within the Participant's Account with respect to each Participant which may include: the Employer Contribution Account, the Employer Matching Contribution Account, the Employer Non-Matching Contribution Account, the Rollover Account, and the Transfer Account. The Administrator may establish an Employer Matching Contribution Account and an Employer Non-Matching Contribution Account, consistent with the Participating Employer's elections in the Addendum to the Adoption Agreement. If established, the Employer Matching Contribution Account shall be credited with the Participant's Employer Matching Contributions for each Payroll Period, and the Employer Non-Matching Contribution Account shall be credited with the Participant's Employer Non-Matching Contributions for each designated period (pursuant to the Adoption Agreement). If the Administrator does not establish these accounts, Employer Contributions shall be credited to the Employer Contribution Account. The Rollover Account shall be credited with the Participant's rollover contributions, if any, under Article XIV. The Transfer Account shall be credited with the Participant's transfers to the Plan, if any, under Article XV. The balance of the Participant's Accounts shall be adjusted daily to reflect any distribution to the Participant and all interest, dividends, account charges and changes of market value resulting from the investment of the Participant's Accounts. All Plan records, including individual account information, that are maintained by the Service Manager shall be the exclusive property of the Administrator. The Administrator may prescribe such minimum deposits to Participant's Accounts and each investment option for the Participant as it deems appropriate.

6.02 Statements of Account. A written report of the status of each Participant's Accounts shall be furnished to the Participant by the Administrator within thirty (30) days after

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the end of each Plan quarter. All reports to Participants shall be based on the fair market value of investments credited to Accounts as of the reporting dates. Participant reports shall be deemed to have been accepted by the Participant as correct unless written notice to the contrary is received by the Administrator within ninety (90) days after the mailing or distribution of a report to the Participant.

6.03 Year End Reports. Within ninety (90) days after the end of each Plan Year, a written report shall be prepared and maintained on file by the Administrator showing the assets held under the Plan, a schedule of all receipts and disbursements, and all material transactions of the Plan during the preceding year. This report shall be in a form and shall contain other information as the Administrator requires. The report shall also contain such information as is necessary to enable the Trustees to prepare their accounting due under the Trust.

ARTICLE VII - VALUATION OF ACCOUNTS

7.01 Valuation. The Administrator shall value the investments each business day based on acceptable industry practices. All daily transactions shall be based on that day's closing market values.

7.02 Deposits. In all cases, deposits of contributions shall be treated as actually made only as of the date the funds are accepted as in good order by the Administrator.

7.03 Report from Administrator to Trustees. The Administrator shall provide a report to the Trustees concerning the valuation of Accounts quarterly.

ARTICLE VIII - TRUST

8.01 Trust Status. All assets held in connection with the Plan, including all contributions to the Plan, all property and rights acquired or purchased with such amounts and all income attributable to such amounts, property or rights shall be held in trust for the exclusive benefit of Participants and their Beneficiaries under the Plan. No part of the assets and income

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of the Plan shall be used for, or diverted to, purposes other than for the exclusive benefit of Participants and their Beneficiaries and for defraying reasonable expenses of the Plan. In resolving any conflict between provisions of the Plan and provisions of the Trust Agreement, the provisions of the Plan shall control.

8.02 Trust Fund. All amounts of compensation deferred pursuant to the Plan, all property and rights acquired or purchased with such amounts and all income attributable to such amounts, property or rights held as part of the Plan, shall be transferred to the Trustees to be held, managed, invested and distributed as part of the Trust Fund in accordance with the provisions of the Plan and the Trust Agreement. All contributions to the Plan must be transferred by the Participating Employers to the Trust Fund. All benefits under the Plan shall be distributed solely from the Trust Fund pursuant to the Plan.

ARTICLE IX - INVESTMENT OF ACCOUNTS

9.01 Investment Options. From time to time, the Trustees shall determine the available Investment Funds for Participants (or Beneficiaries upon the death of the Participant). The Participants may direct the investment of their Accounts among the Investment Funds selected by the Trustees. Unless otherwise directed by the Participant (or Beneficiary), in accordance with procedures established by the Service Manager, a Participant's (or Beneficiary's) Rollover Account and Transfer Account shall be invested in the same manner as the Participant's (or Beneficiary's) Employer Contribution Account; if a Participant has both an Employer Matching Contribution Account and Employer Non-Matching Contribution Account with different investment directives, the investment directive of the Matching Contribution Account shall be applied. The Administrator shall follow the Participants' (or Beneficiaries') directions with respect to the investment of the Accounts, except that the Administrator shall direct the

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investment of a Participant's (or Beneficiary's) Account to a default investment pursuant to Section 9.02 when there is no valid investment direction on file.

9.02 Investment Default Option. In the event that a Participant does not have a valid investment direction on file for any portion of the amount in that Participant's Account, that portion of the Account shall be invested in any default option or options as determined by the Trustees. In such event, the Participant shall be deemed to have directed that option (or options) for investment of such portion of their Account. The Trustees intend to establish one or more default options based upon various factors, including but not limited to, market risk, stability and rate of return. If the Trustees have appropriately exercised their fiduciary duty in selecting a default option(s), they have no liability for any loss sustained by a Participant or Beneficiary whose Account in whole or in part is invested in the default option(s). If an Employer directs the transfer of all assets under a superseded plan to this Plan and any or all of the investment funds under the superseded plan are not available under this Plan, the Trustees will invest the Participant's Account in any default option or options as determined by the Trustees, until the Participant makes a valid change of investment direction for such assets.

ARTICLE X - VESTING

10.01 Vesting Standards. The vesting standards for Employer Contributions shall be determined in the Adoption Agreement with the following exceptions:

(a) The Participant shall be 100% Vested in the Participant's Rollover Account and Transfer Account at all times.

(b) Upon attainment of Normal Retirement Age, Death or Separation from Service because of Disability, the Participant shall be 100% Vested in all the Participant's Accounts.

(c) Upon a Participating Employer's voluntary or involuntary termination of the Employer's Participation in the Plan or upon the Trustees' termination of the entire Plan, or upon

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the complete discontinuance of the Employer's contributions to the Plan, the Participant shall be 100% Vested in all the Participant's Accounts.

10.02 Forfeitures. If a Participant has a Separation from Service, the Participant's non-vested Employer Contributions shall be forfeited as of the date of the Participant's Separation from Service. The Employer is responsible for reporting forfeitures to the Administrator when they occur. Amounts forfeited during a calendar year shall be used to reduce or otherwise supplement Employer Contributions no later than the last day of the second month following the end of the calendar year, or, if there are no Employer Contributions (such as in a frozen plan), shall be used for administrative expenses and, if forfeitures remain, allocated to remaining Participants' Accounts.

ARTICLE XI - BENEFITS

11.01 Benefit Payments. Benefits shall be paid from the Trust Fund in accordance with this Article. Benefits payable to a Participant or a Beneficiary (or estate, if applicable) shall be based upon the value of the Participant's Account.

(a) **Separation from Service.** Upon Separation from Service, a Participant may elect to have benefits commence on a date which is no later than the required beginning date under Code Section 401(a)(9), as specified in Article XII. All benefits shall be paid under a payment option under Section 11.02, subject to the restrictions in Article XII.

(b) **Death.** In the event of the Participant's death prior to the commencement of benefits under paragraph (a), the value of the Participant's Account shall be paid to the Beneficiary under a payment option elected by the Beneficiary under Section 11.02, subject to the restrictions in Article XII. Such benefits shall be payable commencing within sixty (60) days after receipt by the Administrator of satisfactory proof of the Participant's death. However, if the Beneficiary is the spouse of the Participant, then the spouse may elect, within sixty (60) days of

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the Participant's death, to defer distribution to a date not later than the Participant's required beginning date as specified in Section 12.06(e). In the event of the Participant's death after commencement of benefits, benefits shall be paid subject to Article XII.

(c) **Disability.** Upon Separation from Service with the Participating Employer because of Disability, a Participant may elect to have benefits commence on a date which is no later than the required beginning date under Code Section 401(a)(9), as specified in Article XII. A Participant who is on leave without pay who becomes Disabled within the first six (6) months of the leave shall be considered to have Separated from Service on account of Disability. The commencement date must meet the required distribution commencement date provisions of Code Section 401(a)(9) as specified in Article XII. All benefits shall be paid under a payment option under Section 11.02, subject to the restrictions in Article XII.

11.02 Payment Options. The election of a payment option by a Participant or a Beneficiary under Section 11.01 must be made no later than thirty (30) days before the commencement of such benefits. Subject to restrictions established by the Administrator, the Plan shall permit payment options in the form of lump sums and may permit a Participant to elect payment over the life of the Participant; over the life of the Participant and a designated Beneficiary; over a period certain not extending beyond the life expectancy of the participant; or over a period certain not extending beyond the joint life and last survivor expectancy of the Participant and a designated Beneficiary. Absent such an election, the Account will be paid in a lump sum.

11.03 Lump Sum Settlement. Notwithstanding anything in this Plan to the contrary, if a Participant's Account balance is not greater than $5,000 (or such other lesser amount as determined by the Trustees with respect to the Plan Years of Participating Employers following

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the determination) at the time of Separation from Service, the Administrator may effect a lump sum distribution of the Participant's Account, regardless of a Participant's or Beneficiary's direction. Effective for distributions made on or after March 28, 2005, if a lump sum distribution to be made under this Section is greater than $1,000 and it is an eligible rollover distribution, and if the recipient of the distribution does not elect to have the distribution paid directly to an eligible retirement plan specified by the recipient in a direct rollover or does not elect to receive the distribution directly, then the Administrator will pay the distribution in a direct rollover to an individual retirement plan designated by the Administrator.

11.04 Designated Beneficiary.

(a) A Participant shall have the right to file with the Administrator an Applicable Form designating the Beneficiary or Beneficiaries who shall receive the benefits payable under the Plan in the event of the Participant's death. No Beneficiary designation shall take effect until an Applicable Form is completed by the Participant and received and accepted by the Administrator.

(b) A Participant shall have the right to designate at least one primary and at least one contingent Beneficiary and to indicate whether the Beneficiaries in each class are to share equally or according to specified percentages. If a Beneficiary predeceases the Participant, the surviving Beneficiaries in the same class (i.e., primary or contingent) will share among each other all benefits in the same proportion as originally designated by the Participant. A contingent Beneficiary shall receive benefit payments only if there is no surviving primary Beneficiary.

(c) If the Participant dies without a valid Beneficiary designation on file for this Plan and he or she is a participant in the GMA Deferred Compensation Plan, the Participant's Beneficiary or Beneficiaries for purposes of the GMA Deferred Compensation Plan, if any, shall

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be the Participant's Beneficiary or Beneficiaries under this Plan. If the Participant dies without a valid Beneficiary designation on file for this Plan or for the GMA Deferred Compensation Plan, the benefit payment shall be made to the Participant's surviving spouse, in which case the Participant's surviving spouse shall be the designated Beneficiary under the Plan. If there is no surviving spouse, the benefits shall be paid to the Participant's estate in a lump sum. In the event of the death of a Beneficiary after the Beneficiary has become entitled to receive benefits, the remaining benefits allocable to such Beneficiary shall be paid to the estate of the Beneficiary in a lump sum.

(d) The Beneficiary designation may be changed by the Participant on the Applicable Form at any time prior to the date benefits commence. Only the last designation of a Beneficiary prior to the date benefits commence shall have effect, and any new designation of a Beneficiary invalidates, supersedes, and revokes any prior designation, provided it is made on an Applicable Form completed by the Participant and received and accepted by the Administrator. Notwithstanding any provision to the contrary, a Beneficiary designation for this Plan shall control distribution of benefits payable under this Plan over a subsequent Beneficiary designation for the GMA Deferred Compensation Plan.

ARTICLE XII - MINIMUM DISTRIBUTION RULES

12.01 Precedence. The requirements of this Article will take precedence over any inconsistent provisions of the Plan.

12.02 Requirements of Treasury Regulations. All distributions required under this Article will be determined and made in accordance with Code Section 401(a)(9) and the Treasury regulations Sections 1.401(a)(9)-2 through 1.401(a)(9)-9 thereunder, including the incidental death benefit rules under Code Section 401(a)(9)(G).

12.03 Time and Manner of Distribution.

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(a) The Participant's entire interest will be distributed, or begin to be distributed, to the Participant not later than the Participant's Required Beginning Date.

(b) If the Participant dies before distributions begin, the Participant's entire interest will be distributed, or begin to be distributed, no later than as follows:

(1) If the Participant's surviving spouse is the Participant's sole Designated Beneficiary, then distributions to the surviving spouse will begin by December 31 of the calendar year immediately following the calendar year in which the Participant died, or by December 31 of the calendar year in which the Participant would have attained age 72 (age 70½ for distributions required to be made before January 1, 2020, with respect to a Participant who would have attained age 70½ before January 1, 2020), if later. **[AMENDED SEPTEMBER 25, 2020]**

(2) If the Participant's surviving spouse is not the Participant's sole Designated Beneficiary, then distributions to the Designated Beneficiary may be made by lump sum, and distribution must be made no later than December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(3) If there is no Designated Beneficiary as of September 30 of the year following the year of the Participant's death, the Participant's entire interest will be distributed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(4) If the Participant's surviving spouse is the Participant's sole Designated Beneficiary and the surviving spouse dies after the Participant but before distributions to the surviving spouse are required to begin, this subsection (b), other than subsection (b)(1), will apply as if the surviving spouse were the Participant.

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For purposes of this subsection (b) and Section 12.05, unless subsection (b)(4) of this Section applies, distributions are considered to begin on the Participant's Required Beginning Date. If subsection (b)(4) of this Section applies, distributions are considered to begin on the date the distributions are required to begin to the surviving spouse under subsection (b)(1) of this Section. If distributions under an annuity purchased from an insurance company irrevocably commence to the Participant before the Participant's Required Beginning Date (or to the Participant's surviving spouse before the date distributions are required to begin to the surviving spouse under subsection (b)(1) of this Section), the date distributions are considered to begin is the date distributions actually commence.

(c) Unless the Participant's interest is distributed in the form of an annuity purchased from an insurance company or in a single sum on or before the Required Beginning Date, as of the first Distribution Calendar Year distributions will be made in accordance with Sections 12.04 or 12.05. If the Participant's interest is distributed in the form of an annuity purchased from an insurance company, distributions thereunder will be made in accordance with the requirements of Code Section 401(a)(9) and the Treasury regulations. Annuity payments must commence on or before the Participant's Required Beginning Date. The first payment, which must be made on or before the Participant's required beginning date, must be the payment which is required for one payment interval. The second payment need not be made until the end of the next payment interval even if that payment interval ends in the next calendar year. Payment intervals are the periods for which payments are received, e.g., bimonthly, monthly, semi-annually, or annually.

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(d) Once payments have begun over a period certain, the period certain cannot be changed except in the limited circumstances described in Section 1.401(a)(9)-6, Q&A-13, of the Treasury regulations.

(e) A participant's benefit may be distributed in a lump sum to purchase an annuity from an insurance company. All annuity payments (whether paid over an Participant's life, joint lives, or a period certain) must be either nonincreasing or increase only in accordance with Section 1.401(a)(9)-6, Q&A-14, of the Treasury regulations.

12.04 Required Minimum Distribution During Participant's Lifetime.

(a) During the Participant's lifetime, the minimum amount that will be distributed for each Distribution Calendar Year is the lesser of:

(1) The quotient obtained by dividing the Participant's Account Balance by the distribution period in the Uniform Lifetime Table set forth in Section 1.401(a)(9)-9, Q&A-2, of the Treasury regulations, using the Participant's age as of the Participant's birthday in the Distribution Calendar Year; or

(2) If the Participant's sole Designated Beneficiary for the Distribution Calendar Year is the Participant's spouse, the quotient obtained by dividing the Participant's Account Balance by the number in the Joint and Last Survivor Table set forth in Section 1.401(a)(9)-9, Q&A-3, of the Treasury regulations, using the Participant's and spouse's attained ages as of the Participant's and spouse's birthdays in the Distribution Calendar Year.

(b) Required minimum distributions will be determined under this Section beginning with the first Distribution Calendar Year and up to and including the Distribution Calendar Year that includes the Participant's date of death.

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12.05 Required Minimum Distributions After Participant's Death.

(a) Death on or After Date Distributions Begin.

(1) If the Participant dies on or after the date distributions begin and there is a Designated Beneficiary, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account Balance by the longer of the remaining Life Expectancy of the Participant or the remaining Life Expectancy of the Participant's Designated Beneficiary, determined as follows:

(i) The Participant's remaining Life Expectancy is calculated using the age of the Participant in the year of death, reduced by one for each subsequent year.

(ii) If the Participant's surviving spouse is the Participant's sole Designated Beneficiary, the remaining Life Expectancy of the surviving spouse is calculated for each Distribution Calendar Year after the year of the Participant's death using the surviving spouse's age as of the spouse's birthday in that year. For Distribution Calendar Years after the year of the surviving spouse's death, the remaining Life Expectancy of the surviving spouse is calculated using the age of the surviving spouse as of the spouse's birthday in the calendar year of the spouse's death, reduced by one for each subsequent calendar year.

(iii) If the Participant's surviving spouse is not the Participant's sole Designated Beneficiary, the Designated Beneficiary's remaining Life Expectancy is calculated using the age of the Beneficiary in the year following the year of the Participant's death, reduced by one for each subsequent year.

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(2) If the Participant dies on or after the date distributions begin and there is no Designated Beneficiary as of September 30 of the year after the year of the Participant's death, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account Balance by the Participant's remaining Life Expectancy calculated using the age of the Participant in the year of death, reduced by one for each subsequent year.

(b) Death (on or before December 31, 2021) Before Date Distributions Begin.

(1) If the Participant dies before the date distributions begin and there is a Designated Beneficiary, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account Balance by the remaining Life Expectancy of the Participant's Designated Beneficiary, determined as provided in subsection (a) of this Section.

(2) If the Participant dies before the date distributions begin and there is no Designated Beneficiary as of September 30 of the year following the year of the Participant's death, distribution of the Participant's entire interest will be completed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(3) If the Participant dies before the date distributions begin, the Participant's surviving spouse is the Participant's sole Designated Beneficiary, and the surviving spouse dies before distributions are required to begin to the surviving spouse under

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Section 12.03(b)(1), this subsection (b) will apply as if the surviving spouse were the Participant.

(c) Death After Required Minimum Distributions Begin. If distributions begin on the Participant's Required Beginning Date and the Participant dies before his or her entire interest has been distributed, the remaining portion of such interest must be distributed at least as rapidly as under the distribution method being used as of the date of the Participant's death.

(d) Required Minimum Distribution After Participant's Death Beginning after December 31, 2021. Notwithstanding the provisions above, if a Participant dies before their entire Account balance is distributed, the Participant's entire interest will be distributed no later than as follows:

(1) If the Designated Beneficiary is not the Participant's surviving spouse, a child of the employee who has not yet reached the age of majority, an individual who is disabled or chronically ill, or an individual who is not more than ten years younger than the employee, distributions after the Participant's death must be distributed no later than the tenth (10th) Distribution Calendar Year following the Participant's death.

(2) If the Designated Beneficiary is the Participant's surviving spouse, a child of the employee who has not yet reached the age of majority, an individual who is disabled or chronically ill, or an individual who is not more than ten (10) years younger than the employee, distributions after the Participant's death must be made over a period not to exceed the Designated Beneficiary's life expectancy. Alternatively, the Designated Beneficiary may elect to receive a total distribution of the Participant's Account balance by no later than the tenth (10th) Distribution Calendar Year following the Participant's death. **[AMENDED SEPTEMBER 25, 2020]**

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12.06 Definitions for this Article.

(a) "Designated Beneficiary" means the individual who is designated as the Beneficiary under Article XI and is the Designated Beneficiary under Code Section 401(a)(9) and Section 1.401(a)(9)-4 of the Treasury regulations.

(b) "Distribution Calendar Year" means a calendar year for which a minimum distribution is required. For distributions beginning before the Participant's death, the first Distribution Calendar Year is the calendar year immediately preceding the calendar year which contains the Participant's Required Beginning Date. For distributions beginning after the Participant's death, the first Distribution Calendar Year is the calendar year in which distributions are required to begin under Section 12.03(b). The required minimum distribution for the Participant's first Distribution Calendar Year will be made on or before the Participant's Required Beginning Date. The required minimum distribution for other Distribution Calendar Years, including the required minimum distribution for the Distribution Calendar Year in which the Participant's Required Beginning Date occurs, will be made on or before December 31 of that Distribution Calendar Year.

(c) "Life Expectancy" means life expectancy as computed by use of the Single Life Table in Section 1.401(a)(9)-9, Q&A-1, of the Treasury regulations.

(d) "Participant's Account Balance" means the Account balance as of the last valuation date in the calendar year immediately preceding the Distribution Calendar Year (valuation calendar year) increased by the amount of any contributions made and allocated or forfeitures allocated to the Account balance as of dates in the valuation calendar year after the valuation date and decreased by distributions made in the valuation calendar year after the

valuation date. The Account balance for the valuation calendar year includes any amounts rolled over or transferred to the Plan either in the valuation calendar year or in the Distribution Calendar Year if distributed or transferred in the valuation calendar year.

(e) "Required Beginning Date" means April 1 of the calendar year following the later of (i) the calendar year in which the Participant reaches age seventy-two (72) (age seventy and one-half (70½) for distributions required to be made before January 1, 2020, with respect to a member who would have attained age 70½ before January 1, 2020), or (ii) the calendar year in which the Participant Separates from Service. **[AMENDED SEPTEMBER 25, 2020]**

12.07 TEFRA Section 242(b)(2) Elections.

(a) Notwithstanding the other requirements of this Article distribution on behalf of any Participant who has made a designation under section 242(b)(2) of the Tax Equity and Fiscal Responsibility Act (a "section 242(b)(2) election") may be made in accordance with all of the following requirements (regardless of when such distribution commences):

(1) The distribution by the Plan is one which would not have disqualified such Plan under Code section 401(a)(9) as in effect prior to amendment by the Deficit Reduction Act of 1984.

(2) The distribution is in accordance with a method of distribution designated by the Participant whose interest in the Plan is being distributed or, if the Participant is deceased, by a Beneficiary of such Participant.

(3) Such designation was in writing, was signed by the Participant or the Beneficiary, and was made before January 1, 1984.

(4) The Participant had accrued a benefit under the Plan as of December 31, 1983.

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(5) The method of distribution designated by the Participant or the Beneficiary specifies the time at which distribution will commence, the period over which distributions will be made, and in the case of any distribution upon the Participant's death, the Beneficiaries of the Participant listed in order of priority.

(b) A distribution upon death will not be covered by this transitional rule unless the information in the designation contains the required information described above with respect to the distributions to be made upon the death of the Participant.

(c) For any distribution which commences before January 1, 1984, but continues after December 31, 1983, the Participant or the Beneficiary, to whom such distribution is being made, will be presumed to have designated the method of distribution under which the distribution is being made if the method of distribution was specified in writing and the distribution satisfies the requirements in subsections 12.08 (a)(1) and (5).

(d) If a designation is revoked, any subsequent distribution must satisfy the requirements of Code section 401(a)(9) and the regulations thereunder. If a designation is revoked subsequent to the date distributions are required to begin, the Plan must distribute, by the end of the calendar year following the calendar year in which the revocation occurs, the total amount not yet distributed which would have been required to have been distributed to satisfy Code section 401(a)(9) and the regulations thereunder, but for the section 242(b)(2) election. For calendar years beginning after December 31, 1988, such distributions must meet the minimum distribution incidental benefit requirements. Any changes in the designation will be considered to be a revocation of the designation. However, the mere substitution or addition of another Beneficiary (one not named in the designation) under the designation will not be considered to be a revocation of the designation, so long as such substitution or addition does

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not alter the period over which distributions are to be made under the designation, directly or indirectly (for example, by altering the relevant measuring life).

(e) In the case in which an amount is transferred or rolled over from one plan to another plan, the rules in Treasury Regulation section 1.401(a)(9)-8, Q&A-14 and Q&A-15, shall apply.

12.08 No Expansion of Payment Options. Nothing in this Article shall provide any individual entitled to a benefit under this Plan a benefit or payment option to which such individual would not otherwise be entitled pursuant to the provisions of the Plan.

12.09 2020 Waiver of Required Minimum Distributions

(a) Effective in 2020, notwithstanding Sections 12.04 and 12.05, a Participant or Designated Beneficiary who would have been required to receive a required minimum distribution for 2020 (or paid in 2021 for the 2020 calendar year for a Participant with a required beginning date of April 1, 2021) but for the enactment of section 401(a)(9)(I) of the Code (2020 required minimum distributions), and who would have satisfied that requirement by receiving distributions that are either (1) equal to the 2020 required minimum distributions, or (2) one or more payments (that include the 2020 required minimum distributions) in a series of substantially equal periodic payments made at least annually and expected to last the life (or life expectancy) of the Participant, the joint lives (or joint life expectancies) of the Participant and the Participant's Designated Beneficiary, or for a period of at least 10 years (Extended 2020 required minimum distributions), will receive those distributions is determined in accordance with this Section 12.09(b) below. Notwithstanding Section 12.09(b) below, a Participant or Beneficiary will be given the opportunity to elect whether or not to receive those distributions. In addition, notwithstanding Section 13.01 and solely for purposes of applying the direct

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rollover provisions of the Plan, certain additional distributions in 2020 will be treated as eligible rollover distributions.

(b) A Participant or Beneficiary who would have been required to receive a 2020 required minimum distribution will not receive this distribution unless the Participant or Beneficiary chooses to receive the distribution. **[AMENDED SEPTEMBER 25, 2020]**

ARTICLE XIII - ELIGIBLE ROLLOVER FROM THIS PLAN

13.01 Plan Distributions and Withholding Requirements.

(a) Notwithstanding any provision of the Plan to the contrary that would otherwise limit a Distributee's election under this Section, a Distributee may elect, at the time and in the manner prescribed by the Administrator, to have any portion of an Eligible Rollover Distribution paid directly to an Eligible Retirement Plan specified by the Distributee in a Direct Rollover.

(b) For purposes of the direct rollover provisions of the Plan, 2020 required minimum distributions will be treated as an Eligible Rollover Distribution in 2020. **[AMENDED SEPTEMBER 25, 2020]**

13.02 Definitions. The following definitions shall apply to this Article:

(a) An "Eligible Rollover Distribution" is any distribution under Article XI of all or any portion of the balance to the credit of the Distributee, except that an Eligible Rollover Distribution does not include: (i) any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the Distributee or the joint lives (or joint life expectancies) of the Distributee and the Distributee's designated Beneficiary, or for a specified period of ten (10) years or more; (ii) any distribution to the extent such distribution is required under Code Section 401(a)(9); or (iii) the portion of any distribution that is not includable in gross income, provided that any portion of any distribution

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that is not includable in gross income may be an Eligible Rollover Distribution for purposes of a rollover to either (1) a traditional individual retirement account or individual retirement annuity under Code Sections 408(a) or 408(b) or a Roth individual account or annuity described under Code Section 408A or (2) a qualified trust which is part of a plan which is a defined contribution plan under Code Sections 401(a) or 403(b) that will separately account for the distribution, including the taxable and non-taxable portions of the distribution, in a direct trustee-to-trustee transfer.

(b) An "Eligible Retirement Plan" is an individual retirement account described in section 408(a) of the Code, an individual retirement annuity described in section 408(b) of the Code, a Roth IRA described in section 408A of the Code, an annuity plan described in section 403(a) of the Code, a qualified plan described in section 401(a) of the Code that accepts the distributee's eligible rollover distribution, an annuity contract described in Code Section 403(b), an eligible plan under Code Section 457(b) which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state and which agrees to separately account for amounts transferred into such plan from this Plan, and, effective after December 18, 2015, to a SIMPLE IRA described in Code Section 408(p) that has been established for at least two years. The definition of Eligible Retirement Plan shall also apply in the case of a distribution to a surviving spouse, or to a spouse or former spouse who is the alternate payee under a qualified domestic relations order, as defined in Code Section 414(p). The definition of an Eligible Retirement Plan for a nonspouse designated beneficiary of a deceased participant means an individual retirement annuity account established for the purpose of receiving a distribution from this Plan and treated as an inherited individual retirement account or annuity (within the meaning of Code Section 408(d)(3)(C)).

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(c) A "Distributee" includes an employee, former employee, and, effective for Plan Years beginning on or after December 31, 2009, a nonspouse designated beneficiary (as defined in section 401(a)(9)(E) of the Code) of a deceased Participant. In addition, the employee's or former employee's surviving spouse and the employee's or former employee's spouse or former spouse who is the alternate payee under a qualified domestic relations order, as defined in section 414(p) of the Code, are Distributees with regard to the interest of the spouse or former spouse.

(d) A "Direct Rollover" is a payment by the Plan to the Eligible Retirement Plan specified by the Distributee.

(e) Not fewer than 30 nor more than 180 days before a Plan distribution, the Administrator shall provide the recipient with a written tax explanation as required by Code Section 402(f), if applicable, including an explanation of (i) the direct transfer of benefits, if applicable; (ii) the applicability of withholding taxes; (iii) the availability of direct transfers or rollovers; (iv) the availability of the special forward income averaging of Code Section 402(d); and (v) the applicability of such provisions to an alternate payee under Code Section 402(e). Notwithstanding the preceding sentence, a distribution may begin fewer than 30 days after the notice described in the preceding sentence is given, provided that:

(1) the Administrator clearly informs the Participant that the Participant has a right to a period of at least 30 days after receiving the notice to consider the decision of whether or not to elect a distribution (and, if applicable, a participant distribution option), and

(2) the Participant, after receiving a notice, affirmatively elects a distribution.

ARTICLE XIV - ELIGIBLE ROLLOVERS TO THIS PLAN

To the extent permitted by the applicable provisions of the Code and regulations issued thereunder, a Participant may contribute to the Plan in cash as a rollover contribution a qualified

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rollover amount from a qualified plan under Code Section 401(a); an annuity plan under Code Section 403(a); an individual retirement account or annuity under Code Sections 408(a) or (b); or an annuity contract under Code Section 403(b); provided that the Administrator, in its discretion, determines that the contribution satisfies all applicable requirements of the Code. A rollover contribution shall be allocated to the Rollover Account of the Participant as of the date of the contribution. The Participant's Rollover Account shall be available for distribution, under the payment options set forth in Section 11.02, at any time at the direction of the Participant, subject to any applicable penalties or other distribution requirements under the Code (including, but not limited to, Article XII).

ARTICLE XV - TRANSFERS

To the extent permitted by the applicable provisions of the Code and regulations issued thereunder, a Participant may make a plan-to-plan transfer to this Plan from another qualified plan as provided in this Article. Likewise, to the extent permitted by the applicable provisions of the Code and regulations issued thereunder, and subject to approval by the Trustees, this Plan will accept an Employer directed transfer of a Participant's assets from a qualified plan and trust. Such a Participant-directed or Employer-directed transfer is permitted only if the other plan provides for the direct transfer of the Participant's interest therein to the Plan. The Administrator may require in its sole discretion that the transfer be in cash or other property acceptable to the Administrator. The Administrator may require such documentation from the other plan as it deems necessary to effectuate the transfer and to confirm that the other plan is a qualified plan as defined in Section 401(a) of the Code. The amount so transferred shall be credited to the Participant's Transfer Account and shall be held, invested, accounted for, administered and otherwise treated in the same manner as a rollover contribution under Article XIV, subject to any applicable distribution requirements or limitations under the Code.

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To the extent permitted by the applicable provisions of the Code and regulations issued thereunder, and subject to approval by the Trustees, a Participating Employer may direct the transfer of all the assets under its Plan to a successor qualified plan and trust that agrees to accept such transfer. In the event of such a transfer, each Participant or Beneficiary shall be entitled to receive (if the plan then terminated) a benefit immediately after the transfer which is not less than the benefit the Participant or Beneficiary would have been entitled to receive immediately before the transfer (if the plan had then terminated).

ARTICLE XVI - PARTICIPATING EMPLOYER OBLIGATIONS

Each Participating Employer is required to: (i) remit correct contributions on a timely basis pursuant to Article IV, in the form and manner required by the Administrator; (ii) notify the Administrator of any change in the Adoption Agreement at least thirty (30) days prior to the proposed effective date of the change; (iii) provide and/or distribute any reports, information, or notices as required by the Administrator; and (iv) comply with all requirements of the Plan. The Plan for a Participating Employer who fails to comply with its obligations under the Plan may be terminated by the Trustees in their discretion. A Participating Employer shall not be liable for losses arising from expense charges of any kind or from depreciation or shrinkage in the value of investments made under this Plan.

[AMENDED SEPTEMBER 25, 2020]

ARTICLE XVII - PLAN LOANS

Plan loans to Participants shall not be permitted.

ARTICLE XVIII - ADMINISTRATION OF PLAN

18.01 Compliance with Code Section 401(a). At all times, the Plan shall be administered in accordance with and construed to be consistent with Section 401(a) of the Code and its accompanying regulations, as applicable to governmental plans as defined in Code

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Section 414(d). The Plan is a money purchase plan, whereby contributions are determined pursuant to Article IV of the Plan.

18.02 Trustees' Duties and Powers. The Trustees shall have the authority to control and manage the operation and administration of the Plan and shall be a named fiduciary of the Plan.

(a) The Trustees shall have such power and authority (including discretion with respect to the exercise of that power and authority) as may be necessary, advisable, desirable or convenient to enable the Trustees to carry out their duties under the Plan. The Trustees also have the powers and duties specified in the Trust Agreement. By way of illustration and not limitation, the Trustees are empowered and authorized:

(1) to establish procedures with respect to administration of the Plan, not inconsistent with the Plan and the Code, and to amend or rescind such procedures;

(2) to determine, consistent with the Plan, applicable law, rules or regulations, all questions of law or fact that may arise as to the eligibility for participation in the Plan and eligibility for distribution of benefits from the Plan, and the status of any person claiming benefits under the Plan, including without limitation, Participants, former Participants, Beneficiaries, Employees and former Employees;

(3) pursuant to Article XI of the Plan, to make payments from the Trust Fund to Participants, their Beneficiaries and other persons as the Trustees may determine;

(4) to contract with one or more Service Managers to perform education, enrollment, and administrative services under this Plan;

(5) to accept service of legal process;

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(6) subject to and consistent with the Code, to construe and interpret the Plan as to administrative issues and to correct any defect, supply any omission or reconcile any inconsistency in the Plan with respect to same.

(b) Any action by the Trustees, which is not found to be an abuse of discretion, shall be final, conclusive and binding on all individuals affected thereby. The Trustees may take any such action in such manner and to such extent as the Trustees in their sole discretion may deem expedient and the Trustees shall be the sole and final judge of such expediency.

(c) The Trustees may delegate any power or duty to the Administrator except where the Trustees are required to review a determination of the Administrator.

18.03 Advice. The Trustees may employ one (1) or more persons to render advice with regard to their responsibilities under the Plan.

18.04 Delegation by Trustees. In addition to the powers stated in Section 18.02, the Trustees may delegate to an individual, committee or organization certain of their fiduciary or other responsibilities under the Plan. Any such individual, committee or organization shall remain a fiduciary until the delegation of fiduciary duty is revoked by the Trustees, which revocation may be without cause and without advance notice. Such individual, committee or organization shall have power and authority with respect to such delegated fiduciary or other responsibilities as the Trustees have under the Plan.

18.05 Fiduciary Insurance. The Trustees may require the purchase of fiduciary liability insurance for any of such fiduciaries to cover liability or losses occurring by reason of the act or omission of a fiduciary.

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18.06 Payment of Benefits.

(a) Payments to Minors and Incompetents. Any Participant, Terminated Participant, or Beneficiary receiving or claiming benefits under the Plan shall be conclusively presumed to be mentally competent and of age until the Administrator receives a written notice, in a form and manner acceptable to it, that such person is incompetent or a minor, and that a guardian or other person legally vested with the care of his estate has been appointed. In the event a guardian of the estate of any person receiving or claiming benefits under the Plan shall be appointed by a court of competent jurisdiction, payments shall be made to such guardian and the guardian may take any and all actions with respect to the person's interest under the Plan in accordance with the terms of the appointment, provided that proper proof of appointment is furnished in a form and manner suitable to the Administrator. Any payment so made shall be a complete discharge of liability therefor under the Plan. No person may act as an attorney in fact for an Employee, Participant, Terminated Participant, or Beneficiary (or estate, if applicable) with respect to a matter involving the Plan unless a valid power of attorney document appointing such person and authorizing such action is submitted in a form and manner acceptable to the Administrator. The Administrator shall be entitled to rely upon a power of attorney document which it reasonably determines to be valid, without liability for actions taken by the Administrator at the request of the designated attorney in fact, unless and until the Administrator receives notice that the power of attorney is no longer effective.

(b) Correctness of Actions. The Trustees or Administrator, if in doubt concerning the correctness of their action in making a payment of a benefit, may suspend payment until satisfied as to the correctness of the payment or the person to receive the payment, or may file, in any state court of competent jurisdiction, a suit, in such form as it considers appropriate, for legal

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determination of the benefits to be paid and the persons to receive them. The Trustees or Administrator may also bring a suit or take such other action as it deems appropriate in the case of questions involving investment directions. The Trustees and Administrator shall comply with the final order of the court in any such suit, and Participants, Beneficiaries, and the Participating Employers shall be bound thereby insofar as such order affects the benefits payable under this Plan or the method or manner of payment.

18.07 Limitation on Recovery. Participating Employers, Participants, and Beneficiaries (or their estates, if applicable) may not seek recovery against the Trustees, GMA, or any employee or agent of GMA or the Trustees, for any loss sustained by any Participating Employer, Participant, or Beneficiary (or estate, if applicable) due to the nonperformance of their duties, negligence or any other misconduct of the above-named persons. Participants and Beneficiaries (or their estates, if applicable) may not seek recovery against Participating Employers, or any employee or agent of the Participating Employer, due to the non-performance of their duties, negligence, or any other misconduct of the above named persons.

This paragraph shall not, however, excuse fraud or a wrongful taking by any person.

ARTICLE XIX - CLAIMS PROCEDURE

19.01 Claims Procedure: Service Manager. Any Participant may present a claim in writing to the Service Manager for any issue involving the Participant's Account investments or record-keeping. In addition, the Administrator may refer such issues to the Service Manager for review and resolution. The Service Manager shall utilize the protocol agreed to with the Administrator. The Service Manager shall resolve any such claim presented to it. If a Participant is not satisfied with the resolution determined by the Service Manager, the Participant may request in writing a claim review under Section 19.04.

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19.02 Claims Procedure: Employer. Any Participant may present a claim in writing to the Participant's Employer for any issue involving eligibility or vesting. In addition, the Administrator may refer such issues to the Employer for review and resolution. The Employer shall resolve any such claim presented to it. If a Participant is not satisfied with the resolution determined by the Employer, the Participant may request in writing a claim review under Section 19.04.

19.03 Claims Procedure: Administrator. The Administrator shall have sole discretion to determine, based upon the Issue(s) raised, if a claim should be resolved by the Service Manager, Employer, or the Administrator pursuant to Sections 19.01, 19.02 or 19.03 respectively. A Participant, Beneficiary, or other person claiming benefits under this Plan ("Claimant") may present a claim in writing to the Administrator for any issue not covered by Section 19.01 or 19.02. The Administrator shall resolve any such claim presented to it in accordance with the procedures specified in Section 19.04(b) - (d). If the Claimant is not satisfied with the resolution determined by the Administrator, the Claimant may appeal the Administrator's decision under Section 19.05.

19.04 Claims Review.

(a) Within thirty (30) days after the Claimant is notified of a decision under Section 19.01 or 19.02, the Claimant may submit a written request for review of the decision by the Administrator. If such request is not filed within thirty (30) days, the decision of the Service Manager or Employer, as applicable, shall be final and binding. The thirty (30) day period may be waived by the Trustees for good cause shown.

(b) The Administrator shall within ninety (90) days provide adequate notice in writing to any Claimant as to its decision on any review. Such notice shall be written in a

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manner calculated to be understood by the Participant. If such claim is denied by the Administrator, in whole or in part, such notice shall set forth:

(1) the specific reasons for such denial,

(2) specific reference to any pertinent provisions of the Plan on which denial is based,

(3) a description of any additional material or information necessary for the Claimant to perfect the claim and an explanation of why such material or information is necessary, and

(4) an explanation of the appeals procedure for the Plan.

(c) The Administrator shall act as a fiduciary in making a full and fair review of such claim.

(d) The Claimant or a duly authorized representative may review any Plan document which is pertinent to the claim and may submit issues and comments to the Administrator in writing at any time prior to the issuance of the Administrator's decision on review.

19.05 Appeals Procedure.

(a) Within sixty (60) days after receipt by the Claimant of notification of denial under Section 19.03 or 19.04, the Claimant shall have the right to present a written appeal to the Trustees, including submission of any additional written material that is pertinent to the claim. If such appeal is not filed within the sixty (60) day period, the decision of the Administrator shall be final and binding.

(b) A decision by the Trustees shall be made no later than sixty (60) days after their receipt of the appeal. However, if the Trustees decide that a hearing at which the Claimant or a duly authorized representative may be present is necessary and such a hearing is held, such

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decision shall be rendered as soon as possible, but not later than one hundred twenty (120) days after their receipt of the appeal. Any such decision of the Trustees shall be in writing and shall provide adequate notice to the Claimant setting forth the specific reasons for any denial and written in a manner calculated to be understood by a Participant. Any such decision by the Trustees shall be final and binding.

19.06 Report to Trustees Concerning Claims and Appeals. The Administrator shall present a quarterly summary report to the Trustees concerning any claim or appeal under this Article.

ARTICLE XX - AMENDMENT OF THE PLAN

20.01 Provider and Amendments.

(a) It is the intent of the Trustees that the Master Plan, Adoption Agreement form and Addendum form (collectively referred to for purposes of Section 20.01 as "Plan") shall be and remain qualified for tax purposes under the Code. The Provider shall timely submit the Plan for approval under the Code as necessary, and all expenses incident thereto shall be borne by the GMA Investment Fund.

(b) The Administrator will maintain a record of the Participating Employers, and the Administrator will make reasonable and diligent efforts to ensure that Participating Employers have actually received and are aware of all Plan amendments and that such Participating Employers adopt new documents when necessary. The provisions of this subsection shall supersede other provisions of the Plan to the extent those other provisions are inconsistent.

(c) The Trustees or the Provider, as directed by the Trustees, hereby reserves the right to terminate the Plan without consent of the Participating Employers or of Participants (or any beneficiary thereof) and to amend the Plan without consent of the Participating Employers or of Participants (or any Beneficiaries thereof) to make desired changes in the design of the Plan. A

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true copy of the resolution of the Trustees approving such amendment shall be delivered to the Administrator and the Participating Employers. The Plan shall be amended in the manner and effective as of the date set forth in such resolution, and the Participating Employers, Employees, Participants, Beneficiaries, the Administrator, and all others having any interest under the Plan shall be bound thereby.

(d) On and after February 17, 2005, the Provider shall have the authority to advise and prepare amendments to the Plan, for approval by the Trustees, on behalf of all Participating Employers, including those Participating Employers who have adopted the Plan prior to the January 1, 2017, restatement of the Plan, for changes in the Code, the regulations thereunder, revenue rulings, other statements published by Internal Revenue Service, including model, sample, or other required good faith amendments (but only if their adoption will not cause such Plan to be individually designed), and for corrections of prior approved plans. These amendments shall be applied to all Participating Employers. Any amendment prepared by the Provider and approved by the Trustees will be provided by the Administrator to Participating Employers.

(e) Notwithstanding the foregoing paragraphs (c) and (d), effective January 1, 2018, for any Participating Employer as of either:

(1) the date the Internal Revenue Service requires the Participating Employer to file Form 5300 as an individually designed plan as a result of an amendment by the Participating Employer to incorporate a type of Plan not allowable in a pre-approved plan, or

(2) as of the date the Plan is otherwise considered an individually designed plan due to the nature and extent of the amendments,

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such Participating Employer shall execute a resolution to adopt any amendments that are approved by the Trustees after the date under subparagraph (1) or (2) above, as applicable, within the earlier of (i) ninety (90) days after such Trustees' approval, or (ii) if applicable, the remedial amendment period under Code Section 401(b) as applicable to governmental plans. If the Participating Employer is required to obtain a determination letter for any reason in order to maintain reliance on the opinion letter, the Provider's authority to amend the Plan on behalf of the Participating Employer is conditioned on the Plan receiving a favorable determination letter.

20.02 Amendment of Adoption Agreement and/or Addendum by Participating Employer. The Governing Authority shall have the right at any time to amend, in whole or in part, any or all of its elections under the Adoption Agreement and/or Addendum without the consent of the Participants or any Beneficiaries. Provided, however, that no such amendment shall:

(a) Deprive any Participant or Beneficiary of any of the benefits to which the Participant or Beneficiary is entitled under this Plan with respect to amounts credited prior to the effective date of the amendment; or

(b) Authorize or permit any part of the Trust Fund to be diverted to purposes other than for the exclusive benefit of Participants or their Beneficiaries; or

(c) Become effective until approved by the Trustees. In order to be approved by the Trustees, any amendment must comply with the Master Plan and all applicable state and federal laws, including Code Section 401(a) as applicable to governmental plans. If the Trustees do not approve an amendment, the Trustees and Administrator shall continue to administer the Plan as if such amendment had not been made.

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(d) If an amendment limits or otherwise restricts the deferral and distribution rights of the Participants, the amendment shall become effective on the first day of the month following the giving of not less than forty-five (45) days prior notice of the amendment to Participants. If the amendment was made by the Trustees, notice shall be deemed given when the amendment is posted in the office of the Administrator and is sent to each Participating Employer. If the amendment was made by the Participating Employer, notice shall be deemed given when the amendment is posted in the office of the Participating Employer and is sent to the Administrator. No amendments shall deprive any Participant of any of the benefits to which the Participant is entitled under this Plan with respect to amounts credited prior to the effective date of the amendment, and

(e) If the Plan is amended or modified, the Administrator shall nonetheless be responsible for the supervision and the payment of benefits resulting from amounts contributed prior to the amendment or modifications in accordance with this Article.

ARTICLE XXI - TERMINATION

21.01 Plan Termination or Freeze by Participating Employer. A Participating Employer may terminate or freeze its participation in the Plan, including but not limited to, its contribution requirements, if it takes the following actions:

(a) The Governing Authority of the Participating Employer must adopt a resolution terminating its participation or freezing its Employees' rights to participate in the Plan.

(b) The resolution must specify when the Plan will be closed to any additional participation by Eligible Employees, which must be a date at least sixty (60) days after the adoption of the resolution.

(c) The resolution must be submitted to the Trustees.

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The Trustees shall determine whether the resolution complies with this section, and all applicable federal and state laws, shall determine an appropriate effective date for the Plan termination or freezing of Employer participation. The Administrator shall provide appropriate forms to the Participating Employer to terminate or freeze ongoing participation. Distributions under the Plan of existing accounts to the Participants and Beneficiaries affected by the termination, or to Participants affected by the freeze are subject to Article XI. However, if the Participating Employer requests a plan-to-plan transfer of Plan assets with respect to the Participating Employer's Employees who are Participants, the Trustees may in their discretion make the transfer.

21.02 Discontinuance of Contributions. At the discretion of the Trustees, a Participating Employer who fails to make contributions for a period of one (1) year or who fails to make timely contributions over a period of two (2) years shall be considered to have frozen participation.

21.03 Effect of Termination or Freeze by Participating Employer. In the case of the complete or partial termination or freezing of the Plan as to one (1) or more Participating Employers, including a freeze arising from the discontinuance and/or delinquency of contributions, the affected portion of the Trust Fund shall continue to be held pursuant to the direction of the Trustees, for the benefit of affected Participants pursuant to Article XI. The Plan shall remain in full effect with respect to each Participating Employer that does not terminate its participation in the Plan on behalf of its Employees or whose participation is not terminated by the Trustees. In the case of a complete termination of the Plan as to one (1) or more Participating Employers, the Trustees must distribute all assets of the Trust Fund as to such Participating Employer to Participants and Beneficiaries as soon as administratively practicable after the

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termination of the Plan, pursuant to benefit options under Article XI. In the case of the establishment of a successor plan, such assets may be transferred to the trust of a successor plan.

21.04 Termination of the Entire Plan. This Plan in its entirety may be terminated at any time by official action of the Trustees, with notice to all Participating Employers and Participants. The last date for contributions and earnings to be credited to Participant Accounts must be specified in the Trustees' official action and must be no sooner than ninety (90) days after the adoption of the official action. In the event of a complete Plan termination, the Trustees must distribute all assets of the Trust Fund to the Participants and Beneficiaries as soon as administratively practicable after the termination of the Plan, pursuant to benefit options under Article XI. In the case of the establishment of a successor plan, such assets may be transferred to the trust of a successor plan.

ARTICLE XXII - NONASSIGNABILITY

22.01 Nonassignment. No Participant, Beneficiary or designee may commute, sell, assign, transfer, or otherwise convey the right to receive any payment under the Plan.

22.02 Rights. The rights of Participants and Beneficiaries under this Plan shall not be subject to the rights of their creditors, and shall be exempt from execution, attachment, prior assignment or any other judicial relief or order for the benefit of creditors or other third person, except to the extent a benefit distributable under Article XI is subject to a federal tax levy and except as provided in Article XXIII concerning Plan-Approved Domestic Relations Orders.

ARTICLE XXIII - DOMESTIC RELATIONS ORDERS

23.01 General Provisions. Domestic relations orders which satisfy the requirements of Code Section 414(p)(A)(i) and 414(p)(1)(B), this Article, and the procedures established by the Administrator or Service Manager for such orders shall be considered Plan-Approved Domestic Relations Orders ("PADROs") and shall be honored by the Plan. The Plan shall not honor any

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domestic relations orders issued by a court before January 26, 2004. The Administrator or Service Manager is authorized to establish and amend procedures for the determination of PADROs consistent with the above-referenced Code provisions and this Article.

23.02 Investment. During the period that the issue of whether an order satisfies the applicable requirements of the Code and the procedures established by the Administrator or Service Manager is under consideration, the investment direction of the Participant with respect to the Participant's Accounts shall remain in effect, subject to a determination by the Administrator or Service Manager that such investment direction would be contrary to a final court order. After a determination has been made that a domestic relations order satisfies the applicable requirements of the Code and the procedures established by the Administrator or Service Manager and a separate Plan Account has been established for the alternate payee, the alternate payee shall direct the investment of his or her Plan Account. The Administrator or Service Manager shall direct the investment of an alternate payee's Account to a default investment pursuant to Section 9.02 when there is no valid investment direction on file. The alternate payee's Account shall be assessed administrative fees in the same amount and in the same manner as a Participant's Account. The Service Manager may assess an additional administrative fee to process PADROs.

23.03 Distributions to Alternate Payees. Distributions of benefits to the alternate payee shall commence as soon as administratively practicable after (i) a determination is made that the order satisfies the applicable requirements of the Code and the procedures established by the Administrator or Service Manager, and (ii) receipt by the Administrator or Service Manager of the Applicable Forms for the election of benefits. In the event of an alternate payee's death,

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any remaining benefits shall be payable solely to the alternate payee's estate, via the duly appointed and then-currently serving executor of the alternate payee's estate.

ARTICLE XXIV - MISCELLANEOUS

24.01 Federal Taxes. The Trustees, the Employers, and the Administrator do not guarantee that any particular Federal or State income, payroll or other tax consequence will occur because of participation in this Plan.

24.02 Contract. This Plan (i.e. the Master Plan document, along with the provisions set forth in the Adoption Agreement and any Addendum of any Participating Employer), including any properly adopted or executed amendments thereof, shall constitute entirety of the Participating Employer's Plan. No oral statement regarding the Plan may be relied upon by any Participant or other person. No document outside of the Plan shall be construed as creating an agreement or contract between the Participating Employer and any Participant regarding the Plan.

24.03 Conflicts. In resolving any conflict between provisions of the Plan and in resolving any other uncertainty as to the meaning or intention of any provision of the Plan, the interpretation that (i) causes the Plan to constitute a qualified governmental plan under the provisions of Code Sections 401 and 414(d) and the Trust to be exempt from tax under Code Sections 115 and 501, (ii) causes the Plan to comply with all applicable requirements of the Code, and (iii) causes the Plan to comply with all applicable Georgia statutes and rules, shall prevail over any different interpretation.

24.04 Limitation on Rights. Neither the establishment or maintenance of the Plan, nor any amendment thereof nor any act or omission under the Plan (or resulting from the operation of the Plan) shall be construed:

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(a) as conferring upon any Participant, Beneficiary (or their estates, if applicable) or any other person a right or claim against the Trust, Trustees, Participating Employers, Administrator, GMA or GMA's employees or agents, except to the extent that such right or claim shall be specifically expressed and provided in the Plan;

(b) as creating any responsibility or liability of the Participating Employers for the validity or effect of the Plan;

(c) as a contract between the Participating Employers and any Participant or other person (or estate, if applicable);

(d) as being consideration for, or an inducement or condition of, employment of any Participant or other person, or as affecting or restricting in any manner or to any extent whatsoever the rights or obligations of the Participating Employers or any Participant or other person to continue or terminate the employment relationship at any time; or

(e) as giving any Participant the right to be retained in the service of the Participating Employers or to interfere with the right of the Participating Employers to discharge any Participant or other person at any time.

24.05 USERRA Compliance. Notwithstanding any provisions of this Plan to the contrary, contributions, benefits, and service credit with respect to qualified military service shall be provided in accordance with the Uniformed Services Employment and Reemployment Rights Act of 1994 ("USERRA") [as codified at Chapter 43, Title 38, of the United States Code]; Code Section 414(u); and Code Section 401(a)(37), as amended from time to time.

For purposes of this section, "qualified military service" means any service in the uniformed services as defined in USERRA by any individual if such individual is entitled to reemployment rights under USERRA with respect to such service.

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A Participant, whose employment is interrupted by qualified military service or who is on a leave of absence for qualified military service who timely resumes employment with the Participating Employer in accordance with USERRA, may elect to make-up deferral contributions to a Code Section 457(b) Plan in accordance with Code Section 414(u) reduced by deferral contributions under Code Section 457(b), if any, actually made for the Participant during the period of such interruption or leave. Except to the extent otherwise provided under Code Section 414(u), this right applies for five (5) years following such resumption of employment (or, if shorter, for a period equal to three (3) times the period of the interruption or leave). Such contribution by the Participant may only be made during such period and while the Participant is employed by the Participating Employer.

If such Participant elects to make such make-up contributions, then the Participating Employer shall make-up the related Employer Contributions which would have been required had such contributions actually been made during the period of qualified military service. The make-up contributions by the Participating Employer shall be made as soon as practicable after the Participant makes such make-up contributions.

If the Participant timely resumes employment in accordance with USERRA after a qualified military leave, the Participating Employer shall make any other Employer Contribution that would have been made if the Participant had remained employed during the Participant's qualified military service. Such contributions must be made no later than ninety (90) days after the date of such reemployment or when contributions are normally due for the year in which the qualified military service was performed, if later.

In determining the amount of Employer Contribution, a Participant shall be treated as receiving compensation from the Participating Employer during such period of qualified military

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service equal to (i) the compensation the Participant would have received during such period if the Participant were not in qualified military service, determined based on the rate of pay the Participant would have received from the Participating Employer but for the absence during the period of qualified military service, or (ii) if the compensation the Participant would have received during such period is not reasonably certain, the Participant's average compensation from the Participating Employer during the twelve (12) month period immediately preceding the qualified military service (or, if shorter, the period of employment immediately preceding the qualified military service).

Effective January 1, 2007, to the extent provided under Code Section 401(a)(37), in the case of a Participant whose employment is interrupted by qualified military service and who dies while performing qualified military service, the survivor of such Participant shall be entitled to any additional benefit (other than benefit accruals) provided under the Plan as if the Participant timely resumed employment in accordance with USERRA and then, on the next day, terminated employment on account of death.

Effective January 1, 2009, a Participant receiving a differential wage payment within the meaning of Code Section 414(u)(12)(D) from the Employer, shall be treated as a Participant and the differential wage payment shall be treated as Compensation for purposes of Section 1.08 of the Plan and for purposes of Article V of the Plan. This provision shall be applied to all similarly situated individuals in a reasonably equivalent manner.

24.06 Procedure when Distributee Cannot be Located. The Administrator shall make all reasonable attempts to determine the identity and address of a Participant or a Beneficiary (or an estate, if applicable) entitled to benefits under the Plan. For this purpose, a reasonable attempt means the Administrator has taken the following steps: (a) searched plan and

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related plan, sponsor, and publicly-available records or directories for alternative contact information, (b) used a commercial locator service, credit reporting agency, or proprietary internet search tool for locating individuals, as determined by the Administrator, and (c) attempted contact via United States Postal Service ("USPS") certified mail to the last known mailing address shown on the Employer's or the Administrator's records and through appropriate means for any address or contact information (including email addresses and telephone numbers). If the Administrator is unable to locate such a person entitled to benefits hereunder, the payee has not responded within six (6) months, or if there has been no claim made for such benefits, the Trust Fund shall continue to hold the benefits due such person. In the event of a Plan termination under Article 21, the benefits due to such person shall be paid in a direct rollover to an individual retirement plan designated by the Administrator.

24.07 Erroneous Payments. If the Trustees make any payment that according to the terms of the Plan and the benefits provided hereunder should not have been made, the Trustees may recover that incorrect payment, by whatever means necessary, whether or not it was made due to the error of the Trustees, from the person to whom it was made or from any other appropriate party. For example, if any such incorrect payment is made directly to a Participant, the Trustees may deduct it when making any future payments directly to that Participant.

24.08 Mistaken Contributions. If any contribution (or any portion of a contribution) is made to the Plan by a good faith mistake of fact, then within one year after the payment of the contribution, and upon receipt in good order of a proper request approved by the Administrator, the amount of the mistaken contribution (adjusted for any income or loss in value, if any, allocable thereto) shall be returned directly to the Participant or, to the extent required or permitted by the Administrator, to the Participating Employer.

Attachment: GMA 401(a) Defined Contribution Plan Master Plan Document (2495 : Georgia Municipal Association (GMA) 401(a) Defined

24.09 Release. Any payment to any Participant shall, to the extent thereof, be in full satisfaction of the claim of such Participant being paid thereby and the Administrator may condition payment thereof on the delivery by the Participant of the duly executed receipt and release in such form as may be determined by the Administrator.

24.10 Liability. The Administrator and its employees and agents shall not incur any liability in acting upon any notice, request, signed letter, telegram or other paper or document or electronic transmission believed by the Administrator to be genuine or to be executed or sent by an authorized person.

24.11 Governing Laws. The law of the State of Georgia, except to the extent pre-empted by federal law, shall apply in determining the construction and validity of this Plan.

24.12 Necessary Parties to Disputes. Necessary parties to any accounting, litigation or other proceedings relating to the Plan shall include only the Trustees and the Administrator. However, the Service Manager is a necessary party for with respect to duties that have been delegated to the Service Manager. The settlement or judgment in any such case in which the Trustees are duly served shall be binding upon the Participating Employer and all affected Employees, Participants, their Beneficiaries, estates and upon all persons claiming by, through or under them.

24.13 Severability. If any provision of the Plan shall be held by a court of competent jurisdiction to be invalid or unenforceable, the remaining provisions of the Plan shall continue to be fully effective.

24.14 Supersession. The terms of the Plan shall supersede any previous Agreement between the parties pertaining to the Plan.

Attachment: GMA 401(a) Defined Contribution Plan Master Plan Document (2495 : Georgia Municipal Association (GMA) 401(a) Defined

24.15 Counterparts. This Plan may be executed in one (1) or more counterparts, each of which shall constitute an original.

24.16 General Provision. Trustees may adopt procedures for persons to act on behalf of incompetent Participants and Beneficiaries.

IN WITNESS WHEREOF the Board of Trustees has caused to be affixed the signature of its duly authorized Representatives:

Date	Larry Hanson, Secretary-Treasurer

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Attachment: GMA 401(a) Defined Contribution Plan Master Plan Document (2495 : Georgia Municipal Association (GMA) 401(a) Defined

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

THE GEORGIA MUNICIPAL ASSOCIATION, INC.

401(a) DEFINED CONTRIBUTION PLAN

Amended and Restated
As of January 1, 2018

RESOLUTION AND

ADOPTION AGREEMENT

City of Port Wentworth

Administered by:
Georgia Municipal Association, Inc.
201 Pryor Street, SW
Atlanta, Georgia 30303
Telephone: 404-688-0472
Facsimile: 678-686-6289

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

RESOLUTION

WHEREAS, the City of Port Wentworth, Georgia, (hereinafter referred to as the "Participating Employer") has determined that in the interest of attracting and retaining qualified employees, it wishes to offer a defined contribution plan, funded by employer contributions;

WHEREAS, the Participating Employer has also determined that it wishes to encourage employees' saving for retirement by offering ☐ matching and/or ☒ non-matching contributions;

WHEREAS, the Participating Employer has reviewed the Georgia Municipal Association, Inc. ("GMA") Defined Contribution Plan, as amended and restated effective as of January 1, 2017 ("Plan");

WHEREAS, the Participating Employer wishes to ☐ participate or ☒ continue participating in the Plan to provide certain benefits to its employees, reduce overall administrative costs, and afford attractive investment opportunities;

WHEREAS, the Participating Employer is an Employer as defined in the Plan;

WHEREAS, the Participating Employer has executed an Adoption Agreement (and, if applicable, an Addendum) for the Plan; and

WHEREAS, the Mayor and Council of the City of Port Wentworth ("Governing Authority") is authorized by law to adopt this resolution approving the Adoption Agreement (and, if applicable, Addendum) on behalf of the Participating Employer;

Therefore, the Governing Authority of the Participating Employer hereby resolves:

Section 1. The Participating Employer adopts the Plan and the Trust Agreement ("Trust") for the Plan for its Employees.

Section 2. The Participating Employer acknowledges that the Board of Trustees of the GMA Defined Contribution and Deferred Compensation Plan ("Trustees") are only responsible for the Plan and have no responsibility for other employee benefit plans maintained by the Participating Employer.

Section 3.

(a) The Participating Employer hereby adopts the terms of the Adoption Agreement and any Addendum, which is attached hereto and made a part of this resolution. The Adoption Agreement (and, if applicable, the Addendum) sets forth the Employees to be covered by the Plan, the benefits to be provided by the Participating Employer under the Plan, and any conditions imposed by the Participating Employer with respect to, but not inconsistent with, the Plan. The Participating Employer reserves the right to amend its elections under the Adoption Agreement and any Addendum, so long as the amendment is not inconsistent with the Plan or the Internal Revenue Code or other applicable law and is approved by the Trustees of the Plan. The

Participating Employer acknowledges that it is solely responsible for submitting Employer Contributions in accordance with the terms of this Adoption Agreement, including submitting said Employer Contributions as scheduled based on its Payroll Period or the end of the Plan Year, as applicable.

(b) The Participating Employer acknowledges that it may not be able to rely on the opinion letter if it makes certain elections under the Adoption Agreement or the Addendum, and that the failure to properly complete the Adoption Agreement may result in a failure of the Participating Employer's Plan to be a qualified plan.

Section 4. The Participating Employer hereby authorizes Georgia Municipal Association, Inc. ("GMA"), the Provider who sponsors the Plan on behalf of the Trustees, to amend the Plan on its behalf as provided under Revenue Procedures 2017-41, 2011-49, and 2007-44. The Participating Employer understands that the implementing amendment reads as follows:

> GMA will maintain a record of the Participating Employers, and GMA will make reasonable and diligent efforts to ensure that Participating Employers have actually received and are aware of all Plan amendments and that such Participating Employers adopt new documents when necessary. The provisions of this subsection shall supersede other provisions of the Plan to the extent those other provisions are inconsistent.
>
> The Trustees or GMA, as directed by the Trustees, hereby reserves the right to terminate the Plan without consent of the Participating Employers or of Participants (or any Beneficiaries thereof) and, likewise, to amend the Plan without consent of the Participating Employers or of Participants (or any Beneficiaries thereof) to make desired changes in the design of the Plan. A true copy of the resolution of the Trustees approving such amendment shall be delivered to the Administrator and the Participating Employers. The Plan shall be amended in the manner and effective as of the date set forth in such resolution, and the Participating Employers, Employees, Participants, Beneficiaries, the Administrator, and all others having any interest under the Plan shall be bound thereby.
>
> On and after February 17, 2005, GMA shall have the authority to advise and prepare amendments to the Plan, for approval by the Trustees, on behalf of all Participating Employers, including those Participating Employers who have adopted the Plan prior to the January 1, 2018, restatement of the Plan, for changes in the Code, the regulations thereunder, revenue rulings, other statements published by Internal Revenue Service, including model, sample, or other required good faith amendments (but only if their adoption will not cause such Plan to be individually designed), and for corrections of prior approved plans. These amendments shall be applied to all Participating Employers. Any amendment prepared by the Provider and approved by the Trustees will be provided by the Administrator to Participating Employers. Notwithstanding the foregoing paragraphs, effective on or after June 27, 2016, for any Participating Employer as of either:

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

- the date the Internal Revenue Service requires the Participating Employer to file Form 5300 as an individually designed plan as a result of an amendment by the Participating Employer to incorporate a type of Plan not allowable in a pre-approved plan, as described in Revenue Procedure 2017-41; or

- as of the date of the Plan is otherwise considered an individually designed plan due to the nature and extent of the amendments,

such Participating Employer shall execute a resolution to adopt any amendments that are approved by the Trustees after the date under subparagraph (1) or (2) above, as applicable, within the earlier of (i) ninety (90) days after such Trustees' approval, or (ii) if applicable, the remedial amendment period under Code Section 401(b) as applicable to governmental plans. If the Participating Employer is required to obtain a determination letter for any reason in order to maintain reliance on the opinion letter, GMA's authority to amend the Plan on behalf of the Participating Employer is conditioned on the Plan receiving a favorable determination letter. The Participating Employer further understands that, if it does not give its authorization hereunder or, in the alternative, adopt another pre-approved plan, its Plan will become an individually designed plan and will not be able to rely on the pre-approved plan opinion letter.

Section 5.

(a) The Participating Employer shall abide by the terms of the Plan and the Trust, including amendments to the Plan made under Section 4 and to the Trust made by the Trustees of the Plan, all investment, administrative, and other service agreements of the Plan and the Trust, and all applicable provisions of the Internal Revenue Code and other applicable law.

(b) The Participating Employer accepts the administrative services to be provided by GMA and any services provided by a Service Manager as delegated by the Trustees. The Participating Employer acknowledges that fees will be imposed with respect to the services provided and that such fees may be deducted from the Participants' Accounts.

Section 6.

(a) The Participating Employer may terminate its participation in the Plan, including but not limited to, its contribution requirements, if it takes the following actions:

(i) A resolution must be adopted terminating its participation in the Plan.

(ii) The resolution must specify when the participation will end.

The Trustees shall determine whether the resolution complies with the Plan, and all applicable federal and state laws, shall determine an appropriate effective date, and shall provide appropriate forms to terminate ongoing participation. However, distributions under the Plan of existing accounts to Participants will be made in accordance with the Plan.

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

(b) The Participating Employer acknowledges that the Plan contains provisions for involuntary Plan termination.

Section 7. The Participating Employer acknowledges that all assets held in connection with the Plan, including all contributions to the Plan, all property and rights acquired or purchased with such amounts and all income attributable to such amounts, property or rights shall be held in trust for the exclusive benefit of Participants and their Beneficiaries under the Plan. No part of the assets and income of the Plan shall be used for, or diverted to, purposes other than for the exclusive benefit of Participants and their Beneficiaries and for defraying reasonable expenses of the Plan. All amounts of compensation deferred pursuant to the Plan, all property and rights acquired or purchased with such amounts and all income attributable to such amounts, property or rights held as part of the Plan, shall be transferred to the Trustees to be held, managed, invested and distributed as part of the Trust Fund in accordance with the provisions of the Plan. All contributions to the Plan must be transferred by the Participating Employer to the Trust Fund. All benefits under the Plan shall be distributed solely from the Trust Fund pursuant to the Plan.

Section 8. This resolution and the Adoption Agreement (and any Addendum) shall be submitted to the Trustees for their approval. The Trustees shall determine whether the resolution complies with the Plan, and, if it does, shall provide appropriate forms to the Participating Employer to implement participation in the Plan. The Trustees may refuse to approve an Adoption Agreement (and any Addendum) by an Employer that does not have legal authority to participate in the Plan. The Governing Authority hereby acknowledges that it is responsible to assure that this resolution and the Adoption Agreement (and any Addendum) are adopted and executed in accordance with the requirements of applicable law.

Section 9. As provided in Revenue Procedure 2017-41, the Participating Employer may relay on the Plan's Opinion Letter, provided that the Participating Employer's Plan is identical to the GMA Plan, and the Participating Employer has not amended or made any modifications to the Plan other than to choose the options permitted under the Plan and Adoption Agreement.

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

Adopted by the Governing Authority on _____, _____, in accordance with applicable law.

By:_____
Signature

_____
Name and Title

Attest:_____

Date:_____

[Governing Authority should assure that applicable law is followed in the adoption and execution of this resolution.]

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

GMA 401(a) DEFINED CONTRIBUTION PLAN ADOPTION AGREEMENT

ADMINISTRATOR

Georgia Municipal Association, Inc.
201 Pryor Street, SW
Atlanta, Georgia 30303
Telephone: 404-688-0472
Facsimile: 678-686-6289

PARTICIPATING EMPLOYER

Name: City of Port Wentworth, Georgia

GOVERNING AUTHORITY

Name: Mayor and Council of the City of Port Wentworth
Address: 7224 GA Highway 21, Port Wentworth, GA 31407
Phone: 912-964-4379
Facsimile: 912-966-7429
Title of Person Authorized to receive Official Notices from the Plan or GMA: Human Resources Director

DISCLOSURE OF OTHER 401(a) PLAN(S)

This Participating Employer ☐ does or ☒ does not have an existing defined contribution plan(s). If the Participating Employer does have one or more defined contribution plans, the Governing Authority must provide the plan name, name of the plan's provider, and such other information requested by the Administrator.

TYPE OF ADOPTION AND EFFECTIVE DATE

NOTE: This Adoption Agreement, with the accompanying Master Plan Document, is designed to comply with Internal Revenue Code Section 401(a), as applicable to a governmental qualified defined contribution plan, and is part of the GMA Defined Contribution and Deferred Compensation Program. Plan provisions designed to comply with applicable provisions of additional changes in federal law and guidance from the Internal Revenue Service under Internal Revenue Service Notice 2017-37 (the 2017 Cumulative List) are effective as of the applicable effective dates set forth in the Adoption Agreement and Master Plan Document. By adopting

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

this Adoption Agreement, with its accompanying Master Plan Document, the Participating Employer is adopting a plan document intended to comply with Internal Revenue Code Section 401(a) and the 2017 Cumulative List with the applicable effective dates.

This Adoption Agreement is for the following purpose **(check one)**:

☐ This is a new defined contribution plan adopted by the Participating Employer for its Employees effective _____ **(insert effective date of this Adoption Agreement but not earlier than the beginning of the plan year in which the plan is adopted)**, with respect to Contributions as approved by the Board of Trustees below.

☐ Check this box if any non-conforming provisions will be included in Plan provisions. An Addendum must be requested from GMA to be completed as part of the Adoption Agreement.

☒ This is an amendment and restatement of the current GMA 401(a) Defined Contribution Plan or other defined contribution plan of the Participating Employer, the effective date of which shall be **the date of approval by the Governing Authority (insert effective date of this Adoption Agreement but not earlier than the first day of the plan year in which the plan is restated or the beginning of the plan year in which the plan is adopted)**. This Adoption Agreement is intended to replace and serve as an amendment and restatement of the Employer's preexisting plan, which became effective on **July 1, 2009 (insert original effective date of preexisting plan)**.

☐ Check this box if (i) any preexisting plan provisions will be preserved from a superseded non-GMA plan or (ii) any non-conforming provisions will be included in Plan provisions. An Addendum must be completed as part of the Adoption Agreement.

☐ This is an amendment to be effective as of _____, _____, **(insert effective date of this Adoption Agreement but not earlier than then beginning of the remedial amendment period for such amendment)** of the current GMA 401(a) Defined Contribution Plan previously adopted by the Participating Employer, which was originally effective _____, _____, as follows **(must specify elective provisions in this Adoption Agreement)**:

☐ _____

_____

☐ Check this box if any non-conforming provisions will be included in Plan provisions. An Addendum must be completed as part of the Adoption Agreement.

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

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PLAN YEAR

Plan Year means the Participating Employer's Fiscal Year. For purposes of the limitations under Code Section 415(c) set forth in Article V of the Master Plan Document, the limitation year means the calendar year.

The Employer's Fiscal Year starts on: **July 1 (insert month and day e.g., July 1)**.

COVERED DEPARTMENTS

A Participating Employer may cover all of its departments in the Plan or only those listed (check one):

☐ All Departments

☒ Covered Departments **(must specify)**: **Administration: City Administrator and Assistant City Administrator only; Planning; Principal Planner only; Economic Development; Economic Development Coordinator only (but see additional eligibility requirements in next section).**

ELIGIBLE EMPLOYEES

Only Employees as defined in the Plan may be covered by the Adoption Agreement. Independent contractors may not participate in the Plan. Subject to other conditions in the Plan and this Adoption Agreement, the following Employees of the Covered Departments are eligible to participate in the Plan, provided that they satisfy any additional eligibility requirements specified under "Other Eligibility Requirements" below **(check one)**:

☐ All

☐ All with the following exclusions:
- ☐ Municipal Legal Officer
- ☐ Elected or appointed officials
- ☐ Other[1] **(must specify and clearly define the ineligible classification of employees)**:

_____

_____

☐ Only employees in any eligible 457(b) plan of the Employer. Note: Please check this box if the sole purpose of this Plan is to provide Employer contributions to match Employee contributions to any eligible 457(b) Plan of the Employer.

[1] Do not specify the inclusion or exclusion of a participant by using the name of the employee.

☐ Only employees in the Employer's GMA 457(b) plan. Note: Please check this box if the sole purpose of this Plan is to provide Employer contributions to match Employee contributions to the Employer's GMA 457(b) Plan.

☒ Other[1] **(must specify and clearly define the classification of Eligible Employees; Eligible Employees shall not include non-governmental employees, independent contractors, or any other ineligible individuals)**:
City Administrator, Assistant City Administrator, Principal Planner, and Economic Development Coordinator initially hired into such position after February 1, 2006, subject to the following conditions: (1) the above Employees must irrevocably elect to participate in either this Plan (DC Plan) or the City's defined benefit plan (DB Plan) within 120 days of their initial hire date on forms designated by the City for such purpose; (2) if such an Employee fails to submit a completed election form within 120 days of his hire date, he will be deemed to have irrevocably elected to participate in this Plan, and not the DB Plan (default election); and (3) in no event may an Employee participate in both this Plan and the DB Plan.

The City Administrator and Assistant City Administrator employed as of February 1, 2006, will not be eligible to participate or receive a benefit under this Plan unless they irrevocably waive any and all benefits they would otherwise be entitled to under the City's DB Plan in favor of participation under this Plan.

No employee may be excluded based on the attainment of a maximum age.

The Employer shall provide the Administrator with the name, address, Social Security Number, and date of birth for each Eligible Employee, as defined by the Adoption Agreement.

OTHER ELIGIBILITY REQUIREMENTS

Minimum Hours Per Week -- A Participating Employer may prescribe a minimum number of hours that an Employee must be scheduled and normally work in order to be an Eligible Employee under the Plan. The Employer hereby elects the following (elect either "No Minimum Hours Required" or "Minimum Hours Required" below. If you elect to have a minimum hour requirement you must specify the number of hours required in the space provided below). The Minimum Hour Requirement below only applies to common law Employees of the Employer and does not apply to elected or appointed officials.

☒ **No Minimum Number of Hours Required**

☐ **Minimum Hours Required Per Week (regularly scheduled)**:

☐ _____ **(must not exceed 40 hours/week)**

☐ **Other Minimum Hour Requirement (must specify):**_____.

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Exceptions: If a different minimum hour requirement applies to a particular class or classes of Eligible Employees, please specify below the classes to whom the different requirement applies and indicate the minimum hour requirement applicable to them.

Class(es) of Eligible Employees to whom exception applies **(must specify - specific positions are permissible; specific individuals may not be named):** _____.

Minimum hour requirement applicable to excepted Eligible Employees:

☐ **No Minimum Number of Hours Required**

☐ **Minimum Hours Required Per Week (regularly scheduled)**:

☐ _____ **(must not exceed 40 hours/week)**

☐ **Other Minimum Hour Requirement (must specify):**_____.

If any Eligible Employee ceases to meet the Minimum Hour Requirement (if any), he or she becomes ineligible for additional contributions until he or she once again meets the requirement. It is the Participating Employer's responsibility to monitor this requirement and to report to the Administrator a change in employee eligibility.

Waiting Period -- A Participating Employer may establish a waiting period before an Eligible Employee may become a Participant in the Plan. The Employer hereby elects the following (elect "no waiting period" or one of the waiting period options below):

☐ **No waiting period**. An Eligible Employee may become a Participant immediately upon meeting the eligibility conditions of the Plan.

☒ **A waiting period described under one of the following options (check one)**:

☒ **Minimum Period of Service (please complete items below):**

The waiting period for participation in the Plan shall be **6 months** (not to exceed 12 months) of service, calculated from the commencement of the Eligible Employee's employment with the Employer.

Eligible Employees who are employed on the date the Plan is adopted ☒ will be ☐ will not be given credit for prior service as an Employee for purposes of satisfying the waiting period.

Different periods of service ☒ will be ☐ will not be added together to determine whether the waiting period has been satisfied.

☐ **Minimum Period of Contributions to 457(b) Plan (please complete items below):**

The waiting period for participation in the Plan shall be _____ (not to exceed 12 months) of the Eligible Employee's making contributions to the Employer's eligible 457(b) plan(s).

Eligible Employees who are employed on the date the Plan is adopted ☐ will be ☐ will not be given credit for prior contributions made to the eligible 457(b) plan(s) for purposes of satisfying the waiting period.

After initially meeting the waiting period, any interruption of employee contributions to the eligible 457(b) plan(s) ☐ will ☐ will not require the employee to meet another waiting period to qualify for matching contributions.

Different periods of service in which deferrals are made as an Eligible Employee ☐ will ☐ will not be added together to determine if the waiting period has been satisfied.

Exceptions: If a different waiting period requirement applies to a particular class or classes of Eligible Employees, please specify below the classes to whom the different requirement applies and indicate the waiting period requirement applicable to them.

Class(es) of Eligible Employees to whom exception applies **(must specify - specific positions are permissible; specific individuals may not be named):** _____.

Waiting period requirement applicable to excepted Eligible Employees:

☐ **No waiting period**. An Eligible Employee may become a Participant immediately upon meeting the eligibility conditions of the Plan.

☐ **A waiting period described under one of the following options (check one)**:

☐ **Minimum Period of Service (please complete items below):**

The waiting period for participation in the Plan shall be _____ (not to exceed 12 months) of service, calculated from the commencement of the Eligible Employee's employment with the Employer.

Eligible Employees who are employed on the date the Plan is adopted ☐ will be ☐ will not be given credit for prior service as an Employee for purposes of satisfying the waiting period.

Different periods of service ☐ will be ☐ will not be added together to determine whether the waiting period has been satisfied.

☐ **Minimum Period of Contributions to 457(b) Plan (please complete items below):**

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

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The waiting period for participation in the Plan shall be _____ (not to exceed 12 months) of the Eligible Employee's making contributions to the Employer's eligible 457(b) plan(s).

Eligible Employees who are employed on the date the Plan is adopted ☐ will be ☐ will not be given credit for prior contributions made to the eligible 457(b) plan(s) for purposes of satisfying the waiting period.

After initially meeting the waiting period, any interruption of employee contributions to the eligible 457(b) plan(s) ☐ will ☐ will not require the employee to meet another waiting period to qualify for matching contributions.

Different periods of service in which deferrals are made as an Eligible Employee ☐ will ☐ will not be added together to determine if the waiting period has been satisfied.

EMPLOYER CONTRIBUTIONS

A Participating Employer may make Matching Contributions **and/or** Non-Matching Contributions as specified below. Matching Contributions and Non-Matching Contributions that are tied to Payroll Periods (as defined in this Adoption Agreement) must be remitted to the Administrator no later than 15 business days after the end of the Payroll Period. Annual Contributions must be remitted to the Administrator no later than 15 days after the end of the Plan Year. A Participating Employer may establish one or more classes of employees for contribution purposes in this Adoption Agreement. However, no employee may be excluded from contributions based on the attainment of a maximum age.

The Participating Employer hereby elects to make contributions as follows **(check matching, non-matching, or both as applicable):**

☐ **Matching Contributions**

Employer Contributions shall be made to match all or a portion of a Participant's contribution to an eligible 457(b) deferred compensation plan, including but not limited to the GMA Deferred Compensation Plan. The Employer must identify the class or classes of Participants for whom contributions will be made and the contribution formula:

Class A Matching Contributions will be made on the following basis for Class A Participants:

Class A Participants are **(check one):**

☐ All Eligible Employees
☐ Other **(must specify; specific positions are permissible; must be Eligible Employees; specific individuals may not be named)**: _____

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

The Employer elects the following matching contribution formula for Class A Participants **(check and complete "Percentage Match," "Flat Dollar Match," or "Other Formula" below):**

☐ **Percentage Match**: For each Payroll Period in which the Participant contributed to _____ **(insert plan name),** an eligible 457(b) Plan of the Employer, the Employer will contribute _____% **(insert percentage)** of the dollar amount contributed to the 457(b) Plan. (For example, if an Employer elects a 50% match, then for every $10 the Participant contributes to an eligible 457(b) Plan, the Employer will contribute $5 to this Plan).

Cap on Percentage Match - The Employer may wish to establish a cap on its matching contributions, so that the percentage (%) match amount indicated above cannot exceed a certain amount per Payroll Period. The Employer hereby elects the following cap on its percentage matching contribution **(check and fill in $ or % of compensation limit to apply below, or check "no cap" below):**

☐ **Flat Dollar Cap:** In no event will Matching Contributions made on behalf of a Participant exceed a flat dollar amount equal to **(complete as applicable)**:

$_____ per weekly Payroll Period
$_____ per bi-weekly Payroll Period
$_____ per semi-monthly Payroll Period
$_____ per monthly Payroll Period

[Note: If the Employer has more than one Payroll Period, you should indicate dollar cap that will apply with respect to each Payroll Period e.g., $100 per weekly Payroll Period, and $200 per bi-weekly Payroll Period].

☐ **Cap Equal to Percentage of Total Compensation:** In no event will Matching Contributions made on behalf of a Participant exceed _____% of the Participant's §457(e)(5) includable compensation (gross income from the Employer) per Payroll Period.

☐ **No Cap**

☐ **Flat Dollar Match:** For each Payroll Period in which the Participant contributed at least $_____ **(may be $1 to $25)** to an eligible 457(b) Plan of the Employer, the Participating Employer will contribute a flat dollar amount as shown below **(complete as applicable)**:

$_____per weekly Payroll Period
$_____per bi-weekly Payroll Period
$_____ per semi-monthly Payroll Period
$_____per monthly Payroll Period

☐ **Other Formula for Calculating Matching Contributions (must specify formula that complies with definitely determinable requirements of Treasury Regulations Section 1.401-1(b)(1)(i) and does not violate limits applicable to governmental plans under Code Sections 401(a)(17) and 415):**

_____
_____
_____
_____

[Do not complete following section on Class B Matching Contributions if all Eligible Employees are included in Class A above].

Class B Matching Contributions will be made on the following basis for Class B Participants:

Class B Participants are **(must specify; specific positions are permissible; must be Eligible Employees; specific individuals may not be named)**:
_____.

The Employer elects the following matching contribution formula for Class B Participants **(check and complete "Percentage Match," "Flat Dollar Match," or "Other Formula" below):**

☐ **Percentage Match**: For each Payroll Period in which the Participant contributed to _____ **(insert plan name),** an eligible 457(b) Plan of the Employer, the Employer will contribute _____% **(insert percentage)** of the dollar amount contributed to the 457(b) Plan. (For example, if an Employer elects a 50% match, then for every $10 the Participant contributes to an eligible 457(b) Plan, the Employer will contribute $5 to this Plan).

Cap on Percentage Match - The Employer may wish to establish a cap on its matching contributions, so that the percentage (%) match amount indicated above cannot exceed a certain amount per Payroll Period. The Employer hereby elects the following cap on its percentage matching contribution **(check and fill in $ or % of compensation limit to apply below, or check "no cap" below):**

☐ **Flat Dollar Cap:** In no event will Matching Contributions made on behalf of a Participant exceed a flat dollar amount equal to **(complete as applicable)**:

$_____ per weekly Payroll Period

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

$_____ per bi-weekly Payroll Period
$_____ per semi-monthly Payroll Period
$_____ per monthly Payroll Period

[Note: If the Employer has more than one Payroll Period, you should indicate dollar cap that will apply with respect to each Payroll Period e.g., $100 per weekly Payroll Period, and $200 per bi-weekly Payroll Period].

☐ **Cap Equal to Percentage of Total Compensation:** In no event will Matching Contributions made on behalf of a Participant exceed _____% of the Participant's §457(e)(5) includable compensation (gross income from the Employer) per Payroll Period.

☐ **No Cap**

☐ **Flat Dollar Match:** For each Payroll Period in which the Participant contributed at least $_____ **(may be $1 to $25)** to an eligible 457(b) Plan of the Employer, the Participating Employer will contribute a flat dollar amount as shown below **(complete as applicable)**:

$_____ per weekly Payroll Period
$_____ per bi-weekly Payroll Period
$_____ per semi-monthly Payroll Period
$_____ per monthly Payroll Period

☐ **Other Formula for Calculating Matching Contributions (must specify formula that complies with definitely determinable requirements of Treasury Regulations Section 1.401-1(b)(1)(i) and does not violate limits applicable to governmental plans under Code Sections 401(a)(17) and 415):**

_____
_____
_____
_____

[Skip to "Payroll Period" below if Employer is not going to make Non-Matching Contributions]

☒ **Non-Matching Contributions**

The Employer hereby elects to make contributions to the Plan without regard to a Participant's contribution to an eligible 457(b) plan(s). The Employer must identify the class or classes of Participants for whom these contributions will be made and the contribution formula:

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

Non-Matching Contributions shall be made on the following basis for Class C Participants:

Class C Participants are **(check one):**

☐ All Eligible Employees
☒ Other **(must specify; specific positions are permissible; must be Eligible Employees; specific individuals may not be named)**: **City Administrator and Assistant City Administrator employed as of February 1, 2006, provided they meet this Plan's eligibility requirements (see pp. AA-4 and 5 above).**

The Employer elects the following contribution formula for Class C Participants **(check one):**

☐ Year-End Contributions: A one-time Plan Year-end contribution of $_____ or _____% of Compensation per Participant.

☐ _____% of Compensation per Participant for each Payroll Period.

☐ A flat dollar amount per Payroll Period as shown below **(complete as applicable):**

$_____ per weekly Payroll Period
$_____ per bi-weekly Payroll Period
$_____ per semi-monthly Payroll Period
$_____ per monthly Payroll Period

☒ Other Formula for Calculating Non-Matching Contributions **(must specify formula that complies with definitely determinable requirements of Treasury Regulations Section 1.401-1(b)(1)(i) and does not violate limits applicable to governmental plans under Code Sections 401(a)(17) and 415)**:

8.2% of gross bi-weekly earnings, to begin upon satisfaction of the 6-month waiting period specified herein. A retroactive lump sum contribution in the amount of $2,309.80 was made on behalf of the Assistant City Administrator hired on December 15, 2004, (to cover the period from June 15, 2005, the date she satisfied the 6-month waiting period, through February 1, 2006). Such retroactive lump sum contribution was made with the first contribution for the bi-weekly payroll period ending February 3, 2006, or as soon as reasonably practicable thereafter.

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

[Do not complete the following section on Class D Non-Matching Contributions if all Eligible Employees are included in Class C above].

Non-Matching Contributions shall be made on the following basis for Class D Participants:

Class D Participants are **(must specify; specific positions are permissible; must be Eligible Employees; specific individuals may not be named)**:
City Administrator, Assistant City Administrator, Principal Planner, and Economic Development Coordinator initially hired into such position after February 1, 2006, provided they meet this Plan's eligibility requirements (see pp. AA-4 and 5 above).

The Employer elects the following contribution formula for Class D Participants **(check one):**

☐ Year-End Contributions: A one-time Plan Year-end contribution of $_____ or _____% of Compensation per Participant.

☐ _____% of Compensation per Participant for each Payroll Period.

☐ A flat dollar amount per Pay Period as shown below **(complete as applicable):**

$_____per weekly Payroll Period
$_____ per bi-weekly Payroll Period
$_____per semi-monthly Payroll Period
$_____ per monthly Payroll Period

☒ Other Formula for Calculating Non-Matching Contributions **(must specify formula that complies with definitely determinable requirements of Treasury Regulations Section 1.401-1(b)(1)(i) and does not violate limits applicable to governmental plans under Code Sections 401(a)(17) and 415)**:

8.2% of gross bi-weekly earnings, to begin upon satisfying the 6-month waiting period specified herein.

For purposes of computing non-matching contributions, "Compensation" is defined in the Plan, subject to the limits imposed by Georgia Code Section 47-1-13(b) and Internal Revenue Code Section 401(a)(17), as adjusted for cost-of-living increases under Internal Revenue Code Section 401(a)(17)(B).

The Participating Employer must monitor contributions to the Plan on behalf of a Participant to this Plan and any other 401(a) plan maintained by the Participating Employer to confirm compliance with Internal Revenue Code Section 415 and Article 5 of the Master Plan. To the

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

extent an amendment to this Adoption Agreement is needed to satisfy the Internal Revenue Code Section 415 limit that could not otherwise be provided for in the above Sections, please complete as applicable:

_____

_____

_____

_____

_____

COMPENSATION

Compensation Paid After Severance From Employment -- A Participating Employer may elect to include certain post-severance payments in Compensation for purposes of computing contributions under the Plan, but only if these amounts are paid no later than 2½ months after severance from employment or, if later, the end of the calendar year that includes a Participant's severance from employment, and only if it is a payment that, absent a severance from employment, would have been paid to the Participant while the Participant continued in employment with the Participating Employer. The Participating Employer makes the following election with respect to including post-severance payments in Compensation (Note: if the following is not completed, no post-severance payments will be included in Compensation by default):

☐ No post-severance payments will be included in Compensation for purposes of computing contributions under the Plan (if this box is checked, skip to "Payroll Period" below).

☒ For purposes of calculating contributions under the Plan, the following post-severance payments will be included in Compensation, as long as: 1) they are paid no later than 2½ months after severance from employment or, if later, the end of the calendar year that includes the Participant's severance from employment; and 2) absent a severance from employment, they would have been paid to the Participant while the Participant continued in employment with the Participating Employer (check all that apply):

- ☒ regular compensation paid after severance from employment for services rendered prior to severance during the Participant's regular working hours
- ☐ compensation paid after severance from employment for services rendered prior to severance outside the Participant's regular work hours (such as overtime or shift differential), commissions, bonuses, or other similar payments
- ☐ post-severance payments for unused accrued bona fide sick, vacation or other leave, but only if the Participant would have been able to use the leave if employment had continued

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

☐ Other: _____

_____

_____

VESTING FOR EMPLOYER CONTRIBUTIONS

A Participating Employer may establish a vesting schedule for Employer Contributions. This means that if the Participant leaves the Participating Employer's employment prior to completing a specified period of service (not to exceed 5 years), the Participant forfeits all or part of the Employer's Contributions. However, upon Death or Disability or the termination of the Plan, the Participant is 100% vested in the Participant's Employer Contributions, notwithstanding any vesting schedule. If a vesting schedule is established, it is the Employer's responsibility to calculate the Eligible Employee's service and report it to the Administrator. Unless otherwise specified below, for purposes of vesting, service means the number of years and complete months of service of a Participant as an Eligible Employee of the Employer and the Participant's service begins with the first day of employment as an Eligible Employee. The Employer hereby elects the following (check one):

☒ **Immediate Vesting**. No vesting schedule. Employer Contributions are 100% vested from the time credited to the Participant's Account **(if this option is elected, do not complete the rest of this section)**.

☐ **Cliff Vesting**. Employer Contributions are 100% vested after a Participant has been employed as an Eligible Employee for _____ years **(not to exceed 5 years)** (the "Vesting Period"). Matching contributions remain 0% vested until the Participant satisfies the full Vesting Period.

☐ **Graduated Vesting Schedule**. Employer Contributions are vested on the following graduated scale **(insert vesting % for each completed year of service as an Eligible Employee. Note: Maximum waiting period for 100% vesting may not exceed 5 years)**:

Completed Years of Service as Eligible Employee	Vested %
1 year	____%
2 years	____%
3 years	____%
4 years	____%
5 years	100 %

Complete the following items if Employer has elected Cliff Vesting or Graduated Vesting:

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

In determining the Participant's total years of service for vesting purposes, Eligible Employees who are employed on the date the Plan is adopted by the Employer **(check one)**: ☐ will be ☐ will not be given credit for prior service as an Eligible Employee.

In determining the Participant's total years of service for vesting purposes, different periods of employment as an Eligible Employee **(check one)**: ☐ will be added together ☐ will not be added together ☐ will be added together if the Participant is reemployed with the Employer before completing a period of separation of _____ years (not to exceed 5 years).

TREATMENT OF FORFEITURES

If a Participant separates from service, the Participant's non-vested Employer Contributions shall be forfeited as of the date of the Participant's Separation from Service. Amounts forfeited during a Plan Year shall be held unallocated until they are used to reduce or otherwise supplement Employer Contributions as of the earliest possible date such contributions are required to be made to the Plan. If there are no future Employer Contributions (as in the case of a frozen plan), forfeitures shall be used for administrative expenses; after which, any remaining forfeitures shall be allocated to Participants' Accounts.

MODIFICATION OF THE TERMS OF THE ADOPTION AGREEMENT

If a Participating Employer desires to amend any of its elections contained in this Adoption Agreement (or any Addendum), the Governing Authority by official action must adopt an amended Adoption Agreement (and any Addendum, if applicable) and forward the amended Adoption Agreement (and any Addendum) to the Trustees for approval. The amended Adoption Agreement (and Addendum) is not effective until approved by the Trustees and other procedures required by the Plan have been implemented.

The Administrator will inform the Participating Employer of any amendments made by the Trustees to the Plan. If there are no future Employer Contributions (as in the case of a frozen plan), forfeitures shall be used for administrative expenses, and, if forfeitures remain, shall be allocated to Participants' accounts.

TERMINATION OF THE ADOPTION AGREEMENT

This Adoption Agreement (and any Addendum) may be terminated only in accordance with the Plan.

The Administrator will inform the Participating Employer of the discontinuance or abandonment of the Plan by the Trustees.

EXECUTION BY EMPLOYER

This Adoption Agreement (and any Addendum) may only be used in conjunction with the Georgia Municipal Association 401(a) Defined Contribution Plan Master Plan Document

approved by the Internal Revenue Service under an opinion letter Q702380a dated June 30, 2020.

The failure to properly complete this Adoption Agreement (or any Addendum), or to operate and maintain the Plan and Trust in accordance with the terms of the completed Adoption Agreement (and any Addendum), Master Plan Document and Trust, may result in disqualification of the Plan under the Code. Inquiries regarding the adoption of the Plan, the meaning of Plan provisions, or the effect of the IRS opinion letter should be directed to the Administrator. The Administrator is the Georgia Municipal Association, Inc., with its primary business offices located at: 201 Pryor Street, SW, Atlanta, Georgia 30303. The business telephone number is: (404) 688-0472. The primary person to contact is GMA General Counsel or Deputy Executive Director, Risk Management and Employee Benefits.

The foregoing Adoption Agreement is hereby adopted and approved on the _____ day of _____, _____, by the Mayor and Council of the City of Port Wentworth.

Signed: _____

Printed Name: _____

Title: _____

Date of Signature: _____

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

Attachment: GMA 401(a) Defined Contribution Plan Resolution and Adoption Agreement (2495 : Georgia Municipal Association (GMA) 401(a)

TRUSTEES APPROVAL

The Adoption Agreement is approved by the Board of Trustees of the GMA Defined Contribution and Deferred Compensation Plan.

[Complete the following if the purpose of this Adoption Agreement is to establish a new defined contribution plan or to restate a preexisting defined contribution plan of the Participating Employer (other than a GMA 401(a) Defined Contribution Plan).]

Contributions shall first be remitted as follows:

☐ within 15 business days after the Payroll Period ending _____, _____.

☐ On the following prospective date **(specify a specific date)**: _____.

Dated: _____ By: _____

Title: _____
on behalf of the Board of Trustees

SUMMARY OF CHANGES
TO THE RESTATED
GEORGIA MUNICIPAL ASSOCIATION
401(a) DEFINED CONTRIBUTION PLAN

I. GENERAL OVERVIEW

On June 30, 2020, the IRS issued a favorable advisory letter for the Pre-Approved Georgia Municipal Association 401(a) Defined Contribution Plan ("401(a) DC Plan"). The 401(a) DC Plan, as approved, is intended to comply with Internal Revenue Code Section 401(a), additional changes in federal law and guidance from the Internal Revenue Service Notice 2017-37 (the 2017 Cumulative List). As a result of these changes, each Employer is required to adopt an updated GMA 401(a) DC Plan Adoption Agreement and Addendum, if applicable.

II. SUMMARY OF CHANGES TO THE MASTER PLAN DOCUMENT

The following summarizes the changes in the restated 401(a) DC Master Plan document:

- ❖ Incorporates previous amendments to the Master Plan document.
- ❖ Provides that upon a transfer of assets to the GMA DC Plan, the Trustees will invest the participant's account in an investment fund(s) which are must similar to the fund(s) in which the participant's account was invested under the prior plan until the participant makes a valid change of investment direction for the assets.
- ❖ Clarifies that payment options under the plan are in the form of lump sums unless otherwise permitted by the Administrator.
- ❖ Provides that if a participant dies without a valid beneficiary designation on file for the DC Plan and he or she is a participant in the GMA Deferred Compensation Plan (457(b) Plan), the participant's beneficiary for purposes of the DC Plan will be the beneficiary who was most recently designated under the 457(b) Plan. If the participant dies without a valid beneficiary designation on file for either the DC Plan or the 457(b) Plan, the benefit payment will be made to the participant's surviving spouse, and if there is no surviving spouse to the participant's estate in a lump sum.
- ❖ Adds the option for employers to freeze participation in the DC Plan. Previously, the only option was to terminate the DC Plan.

III. SUMMARY OF CHANGES TO THE ADOPTION AGREEMENT

The following summarizes the changes in the restated 401(a) DC Adoption Agreement:

- ❖ Specifies that the minimum hour requirement, if applicable, only applies to common law employees of the employer and does not apply to elected or appointed officials.

Attachment: GMA 401(a) Defined Contribution Plan Summary of Changes (2495 : Georgia Municipal Association (GMA) 401(a) Defined

- Eliminates the payroll period section to provide flexibility to employers who modify payroll periods.

- Eliminates separate vesting sections for matching and non-matching employer contributions. One vesting section now applies to all types of employer contributions.

- Removes references to the GMEBS Defined Benefit Plan.

As has been the case in the past, all amendments were approved by the Board of Trustees of the GMA DCDC Program prior to implementation.

Attachment: GMA 401(a) Defined Contribution Plan Summary of Changes (2495 : Georgia Municipal Association (GMA) 401(a) Defined

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Fire Department
Category: Agreement
Prepared By: Lance Moore
Department Head: Lance Moore

AGENDA ITEM (ID # 2487)

DOC ID: 2487

Medical Director Memorandum of Understanding

Issue/Item: Medical Director Memorandum of Understanding.

Background: The Medical Director Memorandum of Understanding is an agreement between Jeffrey Kenney, MD, FACS, and the City of Port Wentworth Fire Department. The purpose of this understanding is to put in place a Medical Director to respond to medical calls and to outline the First Responder Services Responsibilities. The former Medical Director Davis has retired, hence the onboarding of Kenney.

Funding: N/A

Recommendation: Approve

ATTACHMENTS:

- Medical Director Memorandum of Understanding (PDF)

Medical Director Memorandum of Understanding

This is a Memorandum of Understanding on the part of Jeffrey Kenney, MD, FACS. (hereinafter referred to as the "Medical Director") and the Port Wentworth Fire Department of Port Wentworth, Georgia in Chatham County (hereinafter referred to as the "Fire Responder Service"). They shall be hereinafter jointly referred to as the "parties".

NOW THERFORE, in consideration of the mutual covenants and promises contained herein, the parties understand as follows:

Medical Director Responsibilities

1. To provide medical direction for the Port Wentworth Fire Department's Fire Responder Service.
2. To enhance the provision of emergency medical care, the Fire Responder service is required by law to have a medical director. The medical director shall be a physician licensed to practice medicine in the State of Georgia.
3. The medical director shall serve as medical authority for the First Responder service, serving as a liaison between the First Responder service the medical community, medical facilities, and governmental entities.
4. It will be the responsibility of the medical director to provide/insure for medical direction and training for the First Responder service personnel in conformance with acceptable emergency medical practices and procedures as outlined by the State of Georgia and the National Department of Highway Safety. The medical director shall have the authority to suspend, revoke, or deny any firefighter from providing patient care under his medical license for cause or incident.
5. Duties of the medical director shall include, but no limited to, the approval/oversight of the following:
    (a) The policies and procedures affecting patient care;
    (b) The formulation of medical protocols and communication protocols;
    (c) The formulation and evaluation of training objectives;
    (d) Performance evaluation;
    (e) Continuous quality improvement of patient care;
    (f) All medications administered for patient care;
    (g) Development and implementation of policies and procedures for requesting air helicopter are;
    (h) All recertification modules; and,
    (i) Field Training Officer program

Attachment: Medical Director Memorandum of Understanding (2487 : Medical Director Memorandum of Understanding)

First Responder Services Responsibilities

1. The First Responder service has a Fire Chief who will report to the medical director.

2. The First Responder service personnel shall comply with appropriate policies, protocols, requirements, and standards of the medical director, as well as using the National Registry standards, the National EMS curriculum, and the standards of the American Heart Association guidelines.

3. The First Responder service shall perform monthly competency assessments to assure an optimal skill level based on each individual license level and perform yearly protocol exams. These reports shall be made available to the medical director on a monthly basis and upon demand by incident.

4. The First Responder service shall maintain a working FTO (Field Training Officer) program. The FTO shall report to the Chief and perform all, but not limited to, the following functions:
    a. Observe EMS practice to assure working adequate competency levels;
    b. Provide training for all new equipment before implementation on First Responders;
    c. Provide Pre-hire Competency testing for new candidates to assure level of adequate competency;
    d. Attempt to assess and retain any firefighters with deficiencies noted after plan of action has been addressed; and,
    e. Provide new orientation and training in the ride-a-long paid process to assure compliance to First Responder service policies and standards.

5. The First Responder service shall immediately notify the medical director of any of the following:
    a. Deviation of protocols
    b. Serious safety events or near misses
    c. Any patient complaints involving patient care issues
    d. Any on-going competency issues with current firefighters

6. The First Responders service shall, to the extent allowed by law and regulation, offer to firefighters who are at substantial risk of directly contacting body fluids, antibody and/or antigen testing and vaccination in accordance with requirements of the Occupational Health and Safety Administration and Centers for Disease Control. In the event of an exposure, to the extent allowed by law, the First Responder service will provide the affected firefighter with initial testing and counseling. The medical director shall be notified of all incidents involving exposure.

Attachment: Medical Director Memorandum of Understanding (2487 : Medical Director Memorandum of Understanding)

This Memorandum of Understanding shall be governed by, construed, and applied in accordance with the laws of the State of Georgia. This Memorandum of Understanding shall supersede any and all previously executed Memoranda of Understanding between the parties of medical direction for said specific First Responder service.

Unless sooner cancelled as provided herein, the term of this memorandum shall be for a period of one (1) year, commencing on ( ), and expiring on ( ).This memorandum may be renewed or amended at any time by mutual written consent of the parties. It may also be canceled at any time by either party upon not less than thirty (30) days written notice.

UNDERSTOOD BY:

Jeffrey Kenney, MD
Physician Name

J. Kenney 07-22-21

Signature Date

AND

Port Wentworth Fire Department of Port Wentworth, Georgia in Chatham County, Georgia.

First Responder Service

Signature Date

Typed Name and Title: _____

Notary Public Seal: _____

Date: _____

Attachment: Medical Director Memorandum of Understanding (2487 : Medical Director Memorandum of Understanding)

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Fire Department
Category: Agreement
Prepared By: Lance Moore
Department Head: Lance Moore

AGENDA ITEM (ID # 2488)

DOC ID: 2488

Palmetto Fire Apparatus Holdings, LLC Maintenance Agreement

Issue/Item: Palmetto Fire Apparatus Holdings, LLC Maintenance Agreement

Background: The Palmetto Fire Apparatus Holdings, LLC Maintenance Agreement is an annual contract entered into for the maintenance and repair of the City of Port Wentworth Fire Engineers listed within the agreement. Service and inspection will be conducted annually.

Funding: N/A

Recommendation: Approval

ATTACHMENTS:

- Palmetto Contract (PDF)

PALMETTO FIRE
SALES SERVICE
APPARATUS

July 28, 2021

PORT WENTWORTH FIRE DEPARTMENT

APPARATUS MAINTENANCE AGREEMENT

THIS AGREEMENT, made on the _____of_____, by the Port Wentworth Fire Department ("Owner") and between Palmetto Fire Apparatus Holdings, LLC, a South Carolina limited liability company ("Company") located at 442 Browns Cove Road, Ridgeland, South Carolina 29936, for the maintenance and repair of the listed vehicles which are the responsibility of the Owner. In consideration of the mutual promises contained in this agreement, the parties represent and agree as follows.

1. The Company's principal place of business is Ridgeland, South Carolina. The Company's primary Telephone number is 843-645-9970.

2. The Company shall keep the following items of equipment of the Owner in good working order and repair during the term of this agreement, as directed by the Owner:

Engine 41	Rescue 41
Engine 42	Engine 45
Brush 48	Tender 41
Engine 46	Engine (Ladder) 49

3. The Company will provide the following:

a. Service/Inspections: Performed annually

i. Engines/Tender/Rescue: $875
72 point Chassis, Pump, & Body Inspection
Engine oil and filter
Fuel filter(s)
Transfer case fluid
Chassis grease
Auto-lube on Hale pumps

ii. Aerials: $1,250
172 point Aerial Inspection
Engine oil and filter
Fuel filter(s)
Transfer case fluid
Chassis grease

iii. Brush/Squad Trucks: $550
Engine oil and filter (truck & pump)
Fuel filter(s)
Transfer case fluid
Chassis grease

Attachment: Palmetto Contract (2488 : Palmetto Fire Apparatus Maintenance Agreement Holdings, LLC)

PALMETTO FIRE
SALES SERVICE
APPARATUS

b. Service and Inspection will be conducted annually. Each additional service will be conducted every three months or 3,000 miles whichever occurs first. All services will include engine oil and filter, transfer case fluid, and chassis grease. Pricing will be based on time and materials if additional services are required beyond the annual service and inspection.

c. Fully compliant NFPA annual pump testing will be conducted utilizing an in-ground pump test facility at the Company's office. Owner will be provided a digital copy of all testing results for its records. Any deficiencies noted during pump testing will be provided to the Owner.

Pump Testing:
1000, 1250, 1500 GPM pumps $250.00
1750, 2000 GPM Pumps $350.00

c. Written itemized documentation for all parts and services will be provided to the owner.

d. An itemized list of all discrepancies found during routine Service/Inspection visit which require time and/or materials over and above the allotted Service/Inspection time will be provided to the Authorized agent of the Owner for authorization.

e. An itemized list of major repairs which might require future budget appropriations.

4. Any materials required above and beyond the Service/Inspection will be the responsibility of the Owner.

5. Annual service, inspection and pump tests will be performed at the Company's location so there will be no travel charges.

6. Any labor and service call time required over and above the Service/Inspection time as set forth in this contract will be invoiced at the rate of $110.00 per hour. Travel time to/from the Company location will be billed at a rate of $75/hour per technician.

a. The Company representative may perform additional necessary repairs not to exceed $_____for parts and/or labor during a service visit without additional authorization from the Owner.

b. The company representative shall have verbal approval from the Owner for any repairs which are estimated to be more than $_____but less than $_____ during a service visit.

c. The Company representative shall have written approval of the Owner for any repair expenses in excess of $_____.

7. This agreement shall be in effect from: September 1, 2021 to August 30, 2022.

8. The Company reserves the right to request a change of schedule at any time. Circumstances beyond its control such as inclement weather or a vehicle out of service in another customers' department might cause a request in schedule change.

9. Should the Owner have an NFPA out of service criteria vehicle, 48 hour break down service will be provided by calling numbers provided for said emergency repair. After hours repairs will be $225.00 per hour beginning from the time we leave the Company office and ending upon return to Company office.

PO Box 455, Hardeeville, SC 29927
Tel: 843-645-9970 www.PFAFire.com
Authorized service center

Attachment: Palmetto Contract (2488 : Palmetto Fire Apparatus Maintenance Agreement Holdings, LLC)

PALMETTO FIRE APPARATUS
SALES SERVICE

10. The Owner shall provide a responsible contact person or persons who will have the authority to approve repairs that might be required during a routine service visit. _____ or _____.

11. The Owner shall provide a written work request, on forms acceptable to the Company, for each item found in need of repair and which will require attention during a regularly scheduled Service/Inspection visit. Additional authorized requests will be faxed or e-mailed 48 hours prior to a scheduled Service/Inspection to reduce down time and expenses to the owner. An authorized copy will be placed in a predetermined location at the Owner's location for a Company representative to pick up during the scheduled visits.

12. Access to the Owner's location will be provided to the Company. This may be in the form of an easily accessible contact person or a key or combination to the building. The contract time will start from time the company representative leaves the Company office and will end upon arrival back at the Company office. Time spent waiting for equipment or building access will be charged to contract labor time.

13. It is understood that emergency responses utilizing the equipment listed takes precedent over any agreed schedule. The Company and Owner shall cooperate in determining a mutually agreeable schedule.

14. It is further understood that the Company must place the respective equipment "OUT OF SERVICE" while making repairs. A responsible person, designated by the Owner, shall remove the equipment from service.

15. Invoices will be rendered on a monthly basis with terms of fifteen (15) days net. A service charge of 2% per month will be added to all accounts over 15 days past due. This is an effective rate of 24% per year.

16. Invoices will show an additional charge of $15.00 for EPA disposal and a 2% surcharge, not to exceed $20.00 for materials, special lubricants, cleaners, special fluids and cleaning materials.

17. The Company representative will be responsible for proper disposal of all hazardous materials associated with the service provided under this agreement and as required by local, state and federal laws and regulations. All units to be serviced shall be clean and free of any hazardous substances or materials, including, but not limited to blood. Owner specifically assures the Company that the units to be serviced shall have been cleaned and sanitized in accordance with applicable laws and regulations before any work is performed as contemplated in this agreement.

18. This document shall be construed under and in accordance with the laws of the State of South Carolina.

19. This agreement shall be binding on and inure to the benefit of the parties and their respective heirs, executors, administrators, legal representatives, successors and assigns.

20. In case any one or more of the provisions contained in this agreement shall for any reason be held invalid, illegal, or unenforceable in any respect, the invalidity, illegality, or unenforceability shall not affect any other provision. This agreement shall be construed as if the invalid, illegal or unenforceable provision had never been contained in it.

21. This agreement constitutes the sole and only agreement of the parties and supersedes any prior understandings or written or oral agreements between the parties respecting the subject matter of this agreement.

22. This agreement shall be acted upon by the legal governing body of the Owner at a regular scheduled meeting of the body. The enactment to approve this agreement shall be recorded in the minutes of the body.

Attachment: Palmetto Contract (2488 : Palmetto Fire Apparatus Maintenance Agreement Holdings, LLC)

PALMETTO FIRE APPARATUS
SALES SERVICE

23. Either party can terminate this contract with 30 days' written notice.

24. Palmetto Fire Apparatus Holdings, LLC will not be responsible for loss or damage to owner's vehicles or articles left in owner's vehicles due to fire or theft beyond the control of Palmetto Fire Apparatus Holdings.

25. Palmetto Fire Apparatus Holdings, LLC will not be responsible for any items left on the unit that may come loose, or fall off while in route or on a test drive by any Palmetto Fire Apparatus Holdings, LLC employees.

26. It shall be the responsibility of the Owner to adhere to all recommended NFPA standards, to include but not limited to NFPA 1911, 1071, and 1500. The Owner shall be responsible to adhere to the Manufacturers recommended maintenance schedule. Failure of the Owner to adhere to the recommended standards shall release the Company from all liabilities.

IN WITNESS THEREOF, the said parties have caused these presents to be executed and have caused their title to be affixed, and attested by their authorized representatives on the ___ day of _____, 2021.

THE OWNER (S):

_____

_____

_____

THE COMPANY:

Palmetto Fire Apparatus Holdings, LLC

By: _____

Title: President

Attachment: Palmetto Contract (2488 : Palmetto Fire Apparatus Maintenance Agreement Holdings, LLC)

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Development Services
Category: Contract
Prepared By: Melanie Ellis
Department Head: Brian Harvey

AGENDA ITEM (ID # 2489)

DOC ID: 2489

Notice of Award and Approval of Contract with Sandhill ALS Construction, Inc., in the amount of $598,118.00 for the Antrim Road Roadway Improvements Project

Issue/Item: Notice of Award and Approval of Contract with Sandhill ALS Construction, Inc., in the amount of $598,118.00 for the Antrim Road Roadway Improvements Project

Background: Antrim Road has been identified, by road condition standards established by the Georgia Department of Transportation, as City streets in need of repair and resurfacing. Trent Long, PE, T. R. Long Engineering, P. C., prepared plans and bid packets for the project.

Facts and Findings: The City of Port Wentworth received three responsible bids for the Antrim Road Roadway Improvements Project. The bidders and amounts are as follows: 1) Sandhill ALS Construction Inc., bid the total amount of $598,118.00; 2) Griffin Contracting, Inc., bid the total amount of $649,700.00; 3) APAC - Atlantic, Inc., bid the total amount of $887,135.00. The apparent low bidder is Sandhill ALS Construction, Inc., with a total bid of $598,118.00, and T.R. Long Engineering, P.C., recommends awarding the contract to Sandhill ALS Construction, Inc., in the amount of $598,118.00.

Funding: Budgeted Line Item

Recommendation: APPROVAL of the award to Sandhill ALS Construction, Inc., in the amount of $598,118.00 based upon the bids and recommendation of T.R. Long Engineering, P.C., and, that City Council authorize the Mayor to execute the contract documents awarding the contract to Sandhill ALS Construction, Inc.

ATTACHMENTS:

- Antrim Road Roadway Improvements Recommendation Letter TR Long 8.18.21 (PDF)
- Antrim Road Roadway Improvements Bid Tabulation (PDF)
- Antrim Road Roadway Improvements Contract Documents (PDF)

114 North Commerce Street
Hinesville, Georgia 31313
Office: (912) 368-5664
Fax: (912) 368-7206

TR LONG ENGINEERING, P.C.

308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

August 18, 2021

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Antrim Road Roadway Improvements
TRL # 2018-191

Dear Mr. Harvey:

T. R. Long Engineering, P. C. prepared construction plans and bid documents for roadway improvements on Red Robin Court. The work to be done consists of road improvements for Antrim Road including the removal and replacement of approximately 3706 square yards of asphalt, base material, drainage repair and improvements.

Bids were opened for the above referenced project on July 29, 2021. As shown on the attached bid tabulation, three bids were received. The lowest responsible bidder is Sandhill ALS Construction, Inc., with a bid price of $598,118.00. T. R. Long Engineering, P. C. recommends that the City of Port Wentworth enter into a contract with Sandhill ALS Construction, Inc. in the amount of $598,118.00 plus a 10% contingency.

Should you have any questions, comments, or need any additional information, please contact us.

Sincerely,

Brandon Purcell, P.E.

Attachment: Antrim Road Roadway Improvements Recommendation Letter TR Long 8.18.21 (2489 : Contract Award for the Antrim Road

BID TABULATION
ANTRIM ROAD ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

		QUANTITY		SANDHILL ALS CONSTRUCTION, INC		GRIFFIN CONTRACTING, INC.		APAC - ATLANTIC, INC.	
ITEM	DESCRIPTION	NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST	PER UNIT	TOTAL COST	PER UNIT	TOTAL COST
1	Unclassified Excavation and Fill for Unsuitable Soils	3670	CY	$ 22.00	$ 80,740.00	$ 22.00	$ 80,740.00	$ 46.00	$ 168,820.00
2	24" Structural Fill Material	3644	CY	$ 22.00	$ 80,168.00	$ 25.00	$ 91,100.00	$ 27.00	$ 98,388.00
3	8" Graded Aggregate Base	3890	SY	$ 24.00	$ 93,360.00	$ 24.70	$ 96,083.00	$ 32.00	$ 124,480.00
4	10" Graded Aggregate Base	280	SY	$ 24.00	$ 6,720.00	$ 33.00	$ 9,240.00	$ 56.00	$ 15,680.00
5	Geotextile Fabric Mirafi RS580I or Approved Equivalent	3890	SY	$ 4.00	$ 15,560.00	$ 8.00	$ 31,120.00	$ 6.50	$ 25,285.00
6	2.0" Asphaltic Concrete 12.5mm Superpave	432	TONS	$ 150.00	$ 64,800.00	$ 122.50	$ 52,920.00	$ 134.00	$ 57,888.00
7	3.0" Asphaltic Concrete 19.0mm Superpave	64	TONS	$ 150.00	$ 9,600.00	$ 118.00	$ 7,552.00	$ 170.00	$ 10,880.00
8	5.0" Asphaltic Concrete 25.0mm Superpave	80	TONS	$ 150.00	$ 12,000.00	$ 115.00	$ 9,200.00	$ 150.00	$ 12,000.00
9	Remove and Replace Curb & Gutter	1608	LF	$ 40.00	$ 64,320.00	$ 36.00	$ 57,888.00	$ 33.00	$ 53,064.00
10	Class B Concrete	50	SY	$ 200.00	$ 10,000.00	$ 175.00	$ 8,750.00	$ 163.00	$ 8,150.00
11	Regrade Ditch	125	LF	$ 30.00	$ 3,750.00	$ 16.00	$ 2,000.00	$ 30.00	$ 3,750.00
12	Storm Structure Core	5	EA	$ 1,000.00	$ 5,000.00	$ 825.00	$ 4,125.00	$ 2,100.00	$ 10,500.00
13	Sewer Manhole Repair & Raise to Grade	3	EA	$ 1,000.00	$ 3,000.00	$ 1,860.00	$ 5,580.00	$ 2,500.00	$ 7,500.00
14	Structure Relocation	1	SUM	$ 10,000.00	$ 10,000.00	$ 8,168.00	$ 8,168.00	$ 4,000.00	$ 4,000.00
15	3' Flume Replacement	8	LF	$ 200.00	$ 1,600.00	$ 220.00	$ 1,760.00	$ 165.00	$ 1,320.00
16	18" RCP Pipe	72	LF	$ 50.00	$ 3,600.00	$ 55.00	$ 3,960.00	$ 70.00	$ 5,040.00
17	18" Flared End Section	2	EA	$ 1,300.00	$ 2,600.00	$ 920.00	$ 1,840.00	$ 1,100.00	$ 2,200.00
18	6" Sock Drain w/#57 Stone & Fabric	3300	LF	$ 17.00	$ 56,100.00	$ 25.50	$ 84,150.00	$ 31.00	$ 102,300.00
19	24" Stop Bar White	6	EA	$ 200.00	$ 1,200.00	$ 220.00	$ 1,320.00	$ 210.00	$ 1,260.00
20	5" Double Yellow Striping	1700	LF	$ 1.50	$ 2,550.00	$ 1.50	$ 2,550.00	$ 1.25	$ 2,125.00
21	Inlet Sediment Trap (Sd2-F)	3	EA	$ 100.00	$ 300.00	$ 250.00	$ 750.00	$ 175.00	$ 525.00
22	Inlet Sediment Trap (Sd2-P)	9	EA	$ 100.00	$ 900.00	$ 250.00	$ 2,250.00	$ 150.00	$ 1,350.00
23	Silt Fence (Sd1-NS)	500	LF	$ 4.00	$ 2,000.00	$ 5.00	$ 2,500.00	$ 2.75	$ 1,375.00
24	Haybale Checkdams (Cd-Hb)	4	EA	$ 200.00	$ 800.00	$ 300.00	$ 1,200.00	$ 250.00	$ 1,000.00
25	Temporary Grassing (Ds2)	0.2	AC	$ 2,000.00	$ 400.00	$ 2,000.00	$ 400.00	$ 1,100.00	$ 220.00
26	Permanent Grassing (Ds3)	0.2	AC	$ 2,000.00	$ 400.00	$ 3,000.00	$ 600.00	$ 7,900.00	$ 1,580.00
27	Mulching (Ds1)	0.2	AC	$ 3,000.00	$ 600.00	$ 3,000.00	$ 600.00	$ 500.00	$ 100.00
28	2' Sod Strip Behind Replaced Curb (Ds4)	1525	LF	$ 2.00	$ 3,050.00	$ 3.00	$ 4,575.00	$ 2.20	$ 3,355.00
29	Traffic Control	1	SUM	$ 48,000.00	$ 48,000.00	$ 58,000.00	$ 58,000.00	$ 137,000.00	$ 137,000.00
30	Mobilization 3% Max	1	SUM	$ 15,000.00	$ 15,000.00	$ 18,779.00	$ 18,779.00	$ 26,000.00	$ 26,000.00
			*GRAND TOTAL		**$ 598,118.00**		**$ 649,700.00**		**$ 887,135.00**
	Optional Item								
31	Geotextile Fabric Tensar TX160 or Approved Equivalent	3890	SY	$ 5.50	$ 21,395.00	$ 6.70	$ 26,063.00	$ 6.00	$ 23,340.00

*The Grand Total for Sandhill ALS, Construction shown on the bid tabulation is less than the grand total they submitted due to a mathmatical error. The corrected grand total amount is $598,118.00. The difference is $28,800.

Bid Opening Date: July 29, 2021; 2:00 P.M.

I certify that this is a correct representation of the bids received.

Brandon Purcell, P.E. 8/12/21
Date

Prepared by: Michelle C. Adams

T. R. Long Engineering, P.C.
114 North Commerce Street
Hinesville, Georgia 31313
912-368-5664

Attachment: Antrim Road Roadway Improvements Bid Tabulation (2489 : Contract Award for the Antrim Road Roadway Improvements Project)

114 North Commerce Street
Hinesville, Georgia 31313
Office: (912) 368-5664
Fax: (912) 368-7206

TR LONG ENGINEERING, P.C.

308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

CONTRACT DOCUMENTS

AUGUST 2021

PREPARED FOR

THE CITY OF PORT WENTWORTH

2018-191

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

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Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

ADVERTISEMENT FOR BIDS FOR

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

Sealed bids will be received by The City of Port Wentworth at 305 South Coastal Highway Port Wentworth, Georgia 31407 until 2:00 local time on June 29, 2021, at which time and place they will be publicly opened and read. No submitted bid may be withdrawn after the scheduled closing time for receipt of bids for a period of sixty (60) days.

The work to be done consists of road improvements for Antrim Road including the removal and replacement of approximately 3706 square yards of asphalt, base material, drainage repair and improvements.

Bids for the complete work in one or more general contracts shall be made on the bid form provided and shall contain prices in words and figures for the work bid. All bids shall he accompanied by a Bid Bond drawn in favor of The City of Port Wentworth, in the amount of at least five percent (5%) of the lump sum bid for the complete work; such Bid Bond representing that the Bidder, if awarded the contract will promptly enter into a contract and furnish Performance Bond and Payment Bond as provided by law and approved by the Attorney for The City of Port Wentworth. Each bond shall be equal to one hundred percent (100%) of the contract amount. The Bid Bond shall be forfeited to The City of Port Wentworth as liquidated damages if the Bidder fails to execute the contract and provide Performance and Payment Bonds within ten (10) days after being notified that he has been awarded the contract.

Drawings and Specifications are open to public inspection at the office of The City of Port Wentworth and at the offices of T. R. Long Engineering, P.C.

Copies of the plans and specifications must be obtained from T. R. Long Engineering, 114 North Commerce Street, Hinesville, Georgia, 31313, upon receipt of $150.00. Such fees represent reproduction cost and are non-refundable. Bidders must purchase a Bid Packet to be a registered bidder. Only bids from registered bidders will be opened.

The Owner reserves the right to reject any or all bids and to waive informalities.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

INSTRUCTIONS TO BIDDERS

1. INTENTION: It is intended that the Project Documents shall cover the complete work to which they relate.

2. DEFINITION: Where the following words, or the pronouns used instead occur herein, they shall have the following meaning:

   “Owner” shall mean **The City of Port Wentworth** party of the first part to the "Contract Agreement" or its authorized and legal representative.

   "Engineer" shall mean **T. R. Long Engineering, P.C** of 114 North Commerce Street, Hinesville, GA, 31313 acting for the Owner or other representative of such party.

   "Contractor" shall mean the party of the second part to the following agreement, or the legal authorized representatives of such party.

   WORK TO BE DONE: The work to be done consists of furnishing all materials, labor and equipment for construction of **ROADWAY IMPROVEMENTS FOR ANTRIM ROAD for the CITY OF PORT WENTWORTH** complete with appurtenances, all as set forth in the Bid, as specified herein, and as shown on the Drawings.

3. MATERIALS AND WORK BY THE OWNER: The Owner will neither furnish materials nor perform labor for construction of work under this contract, unless otherwise stipulated elsewhere in the Project Documents.

4. SITE EXAMINATION: The Bidder is expected and requested to examine the location of the work, and to inform himself fully as to the structural and mechanical conditions; the conformation of the ground; the character, quality, and quantity of the materials to be encountered; the character of equipment and facilities needed to execute the work; the general and local conditions; and all other matters which can in any way affect the work to be done under the contract.

   A sub-surface investigation has not been made on any portion of the work. Rock quantities shown in the Bid are estimated based on results of similar work in the area. The prospective bidder must form his own opinion of the character of the sub-surface materials to be encountered in excavating for and the construction of the various facilities.

5. BIDS: All Bids must be made upon the Bid forms provided and shall be for materials and work called for in the specifications and shown for each item in the Bid. The total amount bid for the work in the Bid shall be given in words and figures in the spaces provided. Bid forms shall not be detached from these Specifications. All blank spaces in the bid form shall be filled in with black ink in words and figures. The Certification must be completed and executed when submitted.

   A. Unit Price Items: The itemized quantities given in the Bid for unit price work shall be considered by the Contractor as the quantities required to complete the work. Should the actual quantities required in the construction of the work be greater or less than the quantities shown in the items, an amount equal to the difference in quantities at the unit prices bid for the item will be added to or deducted from the contract price.

   B. Lump Sum Price: Where itemized prices are not given in the Bid, the Contractor shall consider the lump sum prices bid for the work shown on the Drawings and/or specified to be sufficient for completion of his Contract.

   C. Total Amount Bid: The correct total amount bid is defined as the correct sum total of the amount bid for the items in the Bid. The correct amount bid for each unit price item is defined as the product of the quantity listed in the Bid for the item, multiplied by the unit price bid.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

D. The bids must be enclosed in a sealed envelope addressed to The City of Port Wentworth **and marked "Roadway Improvements for Antrim Road for "The City of Port Wentworth".** Bids may be submitted intact in this book or may be submitted detached from the book. The sealed bid must contain items listed below if any item is missing the bid may be considered irregular and bid may not be considered.

1. Completed Proposal Form and Schedule of Items.
2. Completed and executed surety documents.
3. Executed Surety Requirement Form.
4. Completed Statement of Bidder's Qualifications with References.
5. Completed Corporate Certificate Form
6. Completed Illegal Immigration Reform Affidavit for contractor.

6. RECEIPT AND OPENING OF BIDS: Bids must be filed with the Owner at or before the hour specified in the advertisement, and Bids filed after the specified time will not be considered. Bids sent by mail must be mailed with sufficient time allowed for the bid to reach the Owner prior to the opening of bids.

   The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof.

   Conditional bids shall not be considered.

   Bidders are requested to be present at the opening of Bids, which will be in public.

7. BID SECURITY: Each Bid must be accompanied by a certified check or by a Bid Bond in an amount equal to not less than five percent (5%) of the amount of the Bid, to guarantee that the Successful Bidder will, within ten (10) days from the date of the notice of award of contract, enter into an Agreement with the Owner, and execute to the Owner a Performance Bond and Payment Bond, each equal to 100% of the contract amount, the agreement and bonds to be in the form set forth in this Book. If for any reason whatsoever the Bidder withdraws from the competition after the Bid opening time, or refuses to execute the required agreement and bonds, if his Bid is accepted, the Owner may retain the amount of the certified check, or proceed on the Bid Bond. The surety on the Performance Bond and the Payment Bond shall be a surety company authorized to do business in the State of Georgia and shall be countersigned by an agent residing in the State of Georgia. The bonds and surety thereon shall be subject to approval by the Attorney for the Owner.

8. RIGHT TO REJECT BIDS: The Owner reserves the right to reject all bids, and to waive informalities. No bids will be received after the Bid opening time. Unauthorized conditions, limitation, and provisions attached to the Bid, except as provided herein, will render it informal and cause its rejection. Unbalanced bids will be subject to rejection. Any Bidder may withdraw his bid, either personally or by telegraphic or written request, at any time prior to the Bid opening time.

9. TELEGRAPHIC MODIFICATION: Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modification.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Although the bidder is not required to attach such Certifications by proposed subcontractors to his bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

15. DRAWINGS: The character, location, and essential details of the work are shown upon a set of Drawings, entitled:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

The Drawings and Specifications shall form a part of the contract for the work. The Drawings shall be supplemented by working drawings as necessary. All authorized alterations affecting the requirement and information given on the Drawings shall be in writing.

16. EXTRA WORK ITEMS IN BID: The Bid contains certain unit price items entitled "Optional Item". In each of those items, the estimated quantity is based upon the average amount of extra work encountered in a typical job. The stated quantities are not guaranteed to be required or not to be required, but are included in the Bid in order to determine, in advance of construction, the actual low bidder. No work described by those items will be approved for payment without advance authorization by the Engineer.

17. NOTICE OF SPECIAL CONDITIONS: Attention is particularly called to those parts of the Contract Documents and Specifications which deal with the following:

    A. Inspection and testing of material
    B. Insurance requirements

18. POWER OF ATTORNEY: Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.

19. AUTHORITY TO SIGN: If a Bid is made by an individual, his name and Post Office address must be shown. If made by a firm, or partnership, the name and Post Office address of each member of the firm or partnership must be shown. If made by a Corporation, the person, or persons, signing the Bid must show the name of the State under the laws of which the Corporation is chartered and his or their, authority for signing same, and the names, titles and addresses of the President Secretary and Treasurer, and the Corporate Authority for doing business in this state.

20. WORKING DRAWINGS: Working drawings for any structure shall consist of such detailed plans as may be required for the prosecution of the work but not included in the plans. All necessary working drawings shall be furnished by the Contractor. They shall include shop details, erection plans, masonry layout diagrams, and bending diagrams for reinforcing steel, approval of which by the Engineer must be obtained before any work involving these plans may be performed. Plans for false-work, centering and form work may also be required and such cases shall be likewise subject to approval by the Engineer.
    It is expressly understood, however, that approval by the Engineer of the Contractor's working drawings does not relieve the Contractor of any responsibility for accuracy of dimensions and details. The Contractor shall be responsible for agreement and conformity of his working drawings with the Drawings and Specifications.

    The contract price shall include the cost of furnishing all working drawings and the Contractor will be allowed no extra compensation for such drawings.

21. COOPERATION OF CONTRACTOR: The Contractor will be supplied with five (5) copies of the Drawings and Specifications. The Contractor shall have available on the work, at all times, one (1) copy of each of said Drawings and Specifications. He shall give the work the constant attention

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

necessary to facilitate the progress thereof and shall cooperate with the Engineer and with other contractors in every way possible. The Contractor shall at all times have a Superintendent, satisfactory to the Engineer, capable of acting as his agent on the work, who shall receive instructions from the Engineer or his authorized representatives. The superintendent shall have full authority to execute the orders or directions of the Engineer without delay and to promptly supply such materials, tools, plant equipment and labor as may be required.

22. CONSTRUCTION STAKES: Subsidiary lines and grades shall be laid out by the Contractor from the controlling lines and bench marks furnished by the Engineer or from measurements shown on the Drawings. All lines and grades shall be subject to checking by the Engineer, but this checking shall in no way relieve the Contractor from responsibility for their correctness.

    The Contractor shall provide such stakes, materials, and such labor and assistance as the Engineer may require in laying out work, establishing bench marks and checking and measuring the work.

23. AUTHORITY AND DUTIES OF INSPECTOR: Inspectors shall be authorized to inspect all work done and materials famished, including preparation, fabrication and manufacture of the materials to be used. The Inspector shall not be authorized to alter or waive any requirements of the Specifications. He shall call the attention of the Contractor to any failure of the work or materials to conform to the Specifications and Contract. He may reject materials or suspend the work until any questions at issue can be referred to and decided by the Engineer.

    The presence of the Inspector shall in no way lessen the responsibility of the Contractor. The Contractor in no way relieves himself of responsibility for adequacy of the work by following the directives of the Inspector.

24. INSPECTION: The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work performed and materials used are in accordance with the requirements and intent of the Specifications and Contract. No work shall be done or materials used without suitable supervision or inspection by the Engineer or his representative. Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered, or obligate the Owner to final acceptance.

    All materials furnished and work done when not in accordance with the Specifications and Contract will be rejected and shall immediately be removed and other work done and materials furnished in accordance therewith. If the Contractor fails to remove the work and materials as above ordered, within forty-eight (48) hours, then the Engineer shall have the right and authority to stop the Contractor and his work at once and to supply men and material at the cost and expense of the Contractor to remove said work and materials.

25. DEFECTIVE WORK AND MATERIALS: The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his Contract and defective work shall be made good, notwithstanding that such work and materials have been previously inspected by the Engineer and accepted or estimated for payment. The failure of the Engineer to condemn improper materials or workmanship shall not be considered as a waiver of any defect which may be discovered later, or as preventing the Owner at any time subsequently from recovering damages for work actually defective. All work shall be guaranteed against defects in workmanship or materials for a period of one year after final acceptance.

26. CORRECTIONS: Should any portions of the Drawings and Specifications be obscure or in dispute, they shall be referred to the Engineer and he shall decide as to the true meaning and intent. He shall also have the right to correct any errors or omissions at any time when such corrections are necessary for the proper fulfillment of said Drawings and Specification.

27. DISAGREEMENT: Should any disagreement or difference arise as to the estimated quantities or classifications or as to the meaning of the Drawings or Specifications, on any point concerning the

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

character, acceptability and nature of the several kinds of work, any materials and construction thereof, the decisions of the Engineer shall be final and conclusive and binding upon all parties to the Contract.

28. WEATHER: During unseasonable weather, all work must stop when the Engineer so directs and all work must be suitably protected.

29. RIGHT OF WAY: The necessary land for the construction of the work will be furnished by the Owner. The Contractor is directed to the Owner for right-of-way actually acquired. The Owner will provide no right-of-way over other property. The contractor shall take every possible precaution to inconvenience as little as possible the owners and tenants of adjacent property. Public highways shall not be obstructed in such a way as to cut off traffic. The Contractor shall, at his own expense, repair any damage or injury to either public or private property during the progress of the work. Wholesale cutting of trees on the right-of-way will not be permitted except as necessary for construction.

30. CONSTRUCTION SCHEDULE: A construction schedule showing the work in the order proposed by the Contractor and the time required to complete each phase will be required and shall be submitted to the Engineer for approval. Approval of the construction schedule is required prior to receipt of the notice to proceed. This schedule shall include the dates for beginning and completion of all phases of the work. If, in the opinion of the Engineer, the Contractor falls behind in his schedule or will not be able to complete the project in the time limits, he may require the Contractor to revise his schedule and put additional equipment on the job as so ordered.

31. ORDER OF WORK: The order or sequence of the work shall be as provided herein or as approved by the Engineer, which approval shall in no way affect the responsibility of the Contractor.

32. COMPETENT LABOR: The Contractor shall employ only competent and skilled personnel on the work. The Contractor shall at all times have a Superintendent satisfactory to the Engineer, capable of acting as the Contractor's agent on the work and who shall receive instructions from the Engineer or his authorized representative. The Superintendent shall have full authority to execute the orders and directions of the Engineer without delay, and to promptly supply the materials, tools, plant equipment, and labor as may be required. The Contractor shall upon demand by the Engineer, immediately remove that Superintendent, Foreman, and Workman whom the Engineer may consider to be incompetent or undesirable, or both.

33. LAWS AND REGULATIONS: The Contractor shall keep himself fully informed of all laws, ordinances, and regulations of State and County in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in this Contract, or in the Drawings or Specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same in writing to the Owner. He shall at all times himself observe and comply with all such existing and future laws, ordinances and regulations, and shall protect and indemnify the Owner and its agents against any claims or liability arising from or based on the violation of any such law, ordinance, regulation, order of decree, whether by himself or by his employees.

34. PROTECTIVE WORKS: The Contractor shall furnish and install all necessary temporary works for the protection of the work, including barricades, warning signs, and lights at night.

35. SAFETY AND OSHA REGULATIONS: The performance of work under this Contract shall comply with safety regulations prescribed by the Owner, those of the National Occupational Safety and Health Act of 1970. (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-054), and the requirements of the State where project is located. Each bidder shall satisfy himself as to the character and extent of such regulations.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

36. SANITARY REGULATIONS: Necessary sanitary conveniences for the use of the laborers on the work shall be erected and maintained by the Contractor in such a manner and at such points as shall be approved by the Engineer. Their use shall be strictly enforced.

37. STORAGE FACILITIES: Should the Contractor so desire, he may build storage facilities or other structures for housing men, tools, machinery and supplies, but they will be permitted only at approved places, and their surroundings shall be maintained at all times in a sanitary and satisfactory manner. On or before the completion of the work, all such structures shall be removed, together with all rubbish and trash, at the expense of the Contractor.

38. WATER SUPPLY: The water for the Contractor's use shall be supplied by the Contractor. The Contractor shall make his own arrangements for obtaining a water supply for his construction operations.

39. ELECTRIC POWER: The Contractor shall make his own arrangements for electrical power supply for his construction operations.

40. SOIL EROSION: The Contractor shall be required to take the necessary steps to minimize siltation and soil erosion during construction.

41. ACCESS ROADS: Streets, roads and drives used by the Contractor for access to and from the site of his work shall be protected from damage in connection with construction work. Any such damage done shall be repaired immediately and left in good condition at the end of the construction period.

42. PROGRESS PAYMENT: On or before the 15th day of each calendar month the Owner shall make progress payments to the Contractor on the basis of a duly certified and approved estimate of work performed during the preceding calendar month by the Contractor, including materials delivered to the site and undelivered specifically manufactured equipment, less retainage as per Paragraph 19 of the General Conditions which is to be retained by the Owner until all work has been performed strictly in accordance with the Contract Documents and until such work has been accepted by the Owner. Progress payment requests from the Contractor shall be submitted to the Engineer for approval on or before the 1st day of each calendar month.

43. ALLOWABLE TIME FOR COMPLETION: The time allowed for completion on all work to be done under this contract shall begin after notification by the Engineer to proceed with the work. Such notification will be issued upon completion of the contract arrangements, and in accordance with approved construction schedule, arranged to be within the contract time for completion. The time allowed for completion of the work is for 120 calendar days.

44. LIQUIDATED DAMAGES: The Contractor shall pay to the Owner as liquidated damages the sum of **FOUR HUNDRED ($400.00)** dollars for each calendar day that he shall be in default of completing the work in his Contract within the time limit named therein.

45. SALES TAX AND/OR USE TAX: Bidders shall include in amounts bid in the Bid an allowance for payment of state Sales Tax and/or Use Tax on 0 taxable materials specified to be furnished by the Contractor and incorporated into the work under this Contract.

46. CONTRACTOR'S LOCAL OFFICE: The Contractor shall maintain a local office with a telephone in the general area of the work, and will be required to have a responsible representative on call at all times.

47. MUTUAL RESPONSIBILITY OF CONTRACTORS: If, through acts of neglect of the part of the Contractor, any other Contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement of arbitration if such other Contractor or subcontractor shall assert any claims against the Owner, on account of

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall indemnify and save harmless the Owner against such claim.

48. EMERGENCY WORK: The Contractor shall at all times (nights, weekends or holidays) have a responsible man available to act in case of emergency repairs who the Owner may contact. Upon notification of emergency work necessary, the Contractor's representative shall immediately take steps to make such repairs.

49. INSURANCE REQUIREMENTS: The Contractor's attention is directed to requirements for insurance coverage as set forth in the General Conditions.

50. FLOOD HAZARD INSURANCE: The Contractor will be required to acquire and maintain during the life of the contract any flood insurance made available under the National Flood Insurance Act of 1968, as amended. The insurance shall be in an amount at least equal to the contract amount costs, excluding cost of uninsurable improvements, or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less.

51. BUILDING PERMITS AND BUSINESS LICENSE: The Contractor shall be required to obtain applicable Building Permits and Business Licenses as required by Chatham County, Georgia.

52. PAVEMENT MARKINGS: All pavement markings will be completed in accordance with the "Standard Specifications for Construction of Roads and Bridges; as published by The Georgia Department of Transportation. All paint will be in accordance with section 652-High Build Standard and wet weather paint traffic stripe.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CHATHAM COUNTY, GEORGIA

BID FORM

TO: CITY OF PORT WENTWORTH
305 SOUTH COASTAL HIGHWAY
PORT WENTWORTH, GEORGIA 31407

Gentlemen:

In compliance with your Notice To Contractors, the undersigned, hereinafter termed the Bidder, proposes to enter into a Contract with **The City of Port Wentworth** to provide the necessary machinery, tools, apparatus, and other means of construction, and all materials and labor specified in the Contract, necessary to complete the work in the manner therein specified within the time specified, as therein set forth, for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

The Bidder has carefully examined and fully understands the Contract, Plans and Specifications, and other Contractual Documents hereto attached, and has made a personal examination of the Site of the proposed Work, and has satisfied himself as to the actual conditions and requirements of the Work, and hereby proposes and agrees that if his bid is accepted, he will contract with the City of Port Wentworth in full conformance with the Contract Documents.

It is the intent of this Bid to include all items of construction and all Work indicated on the Drawings and called for in the Specifications.

In accordance with the foregoing, the undersigned proposes to furnish and construct the items listed in the attached Schedule of Items for the unit prices stated.

The Bidder agrees that the cost of any work performed, materials furnished, services provided or expenses incurred, which are not specifically delineated in the Contract Documents but which are incidental to the scope, intent, and completion of the Contract, shall be deemed to have been included in the prices bid for the various items scheduled.

The bidder further proposes and agrees hereby to promptly commence the Work with adequate force and equipment within ten (10) calendar days from receipt of Notice to Proceed, and to complete the Work within 120 calendar days.

The Bidder declares that he understands that the quantities shown for unit price items, are approximate only, are valid only upon written authorization of the County Engineer, and are subject to either increase or decrease and that should the quantities of any items of work be increased, the Bidder proposes to do the additional at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities, and that actual quantities will be determined upon completion of the work, at which time adjustment will be made to the Contract amount by direct increase or decrease.
Attached hereto is an executed Bid Bond or certified check on the (Bank) _____ of (City, State) _____ for _____ Dollars. ($_____) (Five Percent of Amount of Bid).

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

If this Bid shall be accepted by the City of Port Wentworth and the undersigned shall fail to execute a satisfactory contract in the form of said proposed Contract, and give satisfactory Performance and Payment Bonds, or furnish satisfactory proof of carriage of the insurance required, within fifteen days from the date of Notice of Award of the Contract, then the City of Port Wentworth may at its option, determine that the undersigned abandoned the Contract and thereupon this Bid shall be null and void, and the sum stipulated in that attached Bid Bond or certificate check shall be forfeited to the City of Port Wentworth as liquidated damages.

Bidder acknowledges receipt of the following addenda:

Addendum No.	Date Received
One	July 22, 2021 (Delivered at Presidon
Two	July 23, 2021

Bidder further declares that the full name and resident address of all persons and parties interested in the foregoing bid as principals are as follows:

By (Signature)

Printed Name Larry B Scott

Title President

Signed, sealed, and dated this 28 day of July, 2021

Bidder: Sand Hill Ats Const Inc (Seal)
(Company Name)

Bidder Mailing Address:

607 Kelled Rd
Portwentworth GA 31407

Phone # 912 728 2411 – 843 247 7699

By: Larry B Scott

Title: President

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

SCHEDULE OF ITEMS
ROADWAY IMPROVEMENTS FOR ANTRIM STREET
FOR
THE CITY OF PORT WENTWORTH

July 19, 2021

Item	Description	Quantity	Units	Unit Price	Item Price
1	Demolition, Excavation and Disposal of Unsuitable Material	3670	CY	22	80740
2	24" Structural Fill Material	3644	CY	22	80168
3	8" Graded Aggregate Base	3890	SY	24	93360
4	10" Graded Aggregate Base	280	SY	24	6720
5	Geotextile Fabric Mirafi RS580I or Approved Equivalent	3890	SY	4	15560
6	2.0" Asphaltic Concrete 12.5mm Superpave	432	TONS	150	64800
7	3.0" Asphaltic Concrete 19.0mm Superpave	64	TONS	150	9600
8	5.0" Asphaltic Concrete 25.0mm Superpave	80	TONS	150	12000
9	Remove and Replace Curb & Gutter	1608	LF	40	64320
10	Class B Concrete	50	SY	200	10 000
11	Regrade Ditch	125	LF	30	3750
12	Storm Structure Core	5	EA	1000	5000
13	Sewer Manhole Repair & Raise to Grade	3	EA	1000	3000
14	Structure Relocation	1	SUM	10 000	10 000
15	3' Flume Replacement	8	LF	200	1600
16	18" RCP Pipe	72	LF	50	3600
17	18" Flared End Section	2	EA	1300	2600
18	6" Sock Drain w/#57 Stone & Fabric	3300	LF	17	56100

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Item	Description	Quantity	Units	Unit Price	Item Price
19	24" Stop Bar White	6	EA	200	1200
20	5" Double Yellow Striping	1700	LF	1.50	2550
21	Inlet Sediment Trap (Sd2-F)	3	EA	100	300
22	Inlet Sediment Trap (Sd2-P)	9	EA	100	900
23	Silt Fence (Sd1-NS)	500	LF	4	2000
24	Haybale Checkdams (Cd-Hb)	4	EA	200	800
25	Temporary Grassing (Ds2)	0.2	AC	2000	400
26	Permanent Grassing (Ds3)	0.2	AC	2000	400
27	Mulching (Ds1)	0.2	AC	3000	600
28	2' Sod Strip Behind Replaced Curb (Ds4)	1525	LF	2	3050
29	Traffic Control	1	SUM	48 000	48000
30	Mobilization 3% Max	1	SUM	15,000	15,000
			GRAND TOTAL		626,918,00
GRAND TOTAL IN WORDS					
	Optional Item				
31	Geotextile Fabric Tensar TX160 or Approved Equivalent	3890	SY	5,50	21395

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

STATEMENT OF BIDDER'S QUALIFICATIONS

To accompany bid submitted for construction of CITY OF PORT WENTWORTH, **ROADWAY IMPROVEMENTS FOR ANTRIM ROAD for the CITY OF PORT WENTWORTH.**

Full legal name of Bidder: Sandhill ALS Construction Inc.

Business Address: 607 Keller Rd, Pt. Wentworth, GA 31407

Business Phone Number: 843-247-7699

Bidder is a (check one) Corporation X Partnership ___ Individual Proprietorship ___

Other ___ (Specify) _____

Year Organized: 1996 Year Incorporated: 1996

If Bidder is a partnership, list all names of all partners: (N/A)

How many years have you been in the contracting business under the present firm name?

35 yrs

Credit available for this contract: $ 350 000

Contracts now in hand, Gross Amount: $ 600 000

Have you ever refused to sign a contract at your original bid? NO

Have you ever defaulted on a contract? NO

Remarks: _____

(The above statements must be subscribed and sworn to before a Notary Public)

Sworn to and subscribed before me,

This 26 day of July, 2021

Elnora Jones

(Notary Public)

ELNORA JONES NOTARY PUBLIC STATE OF SOUTH CAROLINA EXP. 10.07.2021

Date: 7/26/2021

Firm Name: Sandhill ALS Construction, Inc

By: Larry B. Scott

Title: President

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

STATE OF GEORGIA
BRAD RAFFENSPERGER, Secretary of State
Georgia Construction Industry Licensing Board
LICENSE NO. UC300856
Sand Hill Als Construction, Inc.

277 Nelson Ct
Hardeeville SC 29927

Utility Contractor

EXP DATE - 04/30/2023 Status: Active
Issue Date: 10/05/1999

STATE OF GEORGIA
BRAD RAFFENSPERGER, Secretary of State
Georgia Construction Industry Licensing Board
LICENSE NO. UM001173
Larry Bernard Scott

277 Nelson Court
Hardeeville SC 29927

Utility Manager

EXP DATE - 04/30/2023 Status: Active
Issue Date: 08/31/1999

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Sandhill A.L.S. Construction, Inc.
277 Nelsons Ct.
Hardeeville SC 29927
Office / Fax (843) 784-6516
607 Keller Rd.
Port Wentworth, GA 31407
Cell (912) 412-3900 / Fax (912) 728-2411

JOB REFERENCE

Gateway / Henderson Storm Drainage Improvements
Owner: Chatham County, 124 Bull St., P.O. Box 8161, Savannah GA 31412
Contact: Bill Nicholson.....(912) 652-7807
Awarded $1,030,625.00.....Start Date May 11, 2018
Final Cost $914,725.00.....Completion Date Sept 19, 2019
Number of change order 1, (summary of decrease in price), project completed on time yes.

Boyd Street Area Drainage Improvement
Owner: City of Hardeeville,
Contact: Rhett Lott .....Office (843)784-2231
Awarded: $623,875.00.....Start Date June 4, 2018
Final Cost $ 624,875.00..... End Date March 26, 2019
Number of change order2, project completed on time yes.

Perry Cove Road Storm Drainage Improvements
Owner: Chatham County, 124 Bull St, P O Box 8161 Savannah GA 31412
Contact: Bill Nicholson.....(912) 652-7807
Awarded $447,410.....Start Date Dec 11, 2017
Final Cost $403,525.....Completion Date Sept 24, 2018
Number of change orders 1, project completed on time yes

Hutchinson Island Bulkhead Rehabilitation
Owner: Chatham County, 124 Bull St, PO Box 8161 Savannah GA 31412
Contact: Mark Slaughter.....(912) 652-7839
Awarded $813,185.....Start Date May 28, 2017
Final Cost $741,818.....Completion Date April 10, 2018
Number of change orders 0 , project completed on time yes

Misc. Storm Drainage Improvement
Owner: Chatham County, 124 Bull St., P.O. Box 8161 Savannah GA 31412
Contact: Bill Nicholson..... (912) 652-7807
Awarded $561,345.....Start Date April 14, 2017
Final Cost $629,150.....Completion Date February 28, 2018
Number of change orders 1, project completed on time yes.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CITY OF PORT WENTWORTH, GEORGIA

CORPORATE CERTIFICATE

I, Lottie J. Scott, certify that I am the Secretary of the Corporation named as Contractor in the foregoing bid; that Larry B. Scott, who signed said bid in behalf of the Contractor, was then (Title) President of said Corporation; that said bid was duly signed for and in behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers, that said Corporations organized under the laws of the State of Georgia.

This 26 day of July, 2021

(SEAL)

Signature

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CITY OF PORT WENTWORTH, GEORGIA

SURETY REQUIREMENTS

A Bid Bond for five percent (5%) of the amount of the bid is required to be submitted with each bid.

A Performance Bond for one hundred percent (100%) of the bid will be required of the successful bidder.

The Bidder certifies that he/she has examined all documents contained in this bid package, and is familiar with all aspects of the Bid and understands fully all that is required of the successful bidder. The Bidder further certifies that his/her bid shall not be withdrawn for ninety (90) days from the date on which the bid is publicly opened and read.

The Bidder agrees, if awarded this bid, he/she will:

A. Furnish, upon receipt of an authorized City of Port Wentworth Purchase Order or Notice of Award, all items indicated thereon as specified in this bid proposal for the bid amount, or;

B. Enter a contract with City of Port Wentworth to do and/or furnish everything necessary to provide the service and/or accomplish the work as stated and/or specified in this bid proposal for the bid amount, and;

C. Furnish, if required, a Performance Bond, and acknowledges the right of the City of Port Wentworth to require a Performance Bond of a specific kind and origin, and;

D. Forfeit the amount of the Bid Bond as liquidated damages if he/she fails to enter a contract with the City of Port Wentworth as stated in (B) above, within ten (10) days of the date on which he/she is awarded the bid, and/or;

E. Forfeit the amount of the Performance Bond as liquidated damages if he/she fails to execute and fulfill the terms of the contract entered. The amount of forfeiture shall be:

1. The difference between his/her bid and the next lowest, responsible bid that has not expired or been withdrawn, or;

2. The difference between his/her bid and the amount of the lowest, responsible bid received as a result of re-bidding, including all costs related to re-bidding.

COMPANY Sandhill Asphalt Co. Inc. DATE 7/26/21

SIGNATURE [signature] TITLE President

TELEPHONE NUMBER 843-247-7699

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CITY OF PORT WENTWORTH, GEORGIA

BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____ (hereinafter called the Principal) and _____ (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of Georgia with its principal offices in the City of _____and authorized to do business in the State of Georgia, are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA in the full and just sum of_____ Dollars ($_____) good and lawful money of the United States of America, to be paid upon demand of CITY OF PORT WENTWORTH, GEORGIA, to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, and assigns jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, CHATHAM COUNTY, GEORGIA, a Bid for furnishing materials, labor and equipment for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall within ten (10) days after receipt of notification of the acceptance, execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by CITY OF PORT WENTWORTH, GEORGIA, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to CITY OF PORT WENTWORTH, GEORGIA, each in an amount of 100% of the total contract price, in form and with security satisfactory to said CITY OF PORT WENTWORTH, GEORGIA, and otherwise, to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to CITY OF PORT WENTWORTH, GEORGIA, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20__.

_____ (SEAL)
Surety

_____ (SEAL)
Principal

BY: _____

BY: _____

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:
(Name, legal status and address)

Sandhill A.L.S. Construction, Inc
277 Nelson Court
Hardeeville, SC 29927

SURETY:
(Name, legal status and principal place of business)

United States Fire Insurance Company
305 Madison Avenue
Morristown, NJ 07960

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)

City of Port Wentworth
305 South Coastal Highway
Port Wentworth, GA 31407

BOND AMOUNT: $ 5% Five Percent of Amount Bid

PROJECT:
(Name, location or address, and Project number, if any)

Roadway Improvements for Antrim Road, Port Wentworth, GA

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 29th day of July, 2021

(Witness)

Sandhill A.L.S. Construction, Inc
(Principal) *(Seal)*

By: _____
(Title)

(Witness) Audria R. Ward

United States Fire Insurance Company
(Surety) *(Seal)*

By: _____
(Title) Marilyn A. Blome Attorney-in-Fact

S-0054/AS 8/10

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

POWER OF ATTORNEY
UNITED STATES FIRE INSURANCE COMPANY
PRINCIPAL OFFICE - MORRISTOWN, NEW JERSEY

02448427921

KNOW ALL MEN BY THESE PRESENTS: That United States Fire Insurance Company, a corporation duly organized and existing under the laws of the state of Delaware, has made, constituted and appointed, and does hereby make, constitute and appoint:

Marilyn A. Blome

each, its true and lawful Attorney(s)-In-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver: Any and all bonds and undertakings of surety and other documents that the ordinary course of surety business may require, and to bind United States Fire Insurance Company thereby as fully and to the same extent as if such bonds or undertakings had been duly executed and acknowledged by the regularly elected officers of United States Fire Insurance Company at its principal office, in amounts or penalties not exceeding: **Seven Million, Five Hundred Thousand Dollars ($7,500,000).**

This Power of Attorney limits the act of those named therein to the bonds and undertakings specifically named therein, and they have no authority to bind United States Fire Insurance Company except in the manner and to the extent therein stated.

This Power of Attorney revokes all previous Powers of Attorney issued on behalf of the Attorneys-In-Fact named above and expires on January 31, 2022.

This Power of Attorney is granted pursuant to Article IV of the By-Laws of United States Fire Insurance Company as now in full force and effect, and consistent with Article III thereof, which Articles provide, in pertinent part:

> Article IV, Execution of Instruments - Except as the Board of Directors may authorize by resolution, the Chairman of the Board, President, any Vice-President, any Assistant Vice President, the Secretary, or any Assistant Secretary shall have power on behalf of the Corporation:
>
> (a) to execute, affix the corporate seal manually or by facsimile to, acknowledge, verify and deliver any contracts, obligations, instruments and documents whatsoever in connection with its business including, without limiting the foregoing, any bonds, guarantees, undertakings, recognizances, powers of attorney or revocations of any powers of attorney, stipulations, policies of insurance, deeds, leases, mortgages, releases, satisfactions and agency agreements;
>
> (b) to appoint, in writing, one or more persons for any or all of the purposes mentioned in the preceding paragraph (a), including affixing the seal of the Corporation.
>
> Article III, Officers, Section 3.11, Facsimile Signatures. The signature of any officer authorized by the Corporation to sign any bonds, guarantees, undertakings, recognizances, stipulations, powers of attorney or revocations of any powers of attorney and policies of insurance issued by the Corporation may be printed, facsimile, lithographed or otherwise produced. In addition, if and as authorized by the Board of Directors, dividend warrants or checks, or other numerous instruments similar to one another in form, may be signed by the facsimile signature or signatures, lithographed or otherwise produced, of such officer or officers of the Corporation as from time to time may be authorized to sign such instruments on behalf of the Corporation. The Corporation may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Corporation, notwithstanding the fact that he may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, United States Fire Insurance Company has caused these presents to be signed and attested by its appropriate officer and its corporate seal hereunto affixed this 22nd day of August 2019.

UNITED STATES FIRE INSURANCE COMPANY

Anthony R. Slimowicz, President

State of Pennsylvania }
County of Philadelphia }

On this 22nd day of August 2019, before me, a Notary public of the State of Pennsylvania, came the above named officer of United States Fire Insurance Company, to me personally known to be the individual and officer described herein, and acknowledged that he executed the foregoing instrument and affixed the seal of United States Fire Insurance Company thereto by the authority of his office.

Commonwealth of Pennsylvania – Notary Seal
Tamara Watkins, Notary Public
Philadelphia County
My commission expires August 22, 2023
***Commission number* 1348843**

Tamara Watkins (Notary Public)

I, the undersigned officer of United States Fire Insurance Company, a Delaware corporation, do hereby certify that the original Power of Attorney of which the foregoing is a full, true and correct copy is still in force and effect and has not been revoked.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of United States Fire Insurance Company on the 29 day of July, 2021

UNITED STATES FIRE INSURANCE COMPANY

Al Wright, Senior Vice President

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

OCCUPATIONAL TAX CERTIFICATE - Vendors/Contractors whose Business is located within the unincorporated area of CHATHAM COUNTY, GEORGIA, or within any of the incorporated areas of the CITY OF PORT WENTWORTH, GEORGIA are to submit a copy of the appropriate Business License.

CURRENT OCCUPATIONAL TAX CERTIFICATE NUMBER 099631

CITY NUMBER _____

COUNTY NUMBER _____

OTHER _____

SIGNATURE _____ DATE 7/26/21

PRINTED NAME Larry B. Scott

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

SIC: GENERAL CONTRACTOR

EFFINGHAM CO. BOARD OF COMMISSIONERS

DEVELOPMENT SERVICES / 601 N Laurel St, Springfield, GA 31329-6816

Vendor: 03963.1

OCCUPATIONAL LICENSE

Fiscal Year 2021 Expires: December 31, 2021

Owner: LARRY SCOTT
(912)412-3900

Business Address: 607 KELLER RD
PORT WENTWORTH GA 31407-8536

Issued: 12/18/2020
Tax: $100.00

Authorized Signature

Name: SANDHILL ALS CONSTRUCTION, INC.
Mailing Address: 607 KELLER RD
PORT WENTWORTH GA 31407-8536

This Issuance of this license shall in no way be construed as permission to opperate a business activity in violation of any law or regulation to which such activity may be subject.

CERTIFICATE MUST BE CONSPICUOUSLY DISPLAYED. TAX IS NON-REFUNDABLE. PENALTY AFTER JANUARY 1ST.

File Copy

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CITY OF PORT WENTWORTH, GEORGIA

OATH OF SUCCESSFUL BIDDER

Personally appeared before the undersigned officer duly authorized by law to administer oaths and _____ who, after being first duly sworn, depose and say that they are all the officers, agents, persons, or employees who have acted for or represented (Company Name)_____in bidding or procuring a Contract with CITY OF PORT WENTWORTH, GEORGIA on the following project:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

and that said _____ has not by (himself, themselves) or through any persons, officers, agents, or employees prevented or attempted to prevent by any means whatsoever competition in such bidding; or by any means whatsoever prevented or endeavored to prevent anyone from making a bid therefore, or induces or attempted to induce another to withdraw a bid for said work.

BY: _____
Signature of Successful Bidder

Larry B Scott
Name - Printed

President
Title

Sworn to and subscribed before me this
26 Day of July, 2021

Elnora Jones
Notary Public

SEAL

ELNORA JONES
NOTARY PUBLIC
STATE OF SOUTH CAROLINA
EXP. 10.07.2021

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into as of the (Date) _____, 20__, by and between CITY OF PORT WENTWORTH, GEORGIA, (Party of the First Part, Hereinafter called the County) and SANDHILL ALS, CONSTRUCTION, INC. (Contractor Name) (Party of the Second Part, Hereinafter called the Contractor).

WITNESSETH: That the said Contractor has agreed, and by these presents does agree with the said County, for and in consideration of five hundred ninety eight thousand one hundred eighteen dollars ($598,118.00) and other good and valuable consideration, and under the penalty expressed in Bonds hereto attached, to furnish all equipment, tools, materials skill, and labor of every description necessary to carry out and complete in good, firm, and substantial, and workmanlike manner, the Work specified, in strict conformity with the Drawings and the Specifications hereinafter set forth, which Drawings and Specifications together with the base bid pproposal made by the Contractor, General Conditions, Special Provisions, Detailed Specifications, and this Agreement, shall all form essential parts of this Contract. The Work covered by this Contract includes all Work indicated on Plans and Specifications and listed in the Bid entitled:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

The Contractor shall commence the Work with adequate force and equipment within (10) ten days from receipt of Notice to Proceed from the City of Port Wentworth, and shall complete the Work within 120 calendar days.

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this Contract or the prosecution of Work hereunder, whether caused by the Contractor or the Contractor's agents, servants, or employees, or by any of the Contractor's subcontractors or suppliers.

This Contract, executed in triplicate, constitutes the full agreement between the parties, and the Contractor shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm or corporation without the previous consent of the Chatham County in writing.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CONTRACT AGREEMENT

IN WITNESS WHEREOF, the Parties hereto, acting through their duly authorized agents, have signed and sealed this agreement.

Executed this _____day of _____, 20__.

CITY OF PORT WENTWORTH, GEORGIA

ATTEST: _____ BY: _____
(SEAL) Administrator, City of Port Wentworth Mayor, Chatham County

CONTRACTOR

ATTEST:_____ BY: _____
(SEAL)

TITLE: _____ TITLE:_____

APPROVED AS TO FORM:

BY: _____
Attorney
City of Port Wentworth, Georgia

Executed in Triplicate

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CONTRACT PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE_____
(hereinafter called the Principal) and _____
(hereinafter called the Surety) are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA (hereinafter known as the Owner), for the use of said oblige and all persons doing work or furnishing skill, tools, machinery, supplies, or material under or for the purpose of the Contract hereinafter referred to, in the full and just sum of five hundred ninety eight thousand one hundred eighteen dollars ($598,118.00) lawful money of the United States of America, to be paid to said Owner, its successors, and assigns to which payment well and truly to made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severely, firmly by these presents.

WHEREAS, the above bound Principal has entered into a contract or contracts with the said OWNER, bearing date of_____, 20__, for furnishing material, labor and equipment for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, it was one of the conditions of the award by said Owner pursuant to which said Contract was entered into, that these presents shall be executed.

NOW THEREFORE, the conditions of this obligation are such that if the above bound Principal shall in all respects fully comply with the terms and conditions of said Contract and his obligation thereunder, including the Specifications and Bid, therein referred to and made a part thereof, and such alterations as may be made in said Specifications as therein provided for, and including one-year guarantee period from date of final acceptance, and shall indemnify and save harmless the Owner against and from all costs, expenses, damages, injury or loss, to which the said Owner may be subjected by reason of any wrongdoing, misconduct, want of care or skill, negligence, or default, including patent infringement, on part of said Principal, his agents, or employees, in the execution or performance of said Contract, and shall promptly pay all just claims for damages or injury to property and for all work done, or skills, tools, and machinery, supplies, labor, and materials furnished and debts incurred by said Principal in our about the construction or improvement contracted for this obligation to be void; otherwise, in full force and effect.

And the said Surety to this Bond, for value received, hereby stipulates and agrees that no change, extensions of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder or the Specifications accompanying same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the Work or the Specifications.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

CONTRACT PERFORMANCE BOND

This Bond shall be for the use of all persons doing Work or furnishing skill, tools, machinery, or materials under or for the purpose of this Contract, in accordance with the provisions of the Official Code of the State of Georgia, as amended, and is intended to be and shall be construed to be a bond in compliance with the requirements thereof.

The life of this Bond extends through the life of the Contract including the sixty-day maintenance period, and until one year after the final acceptance of the Work by the Owner.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed in triplicate, this _____day of _____, 20__.

CONTRACTOR

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

SURETY

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

BY: _____
(Local Agent's Signature)

_____
(Name - Printed or Typed)

_____
(Company Name)

_____
(Address)

Executed in Triplicate

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____
(hereinafter called the Principal) and _____
(hereinafter called the Surety) are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA (hereinafter known as the Owner), in the full sum of five hundred ninety eight thousand one hundred eighteen dollars ($598,118.00) for the use and protection of said Owner and all subcontractors and all persons supplying labor, materials, and machinery, and equipment for the performance of the Work provided for in the contract hereinafter referred to, for the payment of which well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, the above bound Principal has entered into a Contract or Contracts with the said OWNER, bearing date of _____, 20__, for furnishing material, labor and equipment for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, it was one of the conditions of the award by the City of Port Wentworth pursuant to which said Contract was entered into, that these presents shall be executed.

NOW, THEREFORE, the conditions of this obligation are such that if the above bound Principal shall promptly pay all subcontractors and all other persons supplying labor, materials, machinery, and equipment furnished for the performance of the Work provided for by said Contract, and such alterations or additions as may be made therein or in the Plans and Specifications, then this bond to be void; otherwise, in full force and effect, and

The surety to this bond, for value received, agrees that no change, extensions of time, alterations or additions to the terms of the Contract or the Work to be performed thereunder of the Specifications accompanying the same shall in any way affect its obligation on this bond, and alterations or additions to the terms of the Contract or the Work or to the Specifications. It is agreed that this bond is executed pursuant to and in accordance with the provisions of the Official Code of the State of Georgia, as amended, and is intended to be and shall be construed to be a bond in compliance with the requirements thereof.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

PAYMENT BOND

IN WITNESS WHEREOF, the Principal and Surety have caused these presents to be duly signed and sealed in triplicate, this _____day of_____, 20__.

CONTRACTOR

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

SURETY

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

BY: _____
(Local Agent's Signature)

_____
(Name - Printed or Typed)

_____
(Company Name)

_____
(Address)

Executed in Triplicate

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Illegal Immigration Reform and Enforcement Act of 2011

House Bill 87, also known as the Illegal Immigration Reform and Enforcement Act of 2011, was passed during the 2011 session of the Georgia General Assembly and was signed by Governor Nathan Deal on May 13, 2011. The bill, status history, votes, and sponsors, can be viewed on the Georgia General Assembly's website:

http://www.legis.ga.gov

All bidders are strongly encouraged to review the contents of this law.

O.C.G.A. §13-10-91(b) (1) states, in part, "A public employer shall not enter into a contract … for the physical performance of services unless the contractor registers and participates in the federal work authorization program. Before a bid for any such service is considered by a public employer, the bid shall include a signed, notarized affidavit from the contractor attesting to the following:

A. The affiant has registered with and is authorized to use, and uses the federal work authorization program;
B. The user identification number and date of authorization for the affiant;
C. The affiant will continue to use the federal work authorization program throughout the contract period; and
D. The affiant will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the same information required by subparagraphs (A), (B) and (C) of this paragraph."

O.C.G.A. §13-10-91(b) (2) states, in part, "A contractor shall not enter into any contract with a public employer for the physical performance of services unless the contractor registers and participates in the federal work authorization program."

A subcontractor shall not enter into any contract with a contractor unless such subcontractor registers and participates in the federal work authorization program. A subcontractor shall submit, at the time of such contract, an affidavit to the contractor in the same manner and with the same information required in O.C.G.A. §13-10-91(b) (1). It shall be the duty of any subcontractor receiving an affidavit from a sub-subcontractor to forward notice to the contractor of the receipt, within five business days of receipt, of such affidavit. It shall be the duty of a subcontractor receiving notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Requirements for sub-subcontractors are also contained in this law. The "Illegal Immigration Reform and Enforcement Act of 2011" establishes alternatives to the required affidavits for reporting purposes. Only the authorized alternatives will be considered.

It shall be the duty of the contractor to submit copies of all affidavits, drivers' licenses, and identification cards required pursuant to this subsection to the public employer within five business days of receipt.

Copies of the required affidavits for the contractor, subcontractor and sub-sub contractor are included in the package. **The contractor submitting a bid/proposal for the work covered in these documents is required to supply a fully completed affidavit with the submission of the bid/proposal. Bids received that do not include the required affidavit, or allowed substitution, will not be considered.**

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Contractor Affidavit under O.C.G.A. § 13-10-91(b) (1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Port Wentworthas registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

57-1039686
Federal Work Authorization User Identification Number

July 1986
Date of Authorization

Sandhill ALS Construction, INC.
Name of Contractor

Roadway Improvements for Antrim Road
Name of Project

The City of Port Wentworth
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on July 26, 2021 in Pt Wen (city), SC (state)

Signature of Authorized Officer or Agent

Larry B. Scott, President
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE 26 DAY OF July, 2021

Elnora Jones
NOTARY PUBLIC

My Commission Expires: 10-7-2021

ELNORA JONES
NOTARY PUBLIC
STATE OF SOUTH CAROLINA
EXP. 10.07.2021

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Subcontractor Affidavit under O.C.G.A. § 13-10-91(b) (3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with _____ (name of contractor) on behalf of the City of Port Wentworth has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____
Federal Work Authorization User Identification Number

_____
Date of Authorization

_____
Name of Subcontractor

Roadway Improvements for Antrim Road
Name of Project

The City of Port Wentworth_____
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, 20__ in _____ (city), _____ (state)

_____
Signature of Authorized Officer or Agent

_____
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20__.

_____
NOTARY PUBLIC

My Commission Expires: _____

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By

EJCDC®
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

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AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
5. *Bidder*—An individual or entity that submits a Bid to Owner.
6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
10. *Claim*

a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.

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Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.

d. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.

23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.

    a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.

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b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.

c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.

25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.

28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.

32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.

34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.

36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.

39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

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40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.

44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

46. *Technical Data*

    a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.

    b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.

    c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.

47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or

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chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. *Unit Price Work*—Work to be paid for on the basis of unit prices.

49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*: The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*: The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

1. does not conform to the Contract Documents;

2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

3. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

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3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.

G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).

B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.

C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

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3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.

B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.

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B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

G. Nothing in the Contract Documents creates:

1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or

2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

A. *Standards Specifications, Codes, Laws and Regulations*

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the

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Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

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2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and

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interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
2. Abnormal weather conditions;
3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
4. Acts of war or terrorism.

D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:

1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:

1. The circumstances that form the basis for the requested adjustment;
2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.

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G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.

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C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;

2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and

3. Technical Data contained in such reports and drawings.

B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;

3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or

4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;

2. is of such a nature as to require a change in the Drawings or Specifications;

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3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

E. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

   b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

   c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

   a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;

   b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract

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Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

c. Contractor failed to give the written notice required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:

1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;

4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.

C. *Engineer's Review*: Engineer will:

1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;

2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;

3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and

4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

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During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

   b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and

   c. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;

2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

3. Technical Data contained in such reports and drawings.

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B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

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H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.

B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.

C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety.

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The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.

E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.

F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.

H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.

D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.

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F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

H. Contractor shall require:

1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and

2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.

I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.

K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.

M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.

N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

A. *Required Insurance*: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.

B. *General Provisions*: The policies of insurance required by this Paragraph 6.03 as supplemented must:

1. include at least the specific coverages required;

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2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;

3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;

4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and

5. include all necessary endorsements to support the stated requirements.

C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:

1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;

2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;

3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and

5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.

B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.

C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.

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D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.

2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.

1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

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D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

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B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.

C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

A. *Contractor's Request; Governing Criteria*: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:

   a. in the exercise of reasonable judgment Engineer determines that the proposed item:

      1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

      2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

      3) has a proven record of performance and availability of responsive service; and

      4) is not objectionable to Owner.

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b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:

a. will certify that the proposed substitute item will:

1) perform adequately the functions and achieve the results called for by the general design;

2) be similar in substance to the item specified; and

3) be suited to the same use as the item specified.

b. will state:

1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;

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2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:

1) all variations of the proposed substitute item from the item specified; and

2) available engineering, sales, maintenance, repair, and replacement services.

d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.

B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.

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C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.

E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.

F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.

J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.

K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.

L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.

M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.

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B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.

C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within

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30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.

B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.

C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.

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H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).

J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:

a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determine and verify:

1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;

2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;

c. confirm that the Submittal is complete with respect to all related data included in the Submittal.

2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the

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Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

a. Contractor shall submit the number of Samples required in the Specifications.

b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

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8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.

2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:

a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.

b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.

c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03. 2.04, and 2.05.

F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.

B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only

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by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:

1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.

C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. normal wear and tear under normal usage.

D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:

1. Observations by Engineer;
2. Recommendation by Engineer or payment by Owner of any progress or final payment;
3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. Use or occupancy of the Work or any part thereof by Owner;
5. Any review and approval of a Shop Drawing or Sample submittal;
6. The issuance of a notice of acceptability by Engineer;
7. The end of the correction period established in Paragraph 15.08;
8. Any inspection, test, or approval by others; or
9. Any correction of defective Work by Owner.

E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

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B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.

B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.

C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:

1. Checking for conformance with the requirements of this Paragraph 7.19;

2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and

3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.

F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.

G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange

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to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.

D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. An itemization of the specific matters to be covered by such authority and responsibility; and

3. The extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract

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Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.

2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.

C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

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9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and

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observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.

B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

A. Engineer has the authority to reject Work in accordance with Article 14.

B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.

C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.

D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract,

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tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.

C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and

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4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

B. If Owner has issued a Work Change Directive and:

1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.

2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.

B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.

B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.

C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

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11.06 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;

b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;

c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and

f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the

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costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.

B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

A. *Purpose and Content*: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

1. *Submittal*: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.

2. *Supporting Data*: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.

   a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.

   b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

   The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. *Engineer's Initial Review*: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.

4. *Engineer's Full Review and Action on the Change Proposal*: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change

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Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and

4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

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D. *Mediation*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be

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apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.

5. Other costs consisting of the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

        1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

    c. *Construction Equipment Rental*

        1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.

        2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.

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3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.

3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

6. Expenses incurred in preparing and advancing Claims.

7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

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D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:

a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.

b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:

1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.

2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.

C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

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B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.

2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.

3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such

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inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
3. by manufacturers of equipment furnished under the Contract Documents;
4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

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14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.

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B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the

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Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work;

   b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;

   c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;

   d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or

   e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

   a. the Work is defective, requiring correction or replacement;

   b. the Contract Price has been reduced by Change Orders;

   c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

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d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. The Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. The Contract Price has been reduced by Change Orders;

i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;

j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

l. Other items entitle Owner to a set-off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

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3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents,

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or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
    a. all documentation called for in the Contract Documents;
    b. consent of the surety, if any, to final payment;
    c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
    d. a list of all duly pending Change Proposals and Claims; and
    e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

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3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Final Application and Recommendation of Payment*: If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Notice of Acceptability*: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.

D. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.

E. *Final Payment Becomes Due*: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect

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Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such adjacent areas;
2. correct such defective Work;
3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.

C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.

D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

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16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

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16.03 *Owner May Terminate for Convenience*

A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and

2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;

2. agree with the other party to submit the dispute to another dispute resolution process; or

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3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:

1. in person, by a commercial courier service or otherwise, to the recipient's place of business;

2. by registered or certified mail, postage prepaid, to the recipient's place of business; or

3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the

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written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS

01. GENERAL CONDITIONS

The "Standard General Conditions of the Construction Contract", Engineers Joint Contract Documents Committee, 2018 Edition, Articles 1 through 18 inclusive, included herein preceding these supplements, is a part of this Contract.

ARTICLE 6 – BONDS AND INSURANCE

Contractor's protective liability insurance, with limits as follows:

Personal injury including death - limits of $100,000. for each person and $1,000,000. for each occurrence.

Property damage - $100,000. for each and $1,000,000. for the aggregate for operations.

Contractor's public and automobile liability insurance (including contractual liability insurance as applicable to the Contractor's obligations under paragraph 4.18) with limits as follows:

Personal injury including death - limits of $100,000. for each person and $1,000,000. for each occurrence.

Property damage - limits of $100,000. for each occurrence and $1,000,000. for the aggregate of operations.

a. Any exclusion of so-called underground damage to pipes, collapse of structures or damage resulting from explosion or blasting, shall be deleted.

b. The policy shall provide completed operations coverage, and such coverage shall be maintained by the Contractor for a period of one year from the date of payment of the final amounts owed the Contractor by the Owner, whichever occurs first.

Owner's protective liability insurance, in the name of the Owner, his professional consultants and their agents as additional insureds under the contractor's general liability insurance policy with respect to the services performed by the Contractor for the Owner, with the following limits:

Personal injury including death - limits of $100,000. for each person and $1,000,000. for each occurrence.

Property damage - limits of $100,000. for each occurrence and $1,000,000. for the aggregate of operations.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

Add the following sentence as paragraph 5 of Section 15.01 B:

“Each payment request shall be accompanied with record drawings showing as-built conditions of all work requested during the pay period.

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ARTICLE 16 – FINAL RESOLUTION OF DISPUTES

16.01 B Any dispute arising under this agreement shall first be resolved by utilizing non-binding mediation, however should the dispute not be resolved by this method it shall be heard in the Superior Court of the County in which the owner resides, and the parties consent to jurisdiction and venue in that Court. The parties waive any defense they may have to lack of jurisdiction or improper venue and agree to have all disputes resolved in the Superior Court of the County in which the owner resides.

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SECTION 01150
MEASUREMENT AND PAYMENT

Part 1 – GENERAL

1.01 QUANTITIES

A. Quantities listed in the proposal are approximate only and are intended to serve as a guide in comparing bids, and may be increased or decreased without invalidating the unit price bid.

B. Contractor shall be paid for actual in place quantities as determined by the engineer's field measurements.

C. In case of discrepancies between the figures shown in the unit prices and totals, the unit prices shall apply and the totals shall be corrected to agree with the unit price.

PART 2 – MEASUREMENT AND PAYMENT

2.01 DEMOLITION, EXCAVATION AND DISPOSAL OF UNSUITABLE MATERIAL

A. Measurement: Measurement will be made on the basis of each cubic yard of demolition and unsuitable material removed in accordance with the plans and specifications

B. Payment: Payment will be made on the basis of each cubic yard of unsuitable material removed in accordance with the plans and specifications at the unit price bid. The unit price bid shall include all labor equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, saw cutting and removal of existing pavement, removal of existing base material, excavation, trenching, de-watering, grading of sub-grade, hauling and disposal of unsuitable material, clean-up and surface restoration.

2.02 STRUCTURAL FILL MATERIAL

A. Measurement: Measurement will be made on the basis of each cubic yard of structural fill material placed within the roadway area in accordance with the construction plans and specifications.

B. Payment: Payment will be made on the basis of each cubic yard of structural fill material placed within the roadway area in accordance with the construction plans and accepted by the engineer at the price presented in the proposal. The unit price shall include all labor, equipment and material to complete the item of work. The work shall include, but is not limited to the excavation, loading, hauling, placement, compaction of the fill material. Any borrow area dewatering, maintenance and erosion and sediment control should be included. All material must be obtained from and approved D.O.T. pit. Testing will be in accordance with D.O.T. requirements for the intended use.

2.03 GEOTEXTILE FABRIC

A. Measurement: Measurement will be made on the basis of the number of square yards of geotextile fabric applied to the roadway as shown on the construction plans. The length will be measured on the surface along the centerline and the width will be that specified on the construction plans. Irregular areas such as

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turnouts and intersections will be measured to the closest square yard. Overlaps will not be measured separately.

B. Payment: Payment will be made on the basis of each square yard of geotextile fabric installed in accordance with the construction plans at the unit price bid. The unit price bid shall include all labor equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, furnishing geotextile fabric, hauling, excavation, laying out, placement, sewing, stretching, stabilization, and clean-up.

2.04 GRADED AGGREGATE BASE (GAB)

A. Measurement: Measurement shall be made on the basis of the number of square yards of graded aggregate base applied to the parking lot and roadway at the specified thickness as shown on the construction plans. Irregular areas such as turnouts, filler strips and intersections will be measured to the closest square yard. Prior to installation of the asphalt all areas will be checked for proper thickness.

B. Payment: Payment will be made on the basis of the number of square yards of granite crusher run (graded aggregated) base at the specified thickness applied to the roadway at the unit price stated in the bid. The price shall include all labor, equipment and material to complete the task. Work shall include, but not be limited to, the furnishing, hauling, placing and compaction of the crusher run base in order to bring the base to the lines, grades, and cross sections shown on the construction plans or established by the Engineer. Work shall also include complete surface restoration and clean-up.

2.05 ASPHALT PAVING

A. Measurement: Measurement will be made on the basis of each ton of asphalt in place, in accordance with the construction plans and accepted by the Engineer. Actual weight will be determined by weighing on a certified motor truck scale and presenting a notarized copy of the record weight to the Engineer or His Representative.

B. Payment: Payment will be made on the basis of the number of tons of asphalt in place, in accordance with the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not be limited to, the furnishing, hauling, placing and compacting of the asphalt in order to bring the pavement to the lines, grades and cross sections as designated on the construction plans and as determined by the Engineer. The unit price bid shall also include surface cleaning, and tack.

2.06 SOCK DRAIN WITH STONE

A. Measurement: Measurement will be made on the basis of each linear foot of sock drainage pipe installed at the elevation, grade and alignment as designated on the construction plans.

B. Payment: Payment will be on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans at the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not be limited to, all excavation, trenching, dewatering, necessary shoring and sheeting, all pipe bedding, furnishing and installing pipe, furnishing and installing

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#57 stone, furnishing and installing fabric, backfill, compaction, complete surface restoration and cleanup.

2.07 CURB AND GUTTER

A. Measurement: Measurement will be made on the basis of each linear foot of curb and gutter removed and replaced as shown on the plans or as directed by the engineer. The size of the curb and gutter will be as shown on the plans and indicated in the bid documents.

B. Payment: Payment will be made on the basis of the unit price stated in the bid. The unit price shall include all materials, labor and equipment necessary to complete the item of work. Work shall include, but not limited to, all excavation, saw cutting, forming, grade staking, grading, compaction, furnishing concrete, curb and gutter installation, filler strip installation where necessary, dewatering, form wrecking, backfilling, cleanup and surface restoration.

2.08 STORM STRUCTURE CORE

A. Measurement: Measurement will be made on the basis of each drainage structure core completed at the elevation and location designated on the construction plans.

B. Payment: Payment will be made on the basis of each core completed at the unit price bid. The unit price bid shall include furnishing all labor, equipment and materials necessary to complete the item of work. Work shall include, but not be limited to, excavation, necessary shoring and sheeting, dewatering, forming, coring of structure, drilling, grouting around pipe, backfill, compaction, grading, complete surface restoration and cleanup.

2.09 STORM STRUCTURE REPAIR

A. Measurement: Measurement will be made on the basis of each structure repair completed as shown on the plans not covered under some other section of this document.

B. Payment: Payment will be made for each structure repaired as shown on the construction plans or approved by the engineer at the unit price bid. The unit price shall include all labor, equipment and materials necessary to complete the repair. Work shall include, but is not limited to, excavation, subgrade preparation, compaction, forming, furnishing and installation of the concrete repair as shown on the plans, installing curb and gutter, finishing, form wrecking, cleanup and surface restoration.

2.10 DRAINAGE PIPE

A. Measurement: Measurement will be made on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans.

B. Payment: Payment will be on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans at the unit price bid stated in the Contract. The unit price bid shall include all labor, equipment and labor necessary to complete the item of work. Work shall include, but not be limited to, all excavation, trenching, dewatering,

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necessary shoring and sheeting, all pipe bedding, furnishing and installing pipe, backfill, compaction, complete surface restoration and cleanup.

2.11 DRAINAGE STRUCTURES (Catch Basin, Yard Drain, Junction Box, Headwall, Concrete Flumes, Flared End Section, Pipe End Treatments)

A. Measurement: Measurement will be made on the basis of each drainage structure installed at the elevation & location designated on the construction plans.

B. Payment: Payment will be made on the basis of each structure installed at the unit price bid. The unit price bid shall include furnishing all labor, materials and equipment necessary to complete the item of work. Work shall include, but not be limited to, excavation, necessary shoring and sheeting, dewatering, forming, placement of concrete, bricks, or precast structure, form wrecking, foundations as required, furnishing and installing the structure, placement of grates and manhole rings and covers as applicable, grouting around pipe and lid, sealing of structure, backfill, compaction, grading, complete surface restoration and cleanup.

2.12 HIGH BUILD STANDARD AND WET WEATHER PAINT TRAFFIC STRIPE

A. Measurement: Linear measurements are made on the painted surface by a measuring device rolled along the painted surface. Traffic stripe and markings, complete in place, are measured and accepted for payment as follows:

1. Solid Traffic Stripe
   Solid traffic stripe is measured by the linear foot. Breaks or omissions in solid lines or stripes at street or road intersections are not measured.

2. Skip Traffic Stripe
   Skip traffic stripe is measured by the gross linear foot. Unpainted spaces between the stripes are included in the overall measurements if the Plan ratio of 1 to 3 remains uninterrupted. Measurement begins and ends on a stripe.

3. Pavement Markings
   Markings are words and symbols completed according to Plan dimensions. Markings are measured by the unit.

B. Payment: Payment will be made on the basis of the unit price stated in the bid. The price shall include all materials, labor and equipment necessary to complete the installation. Work shall include, but is not limited to, Cleaning and preparing surfaces, furnishing materials, including paints, beads, and thinners, applying, curing, and protecting paints, protecting traffic, including providing and placing necessary warning signs, furnishing tools, machines, and other equipment necessary to complete the Item.

2.13 INLET PROTECTION

A. Measurement: Measurement will be made on a unit price basis of the completed item in accordance with the construction plans

B. Payment: Payment will be made on a unit price basis as stated in the bid. Work shall include, but not be limited to, furnishing all labor equipment and materials

necessary for the satisfactory prevention of sediment-laden stormwater from entering drainage inlets or junction boxes. The unit price bid shall include, but not be limited to, trenching, furnishing and installing filter fabric, staking, backfill, furnishing and installing concrete blocks and associated materials, placement of filters, etc. The unit price shall also include complete maintenance, cleaning, and or replacement of the inlet sediment trap throughout the life of the project. It shall also include the removal of the inlet protection upon completion of the project and complete restoration of inlet grates and manhole covers.

2.14 SILT FENCE

A. Measurement: Measurement will be made on the basis of each linear foot of silt fence installed in accordance with the construction drawings or as directed by the engineer.

B. Payment: Payment will be made on the basis of each linear foot of silt fence installed in accordance with the construction drawings or as directed by the engineer at the unit price bid. The unit price shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to necessary trenching, providing and placing silt fence, staking, stretching, backfill, maintenance for the life of the project, repair and/or replacement, removal, complete surface restoration and cleanup.

2.15 GRASSING

A. Measurement: Measurement shall be made on the basis of the completed item in accordance with the construction plans and bid items. Work performed under this section will be measured to the nearest one-tenth acre.

B. Payment: Payment will be made in accordance with the price stated in the bid. The unit price shall include, but is not limited to, furnishing all labor, materials and equipment necessary for the satisfactory growth of grass on all disturbed areas in accordance with plans and specifications. Work shall include, but not be limited to, furnishing all materials, fertilizer, soil samples, grass seed, raking, leveling, watering, maintenance and final surface restoration. Final payment will not occur until permanent grass is established.

2.16 MULCHING

A. Measurement: Measurement shall be made on the basis of the completed item in accordance with the construction plans and bid items. Work performed under this section will be measured to the nearest one-tenth acre.

B. Payment: Payment will be made in accordance with the price stated in the bid. The unit price shall include, but is not limited to, furnishing all labor, materials and equipment necessary for the satisfactory mulching on all disturbed areas in accordance with plans and specifications. Work shall include, but not be limited to, furnishing all materials, blown or hand broadcasted to a uniform depth, minimum 85% coverage, and maintenance of mulch until final grassing is established. Mulching is to be completed daily to ensure no erosion of disturbed areas.

2.17 TRAFFIC CONTROL

A. Measurement: Measurement will be made on the basis of the completed item of work or percentage thereof.

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B. Payment will be made on the basis of the completed item of work or a percentage thereof at the unit price bid. The unit price bid shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, furnishing all necessary signage, barrels and personnel necessary to adequately manage traffic during all phases of construction. This item also includes the relocation of trash bins to allow trash collection during construction cost for placing notices on residential doors in the neighborhood.

2.18 MOBILIZATION

A. Measurement: Measurement will be made on the basis of the completed item of work or percentage thereof.

B. Payment: Payment will be made on the basis of the completed item of work or percentage thereof at the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not limited to, cost associated with insurance, bonding and mobilization of equipment and personnel to the project site.

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SECTION 02100
CLEARING AND GRUBBING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Clearing shall consist of the falling, trimming, cutting and disposal of trees and other vegetation designated for removal, including down timber, snags, brush and rubbish occurring within the area to be cleared. Grubbing shall consist of the removal and disposal of stumps, roots larger than 1.5 inches in diameter and matted roots.

PART 2 - EXECUTION

2.01 Trees, down timber, stumps, roots, brush and other vegetation in areas to be cleared shall be removed completely, except such trees and vegetation as may be indicated or directed to be left standing. Trees to be left standing within the cleared areas shall be trimmed of dead branches 1.5 inches or more in diameter.

2.02 Limbs and branches to be trimmed shall be neatly cut close to the bore of the tree or main branches.

2.03 All organic materials, masonry, concrete or metallic debris in the clearing and grubbing areas shall be excavated and removed to a depth of not less than 12 inches below grade where original grade is to remain level and two feet below finish grade, bottom of pavement base and bottom of footings.

2.04 Depressions made by grubbing shall be backfilled and compacted with fill material to meet the requirement for trenching and structural backfilling.

2.05 Machine grubbing shall not be done under trees left standing in the area covered by the branches, nor in any manner which might damage the trees or any new work.

2.06 Trees and vegetation to be left standing shall be protected from damage during clearing, grubbing and construction operations, by the erection of barriers.

2.07 Objects above or below grade interfering with construction shall be removed as directed by the Architect/Engineer.

2.08 DISPOSAL OF MATERIALS

A. Cleared and grubbed materials to be disposed of to an approved off-site disposal area. The disposal area shall be a state-approved landfill.

B. On site burning will not be allowed, without written permission of local authorities. The Forestry Department should be contacted for the permit.

C. The use of an air curtain destructor for on site burning shall be part of the permit.

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SECTION 02210
SITE GRADING

PART I-GENERAL

1.01 QUALITY ASSURANCE

A. Reference Standards:

1. Standards of American Society for Testing and Materials:
ASTM-D-698 Moisture-Density Relations of Soils Using 5.5 lb. (2.5 KG) Hammer and 12 inch (304.8 mm) Drop

2. Methods of Sampling and Testing of American Association of State Highway and Transportation Officials (AASHTO), latest edition.

1.02 TESTING

A. All soil testing shall be performed by an Independent Testing Laboratory selected by the Engineer and paid for by the Contractor.

1.03 EXCESS EXCAVATED MATERIALS

A. Excess excavated materials shall be wasted off site by the Contractor at no expense to Owner, or as directed by the Engineer.

1.04 BORROW MATERIAL

A. Any borrow material required to accomplish all levels, lines and grades indicated shall be furnished by the Contractor at no expense to the Owner.

B. Borrow material shall be obtained from borrow pits off site

C. The Contractor shall pay for all soil analysis for borrow material

1.05 EXCAVATED MATERIAL

A. All material to be excavated shall be classified as earth.

1.06 UNSUITABLE BEARING MATERIALS

A. Should unsuitable bearing materials be encountered at levels indicated and found to have insufficient bearing values the Engineer may order the excavation carried to lower depths.

B. Compensation for the removal and/or replacement of unsuitable materials shall be in accordance with the General Conditions, Article 12.1.4.

C. Excavation of unsuitable bearing materials shall not proceed until the conditions have been observed by the Engineer and written approval has been given by the Owner.

PART 2 - EXECUTION

TOP SOIL

A. Areas to be stripped shall first be scraped clean of all brush, weeds, grass, roots and other material.

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B. Remove topsoil from areas to be graded and stockpile in locations where it will not interfere with structures, roads or utility operations.

C. Topsoil shall be free from subsoil, debris and stones larger than 2 inches in diameter, The stored topsoil shall be left in piles to be used for finished grading.

D. Stockpiles shall be protected from contamination by undesirable foreign matter and shall be graded to shed water.

EXCAVATION

A. Excavations shall be accomplished to bring surface to the levels, lines and grades as indicated.

B. Excavated material to be used for fill or backfill material shall be stockpiled on the site as directed by the Engineer. Stockpiles shall be graded to shed water.

FILLING

A. All fill material required to bring areas to the levels, lines and grades indicated shall be selected and approved materials from approved borrow areas.

B. Sub-grades on which fill material is to be placed shall be scarified to a depth of not less than 4 inches by plowing or discing. A layer of suitable fill material, approximately 3 inches in depth, shall be spread over the scarified surface and compacted.
C. Fill material shall be spread and compacted in successive uniform layers not exceeding 8 inches in depth (loose measure) until the total thickness of fill is completed.

2.04 COMPACTION

A. Compaction required for material fill shall be 95% of Standard Proctor, maximum dry density as determined by the procedures of ASTM D-698. Fill areas shall be crowned and sloped to drainage ditches or as required to prevent ponding of surface water.

B. Compaction by flooding of any material is not acceptable. In the event that any flooding takes place, the material and all adjacent softened material shall be removed and replaced with compacted fill at no cost to the Owner.

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SECTION 02220
DEMOLITION

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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AIR-CONDITIONING AND REFRIGERATION INSTITUTE (ARI)

ARI Guideline K (1997) Containers for Recovered Fluorocarbon Refrigerants

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6 (1990; R 1998) Safety Requirements for Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (1996) Safety and Health Requirements Manual

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Engineer. Do not allow accumulations inside or outside the building. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Engineer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1. Asbestos removal will be performed by others under a separate contract. All asbestos will be removed prior to the issuance of a notice to proceed.

1.3 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," safety requirements shall conform to ANSI A10.6.

1.3.1 Notifications

1.3.1.1 General Requirements

Furnish timely notification of demolition project to Federal, State, regional, and local authorities as required.

1.4 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily or as necessary. Sweep pavements as often as necessary to control the spread of debris.

1.5 PROTECTION

1.5.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the Engineer prior to beginning such work.

1.5.2 Existing Work

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Owner; any damaged items shall be repaired or replaced as approved by the Engineer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Engineer's approval.

1.5.3 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas so as to ensure effectiveness and to prevent displacement.

1.5.4 Trees

Trees within the project site which might be damaged during demolition, and which are indicated to be left in place, shall be protected by a 1.8 m (6 foot) 6 foot high fence. The fence shall be securely erected a minimum of 1.5 m 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the Engineer.

1.5.5 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, of lateral support until demolished, unless directed otherwise by the Engineer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

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1.5.6 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.6 BURNING

The use of burning at the project site for the disposal of refuse and debris **will not** be permitted.

1.7 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by the Engineer.

1.8 ENVIRONMENTAL PROTECTION

The work shall comply with all federal, state, and local laws and regulations.

1.9 USE OF EXPLOSIVES

Use of explosives **will not** be permitted.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

3.1.1 Structures

Existing structures indicated shall be removed to grade. Interior walls, other than retaining walls and partitions, shall be completely removed to grade. Basement slabs shall be broken up and completely remove. Sidewalks, curbs, gutters and street light bases shall be removed as indicated.

3.1.2 Utilities and Related Equipment

Remove existing utilities to limit of the property and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Engineer. When utility lines are encountered that are not indicated on the drawings, the Engineer shall be notified prior to further work in that area. Remove meters and related equipment.

3.1.3 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs including aggregate base as indicated to natural grade. Provide neat saw cuts at limits of pavement removal as indicated.

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3.1.4 Masonry

Saw cut and remove masonry so as to prevent damage to surfaces to remain. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as specified for the new work.

3.1.5 Concrete

Saw concrete along straight lines to a depth of not less than 50 mm 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete.

3.1.6 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish. Patching shall be as specified and indicated, and shall include:

a. Holes and depressions left as a result of removals in existing masonry walls to remain shall be completely filled with an approved masonry patching material, applied in accordance with the manufacturer's printed instructions.

b. Where existing partitions have been removed leaving damaged or missing resilient tile flooring, patch to match the existing floor tile.

c. Patch acoustic lay-in ceiling where partitions have been removed. The transition between the different ceiling heights shall be effected by continuing the higher ceiling level over to the first runner on the lower ceiling and closing the vertical opening with a painted sheet metal strip.

3.1.7 Air Conditioning Equipment

Remove air conditioning equipment without releasing chlorofluorocarbon refrigerants to the atmosphere in accordance with the Clean Air Act Amendment of 1990. Recover all refrigerants prior to removing air conditioning equipment and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS).”

3.1.8 Cylinders and Canisters

Remove all fire suppression system cylinders and canisters and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."

3.1.9 Locksets on Swinging Doors

The Contractor shall remove all locksets from all swinging doors indicated to be removed and disposed of. Contractor shall give the locksets to the County after their removal.

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3.2 FILLING

Holes, open basements and other hazardous openings shall be filled in accordance with the construction drawings. The finished grade shall match the adjacent grades and shall be properly drained as directed by the Engineer.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

Except where specified in other sections, all materials and equipment removed, and not reused, shall become the property of the Contractor and shall be removed from County property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the County of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

3.3.2 Disposal of Ozone Depleting Substance (ODS)

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting ARI Guideline K suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS shall be [put back into the existing equipment] [turned over to the Contracting Officer] [remove from Government property and dispose of in accordance with 40 CFR 82]. Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) shall be disposed of in accordance with 40 CFR 82.

3.3.2.1 Special Instructions

Each container shall have in it no more than one type of ODS. A warning/hazardous label shall be applied to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS shall have a tag with the following information:

a. Activity name and unit identification code
b. Activity point of contact and phone number
c. Type of ODS and pounds of ODS contained
d. Date of shipment

3.3.2.2 Fire Suppression Containers

Fire suppression system cylinders and canisters with electrical charges or initiators shall be deactivated prior to shipment. Also, safety caps shall be used to cover exposed actuation mechanisms and discharge ports on these special cylinders.

3.3.3 Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of by the Contractor.

3.4 CLEANUP

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

3.4.1 Debris and Rubbish

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

-- End of Section --

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SECTION 02221
TRENCH EXCAVATION, BACKFILL AND COMPACTION

PART 1 - GENERAL

1.01 SCOPE

A. Work under this section shall consist of furnishing all materials, equipment and labor for excavation, trenching and backfilling for utility systems. "Utility systems" shall include underground piping and appurtenances for gas, gasoline, oil, and water distribution systems, storm water drains, and sewage collection systems.

1.02 EXISTING UTILITIES

A. Before opening trenches, the Contractor shall examine all available records and explore for the location of all sub-surface pipes, valves or other structures and reference such locations on the surface. It shall be the responsibility of the contractor to contact the utility clearinghouses as required by law.

B. In opening trenches, every effort shall be made not to interfere with these utilities structures. Expose existing piping by hand before excavating by machine. Excavate existing utilities sufficiently in advance of pipe laying to determine crossing arrangement. Slight deviations may be permitted in order to clear such structures. The Contractor shall be entirely responsible for the preservation of all underground or overhead utility lines and structures, such as gas, water, sewer lines, telephone conduit, power lines, etc., and shall replace, adjust or repair, without additional compensation, any such lines damaged or interfered with as a result of this construction.

C. Schedule work to keep roads and utilities in usable condition; coordinating all operation with the City to avoid inconvenience insofar as practicable.

1.03 BORROW MATERIAL

A. Any borrow material required to accomplish all levels, lines and grades indicated shall be furnished from an approved site.

B. The OWNER or his agent shall pay for all soils analysis for borrow material.

1.04 TESTING

A. All soil testing shall be performed by an Independent Testing Laboratory selected by the County and the design engineer.

1.05 QUALITY ASSURANCE

A. All excavation within the rights of way of city streets and county, State or Federal roadways, shall be backfilled in accordance with the then prevailing requirements of the Georgia Department of Transportation, Highway Division.

B. Reference Standards: Methods of Sampling and Testing of American Association of State Highway and Transportation Officials (AASHTO).

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1.06 SAFETY

A. The Contractor is responsible for maintaining a safe job environment. He is responsible for meeting all OSHA requirements and conditions as part of the project.

PART 2 - EXECUTION

2.01 GENERAL EXCAVATION

A. The Contractor shall do all excavation of whatever substances encountered to depth shown on plans. Excavated materials not required for fill or backfill shall be removed from site as directed by the Engineer.

B. Contractor is to excavate to provide 36 inch minimum cover over utility.

C. Excavation for manholes and other accessories to have 12 inches minimum and 24 inch maximum clearance on all sides.

D. Excavation shall not be carried below the required level.

E. Where excavation is carried below grades indicated, the Contractor shall refill same to the proper grade with compacted earth or stone, or as directed by the Engineer.

F. Width of trench shall be as shown on the plans. The bottom of trench for sewers and culverts shall be rounded so that an arc of the circumference equal to 0.6 of the outside diameter of the pipe rests on undisturbed soil.

G. Bell holes shall be excavated accurately to size by hand.

2.02 UNSUITABLE BEARING MATERIALS

A. Should unsuitable bearing materials be encountered at levels indicated and found to have insufficient bearing values the Engineer may order the excavation carried to lower depth.

B. Excavation of unsuitable bearing materials shall not proceed until the conditions have been observed by the Engineer and written approval is given by the Owner.

2.03 PIPE BEDDING

A. The contact between a pipe and the foundation on which it rests is the pipe bedding.

B. Classes of Bedding: Four typical classes of bedding to be used for pipes in trenches are described as follows:

1. Class A - Concrete Cradle or Concrete Arch Bedding: This class of bedding may take either of two forms.

a. Concrete Cradle- The pipe shall be bedded in a monolithic cradle of plain or reinforced concrete having a minimum thickness of 1/4 the inside pipe diameter of a minimum of 4 inches under the barrel and extending up the sides for a height equal to 1/4 the outside diameter. The cradle shall have width at least equal to the outside diameter of the pipe barrel plus 8 inches. Backfill above the cradle and extending to 12 inches above the crown of

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the pipe shall be compacted carefully.

b. Concrete Arch- The pipe shall be embedded in a carefully compacted granular material having a minimum thickness of 1/4 the outside diameter between barrel and bottom of trench excavation and extending halfway up the sides of the pipe. The top half of the pipe shall be covered with monolithic plain or reinforced concrete arch having a minimum thickness of 1/4 the inside diameter at the crown and having a minimum width equal to the outside pipe diameter plus 8 inches.

2. Class B- First -Class Bedding - Class B bedding may be achieved by either of two construction methods.

a. Shaped Bottom with Tamped Backfill. The bottom of the trench excavation shall be shaped to conform to a cylindrical surface with a radius at least 2 inches greater than the radius to the outside of the pipe and with a width sufficient to allow 6/10 of the width of the pipe barrel to be bedded in fine granular fill placed in the shaped excavation. Carefully compacted backfill shall be placed at the sides of the pipe to a thickness of at least 12 inches above the top of the pipe. Shaped trench bottoms shall be used only with the approval of the Engineer.

b. Compacted Granular Bedding with Tamped Backfill. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 1/4 the outside pipe diameter and shall extend halfway up the pipe barrel at the sides. The remainder of the side fills and minimum depth of 12 inches over the top of the pipe shall be filled with carefully compacted, select material.

3. Class C - Ordinary Bedding: Class C ordinary bedding may be achieved by either of two construction methods:

a. Shaped Bottom. The pipe shall be bedded with "ordinary" care in an earth foundation formed in the trench bottom by a shaped excavation which will fit the pipe barrel with reasonable closeness for a width of at least 50% of the outside pipe diameter. The side fills and area over the pipe to a minimum depth of 6 inches above the top of the pipe shall be filled with lightly compacted fill. The shaped bottom bedding shall be used only with the approval of the Engineer.

b. Compacted Granular Bedding with a Tamped Backfill. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 4 inches under the barrel and shall extend 1/10 to 1/6 of the outside diameter up the pipe barrel at the sides. The remainder of the side fills and to a minimum depth of 6 inches over the top of the pipe shall be filled with lightly compacted backfill.

4. Class D - Class D bedding is not permissible. Flat bottom trench. In this bedding the bottom is left flat, and no care is taken to secure compaction of backfill at the sides immediately over the pipe.

C. Granular pipe bedding material shall be well graded crushed stone or crushed gravel meeting the requirements of ASTM C33, Gradation 67 (3/4 inch to No. 4). A well-graded gravel meeting these same requirements can also be used.

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D. Where ledge rock, compact rocky or gravelly soil, or other unyielding foundation material is encountered, the pipes shall be bedded in accordance with the requirements of the foregoing classes of bedding, but with the following additions: The hard unyielding material shall be excavated to the elevation of the bottom of the concrete cradle (Class A bedding) or below the bottom of the pipe and the pipe bell (Class B or C bedding), to depth of at least 6 inches (15cm). The width of the excavation shall be at least 5/4 the outside diameter of the pipe and it shall be refilled with granular material as identified above.

2.04 BRACING AND SHORING

A. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety.

B. Sheeting driven alongside the pipe should be cut off and left in place to an elevation 1.5 feet above the top of the pipe.

C. All other sheeting shall be removed as directed by the Engineer.

2.05 DEWATERING FOR EXCAVATION

A. The Contractor shall pump or remove any water accumulated in any excavated area and shall perform all work necessary to keep excavations clear of water while foundations, structures or any masonry are being constructed or while pipe is being laid, or during demolition.

B. No structure or pipe shall be laid in water, and water shall not be allowed to flow over or rise upon any concrete or masonry or piping until same has been inspected and the mortar or joint material has cured.

C. All water pumped or bailed from the trenches or other excavation shall be conveyed in a manner to a point of discharge where it will neither cause a hazard to the public health, nor damage to the public or private property, or to work completed or in progress.

2.06 BACKFILL

A. The soil at the sides of a pipe and above it is the backfill.

B. Prior to backfilling any excavation, all piping and structures, the Engineer and City Inspector shall be notified for observation.

C. After pipes have been tested and approved, backfilling shall be done with approved material free from large clods or stones.

D. Backfill shall be placed in uniform layers, four inches thick, on both sides of the pipe and thoroughly compacted with pneumatic or hand tampers. The backfill shall be brought up uniformly on both sides of the pipe and compacted to an elevation of one foot above the top of the pipe, after which the fill shall be placed in eight inch lifts. No rock will be allowed in the backfill within a distance of one foot from the pipe, and rock larger than six inches in the greatest dimension will not be permitted in any part of the trench or backfill.

1. Backfill shall be compacted to not less than 95% of the maximum dry weight per cubic foot as determined by AASHTO Method T-99 (Standard Proctor Test).

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2. The top 18 inches of backfill under any paved area shall be compacted to 100% Standard Proctor.

3. Water settling will not be permitted in clay soils. It may be allowed at the option of the City Inspector and design engineer in sandy soils.

2.07 REPLACING PAVEMENTS

A. Subgrades shall be compacted with a mechanical tamper.

B. The minimum width of replaced concrete pavements shall be 4 feet at interiors and 6 feet at joints and constructed as shown on Standard Details. Avoid cutting pavements at joints; if unavoidable, reconstruct same as original joint. Depth shall be equal to the original thickness. Existing pavements edges shall be cut vertical.

C. Use high-early-strength cement if road is to be opened in less than 24 hours.

D. The minimum width of replaced bituminous pavements shall be 3 feet with 8 inch concrete patch. The existing pavement shall be cut vertically and horizontally to a straight line. The 8-inch concrete patch shall be minimum 3,000-psi concrete containing black dye and shall be flush with the existing pavement.

E. The minimum width of replaced bituminous pavement with asphalt shall be 3 feet with 6 inches of concrete and 2 inches of asphalt after the existing pavement is cut vertically and horizontally to a straight line.

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SECTION 02520-H
STORM DRAINAGE AND APPURTENANCES

PART 1 - GENERAL

1.01 APPLICABLE STANDARDS

A. Appurtenances shall be constructed in accordance with the referenced Georgia Department of Transportation Standard Drawings.

B. American Society for Testing and Materials (ASTM):

C- 32 Specification for Sewer and Manhole Brick.

C- 76 Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.

C-139 Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes.

C-144 Aggregate for Masonry Mortar.

C-270 Mortar for Unit Masonry

C-443 Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.

C-478 Specification for Precast Reinforced Concrete Manhole Section

C-536 Test for Continuity of Coatings in Glassed Steel Equipment by Electrical Testing.

C. Only reinforced concrete pipe will be allowed under roadways or frequently traveled areas.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Roadway Storm Drainage Pipe: Pipe shall be reinforced Concrete Pipe which conforms to ASTM Specification C-76 and shall be of sizes shown. Pipe shall be Class III minimum and as indicated on GA. D.O.T. Standard 1030 D.

B. Non Roadway Storm Drainage Pipe: Pipe shall be one of the following:

1. Corrugated metal pipe shall conform to AASHTO designation M-36, AREA Manual 1-4 requirements for corrugated etal. culverts, or Federal Specification QQ-C- 806, with the following applicable requirements:

a. The outside and inside surfaces of the corrugated metal pipe shall be completely coated with bituminous material with a minimum thickness of 0.05 inch at the crest of the corrugations. Immediately prior to the application of the bituminous coating, the corrugated metal pipe shall be cleaned of all dirt, grease, mill scale, or loose rust and shall be dry.

b. The outside and inside surfaces of the corrugated metal pipe shall be completely coated with a pure aluminum coating metallurgically bonded by an alloy layer between

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the steel and the aluminum. The coating shall be applied at a minimum of 1 oz./sq.ft., 2 mils. each side. The weight of aluminum (total both sides) shall be as follows: Minimum check limit triple-spot test=1.00 oz/sq feet, minimum check limit single-spot test=0.90 oz/sq feet. The aluminized steel pipe shall be Armco Aluminized Steel Type 2 or equal.

c. All rivets shall be placed in the inside valley of the corrugations. The interior coating shall be protected against damage from insertion or removal of struts or tie wires. Lifting lugs, where used, shall be so placed as to facilitate moving the pipe without damage to the exterior or interior coating. All lateral pipe shall be sixteen (16) gauge. All pipe under possible traffic areas will be twelve (12) or fourteen (14) gauge as indicated.

d. To facilitate field jointing, the ends of pipes with helical corrugations shall be rerolled to form circumferential corrugations from the end. The diameter of the reformed ends shall not exceed that of the pipe barrel by more than the depth of the corrugation.

2. Polyvinyl chloride (PVC) pipe shall be manufactured and tested in accordance with specification for "Poly (Vinyl Chloride) PVC Large Diameter Ribbed Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter." The pipe and fittings shall be made of PVC plastic and shall have a smooth (not ribbed or corrugated) inside surface. All pipe shall be bell and spigot. The bell shall consist of an integral wall section or an internal plastic sleeve. The solid cross section rubber ring shall be factory assembled on the spigot. Size and dimensions shall be as shown on the plans. Standard laying length shall be 13 feet ±1 inch. All fittings and accessories shall be as manufactured and furnished by the pipe supplier or approved equal and have bell and/or spigot configurations compatible with that of the pipe. Pipes shall be designed to pass all tests described herein at 73 degrees F (±3degrees F). The pipe stiffness shall equal or exceed 10 psi when tested in accordance with ASTM D 2412.

B. Pipe Joints:

1. Joints for concrete pipe shall be one of the following types:

a. Bell and spigot with rubber gaskets.

b. Tongue and groove with rubber gaskets.

c. Tongue and groove with preformed plastic gaskets.

2. Rubber Gaskets shall conform to ASTM Specification C443. Only a neutral agent shall be used as a lubricant. Performed Plastic Gaskets shall conform to Federal Specification SS-S210, Type I-rope form.

3. Field joints of corrugated steel pipe shall maintain pipe alignment during construction and prevent infiltration of side material during the life of the installation. Circumferential and longitudinal strength shall be provided in accordance with the structural joint performance criteria of Division 2, Section 23 of the AASHTO standard specification for Highway Bridges. The bands shall be constructed in such a manner that will effectively engage the pipe ends. Coupling bands shall not be more than 3 nominal sheet thickness' lighter than the thickness of the pipe to be connected and in no case lighter than 0.052 inches. Bolts and nuts for coupling bands shall conform to the requirements of ASTM Designation: A307.

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Bands shall be furnished to lock with the circumferential corrugations, including rerolled end helical pipe. The corrugated bands shall be not less than 7 inches wide for diameter 4 to 36 inches, inclusive, and not less than 10 1/2 inches wide for all other pipe diameters.

NO DIMPLE BANDS WILL BE ALLOWED.

4. Joints for PVC pipe must be an integral bell gasketed joint, which forms a silt tight joint.

C. Precast Concrete Manhole Sections:

ASTM C478, except that spacing of manhole steps or ladder rungs shall not exceed 12 inches.

D. Masonry Manholes: Shall be constructed of the following materials:

1. Brick: ASTM C32, Grade MS

2. Concrete Masonry Units: ASTM C139.

3. Mortar of Masonry: ASTM C279, Type M.

4. Aggregate for Masonry Mortar: ASTM C144.

5. Water: Water for Masonry Mortar shall be fresh, clean and potable.

E. METALS

1. Frames, Covers, and Grating: Frames, covers, grating shall conform to ASTM Specifications A-536 and shall be of ductile iron.

2. Manhole Steps: Manhole steps shall be constructed of a number of 3 reinforcing bar encapsulated in polypropylene plastic with a non-skid tread. Finished dimensions of the steps shall be identical to that of malleable iron manhole steps. Steps to have a minimum tread width of 12 inches.

2.02 DELIVERY AND STORAGE

A. Storm Drainage Pipe: Care shall be exercised in loading and unloading pipe, fittings, specials and castings at all times in order to avoid shock and damage to the materials. Lifting shall be by hoist or by rolling on skids. Dropping will not be permitted. The Contractor shall be responsible for the safe handling of all materials and no damaged materials shall be used in the work. Materials shall be inspected upon arrival at the site, and any damaged or defective materials shall be immediately removed from the site. All materials shall be stored above grade.

B. Cementious Materials: Cementious materials in bags shall be stored in enclosed structures, floors shall be elevated above the ground a distance sufficient to prevent the absorption of moisture.

C. Metal Items: Metal items, including reinforcing steel, shall be stored above grade in a manner which will not cause excessive rusting or coating with grease or other objectionable materials.

D. PVC Pipe: PVC pipe shall be stored protected from sun light by means of covering the pipe or storing inside a building or under a covered shed. Any pipe showing signs of prolonged outside storage (i.e. faded exterior color or signs of drying) shall be rejected.

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E. Aggregates: Aggregates shall be stored on areas to prevent the inclusion of foreign material. Aggregates of different sizes shall be stored in separate piles. Stockpiles of coarse aggregate shall be built in horizontal layers not exceeding 4 feet in depth to minimize segregation. Should the coarse aggregate become segregated, it shall be remixed to conform to the grading requirements.

F. Brick, Concrete Masonry Units and Precast Concrete Manholes: Brick, concrete masonry units and precast concrete manholes shall be handled with care to avoid chipping and breakage, and shall be stored to protect them from contact with the earth and exposure to the weather, and shall be kept dry until used. Masonry units or precast concrete containing frost or ice shall not be used.

PART 3 - EXECUTION

3.01 DRAINAGE PIPE

A. Each section of pipe shall be carefully examined before being laid, and defective or damaged pipe shall not be used.

B. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when trench conditions or weather are unsuitable for such work. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary. Pipe shall be laid true to line and grades indicated and shall rest upon the pipe bed for the full length of each section. Runs of pipe shall be laid with outside bells or grooved ends up-grade beginning at the lower end of the pipe line. Pipe having its grade and/or joint disturbed after laying shall be removed, cleaned, and relayed.

C. When pipes are protected by head walls or connect with drainage structures, the exposed ends of the pipe shall be placed or cut flush with the inside face of the structure. After the pipe is cut the rough edges shall be smoothed up in an approved manner. All pipe shall be laid so that markings are on top and the inner surfaces abut neatly, tightly and smoothly.

D. All pipe in place shall be observed by the Engineer before being covered and concealed unless this requirement is waived by the City Inspector and the Design Engineer. Contractor shall clear all pipe of silt debris prior to final acceptance.

3.02 CORRUGATED METAL PIPE JOINTS

A. Corrugated metal pipe shall be butted to form a smooth joint; the space between the pipe and coupling bands shall be kept free from dirt and grit so that the corrugations fit snugly. The coupling band while being tightened shall be tapped with a soft head mallet of wood, rubber or plastic to take up slack and insure a tight joint. Coupling band bolts and damaged areas of the coupling bands and pipe shall be given a coating of bituminous cement. Pipe on which the asphalt coating has been damaged to such extent that satisfactory field repairs cannot be made will be replaced.

3.03 CONCRETE PIPE JOINT

A. Joint installation shall be in accordance with the recommendations of the manufacturer of the joint material. Surfaces to receive lubricants, cements or adhesives shall be clean and dry. Gaskets and jointing materials shall be affixed to the pipe not more than 24 hours prior to the installation of the pipe, and shall be protected from the sun, blowing dust and other deletious agents at all times. Gaskets and jointing materials shall be inspected before installation of the

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pipe, and any loose or improperly affixed gaskets and jointing materials shall be removed and replaced.

B. The pipe shall be aligned with the previously installed pipe, and the joint pulled together. If, while making the joint, the gasket or jointing material becomes loose and can be seen through the exterior joint recess when the joint is pulled up to within one inch of closure, the pipe shall be removed and the joint remade.

3.04 MASONRY WORK

A. Mortar for Masonry: Mortar for brick masonry, concrete unit masonry, rubble stone masonry, and for bedding cast iron frames in masonry shall be Type M, conforming to ASTM C270.

B. Mortar for pargetting Masonry Walls: Mortar for pargetting masonry walls below grade shall be Type M, conforming to ASTM C270.

C. Brickwork: Brick in circular walls shall be laid in all header courses to form full and close mortar joints, ends and sides in one operation. Vertical joints shall be radial from the center. Brickwork around pipe inlets and outlets shall be built using sufficient mortar to seal the pipe tight in the wall.

D. Concrete Unit Masonry: Walls shall be constructed in horizontal courses, with vertical joints broken. Units shall be laid in mortar, and all joints shall be filled completely with mortar.

E. Masonry Structures: Masonry structure walls shall be constructed of brick, concrete masonry units or precast concrete structural sections.

3.05 PRECAST CONCRETE

A. Walls shall be constructed on a footing of cast-in-place concrete, except that precast concrete base sections may be used for precast concrete structure risers. Precast base sections shall conform to the applicable requirements for precast risers and tops in made ASTM C478. Mortar that has hardened to the extent that it cannot be made workable without the addition of water shall not be used. Thickness of parget shall be not less than 1/2 inch. No pargetting will be permitted on the inside of structures. Pargetting will not be required for precast concrete structures. Joint work inside masonry structures shall be smooth.

3.06 METAL WORK

A. Iron and steel shall be formed to shape and size with sharp lines and angles. Shearing and punching shall produce clean true lines and surfaces. Casting shall be sound and free from warp, cold shuts, and blowholes that may impair their strength or appearance. Exposed surfaces shall have a smooth finish and sharp well defined lines and arises. The necessary ribbets, lugs, and brackets shall be provided.

3.07 FIELD TEST

A. A light held in a drainage structure shall show a practically full circle of light through the pipe when viewed from the adjoining end of the line.

B. Lines under pavements shall be tested for infiltration by means of a suitable weir or other measurement device as directed by the City. When determination of infiltration is not practicable because of dry trench conditions, an exfiltration test shall be applied by filling with water so that the hydraulic head will be at least 6 inches above the crown of the upper end and

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of the section being tested. The amount of leakage (infiltration or exfiltration) shall not exceed 100 gallons per inch of diameter per day per mile of pipe.

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SECTION 02540
EROSION CONTROL

PART 1 - GENERAL

1.01 SCOPE

A. The work specified in this Section consists of furnishing, installing and maintaining temporary erosion controls and temporary sedimentation controls.

B. All erosion and sediment control measures shall be in accordance with the existing Erosion and Sedimentation Control Ordinance of the City of Hinesville.

1.02 DEFINITIONS

A. Temporary erosion controls shall include grassing, mulching, watering and reseeding on-site sloped surfaces, providing berms at the top of the slopes and providing interceptor ditches at the ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or minimized.

B. Temporary sedimentation controls shall include silt dams, traps, barriers and appurtenances at the toe slopes and in drainage ways.

PART 2 - MATERIALS

2.01 Hay bales shall be clean, seed free cereal hay type, securely bound with wire or mylar cord.

2.02 Netting shall be 1/2 inch, galvanized steel chicken wire mesh.

2.03 Filter stone shall be crushed stone conforming to the Department of Transportation State of Georgia-Standard Specifications-Construction of Roads and Bridges-1983 or latest edition - Table 800.01 H, Size Number 3.

PART 3 - EXECUTION

3.01 SEDIMENTATION CONTROL

A. Silt dams, traps, barriers, and appurtenances shall be installed and shall be maintained in-place for duration of construction.

B. Hay bales shall be staked with two (2) 1X4 wood stakes per bale driven eighteen (18) inches into the ground and finishing flush with the top of the bale.

1. Install two (2) stakes per bale with the long dimension of the stakes parallel to the long dimension of the bale.

2. Where bales are installed in multiple layers the bales shall be installed with vertical joints staggered and two (2) 1 x 4 wood stakes per bale driven through all layers, full from top of bale to eighteen inches into the ground.

3. Hay bales that have deteriorated shall be replaced with new materials.

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C. Silt Fence

1. Silt fence shall be installed in accordance with manufacture instructions. The bottom 2" should be installed beneath the ground surface.

2. A small trench should be dug before installation. The silt fence should then be installed and the trench back filled.

D. Erosion and sedimentation controls shall be maintained in a condition that will retain unfiltered water.

E. The Contractor shall construct the sedimentation ponds and control devices prior to clearing and grubbing the site to insure complete silt control. When the silt or the debris level is greater than 1 foot above the bottom of the pond, the Contractor shall remove the silt or debris to restore the proper elevation for the bottom of the pond.

F. The Contractor shall have all erosion and sedimentation control devices in service and operating properly prior to completion and final acceptance of the contract.

3.02 RESPONSIBILITY

A. The Contractor shall be solely responsible for insuring that no silt or debris leaves the immediate construction site. Any silt or debris that does leave the immediate site shall be cleaned up and the area disturbed shall be returned to its natural state as directed by the City Inspector at the Contractor's expense.

B. The Contractor has the option to submit additional control measures in the form of shop drawings.

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SECTION 02611
BASE AND PAVING

PART 1 - GENERAL

1.01 APPLICABLE STANDARDS

A. When used in this section, the term "Standard Specifications" shall mean the DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES 1983 edition unless amended herein.

B. American Society for Testing and Materials (ASTM) :

D-698 Test for, Moisture-Density Relations for soils

D-1557 Test for, Moisture-Density Relations for soils

PART 2 - PRODUCTS

2.01 MATERIALS

A. Base: The base shall conform to Section 310, Graded Aggregate Construction, of the Standard Specifications.

B. Prime: The prime coat shall be RC-70 and shall conform with Section 412, Bituminous Prime, of the Standard Specifications.

C. Tack Coat: The tack coat shall be RC-70 and shall conform with Section 413, Bituminous Tack Coat of the Standard Specifications.

D. Intermediate Course (Binder): The intermediate course shall be Type B Asphaltic Concrete and shall conform with Section 400, Hot Mix Asphaltic Concrete Construction of the Standard Specifications.

E. Surface Course - Asphalt Plant Mix: The surface course shall be Type E or F Asphaltic Concrete and shall conform with Section 400, Hot Mix Asphaltic Concrete Construction, of the Standard Specifications.

F. Paint: Paint for pavement marking shall be white Traffic Line Paint and shall conform with Section 870, Paint, of the Standard Specifications.

G. Concrete Curb and Gutter: Shall conform to Section 441- Concrete Curb, Gutter, Combination Curb and Gutter, Header, and Median of the Standard Specification.

PART 3 - EXECUTION

3.01 COMPACTION

A. Subgrade: The upper 12 inches of subgrade soils in all cut areas and all fill areas that are to receive new pavements shall be scarified and recompacted until a density equivalent to 95% standard Proctor maximum dry density in accordance with ASTM D698 has been obtained.

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B. Base: All base shall have minimum compaction of 100% of the maximum density obtained by the test procedure present in ASTM D1557, Method D. The maximum permissible lift thickness shall be 6 inches (compacted).

C. Moisture Content: Compaction shall be performed only when the moisture content of the soil is within 4% of the optimum moisture content at the time of compaction as determined by ASTM D698. Soils are to be dried prior to compaction by discing and aeration. An Independent Testing Laboratory shall determine if soils are within the optimum moisture content.

3.02 CONSTRUCTION

A. Preparation of Subgrade: Prior to placing of base and pavements, the construction of all utility lines (water, sewer, power, gas, etc.) which are to be placed under the pavements shall have been completed.

B. Base: The base course shall be constructed in accordance with Section 310 of the Standard Specifications to the compacted thickness specified.

C. Prime: The prime coat shall be applied at a rate of 0.25 gallons per square yard and in accordance with Section 413 of the Standard Specifications.

D. Tack Coat: The tack coat shall be applied at a rate of 0.10 gallons per square yard and in accordance with Section 413 of the Standard Specifications.

E. Intermediate and Surface Course - Asphalt Plant Mix: The intermediate and face courses shall be constructed in accordance with Section 400 of Standard Specifications to the thickness indicated. All thicknesses are compacted.

F. Painting Centerline Stripe: Contractor shall paint a 4 inch wide broken yellow paint stripe in the center of all new streets. Broken centerline shall consist of painted segments 15 feet long with 25 foot unpainted gaps between painted segments.

G. Existing pavement which has pavement markings damaged by this construction shall be repainted.

H. Concrete Curb and Gutter: Shall be constructed in accordance with Section 441 of the Standard Specification.

3.03 TESTING

A. A compaction test by certified laboratory shall be required on the subgrade of streets dedicated to the City. Test for compaction shall be located no more than 500 feet apart and staggered right, left and on the centerline. A minimum of two-subgrade compaction test shall be required per street location to be determined by the City and the Design Engineer.

B. The thickness and compaction of base shall be required. A certified laboratory report shall be required as to the measured thickness and compaction of all material prior to placement of the asphalt wearing coarse. If deficiencies are found, the base material in the area will be removed and the subgrade regraded to allow the specified thickness of base material on the roadway.

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C. All streets to be dedicated to the City of Hinesville shall be proof rolled with a fully loaded (18 yard) tandem axle dump truck. Both subgrade and base material shall be subject to this test procedure.

3.04 EXISTING PAVEMENT RESTORATION

A. Pavement damaged due to construction shall be patched or replaced as directed by the City Inspector and at no cost to the City.

B. Pavement damaged by new utility trenches shall be restored as directed.

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SECTION 02821
GRASSING

PART 1 - GENERAL

1.01 APPLICABLE STANDARDS

A. Conform to Section 700 and other applicable articles of the "Standard Specifications Construction of Roads and Bridges", of the Department of Transportation, State of Georgia, dated September 15, 1977. Omit all references to measurement and payment.

1.02 SOIL SAMPLES

A. The Contractor shall take soil samples from several areas of the site to be grassed and have them analyzed by the Georgia Extension Service. The results of the analysis shall determine the best fertilizer mixture to use on the site.

PART 2 - MATERIALS

2.01 FERTILIZER

A. Commercial Fertilizer: Fertilizer for lawns shall be a complete fertilizer, the nitrogen content of which shall be derived from either organic or inorganic sources and meeting the following minimum requirements of plant food by weight, unless the soil analysis and report indicates a need for a different fertilizer mixture in which case the recommended mixture shall be furnished and applied. All State and Federal laws relative to fertilizer must be complied with.

10% Nitrogen - 12% Phosphoric Acid - 12% Potash

B. Ground Limestone: Lime shall be ground dolomitic limestone containing not less than 85% of total carbonates and shall be ground to such fineness that 50% will pass through a 20-mesh sieve. Coarser material will be acceptable, provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve.

C. Sodium Nitrate shall be a commercial product in dry powder form and shall be delivered in the original, unopened containers each bearing the manufacturer's guaranteed statement of analysis. It shall contain not less than 16% Nitrogen.

2.02 LAWN MATERIALS

A. Kentucky 31 Fescue (Fescue elatior: var. arundinacea): Seed shall be 98% min. purity and 85% germination.

B. Bermuda Grass (Cyanodon Dactylon): Seed shall be 98% min. purity and 85% germination.

3.01 PREPARATION

A. Prepare the seed bed by thoroughly cultivating, discing and hand raking as necessary to produce a smooth even grade free from hollows or other inequalities. Before any seeding is attempted the soil must be in a well pulverized, smooth, friable condition of uniformly fine texture.

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3.02 FERTILIZING AND LIMING

A. Approximately two (2) days prior to the start of seeding operations, apply ground limestone at the rate of 20 pounds per 1000 sq. ft. of lawn area. Either in conjunction with the above operation or immediately afterwards apply the specified Commercial Fertilizer over all lawn areas at the rate of 30 pounds per 1000 sq. ft. of lawn area. Work limestone into the top 6 inches of ground and the fertilizer into the top 2 inches of ground.

B. When the grass has started to cover well (approximately 4 weeks after sowing seed) apply 1-1/2 pounds of Ammonium Nitrate to all lawn areas and immediately water using a fine spray. At the end of the maintenance period and prior to the final inspection apply 10 pounds of the specified Commercial Fertilizer per 1000 sq. ft. of lawn area and immediately water.

3.03 SEEDING

A. Before any seeding is attempted the soil must be in a well pulverized, smooth , friable condition of uniformly fine texture. Lawn areas shall be seeded evenly with a mechanical spreader at the rate of 2 lbs. of seed per 1000 sq. ft., 50% in one direction and the remainder sown at right angles to first sowing. The seeded areas shall be lightly raked, rolled with a suitable weight roller and watered with a fine spray.

3.04 WATERING

A. Soak soil to a minimum depth of 6 inches immediately after seeding. Do not wash away soil or seed. Keep all surfaces continuously moist thereafter until 30 days after the lawn has been seeded. Use fine spray nozzles only.

3.05 Fescue planting season shall be as approved by Engineer.

3.06 Bermuda Grass seeding shall be planted only between May 1 to September 1.

3.07 Maintenance of grass areas shall consist of watering, weeding, cutting, repair of any erosion and reseeding or resodding as necessary to establish a uniform stand of the specified grasses, and shall continue until final acceptance.

3.08 All grassed areas that do not show satisfactory growth within 15 days after sowing shall be re-sown and re- fertilized as directed until a satisfactory blanket is established. Approximately 3 weeks after sowing the last seed, but not before the seed has taken hold and the grass is growing well, apply sulfate of ammonia or sodium nitrate at the rate of 300 pounds to the acre and water immediately. The lawns shall be considered established when they are reasonably free from weed, green in appearance and the specified grass is vigorous and growing well on each square foot of lawn area. Full coverage is required in 60 days.

3.09 All grassed areas shall be protected until accepted. All eroded and damaged areas, regardless of cause, shall be immediately repaired and reseeded. Protect lawn areas against traffic.

3.10 Grassed areas shall be covered evenly with a loose layer of clean wheat, rye, oats, Serecia Lespedeza or Coastal Bermuda Hay. Two tons of dry mulch shall be applied to each acre seeded. Hay shall be placed during calm weather with no wind.

3.11 As soon as the grass becomes established, a final inspection of the work will be made, provided a written request for such inspection is given to the Engineer. Satisfactory coverage is defined as coverage of the areas seeded with grass that is alive and growing, leaving no bare spots larger than one (1) square foot with 98% coverage.

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3.12 When grassing is required between curbs and sidewalks, behind sidewalks in areas adjacent to private property, the Engineer may change the type of seeding to that required to match any type of grass which may be planted and growing on the adjacent lawn. No increase in the Contract Sum will be made for this substitution.

3.13 All temporary valves, cutoffs and piping shall be removed by the Contractor at final acceptance of the grassing.

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SECTION 03300
CONCRETE GENERAL

PART 1 - GENERAL

1.01 QUALITY STANDARDS

A. Any procedure and material operation specified by reference to the following publications shall comply with the requirements of the current specification or standard:

1. American Society for Testing Materials (ASTM):

A185 Welded Steel Wire Fabric for Concrete Reinforcement.

A615 Deformed Billet-Steel Bars for Concrete Reinforcement.

C31 Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field.

C33 Specification for Concrete Aggregate.

C39 Compressive Strength of Molded Concrete Cylinders.

C94 Specification for Ready-Mixed Concrete.

C143 Slump of Portland Cement Concrete.

C150 Portland Cement

C172 Sampling Fresh Concrete

C192 Making and Curing Concrete Test Specimens in the Laboratory.

D1751 Preformed Expansion Joint Fillers for Concrete Paving.

2. American Concrete Institute:

ACI 301 Specification for Structural Concrete for Buildings.

ACI 305 Recommended Practice for Hot Weather Concreting.

ACI 318 Building Code Requirements for Reinforced Concrete.

ACI 350 Sanitary and Water Holding Structure.

1.02 QUALITY CONTROL

A. The Contractor shall submit to the Engineer, for review a design mix for each class of concrete listed under CLASSES OF CONCRETE, prior to placing any concrete.

B. Verification tests of design mixes and aggregates are required by the Engineer. Verification test specimens shall be made in accordance with ASTM C39 by an

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Independent Test Laboratory. Compressive strength shown by verification tests shall be at least fifteen percent in excess of the strengths listed under CLASSES OF CONCRETE. The Independent Testing Laboratory shall report the test results to the Engineer, in writing and shall note any failure to meet the specification.

C. Verification tests of design mixes made not more than one year prior to the date of submittal will be acceptable provided they were made from materials identical to those to be used in the project.

D. Mill Test: Conducted in accordance with ASTM A615 recommendations on each 15 tons, or less reinforcing shipped to the job. Two (2) copies of test to be sent to the Engineer.

E. Inspection and Testing of Concrete:

1. The cost of slump tests and sampling, molding, storing, materials, transporting concrete test specimens shall be paid by the Contractor. The laboratory or inspection agency shall be selected by the Owner. Costs of all laboratory testing services required because of failure to meet the requirements of these specifications shall be paid by the Contractor.

2. One set of four (4) acceptance cylinders shall be prepared for each day's placing of each strength of concrete and if more than 50 cubic yards of concrete is placed in any day, there shall be an additional set of cylinders prepared for each 50 cubic yards placed or for any fraction thereof. One cylinder shall be broken at seven days and two at twenty-eight days, with one cylinder held in reserve.

3. Responsibilities in Inspection:

a. Laboratory's Duties

1.) The reception and marking of specimens in the laboratory, laboratory curing, preparation for breaking and testing of cylinders shall be the responsibility of the laboratory and shall be performed by qualified laboratory personnel, observing all requirements of applicable ASTM Standards. Compression test specimens shall be tested in accordance with ASTM C39.

2.) Prior to the commencement of concrete work, the laboratory shall provide initial instruction in the performance of sampling and testing duties for an employee designated by the Contractor and shall provide him with copies of all ASTM Standards pertinent to his duties.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

b. Contractor's Duties:

1.) The Contractor shall deliver to the laboratory all materials to be used in required testing. He shall supply wheelbarrows, shovels, mixing boards, shaded work space and similar equipment required for molding test cylinders. He shall provide stable, insulated storage boxes, equipped with thermostatically controlled heat, for storage of cylinders in the first 24 hours after molding.

2.) He shall designate an employee, who alone shall perform all operations of sampling concrete, molding test specimens, protecting test specimens for the first 24 hours after molding, and packing and shipping of test specimens. The employee shall make a record of a slump test in connection with each truckload of concrete. The designated employee shall receive initial instruction in the performance of his sampling and testing duties from a representative of the testing laboratory and shall have available copies of all ASTM Standards pertinent to his duties. Sampling shall conform to ASTM C172. Slump tests shall conform to ASTM C143. Compression test specimens shall be made and cured in accordance with ASTM C31.

3.) Each set of test cylinders shipped to the laboratory shall be accompanied by a report giving information as to location in the structure of concrete sampled, time and date of sampling, air temperature, slump, class designated nominal strength, air content if applicable, temperature of concrete, truck number, and time batched. Each report shall be signed by the employee making the test and by the Contractor or his representative, certifying that the test specimens have been made by the one designated, fully instructed employee and have been made in accordance with applicable standard specifications.

4.) Should any concrete fail to meet the specified strength, have a slump in excess of that required by the design mix for each class of concrete listed under CLASSES OF CONCRETE, or result in voids, honeycombs or otherwise fail to meet the requirements, the Engineer may order the concrete removed, further tests made, or other remedial measures taken, all at the Contractor's expense.

1.03 SHOP DRAWINGS

A. After making his check the Contractor shall submit to the Engineer one (1) blue line copy of each of placing plans, bending details and bar lists covering all reinforcing steel.

B. Full information for checking and for proper installation without reference to other drawings shall be included. At splices the amount of lap shall be shown. Location and arrangement of accessories shall be clearly shown. Elevations shall be drawn

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

for all reinforced masonry and reinforced concrete walls to a scale no smaller than 1/4 inch = 1 foot.

C. Work shall not proceed before the Contractor has received shop drawings approved by the Engineer. The Contractor shall be responsible for the conformation of all typical and special reinforcing steel details.

D. Engineer's review is for conformance to the design concept and contract documents. Markings or comments shall not be construed as relieving the Contractor from compliance with the project plans and specifications, nor departures therefrom. The Contractor remains responsible for details and accuracy, for selecting fabrication processes, for techniques of assembly, and for performing his work in a safe manner.

E. Proposed construction joint shall be clearly indicated on shop drawings and subject to approval of the Engineer.

1.04 INSPECTION

A. The Contractor shall give the City and Design Engineer 24 hours advance notice before starting to place concrete in any portion of the structure to permit observation. An authorization of the Engineer shall be secured before concrete is placed. Any concrete placed in violation to this provision shall be replaced by new concrete if required by the Engineer.

B. Prior to notification of the Engineer, the Superintendent shall personally inspect the work and verify that it is ready for observation.

C. At the time of observation, all reinforcing in the area where concrete is to be poured shall be in place, tied and ready for the placement of concrete. All anchors, sleeves, inserts, etc., shall be securely held in position.

1.05 STORAGE

A. Reinforcing steel delivered to the job and not immediately placed in forms shall be placed in racks or other supports at least eighteen (18) inches above ground.

PART 2 - MATERIALS

2.01 CEMENT: Portland cement shall conform to ASTM C150, Type I.

2.02 AGGREGATES

A. Aggregates for standard weight concrete shall conform to ASTM C33, maximum size: 3/4 inch

2.03 WATER

A. Mixing water shall be potable

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2.04 REINFORCING STEEL

A. Reinforcing bars shall be American manufactured conforming to the requirements of ASTM A615 "Deformed Billet Steel Bars for Concrete Reinforcement", Grade 60.

B. Welded wire-fabric or cold-drawn wire for concrete reinforcement shall be of American manufacture and shall conform to the requirements of the ASTM A185 "Welded Steel Fabric for Concrete Reinforcement."

C. Accessories shall conform to the requirements of C.R.S.I. Manuel.

2.05 READY MIXED STRUCTURAL CONCRETE:

A. Ready mix concrete shall be mixed and delivered in accordance with these specifications and requirements set forth in ASTM C94. In addition, these following conditions must be met:

1. Concrete shall be normal weight with an ultimate compressive strength at 28 days, and slump as follows:

2. Air entrained concrete shall be used for all structural concrete with the air content not less than 3 percent and no more than 5 percent.

B. Classes of Concrete:

Class A f'c = 3000 psi Slump 4 inches ±1 inch
Class AA f'c= 4000 psi Slump 3 inches ±1 inch
Class B f'c = 5000 psi Slump 5 inches ±1 inch

2.06 EXPANSION JOINT MATERIAL

A. Expansion joint material at slabs on grade shall be premolded asphalt saturated cellulose fiber or mineral strips conforming to ASTM D1751.

2.07 WALL TIES

A. Ties shall be made with breakback ends or other means of removing the tie end to a depth of at least 1 inch from the concrete surface after the forms are removed.

2.08 LIQUID FORM SEALER

A. Form sealer shall be a standard product compatible with the finish required for exposed concrete and shall contain no paraffin oil or mineral oil.

PART 3 - FORMWORK

A. Forms shall conform to the shapes, lines and dimensions of the members as indicated, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be braced or tied together so as to maintain position and shape.

B. Formwork shall be observed by the City and Design Engineer before pouring concrete. Before placing the reinforcement, surfaces of wood forms in contact with the concrete, unless lined, shall receive a thorough coating of form sealer. The

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Engineer shall have the right to reject any forms that do not appear to him to be sufficient as to alignment and of producing the required finished surface. Should misalignment of forms or screed, excessive deflection of forms or displacement of reinforcing occur during concrete placing, corrective measures shall be immediately made to the extent, if necessary, that placing operations shall be stopped and concrete removed from within forms. The surfaces to required dimensions and cross section. Exposed lines and surfaces shall not vary from dimensions shown on plans by more than 1/4 inch in twenty feet.

C. Forms may be constructed of wood or metal. Earth forms for footings may be permitted if local conditions are favorable, and approved by the Engineer. Form work for exposed concrete shall be form grade plywood.

D. Studs, waler, and ties shall be so spaced that the load of wet concrete will not stress ties beyond the printed working load recommended by the manufacturer not cause spans of form material to deflect from a true surface.

E. The Contractor shall maintain a continuous check upon formwork during the placing of concrete. An instrument check shall be periodically made or "Tattle Tail" rods or other devices shall be used to detect any settlement in forms.

F. Conduits in Concrete: Conduits shall not displace reinforcing steel from its intended position, nor impair the strength of the structure and should be isolated.

G. The Contractor shall assume all responsibility for removal of formwork. Elevated concrete slabs shall attain 70% of the specified ultimate strength before removing the forms. After removing forms, slabs shall be reshored at mid-span and at all points under shores supporting forms for the work above. No floor shall be loaded in excess of the live load for which designed unless adequate shores are place beneath members supporting the concrete of load.

3.02 PLACING REINFORCING STEEL

A. Reinforcement shall be shop fabricated, accurately positioned and secured with not less than 16 gauge annealed wire or suitable clips.

B. No bars, partially embedded in concrete shall be field bent, unless noted otherwise.

C. Reinforcing bars shall be accurately placed and secured in position by approved chairs, spacers or ties to maintain the position of the reinforcing steel prior to and during placing of concrete.

D. Reinforcing steel support chairs and bolsters for use in concrete to be exposed shall have galvanized steel leg.

E. No splices shall be made, except as shown on approved Shop Drawings or approved in writing by the Engineer.

F. The placement of reinforcement shall be observed by the City and Design Engineer before pouring of concrete. Should there by any delay in the work, reinforcement previously placed shall be reinspected and cleaned if necessary before concrete placement is resumed.

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G. Metal reinforcement shall be protected by concrete cover. Where not otherwise shown, the thickness of concrete over the reinforcement shall be as follows:

Footings	3" clear sides and bottom
Slabs	3/4" clear, top and bottom
Beams	2" clear, all around
Walls	2" clear, both faces
Columns & Piers	2" clear

H. All splicing or reinforcement not shown shall be approved by the Engineer. Splices shall not be made a point of maximum stress and shall provide sufficient lap to transfer the stress between bars by bond. Hook and bending details, column tie arrangements, etc., shall be as shown by the S.R.A.I. Manual or the ACI Detail Engineering Manual.

I. Wire mesh reinforcing shall be placed one inch from top of concrete slabs on ground. Lap all joints 12 inches and extend mesh to within 1 inch of sides and ends of slabs.

J. Wire brush all steel prior to placing concrete.

3.03 CONCRETE MIXING AND PLACING

A. Ready-mix concrete shall conform to ASTM C94. Not more than one hour shall elapse between the time mixing water is added to the batch and the concrete is poured. No water shall be added on the job.

B. No concrete shall be placed until all embedded items and reinforcing have been placed in the forms and observed by the Engineer. At least 24 hour notice shall be given the Engineer of an impending pour, so that he may observe the work, prior to placing.

C. Concrete shall be conveyed from the mixer to the place of final deposit by methods that will prevent segregation or loss of materials.

D. Concrete shall be deposited in its final position to avoid segregations and separation do to rehandling or flowing. The placing shall be carried on at such a rate that concrete is at all times plastic and flows readily into the spaces between bars. When placing is once started, it shall be carried on as a continuous operation, until placement of that section is completed.

E. Concrete shall be worked into and around bars and embedded items with spades, rods, trowels and vibrators, so as to produce a solid homogeneous mass, free of voids, pockets or honeycombs.

F. Construction joints shall be installed and located as indicated. Where a joint occurs, the surface of the concrete shall be thoroughly cleaned and all laitance removed and shall be left rough or mechanically roughened, thoroughly wetted and slushed with a coat of neat cement grout immediately before placement of new concrete.

G. All embedded items, including anchor bolts and dowels, shall be in place, preset and held in position, before any concrete is placed.

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H. No concreting shall be performed when ambient temperatures are below 40° F or if the temperature is predicted by the local U.S. Weather Bureau will fall below 40°F within 24 hours after the time of installation.

I. No concrete shall be installed against frozen ground. All foundation cavities and slab areas that have frozen, shall be thoroughly clean of all loose earth prior to pouring concrete.

J. All newly poured concrete shall be protected from freezing or near freezing weather during the cure period.

K. Hot weather precautions shall be taken whenever the maximum air temperature exceeds 80°F during the day. Hot weather concreting shall be performed in accordance with ACI 305.

3.04 ANCHORAGE

A. Slots, inserts, and connections elements for anchoring items to concrete shall be built into forms before placing concrete.

3.05 SLABS ON GRADE

A. Concrete shall be compacted, screeded to grade, and prepared for the specified finish. Slabs shall be placed in panels in alternate checkerboard pattern or in alternate lanes divided into panels. Each panel shall be approximately square terminated by slab joints.

B. Contraction joints shall be true to line 1/8 inch wide, and of depth equal to approximately 1/4 of the slab thickness. Joints shall be sawed or formed.

3.06 CURING

A. Provisions shall be made for maintaining concrete in a moist condition for at least 10 days after the placement of the concrete, or by one of the following methods:

1. Spraying with water or ponding

2. Using moisture retaining covers

B. The spraying water shall be applied on unformed surfaces within one hour after the forms are stripped and the spraying shall be continuous. The moisture retaining cover shall be applied on unformed surfaces immediately after the concrete is finished. If there is any delay, the concrete shall be kept moist until the application is made. If the surfaces are formed, the forms shall be removed and the concrete sprayed lightly with water before the cover is applied.

C. When concrete surfaces are to receive applied finishes of materials, all curing compounds shall be checked for compatibility with other material to be applied to the concrete surfaces before application.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

3.07 CONCRETE FINISHES

A. All poured joints, voids, honeycombs and other imperfections shall be patched within the same working day that forms are removed.

B. Troweled Finish:

1. Troweled finish shall be applied to the surface of all floors unless ceramic tile, quarry tile or pavers are called for on finish schedule.

2. Floor slabs shall be screeded to an even surface by the use of straight-edge and screeding strips accurately set to the proper grade. The concrete shall be floated with a wood float in a manner which will compact it and produce a surface free from depressions or inequalities of any kind. Floors shall be level with a tolerance of 1/8 inch in 10 feet except where drains are indicated. After the concrete has hardened sufficiently to prevent fine materials from working to the top and has been allowed to stand until all water sheen has disappeared, it shall be steel troweled. Final troweling shall be done after the concrete is hard enough that no mortar accumulates on the trowel and a ringing sound is produced as the trowel is drawn over the surface. The drying of the surface moisture before troweling shall proceed naturally and shall not be hastened by the dusting on of dry sand or cement.

C. Non-slip Finish: All exterior platforms and step treads shall be made non-slippery by application at not less than 1/4 lb. per sq. ft. of aluminum oxide or emery aggregate graded from particles retained on a #50 mesh screen to particles passing an 1/8 inch screen placed during the finishing process. Abrasive aggregate shall be sprinkled by hand as soon as the freshly placed cement will support the weight of workmen and floated into the surface.

D. Unfinished Slabs: Depressed slab areas to receive ceramic quarry tile or pavers shall be finished to remove all laitance and to leave a slightly roughened, surface to insure bond. The surface of the slab shall not vary in any direction more than 1/8 inch when tested with a ten foot straight edge. The straight edge shall be lapped one half its length as the test is being made.

3.08 CONCRETE FLOOR HARDENER

A. All concrete floor slabs shall be cured with concrete floor hardener, "Clear Bond", as manufactured by Guardian Chemical, "Triple-Cure: by Cobra Chemicals, or "Seal tight Cs-309 by W.R. Meadows. The floor hardener shall be applied in strict accordance with the manufacturer's recommendations.

B. Walks shall be tooled, full 1 inch deep into separate slabs as indicated. Surface edges of each slab shall be rounded to approximately 1/4 inch radius.

C. Final finish shall be a medium or light broom finish and all tool marks completely removed.

D. Expansion joints shall be placed a maximum 20 ft. intervals and at all intersections with steps, curbs other walks or abutting structures. Joints shall extend from the surface to the subgrade at right angles to the sidewalk.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

E. Expansion joint filler shall be 1/2 inch thick and as wide as the full width and depth of the sidewalk.

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ADDENDUM NUMBER ONE
TO
REQUEST FOR BIDS, CONTRACT DOCUMENTS, CONSTRUCTION SPECIFICATIONS AND DRAWINGS
FOR CONSTRUCTION OF

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY INSERTING ITS NUMBER IN THE PROPOSAL. FAILURE TO DO SO MAY SUBJECT BONA FIDE PROPOSERS TO DISQUALIFICATION. THIS ADDENDUM FORMS A PART OF THE PROJECT DOCUMENTS; IT MODIFIES THEM AS FOLLOWS:

1. BID DOCUMENTS

    a. SURETY REQUIREMENTS

    The SURETY REQUIREMENTS form on page 18 states “The bidder further certifies that his/her bid shall not be withdrawn for ninety (90) days form the date on which the bid is publicly opened and read.” This is revised to read “The bidder further certifies that his/her bid shall not be withdrawn for sixty (60) days form the date on which the bid is publicly opened and read.”

2. NOTES OF CLARITY

    a. A prime coat is required. The cost for the prime coat should be included in the price for asphalt.

    b. The bid item Structure Relocation is for the removal, relocation and reinstalling of items such as mailboxes, signs and like items that would interfere with the construction of the project.

    c. The asphalt paving specs in the bid documents reference Section 400 of the GDOT Specifications but not Section 402.

    d. The use of GDPT Section 402 Hot Mix Recycled Asphaltic Concrete (RAP) is approved to be used on this project.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

ADDENDUM NUMBER TWO
TO
REQUEST FOR BIDS, CONTRACT DOCUMENTS, CONSTRUCTION SPECIFICATIONS AND DRAWINGS
FOR CONSTRUCTION OF

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD
FOR
THE CITY OF PORT WENTWORTH

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY INSERTING ITS NUMBER IN THE PROPOSAL. FAILURE TO DO SO MAY SUBJECT BONA FIDE PROPOSERS TO DISQUALIFICATION. THIS ADDENDUM FORMS A PART OF THE PROJECT DOCUMENTS; IT MODIFIES THEM AS FOLLOWS:

1. Schedule of Items

    a. Replace existing “Roadway Improvements for Antrim Road Schedule of Items” with the attached “Roadway Improvements for Antrim Road Schedule of Items” dated July 19, 2021. Noted changes are
        i. Item number 1 “Unclassified Excavation and Fill for Unsuitable Soils” has been changed to “Demolition, Excavation and Disposal of Unsuitable Material”. The initial schedule of items did not clearly include demolition and disposal. In addition, the initial schedule of items included fill material. The new schedule of items clearly clarifies the scope of work outlined in Specification 01150 Measurement and Payment, paragraph 2.01 Demolition, Excavation and Disposal of Unsuitable Material.

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

SCHEDULE OF ITEMS
ROADWAY IMPROVEMENTS FOR ANTRIM STREET
FOR
THE CITY OF PORT WENTWORTH

July 19, 2021

Item	Description	Quantity	Units	Unit Price	Item Price
1	Demolition, Excavation and Disposal of Unsuitable Material	3670	CY		
2	24" Structural Fill Material	3644	CY		
3	8" Graded Aggregate Base	3890	SY		
4	10" Graded Aggregate Base	280	SY		
5	Geotextile Fabric Mirafi RS580I or Approved Equivalent	3890	SY		
6	2.0" Asphaltic Concrete 12.5mm Superpave	432	TONS		
7	3.0" Asphaltic Concrete 19.0mm Superpave	64	TONS		
8	5.0" Asphaltic Concrete 25.0mm Superpave	80	TONS		
9	Remove and Replace Curb & Gutter	1608	LF		
10	Class B Concrete	50	SY		
11	Regrade Ditch	125	LF		
12	Storm Structure Core	5	EA		
13	Sewer Manhole Repair & Raise to Grade	3	EA		
14	Structure Relocation	1	SUM		
15	3' Flume Replacement	8	LF		
16	18" RCP Pipe	72	LF		
17	18" Flared End Section	2	EA		
18	6" Sock Drain w/#57 Stone & Fabric	3300	LF		

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

Item	Description	Quantity	Units	Unit Price	Item Price
19	24" Stop Bar White	6	EA		
20	5" Double Yellow Striping	1700	LF		
21	Inlet Sediment Trap (Sd2-F)	3	EA		
22	Inlet Sediment Trap (Sd2-P)	9	EA		
23	Silt Fence (Sd1-NS)	500	LF		
24	Haybale Checkdams (Cd-Hb)	4	EA		
25	Temporary Grassing (Ds2)	0.2	AC		
26	Permanent Grassing (Ds3)	0.2	AC		
27	Mulching (Ds1)	0.2	AC		
28	2' Sod Strip Behind Replaced Curb (Ds4)	1525	LF		
29	Traffic Control	1	SUM		
30	Mobilization 3% Max	1	SUM		
			GRAND TOTAL		
GRAND TOTAL IN WORDS					
	Optional Item				
31	Geotextile Fabric Tensar TX160 or Approved Equivalent	3890	SY		

Attachment: Antrim Road Roadway Improvements Contract Documents (2489 : Contract Award for the Antrim Road Roadway Improvements

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Development Services
Category: Contract
Prepared By: Melanie Ellis
Department Head: Brian Harvey

AGENDA ITEM (ID # 2490)

DOC ID: 2490

Notice of Award and Approval of Contract with Griffin Contracting, Inc., in the amount of $448,600.00 for the Red Robin Court Roadway Improvements Project

Issue/Item: Notice of Award and Approval of Contract with Griffin Contracting, Inc., in the amount of $448,600.00 for the Red Robin Court Roadway Improvements Project.

Background: Red Robin Court has been identified, by road condition standards established by the Georgia Department of Transportation, as City streets in need of repair and resurfacing. Trent Long, PE, T. R. Long Engineering, P. C., prepared plans and bid packets for the project.

Facts and Findings: The City of Port Wentworth received three responsible bids for the Red Robin Court Roadway Improvements Project. The bidders and amounts are as follows: 1) Griffin Contracting, Inc., bid the total amount of $448,600.00; 2) Sandhill ALS Construction Inc., bid the total amount of $528,480.00; 3)APAC - Atlantic, Inc., bid the total amount of $643,203.00. The apparent low bidder is Griffin Contracting, Inc., with a total bid of $448,600.00, and T.R. Long Engineering, P.C., recommends awarding the contract to Griffin Contracting, Inc., in the amount of $448,600.00.

Funding: Budgeted Line Item

Recommendation: APPROVAL of the award to Griffin Contracting, Inc., in the amount of $448,600.00 based upon the bids and recommendation of T.R. Long Engineering, P.C., and, that City Council authorize the Mayor to execute the contract documents awarding the contract to Griffin Contracting, Inc.

ATTACHMENTS:

- Red Robin Court Roadway Improvements Recommendation Letter (PDF)
- Red Robin Court Roadway Improvements Bid Tabulation (PDF)
- Red Robin Court Roadway Improvements Contract Documents (PDF)

114 North Commerce Street
Hinesville, Georgia 31313
Office: (912) 368-5664
Fax: (912) 368-7206

T R LONG ENGINEERING, P.C.

308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

August 18, 2021

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Red Robin Court Roadway Improvements
TRL # 2021-81

Dear Mr. Harvey:

T. R. Long Engineering, P. C. prepared construction plans and bid documents for roadway improvements on Red Robin Court. The work to be done consists of the demolition of roughly 0.12 miles of existing roadway and storm water system, the installation of 0.12 miles of new roadway, and the installation of a new storm water system.

Bids were opened for the above referenced project on July 29, 2021. As shown on the attached bid tabulation, three bids were received. The lowest responsible bidder is Griffin Contracting, Inc. with a bid price of $448,600.00. T. R. Long Engineering, P. C. recommends that the City of Port Wentworth enter into a contract with Griffin Contracting, Inc. in the amount of $448,600.00 plus a 10% contingency.

Should you have any questions, comments, or need any additional information, please contact us.

Sincerely,

Brandon Purcell, P.E.

Attachment: Red Robin Court Roadway Improvements Recommendation Letter (2490 : Contract Award for the Red Robin Court Roadway

BID TABULATION
RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

		QUANTITY		GRIFFIN CONTRACTING, INC.		SANDHILL ALS CONSTRUCTION, INC.		APAC - ATLANTIC, INC.	
ITEM	DESCRIPTION	NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST	PER UNIT	TOTAL COST	PER UNIT	TOTAL COST
*1	Grading Modified	0.11	MI	$ 430,000.00	$ 47,300.00	$ 1,363,636.36	$ 150,000.00	$ 341,000.00	$ 37,510.00
2	Remove & Replace Subgrade Material (S	950	CY	$ 40.00	$ 38,000.00	$ 20.00	$ 19,000.00	$ 83.00	$ 78,850.00
3	8" Graded Aggregate Base (GAB)	1650	SY	$ 28.00	$ 46,200.00	$ 25.00	$ 41,250.00	$ 37.00	$ 61,050.00
4	Geotextile Fabric Tensar TX160 or Approved Equivalent	1650	SY	$ 7.40	$ 12,210.00	$ 5.00	$ 8,250.00	$ 8.50	$ 14,025.00
5	3" Asphaltic Concrete 19.0mm Binder	275	TON	$ 107.00	$ 29,425.00	$ 150.00	$ 41,250.00	$ 125.00	$ 34,375.00
6	1.5" Asphaltic Concrete 12.5mm Superpa	140	TON	$ 123.00	$ 17,220.00	$ 150.00	$ 21,000.00	$ 135.00	$ 18,900.00
7	Remove and Replace 24" Curb & Gutter	1200	LF	$ 40.00	$ 48,000.00	$ 40.00	$ 48,000.00	$ 25.00	$ 30,000.00
8	Remove and Replace 6" Driveways	550	SY	$ 83.00	$ 45,650.00	$ 75.00	$ 41,250.00	$ 100.00	$ 55,000.00
9	Temporary Transition Driveways GAB	200	TON	$ 89.00	$ 17,800.00	$ 100.00	$ 20,000.00	$ 78.00	$ 15,600.00
10	Grate Inlet Type S Grate R-3034-B	4	EA	$ 4,785.00	$ 19,140.00	$ 4,000.00	$ 16,000.00	$ 4,200.00	$ 16,800.00
11	Junction Box/Interference Box	2	EA	$ 3,580.00	$ 7,160.00	$ 4,000.00	$ 8,000.00	$ 3,700.00	$ 7,400.00
12	Connect to Existing Storm Pipe	1	EA	$ 1,250.00	$ 1,250.00	$ 2,500.00	$ 2,500.00	$ 2,400.00	$ 2,400.00
13	18" RCP Pipe	176	LF	$ 72.00	$ 12,672.00	$ 50.00	$ 8,800.00	$ 95.00	$ 16,720.00
14	24" RCP Pipe	24	LF	$ 90.00	$ 2,160.00	$ 65.00	$ 1,560.00	$ 125.00	$ 3,000.00
15	30" RCP Pipe	232	LF	$ 97.00	$ 22,504.00	$ 90.00	$ 20,880.00	$ 125.00	$ 29,000.00
16	30" Flared End Section	1	EA	$ 1,179.00	$ 1,179.00	$ 2,000.00	$ 2,000.00	$ 3,000.00	$ 3,000.00
17	6" Sock Drain w/ #57 Stone and Fabric	1200	LF	$ 25.70	$ 30,840.00	$ 20.00	$ 24,000.00	$ 48.00	$ 57,600.00
18	5" Solid Double Yellow	1200	LF	$ 1.50	$ 1,800.00	$ 2.00	$ 2,400.00	$ 2.65	$ 3,180.00
19	24" Stop Bar	1	EA	$ 220.00	$ 220.00	$ 500.00	$ 500.00	$ 265.00	$ 265.00
20	Inlet Sediment Trap (Sd2-F)	5	EA	$ 250.00	$ 1,250.00	$ 100.00	$ 500.00	$ 183.00	$ 915.00
21	Inlet Sediment Trap (Sd2-P)	4	EA	$ 250.00	$ 1,000.00	$ 100.00	$ 400.00	$ 157.00	$ 628.00
22	Concrete Washout (CSW)	1	EA	$ 1,960.00	$ 1,960.00	$ 1,000.00	$ 1,000.00	$ 1,800.00	$ 1,800.00
23	Strom Drain Outlet Protection Rip Rap (S	45	SY	$ 100.00	$ 4,500.00	$ 100.00	$ 4,500.00	$ 85.00	$ 3,825.00
24	Silt Fence Sd1-NS	400	LF	$ 5.30	$ 2,120.00	$ 4.00	$ 1,600.00	$ 2.90	$ 1,160.00
25	Temporary Grassing (Ds2)	0.24	AC	$ 2,000.00	$ 480.00	$ 2,000.00	$ 480.00	$ 100.00	$ 24.00
26	Permanent Grassing (Ds3)	0.24	AC	$ 3,000.00	$ 720.00	$ 2,000.00	$ 480.00	$ 6,800.00	$ 1,632.00
27	2' Sod Strip Behind Replaced Curb (Ds4)	1200	LF	$ 3.00	$ 3,600.00	$ 2.00	$ 2,400.00	$ 2.10	$ 2,520.00
28	Mulching (Ds1)	0.24	AC	$ 3,000.00	$ 720.00	$ 2,000.00	$ 480.00	$ 100.00	$ 24.00
29	Traffic Control	1	SUM	$ 18,320.00	$ 18,320.00	$ 30,000.00	$ 30,000.00	$ 128,000.00	$ 128,000.00
30	Mobilization (Max 3%)	1	SUM	$ 13,200.00	$ 13,200.00	$ 10,000.00	$ 10,000.00	$ 18,000.00	$ 18,000.00
			GRAND TOTAL		$ 448,600.00		$ 528,480.00		$ 643,203.00

*Line item 1 - The bid from Sandhill ALS Construction, Inc. showed $150,000.00 in the unit price as well as $150,000.00 in the Total Cost. It is clear that the intent was for the total cost to be $150,000.00. The Unit Price has been adjusted to accommodate the total cost of $150,000.00.

Bid Opening Date: July 29, 2021: 2:00 P.M.

I certify that this is a correct representation of the bids received.

Brandon Purcell, P.E. 8/18/21 Date

Prepared by: Michelle C Adams

T. R. Long Engineering, P.C.
114 North Commerce Street
Hinesville, Georgia 31313
912-368-5664

Attachment: Red Robin Court Roadway Improvements Bid Tabulation (2490 : Contract Award for the Red Robin Court Roadway Improvements

114 North Commerce Street
Hinesville, Georgia 31313
Office: (912) 368-5664
Fax: (912) 368-7206

TR LONG ENGINEERING, P.C.

308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

CONTRACT DOCUMENTS

AUGUST 2021

PREPARED FOR

THE CITY OF PORT WENTWORTH
305 SOUTH COASTAL HIGHWAY
PORT WENTWORTH, GEORGIA 31407

2021-81 H

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

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Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

ADVERTISEMENT FOR BIDS
RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

Sealed bids will be received by the City of Port Wentworth at 305 South Coastal Highway Port Wentworth, Georgia 31407 until 2:00 P. M. local time on July 29, 2021, at which time and place they will be publicly opened and read. No submitted bid may be withdrawn after the scheduled closing time for receipt of bids for a period of sixty (60) days.

The work to be done consists of The work to be done consists of the demolition of roughly 0.12 miles of existing roadway and storm water system, the installation of 0.12 miles of new roadway, and the installation of a new storm water system.

Bids for the complete work in one or more general contracts shall be made on the bid form provided and shall contain prices in words and figures for the work bid. All bids shall he accompanied by a Bid Bond drawn in favor of the City of Port Wentworth, in the amount of at least five percent (5%) of the lump sum bid for the complete work; such Bid Bond representing that the Bidder, if awarded the contract will promptly enter into a contract and furnish Performance Bond and Payment Bond as provided by law and approved by the Attorney for the City of Port Wentworth. Each bond shall be equal to one hundred percent (100%) of the contract amount. The Bid Bond shall be forfeited to the City of Port Wentworth as liquidated damages if the Bidder fails to execute the contract and provide Performance and Payment Bonds within ten (10) days after being notified that he has been awarded the contract.

Drawings and Specifications are open to public inspection at the office of the City of Port Wentworth and at the offices of T. R. Long Engineering, P.C.

Copies of the plans and specifications must be obtained from T. R. Long Engineering, 114 North Commerce Street, Hinesville, Georgia, 31313, upon receipt of $150.00. Such fees represent reproduction cost and are non-refundable. Bidders must purchase a Bid Packet to be a registered bidder. Only bids from registered bidders will be opened.

The Owner reserves the right to reject any or all bids and to waive informalities.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

INSTRUCTIONS TO BIDDERS

1. INTENTION: It is intended that the Project Documents shall cover the complete work to which they relate.

2. DEFINITION: Where the following words, or the pronouns used instead occur herein, they shall have the following meaning:

   “Owner” shall mean the City of Port Wentworth party of the first part to the "Contract Agreement" or its authorized and legal representative.

   "Engineer" shall mean **T. R. Long Engineering, P.C** of 114 North Commerce Street, Hinesville, GA, 31313 acting for the Owner or other representative of such party.

   "Contractor" shall mean the party of the second part to the following agreement, or the legal authorized representatives of such party.

   WORK TO BE DONE: The work to be done consists of furnishing all materials, labor and equipment for construction of **Red Robin Court Roadway Improvements for the City of Port Wentworth** complete with appurtenances, all as set forth in the Bid, as specified herein, and as shown on the Drawings.

3. MATERIALS AND WORK BY THE OWNER: The Owner will neither furnish materials nor perform labor for construction of work under this contract, unless otherwise stipulated elsewhere in the Project Documents.

4. SITE EXAMINATION: The Bidder is expected and requested to examine the location of the work, and to inform himself fully as to the structural and mechanical conditions; the conformation of the ground; the character, quality, and quantity of the materials to be encountered; the character of equipment and facilities needed to execute the work; the general and local conditions; and all other matters which can in any way affect the work to be done under the contract.

   A sub-surface investigation has not been made on any portion of the work. Rock quantities shown in the Bid are estimated based on results of similar work in the area. The prospective bidder must form his own opinion of the character of the sub-surface materials to be encountered in excavating for and the construction of the various facilities.

5. BIDS: All Bids must be made upon the Bid forms provided and shall be for materials and work called for in the specifications and shown for each item in the Bid. The total amount bid for the work in the Bid shall be given in words and figures in the spaces provided. Bid forms shall not be detached from these Specifications. All blank spaces in the bid form shall be filled in with black ink in words and figures. The Certification must be completed and executed when submitted.

   A. Unit Price Items: The itemized quantities given in the Bid for unit price work shall be considered by the Contractor as the quantities required to complete the work. Should the actual quantities required in the construction of the work be greater or less than the quantities shown in the items, an amount equal to the difference in quantities at the unit prices bid for the item will be added to or deducted from the contract price.

   B. Lump Sum Price: Where itemized prices are not given in the Bid, the Contractor shall consider the lump sum prices bid for the work shown on the Drawings and/or specified to be sufficient for completion of his Contract.

   C. Total Amount Bid: The correct total amount bid is defined as the correct sum total of the amount bid for the items in the Bid. The correct amount bid for each unit price item is defined as the product of the quantity listed in the Bid for the item, multiplied by the unit price bid.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

D. The bids must be enclosed in a sealed envelope addressed to the **City of Port Wentworth and marked "Red Robin Court Roadway Improvements for the"City of Port Wentworth".** Bids may be submitted intact in this book or may be submitted detached from the book. The sealed bid must contain items listed below if any item is missing the bid may be considered irregular and bid may not be considered.

1. Completed Proposal Form and Schedule of Items.
2. Completed and executed surety documents.
3. Executed Surety Requirement Form.
4. Completed Statement of Bidder's Qualifications with References.
5. Completed Corporate Certificate Form
6. Completed Illegal Immigration Reform Affidavit for contractor.

6. RECEIPT AND OPENING OF BIDS: Bids must be filed with the Owner at or before the hour specified in the advertisement, and Bids filed after the specified time will not be considered. Bids sent by mail must be mailed with sufficient time allowed for the bid to reach the Owner prior to the opening of bids.

   The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof.

   Conditional bids shall not be considered.

   Bidders are requested to be present at the opening of Bids, which will be in public.

7. BID SECURITY: Each Bid must be accompanied by a certified check or by a Bid Bond in an amount equal to not less than five percent (5%) of the amount of the Bid, to guarantee that the Successful Bidder will, within ten (10) days from the date of the notice of award of contract, enter into an Agreement with the Owner, and execute to the Owner a Performance Bond and Payment Bond, each equal to 100% of the contract amount, the agreement and bonds to be in the form set forth in this Book. If for any reason whatsoever the Bidder withdraws from the competition after the Bid opening time, or refuses to execute the required agreement and bonds, if his Bid is accepted, the Owner may retain the amount of the certified check, or proceed on the Bid Bond. The surety on the Performance Bond and the Payment Bond shall be a surety company authorized to do business in the State of Georgia and shall be countersigned by an agent residing in the State of Georgia. The bonds and surety thereon shall be subject to approval by the Attorney for the Owner.

8. RIGHT TO REJECT BIDS: The Owner reserves the right to reject all bids, and to waive informalities. No bids will be received after the Bid opening time. Unauthorized conditions, limitation, and provisions attached to the Bid, except as provided herein, will render it informal and cause its rejection. Unbalanced bids will be subject to rejection. Any Bidder may withdraw his bid, either personally or by telegraphic or written request, at any time prior to the Bid opening time.

9. TELEGRAPHIC MODIFICATION: Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modification.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

10. DETERMINATION OF LOW BID: The contract will be awarded, if it is awarded, to the low, responsible, responsive bidder. The Owner will decide which is the low, responsible, responsive bidder. Responsiveness shall be defined by (a) the completeness and regularity of Bid Form, (b) a bid form without exclusions or special conditions, and (c) a bid form having no substitute bids for any items except as allowed under these Specifications. Responsibility will be based on whether the Bidder involved (a) maintains permanent place of business; (b) has adequate equipment to do the work properly and within the time limit established; (c) has suitable financial status to meet obligations incident to the work; and (d) has appropriate technical experience.

    A. The Bidder is requested to list prices of at least two manufacturers for each item of major equipment if listed on the Bid form. Use lowest price for base bid. If the make of any item listed in the base bid column does not meet specifications, the next lowest priced make listed for that item which does meet specifications will be used in determining the lowest bid price. If all of the listed makes of the item failed to meet specifications, the bid will be rejected on the grounds that it is nonresponsive.

    B. The Owner has the right to apply any or all "Deductions or Additions" (if any), listed in the proposal by the Engineer, for the purpose of making an award.

11. RETURN OF BID SECURITY: Owner will, within ten (10) days following the Bid opening, return the Bid security of all Bidders, except the Security posted by the three lowest Bidders; upon the award and execution of the contract, the remaining Bid securities will be promptly returned.

12. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS: If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of -the Drawings, Construction Specifications and other documents, and as to the scope of any part of the work, he must submit to the Engineer a written request for an interpretation thereof The person submitting the request will be responsible for its prompt delivery in ample time for an interpretation to be issued before the Bid opening date. Interpretations of the Project Documents will be made only by Addendum; a copy of each Addendum will be mailed or delivered to each person receiving a set of the Project Documents. The Engineer will not be responsible for other interpretations of the Project Documents.

13. COMPLETE WORK REQUIRED: The Construction Specifications, Drawings and all other documents are essential parts of the contract; requirements occurring in one are as binding as though occurring in all. Documents are intended to be cooperative, and to describe and provide for a complete work. In case of discrepancies on the Drawings, figured dimensions shall govern. In case of omissions from the Construction Specifications as to items of equipment, and materials or quantities therefore, the Drawings shall govern. It shall be the responsibility of the Bidder to call to the attention of the Engineer obvious omissions of those magnitudes which would affect the strength, adequacy, function, completeness (and cost of any part of the work, and in ample time for amendment by Addendum prior to the Bid opening date).

14. SUBCONTRACTS: The Bidder's attention is directed to the General Conditions concerning subcontracts. The Bidder is specifically advised that any person, firm or other party to whom it is proposed to award a subcontract under this contract.

    A. Must be acceptable to the Owner. Approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the subcontractor, which statement shall contain such as the Owner may require.

    B. Must provide insurance equal to that of the bidding contractor. Approval of the proposed subcontract award cannot be given by the Owner unless and until the proposed subcontractor has submitted the Certification and or other evidence showing that it has fully complied with any reporting requirements to which it is or was subject.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

Although the bidder is not required to attach such Certifications by proposed subcontractors to his bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

15. DRAWINGS: The character, location, and essential details of the work are shown upon a set of Drawings, entitled:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

The Drawings and Specifications shall form a part of the contract for the work. The Drawings shall be supplemented by working drawings as necessary. All authorized alterations affecting the requirement and information given on the Drawings shall be in writing.

16. EXTRA WORK ITEMS IN BID: The Bid contains certain unit price items entitled "Extra Work If Ordered by Engineer". In each of those items, the estimated quantity is based upon the average amount of extra work encountered in a typical job. The stated quantities are not guaranteed to be required or not to be required, but are included in the Bid in order to determine, in advance of construction, the actual low bidder. No work described by those items will be approved for payment without advance authorization by the Engineer.

17. NOTICE OF SPECIAL CONDITIONS: Attention is particularly called to those parts of the Contract Documents and Specifications which deal with the following:

    A. Inspection and testing of material
    B. Insurance requirements

18. POWER OF ATTORNEY: Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.

19. AUTHORITY TO SIGN: If a Bid is made by an individual, his name and Post Office address must be shown. If made by a firm, or partnership, the name and Post Office address of each member of the firm or partnership must be shown. If made by a Corporation, the person, or persons, signing the Bid must show the name of the State under the laws of which the Corporation is chartered and his or their, authority for signing same, and the names, titles and addresses of the President Secretary and Treasurer, and the Corporate Authority for doing business in this state.

20. WORKING DRAWINGS: Working drawings for any structure shall consist of such detailed plans as may be required for the prosecution of the work but not included in the plans. All necessary working drawings shall be furnished by the Contractor. They shall include shop details, erection plans, masonry layout diagrams, and bending diagrams for reinforcing steel, approval of which by the Engineer must be obtained before any work involving these plans may be performed. Plans for false-work, centering and form work may also be required and such cases shall be likewise subject to approval by the Engineer.
    It is expressly understood, however, that approval by the Engineer of the Contractor's working drawings does not relieve the Contractor of any responsibility for accuracy of dimensions and details. The Contractor shall be responsible for agreement and conformity of his working drawings with the Drawings and Specifications.

    The contract price shall include the cost of furnishing all working drawings and the Contractor will be allowed no extra compensation for such drawings.

21. COOPERATION OF CONTRACTOR: The Contractor will be supplied with five (5) copies of the Drawings and Specifications. The Contractor shall have available on the work, at all times, one (1) copy of each of said Drawings and Specifications. He shall give the work the constant attention

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

necessary to facilitate the progress thereof and shall cooperate with the Engineer and with other contractors in every way possible. The Contractor shall at all times have a Superintendent, satisfactory to the Engineer, capable of acting as his agent on the work, who shall receive instructions from the Engineer or his authorized representatives. The superintendent shall have full authority to execute the orders or directions of the Engineer without delay and to promptly supply such materials, tools, plant equipment and labor as may be required.

22. CONSTRUCTION STAKES: Subsidiary lines and grades shall be laid out by the Contractor from the controlling lines and bench marks furnished by the Engineer or from measurements shown on the Drawings. All lines and grades shall be subject to checking by the Engineer, but this checking shall in no way relieve the Contractor from responsibility for their correctness.

    The Contractor shall provide such stakes, materials, and such labor and assistance as the Engineer may require in laying out work, establishing bench marks and checking and measuring the work.

23. AUTHORITY AND DUTIES OF INSPECTOR: Inspectors shall be authorized to inspect all work done and materials famished, including preparation, fabrication and manufacture of the materials to be used. The Inspector shall not be authorized to alter or waive any requirements of the Specifications. He shall call the attention of the Contractor to any failure of the work or materials to conform to the Specifications and Contract. He may reject materials or suspend the work until any questions at issue can be referred to and decided by the Engineer.

    The presence of the Inspector shall in no way lessen the responsibility of the Contractor. The Contractor in no way relieves himself of responsibility for adequacy of the work by following the directives of the Inspector.

24. INSPECTION: The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work performed and materials used are in accordance with the requirements and intent of the Specifications and Contract. No work shall be done or materials used without suitable supervision or inspection by the Engineer or his representative. Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered, or obligate the Owner to final acceptance.

    All materials furnished and work done when not in accordance with the Specifications and Contract will be rejected and shall immediately be removed and other work done and materials furnished in accordance therewith. If the Contractor fails to remove the work and materials as above ordered, within forty-eight (48) hours, then the Engineer shall have the right and authority to stop the Contractor and his work at once and to supply men and material at the cost and expense of the Contractor to remove said work and materials.

25. DEFECTIVE WORK AND MATERIALS: The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his Contract and defective work shall be made good, notwithstanding that such work and materials have been previously inspected by the Engineer and accepted or estimated for payment. The failure of the Engineer to condemn improper materials or workmanship shall not be considered as a waiver of any defect which may be discovered later, or as preventing the Owner at any time subsequently from recovering damages for work actually defective. All work shall be guaranteed against defects in workmanship or materials for a period of one year after final acceptance.

26. CORRECTIONS: Should any portions of the Drawings and Specifications be obscure or in dispute, they shall be referred to the Engineer and he shall decide as to the true meaning and intent. He shall also have the right to correct any errors or omissions at any time when such corrections are necessary for the proper fulfillment of said Drawings and Specification.

27. DISAGREEMENT: Should any disagreement or difference arise as to the estimated quantities or classifications or as to the meaning of the Drawings or Specifications, on any point concerning the

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

character, acceptability and nature of the several kinds of work, any materials and construction thereof, the decisions of the Engineer shall be final and conclusive and binding upon all parties to the Contract.

28. WEATHER: During unseasonable weather, all work must stop when the Engineer so directs and all work must be suitably protected.

29. RIGHT OF WAY: The necessary land for the construction of the work will be furnished by the Owner. The Contractor is directed to the Owner for right-of-way actually acquired. The Owner will provide no right-of-way over other property. The contractor shall take every possible precaution to inconvenience as little as possible the owners and tenants of adjacent property. Public highways shall not be obstructed in such a way as to cut off traffic. The Contractor shall, at his own expense, repair any damage or injury to either public or private property during the progress of the work. Wholesale cutting of trees on the right-of-way will not be permitted except as necessary for construction.

30. CONSTRUCTION SCHEDULE: A construction schedule showing the work in the order proposed by the Contractor and the time required to complete each phase will be required and shall be submitted to the Engineer for approval. Approval of the construction schedule is required prior to receipt of the notice to proceed. This schedule shall include the dates for beginning and completion of all phases of the work. If, in the opinion of the Engineer, the Contractor falls behind in his schedule or will not be able to complete the project in the time limits, he may require the Contractor to revise his schedule and put additional equipment on the job as so ordered.

31. ORDER OF WORK: The order or sequence of the work shall be as provided herein or as approved by the Engineer, which approval shall in no way affect the responsibility of the Contractor.

32. COMPETENT LABOR: The Contractor shall employ only competent and skilled personnel on the work. The Contractor shall at all times have a Superintendent satisfactory to the Engineer, capable of acting as the Contractor's agent on the work and who shall receive instructions from the Engineer or his authorized representative. The Superintendent shall have full authority to execute the orders and directions of the Engineer without delay, and to promptly supply the materials, tools, plant equipment, and labor as may be required. The Contractor shall upon demand by the Engineer, immediately remove that Superintendent, Foreman, and Workman whom the Engineer may consider to be incompetent or undesirable, or both.

33. LAWS AND REGULATIONS: The Contractor shall keep himself fully informed of all laws, ordinances, and regulations of State and County in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in this Contract, or in the Drawings or Specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same in writing to the Owner. He shall at all times himself observe and comply with all such existing and future laws, ordinances and regulations, and shall protect and indemnify the Owner and its agents against any claims or liability arising from or based on the violation of any such law, ordinance, regulation, order of decree, whether by himself or by his employees.

34. PROTECTIVE WORKS: The Contractor shall furnish and install all necessary temporary works for the protection of the work, including barricades, warning signs, and lights at night.

35. SAFETY AND OSHA REGULATIONS: The performance of work under this Contract shall comply with safety regulations prescribed by the Owner, those of the National Occupational Safety and Health Act of 1970. (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-054), and the requirements of the State where project is located. Each bidder shall satisfy himself as to the character and extent of such regulations.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

36. SANITARY REGULATIONS: Necessary sanitary conveniences for the use of the laborers on the work shall be erected and maintained by the Contractor in such a manner and at such points as shall be approved by the Engineer. Their use shall be strictly enforced.

37. STORAGE FACILITIES: Should the Contractor so desire, he may build storage facilities or other structures for housing men, tools, machinery and supplies, but they will be permitted only at approved places, and their surroundings shall be maintained at all times in a sanitary and satisfactory manner. On or before the completion of the work, all such structures shall be removed, together with all rubbish and trash, at the expense of the Contractor.

38. WATER SUPPLY: The water for the Contractor's use shall be supplied by the Contractor. The Contractor shall make his own arrangements for obtaining a water supply for his construction operations.

39. ELECTRIC POWER: The Contractor shall make his own arrangements for electrical power supply for his construction operations.

40. SOIL EROSION: The Contractor shall be required to take the necessary steps to minimize siltation and soil erosion during construction.

41. ACCESS ROADS: Streets, roads and drives used by the Contractor for access to and from the site of his work shall be protected from damage in connection with construction work. Any such damage done shall be repaired immediately and left in good condition at the end of the construction period.

42. PROGRESS PAYMENT: On or before the 15th day of each calendar month the Owner shall make progress payments to the Contractor on the basis of a duly certified and approved estimate of work performed during the preceding calendar month by the Contractor, including materials delivered to the site and undelivered specifically manufactured equipment, less retainage as per Paragraph 19 of the General Conditions which is to be retained by the Owner until all work has been performed strictly in accordance with the Contract Documents and until such work has been accepted by the Owner. Progress payment requests from the Contractor shall be submitted to the Engineer for approval on or before the 1st day of each calendar month.

43. ALLOWABLE TIME FOR COMPLETION: The time allowed for completion on all work to be done under this contract shall begin after notification by the Engineer to proceed with the work. Such notification will be issued upon completion of the contract arrangements, and in accordance with approved construction schedule, arranged to be within the contract time for completion. The time allowed for completion of the work is for 90 calendar days.

44. LIQUIDATED DAMAGES: The Contractor shall pay to the Owner as liquidated damages the sum of **FOUR HUNDRED ($400.00)** dollars for each calendar day that he shall be in default of completing the work in his Contract within the time limit named therein.

45. SALES TAX AND/OR USE TAX: Bidders shall include in amounts bid in the Bid an allowance for payment of state Sales Tax and/or Use Tax on 0 taxable materials specified to be furnished by the Contractor and incorporated into the work under this Contract.
46. CONTRACTOR'S LOCAL OFFICE: The Contractor shall maintain a local office with a telephone in the general area of the work, and will be required to have a responsible representative on call at all times.

47. MUTUAL RESPONSIBILITY OF CONTRACTORS: If, through acts of neglect of the part of the Contractor, any other Contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement of arbitration if such other Contractor or subcontractor shall assert any claims against the Owner, on account of

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall indemnify and save harmless the Owner against such claim.

48. EMERGENCY WORK: The Contractor shall at all times (nights, weekends or holidays) have a responsible man available to act in case of emergency repairs who the Owner may contact. Upon notification of emergency work necessary, the Contractor's representative shall immediately take steps to make such repairs.

49. INSURANCE REQUIREMENTS: The Contractor's attention is directed to requirements for insurance coverage as set forth in the General Conditions.

50. FLOOD HAZARD INSURANCE: The Contractor will be required to acquire and maintain during the life of the contract any flood insurance made available under the National Flood Insurance Act of 1968, as amended. The insurance shall be in an amount at least equal to the contract amount costs, excluding cost of uninsurable improvements, or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less.

51. BUILDING PERMITS AND BUSINESS LICENSE: The Contractor shall be required to obtain applicable Building Permits and Business Licenses as required by Chatham County, Georgia.

52. PAVEMENT MARKINGS: All pavement markings will be completed in accordance with the "Standard Specifications for Construction of Roads and Bridges; as published by The Georgia Department of Transportation. All paint will be in accordance with section 652-High Build Standard and wet weather paint traffic stripe.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

BID FORM

TO: CITY OF PORT WENTWORTH
305 SOUTH COASTAL HIGHWAY
PORT WENTWORTH, GEORGIA 31407

Gentlemen:

In compliance with your Notice To Contractors, the undersigned, hereinafter termed the Bidder, proposes to enter into a Contract with the City of Port Wentworth to provide the necessary machinery, tools, apparatus, and other means of construction, and all materials and labor specified in the Contract, necessary to complete the work in the manner therein specified within the time specified, as therein set forth, for:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

The Bidder has carefully examined and fully understands the Contract, Plans and Specifications, and other Contractual Documents hereto attached, and has made a personal examination of the Site of the proposed Work, and has satisfied himself as to the actual conditions and requirements of the Work, and hereby proposes and agrees that if his bid is accepted, he will contract with the City of Port Wentworth in full conformance with the Contract Documents.

It is the intent of this Bid to include all items of construction and all Work indicated on the Drawings and called for in the Specifications.

In accordance with the foregoing, the undersigned proposes to furnish and construct the items listed in the attached Schedule of Items for the unit prices stated.

The Bidder agrees that the cost of any work performed, materials furnished, services provided or expenses incurred, which are not specifically delineated in the Contract Documents but which are incidental to the scope, intent, and completion of the Contract, shall be deemed to have been included in the prices bid for the various items scheduled.

The bidder further proposes and agrees hereby to promptly commence the Work with adequate force and equipment within ten (10) calendar days from receipt of Notice to Proceed, and to complete the Work within 90 calendar days.

The Bidder declares that he understands that the quantities shown for unit price items, are approximate only, are valid only upon written authorization of the County Engineer, and are subject to either increase or decrease and that should the quantities of any items of work be increased, the Bidder proposes to do the additional at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities, and that actual quantities will be determined upon completion of the work, at which time adjustment will be made to the Contract amount by direct increase or decrease.

Attached hereto is an executed Bid Bond or certified check on the (Bank) _____ of (City, State) _____ for 5% of Bid _____ Dollars. ($_____) (Five Percent of Amount of Bid).

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

If this Bid shall be accepted by the City of Port Wentworth and the undersigned shall fail to execute a satisfactory contract in the form of said proposed Contract, and give satisfactory Performance and Payment Bonds, or furnish satisfactory proof of carriage of the insurance required, within fifteen days from the date of Notice of Award of the Contract, then the City of Port Wentworth may at its option, determine that the undersigned abandoned the Contract and thereupon this Bid shall be null and void, and the sum stipulated in that attached Bid Bond or certificate check shall be forfeited to the City of Port Wentworth as liquidated damages.

Bidder acknowledges receipt of the following addenda:

Addendum No.	Date Received
1	7/22/21

Bidder further declares that the full name and resident address of all persons and parties interested in the foregoing bid as principals are as follows:

By (Signature) BGB

Printed Name Brent Bazemore

Title President

Signed, sealed, and dated this 29th day of July, 2021

Bidder: Griffin Contracting, INC. (Seal)
(Company Name)

Bidder Mailing Address:
122 Pipemakers Circle
Suite 207
Pooler, GA 31322

Phone # 912-965-0111

By: Chris Davis
Chris Davis

Title: Secretary

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

SCHEDULE OF ITEMS
RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

Item	Description	Quantity	Units	Unit Price	Item Price
1	Grading Modified	0.11	MI	$430,000.00	$47,300.00
2	Remove & Replace Subgrade Material (Select Fill)	950	CY	$40.00	$38,000.00
3	8" Graded Aggregate Base (GAB)	1650	SY	$28.00	$46,200.00
4	Geotextile Fabric Tensar TX160 or Approved Equivalent	1650	SY	$7.40	$12,210.00
5	3" Asphaltic Concrete 19.0mm Binder	275	TON	$107.00	$29,425.00
6	1.5" Asphaltic Concrete 12.5mm Superpave	140	TON	$123.00	$17,220.00
7	Remove and Replace 24" Curb & Gutter	1200	LF	$40.00	$48,000.00
8	Remove and Replace 6" Driveways	550	SY	$83.00	$45,650.00
9	Temporary Transition Driveways GAB	200	TON	$89.00	$17,800.00
10	Grate Inlet Type S Grate R-3034-B	4	EA	$4,785.00	$19,140.00
11	Junction Box/Interference Box	2	EA	$3,580.00	$7,160.00
12	Connect to Existing Storm Pipe	1	EA	$1,250.00	$1,250.00
13	18" RCP Pipe	176	LF	$72.00	$12,672.00
14	24" RCP Pipe	24	LF	$90.00	$2,160.00
15	30" RCP Pipe	232	LF	$97.00	$22,504.00
16	30" Flared End Section	1	EA	$1,179.00	$1,179.00
17	6" Sock Drain w/ #57 Stone and Fabric	1200	LF	$25.70	$30,840.00
18	5" Solid Double Yellow	1200	LF	$1.50	$1,800.00
19	24" Stop Bar	1	EA	$220.00	$220.00
20	Inlet Sediment Trap (Sd2-F)	5	EA	$250.00	$1,250.00
21	Inlet Sediment Trap (Sd2-P)	4	EA	$250.00	$1,000.00
22	Concrete Washout (CSW)	1	EA	$1,960.00	$1,960.00
23	Strom Drain Outlet Protection Rip Rap (ST)	45	SY	$100.00	$4,500.00
24	Silt Fence Sd1-NS	400	LF	$5.30	$2,120.00
25	Temporary Grassing (Ds2)	0.24	AC	$2,000.00	$480.00
26	Permanent Grassing (Ds3)	0.24	AC	$3,000.00	$720.00
27	2' Sod Strip Behind Replaced Curb (Ds4)	1200	LF	$3.00	$3,600.00
28	Mulching (Ds1)	0.24	AC	$3,000.00	$720.00
29	Traffic Control	1	SUM	$18,320.00	$18,320.00
30	Mobilization (Max 3%)	1	SUM	$13,200.00	$13,200.00
			GRAND TOTAL	$448,600.00	

GRAND TOTAL IN WORDS
Four Hundred Forty Eight Thousand Six Hundred Dollars

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

STATEMENT OF BIDDER'S QUALIFICATIONS

To accompany bid submitted for construction of the City of Port Wentworth, **Red Robin Court Roadway Improvements for the** City of Port Wentworth.

Full legal name of Bidder: Griffin Contracting, INC.

Business Address: 122 Pipemakers Circle, Suite 207, Pooler, GA. 31322

Business Phone Number: 912-965-0111

Bidder is a (check one) Corporation ✓ Partnership ___ Individual Proprietorship ___

Other ___ (Specify) _____

Year Organized: 2001 Year Incorporated: 2001

If Bidder is a partnership, list all names of all partners: N/A

_____

How many years have you been in the contracting business under the present firm name?

20 Years

Credit available for this contract: $ 8,000,000.00

Contracts now in hand, Gross Amount: $ 5,000,000.00

Have you ever refused to sign a contract at your original bid? No

Have you ever defaulted on a contract? No

Remarks: _____

(The above statements must be subscribed and sworn to before a Notary Public)

Sworn to and subscribed before me,

This 29th day of July, 2021

(Notary Public)

KIMBERLY H. STUCKEY
NOTARY PUBLIC
GEORGIA
EXPIRES 11/02/2022
EFFINGHAM COUNTY

Date: July 29, 2021

Firm Name: Griffin Contracting, INC.

By: Chris Dai

Title: Secretary

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

REFERENCES:

Provide references for work completed, minimum of six, three within the last 12 months of similar size and nature. References will afford the owner opportunity to judge as to capabilities and performance of the contractor.

Provide name, brief description, address, phone number and contact person for each project listed. Failure to complete this section in its entirety will be grounds for rejection.

See Attached

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

Project: Roadway Improvements for Hendley Road & Monteith Road
Owner: City of Port Wentworth
Engineer: T.R. Long Engineering, P.C.
Engineer Representative: Mr. Trent Long
Phone: 912-368-5664
Completed: 2020
Size: $ 1,219,211.48

Project: Lake Mayer Improvements Phase 1
Owner: Chatham County
Engineer: Thomas & Hutton/Chatham County Engineering
Owner Representative: Mr. Jeremy Mitchler
Phone: 912-652-57809
Completed: 2019
Size: $ 1,147,034.92

Project: Roadway Improvements for Phillips Avenue
Owner: City of Port Wentworth
Engineer: T.R. Long Engineering, P.C.
Engineer Representative: Mr. Trent Long
Phone: 912-368-5664
Completed: 2019
Size: $ 1,752,075.58

Project: Shepherd Living @ Savannah Quarters
Owner: DeAngelis Diamond Healthcare Group
Engineer: Erdman Engineering Company
Owner Representative: Matthew Nevins
Phone: 239-594-1994
Completed: 2018
Size: $ 2,273,571.64

Project: HealthSouth Rehab Hospital of the Lowcountry
Owner: DeAngelis Diamond Healthcare Group
Architect/Engineer: Frederick Architect
Owner Representative: Brandon Clymer
Phone: 205-977-7798
Completed: 2018
Size: $ 528,982.18

Project: Roadway Improvements for Sandy Point Way
Owner: City of Port Wentworth
Engineer: T.R. Long Engineering, P.C.
Engineer Representative: Mr. Trent Long
Phone: 912-368-5664
Completed: 2017
Size: $ 236,682.68

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

CORPORATE CERTIFICATE

I, Chris Davis, certify that I am the Secretary of the Corporation named as Contractor in the foregoing bid; that Brent Bazemore, who signed said bid in behalf of the Contractor, was then (Title) President of said Corporation; that said bid was duly signed for and in behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers, that said Corporations organized under the laws of the State of Georgia.

This 29th day of July, 2021

Chris Davis (SEAL)

Signature

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

SURETY REQUIREMENTS

A Bid Bond for five percent (5%) of the amount of the bid is required to be submitted with each bid.

A Performance Bond for one hundred percent (100%) of the bid will be required of the successful bidder.

The Bidder certifies that he/she has examined all documents contained in this bid package, and is familiar with all aspects of the Bid and understands fully all that is required of the successful bidder. The Bidder further certifies that his/her bid shall not be withdrawn for ninety (90) days from the date on which the bid is publicly opened and read.

The Bidder agrees, if awarded this bid, he/she will:

A. Furnish, upon receipt of an authorized City of Port Wentworth Purchase Order or Notice of Award, all items indicated thereon as specified in this bid proposal for the bid amount, or;

B. Enter a contract with the City of Port Wentworth to do and/or furnish everything necessary to provide the service and/or accomplish the work as stated and/or specified in this bid proposal for the bid amount, and;

C. Furnish, if required, a Performance Bond, and acknowledges the right of the City of Port Wentworth to require a Performance Bond of a specific kind and origin, and;

D. Forfeit the amount of the Bid Bond as liquidated damages if he/she fails to enter a contract with the City of Port Wentworth as stated in (B) above, within ten (10) days of the date on which he/she is awarded the bid, and/or;

E. Forfeit the amount of the Performance Bond as liquidated damages if he/she fails to execute and fulfill the terms of the contract entered. The amount of forfeiture shall be:

1. The difference between his/her bid and the next lowest, responsible bid that has not expired or been withdrawn, or;

2. The difference between his/her bid and the amount of the lowest, responsible bid received as a result of re-bidding, including all costs related to re-bidding.

COMPANY Griffin Contracting, INC. DATE 07/29/21

SIGNATURE Chris Davis TITLE Secretary

TELEPHONE NUMBER 912-965-0111

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____ (hereinafter called the Principal) and _____ (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of Georgia with its principal offices in the City of Port Wentworth and authorized to do business in the State of Georgia, are held and firmly bound unto CHATHAM COUNTY, GEORGIA in the full and just sum of_____ Dollars ($_____) good and lawful money of the United States of America, to be paid upon demand of CHATHAM COUNTY, GEORGIA, to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, and assigns jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, CHATHAM COUNTY, GEORGIA, a Bid for furnishing materials, labor and equipment for:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall within ten (10) days after receipt of notification of the acceptance, execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by CHATHAM COUNTY, GEORGIA, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to CHATHAM COUNTY, GEORGIA, each in an amount of 100% of the total contract price, in form and with security satisfactory to said CHATHAM COUNTY, GEORGIA, and otherwise, to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to CHATHAM COUNTY, GEORGIA, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20__.

_____ (SEAL)
Surety

BY: _____

_____ (SEAL)
Principal

BY: _____

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

OCCUPATIONAL TAX CERTIFICATE - Vendors/Contractors whose Business is located within the unincorporated area of CHATHAM COUNTY, GEORGIA, or within any of the incorporated areas of the CHATHAM COUNTY, GEORGIA are to submit a copy of the appropriate Business License.

CURRENT OCCUPATIONAL TAX CERTIFICATE NUMBER _____

CITY NUMBER City of Poolee # 001624 - See Attached Copy

COUNTY NUMBER _____

OTHER _____

SIGNATURE Chris Davis DATE 07/29/21

PRINTED NAME Chris Davis

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

CITY OF POOLER

100 SW HWY 80 Pooler, Georgia 31322

REQUEST FOR OCCUPATIONAL TAX CERTIFICATE RENEWAL

No. 001624

YEAR 2021 EXPIRING 12/31/2021

APPLICATION IS HEREBY MADE FOR A OCCUPATIONAL TAX CERTIFICATE TO OPERATE A BUSINESS, PROFESSION, OR OCCUPATION IN ACCORDANCE WITH THE CODE OF ORDINANCES OF THE CITY OF POOLER AND ANY APPLICABLE STATE AND FEDERAL STATUTES.
DUE BY JANUARY 31

122 PIPEMAKERS CIR 207

LOCATION OF BUSINESS

GRIFFIN CONTRACTING, INC
PO BOX 18150
SAVANNAH GA 31418-0150

CERTIFICATE FOR
238910 SITE PREPARATION CONTRACTORS

FEE CODE	DESCRIPTION	AMOUNT
E	EMPLOYEE FEE	$760.00
ADMIN	ADMINISTRATIVE FEE	$25.00

PENALTY	$0.00
TOTAL	$0.00

City of POOLER, GEORGIA

100 SW HWY 80 Pooler, Georgia 31322

OCCUPATIONAL TAX CERTIFICATE

122 PIPEMAKERS CIR 207

LOCATION OF BUSINESS

This Occupational Tax Certificate is to be displayed conspicuously at the location of business, and is not transferable or assignable.

GRIFFIN CONTRACTING, INC
PO BOX 18150
SAVANNAH GA 31418-0150

EXPIRATION DATE
12/31/2021

DATE ISSUED	LICENSE NUMBER
1/01/2021	001624

TAX CERTIFICATE FOR
238910 SITE PREPARATION CONTRACTORS

An Occupational Tax Certificate is hereby issued by the City of Pooler, GA to the following party to engage in or manage the business, profession or occupation shown, pursuant to the ordinances of the City of Pooler for the calendar year.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

OATH OF SUCCESSFUL BIDDER

Personally appeared before the undersigned officer duly authorized by law to administer oaths and _____ who, after being first duly sworn, depose and say that they are all the officers, agents, persons, or employees who have acted for or represented (Company Name)_____in bidding or procuring a Contract with the CITY OF PORT WENTWORTH, GEORGIA on the following project:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

and that said _____ has not by (himself, themselves) or through any persons, officers, agents, or employees prevented or attempted to prevent by any means whatsoever competition in such bidding; or by any means whatsoever prevented or endeavored to prevent anyone from making a bid therefore, or induces or attempted to induce another to withdraw a bid for said work.

BY: _____
Signature of Successful Bidder

_____
Name - Printed

_____
Title

Sworn to and subscribed before me this
_____Day of _____, 20__.

_____
Notary Public

SEAL

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

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CONTRACT AGREEMENT

THIS AGREEMENT made and entered into as of the (Date) _____, 20__, by and between the CITY OF PORT WENTORTH, (Party of the First Part, Hereinafter called the City of Port Wentworth) and GRIFFIN CONTRACTING, INC. (Contractor Name) (Party of the Second Part, Hereinafter called the Contractor).

WITNESSETH: That the said Contractor has agreed, and by these presents does agree with the said County, for and in consideration of four hundred forty eight thousand and six hundred dollars ($448,600.00) and other good and valuable consideration, and under the penalty expressed in Bonds hereto attached, to furnish all equipment, tools, materials skill, and labor of every description necessary to carry out and complete in good, firm, and substantial, and workmanlike manner, the Work specified, in strict conformity with the Drawings and the Specifications hereinafter set forth, which Drawings and Specifications together with the base bid pproposal made by the Contractor, General Conditions, Special Provisions, Detailed Specifications, and this Agreement, shall all form essential parts of this Contract. The Work covered by this Contract includes all Work indicated on Plans and Specifications and listed in the Bid entitled:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

The Contractor shall commence the Work with adequate force and equipment within (10) ten days from receipt of Notice to Proceed from the Chatham County, and shall complete the Work within 90 calendar days.

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this Contract or the prosecution of Work hereunder, whether caused by the Contractor or the Contractor's agents, servants, or employees, or by any of the Contractor's subcontractors or suppliers.

This Contract, executed in triplicate, constitutes the full agreement between the parties, and the Contractor shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm or corporation without the previous consent of the Chatham County in writing.

CONTRACT AGREEMENT

IN WITNESS WHEREOF, the Parties hereto, acting through their duly authorized agents, have signed and sealed this agreement.

Executed this _____day of _____, 20__.

CITY OF PORT WENTWORTH, GEORGIA

ATTEST: _____ BY: _____
(SEAL) Administrator, City of Port Wentworth Mayor, City of Port Wentworth

CONTRACTOR

ATTEST:_____ BY: _____
(SEAL)

TITLE: _____ TITLE:_____

APPROVED AS TO FORM:

BY: _____
Attorney
City of Port Wentworth, Georgia

Executed in Triplicate

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

CONTRACT PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE_____
(hereinafter called the Principal) and _____
(hereinafter called the Surety) are held and firmly bound unto the CITY OF PORT WENTWORTH, GEORGIA (hereinafter known as the Owner), for the use of said oblige and all persons doing work or furnishing skill, tools, machinery, supplies, or material under or for the purpose of the Contract hereinafter referred to, in the full and just sum of four hundred forty eight thousand and six hundred dollars ($448,600.00) lawful money of the United States of America, to be paid to said Owner, its successors, and assigns to which payment well and truly to made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severely, firmly by these presents.

WHEREAS, the above bound Principal has entered into a contract or contracts with the said OWNER, bearing date of_____, 20__, for furnishing material, labor and equipment for:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, it was one of the conditions of the award by said Owner pursuant to which said Contract was entered into, that these presents shall be executed.

NOW THEREFORE, the conditions of this obligation are such that if the above bound Principal shall in all respects fully comply with the terms and conditions of said Contract and his obligation thereunder, including the Specifications and Bid, therein referred to and made a part thereof, and such alterations as may be made in said Specifications as therein provided for, and including one-year guarantee period from date of final acceptance, and shall indemnify and save harmless the Owner against and from all costs, expenses, damages, injury or loss, to which the said Owner may be subjected by reason of any wrongdoing, misconduct, want of care or skill, negligence, or default, including patent infringement, on part of said Principal, his agents, or employees, in the execution or performance of said Contract, and shall promptly pay all just claims for damages or injury to property and for all work done, or skills, tools, and machinery, supplies, labor, and materials furnished and debts incurred by said Principal in our about the construction or improvement contracted for this obligation to be void; otherwise, in full force and effect.

And the said Surety to this Bond, for value received, hereby stipulates and agrees that no change, extensions of time, alterations, or additions to the terms of the Contract or to the Work to be performed thereunder or the Specifications accompanying same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms of the Contract or to the Work or the Specifications.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

CONTRACT PERFORMANCE BOND

This Bond shall be for the use of all persons doing Work or furnishing skill, tools, machinery, or materials under or for the purpose of this Contract, in accordance with the provisions of the Official Code of the State of Georgia, as amended, and is intended to be and shall be construed to be a bond in compliance with the requirements thereof.

The life of this Bond extends through the life of the Contract including the sixty-day maintenance period, and until one year after the final acceptance of the Work by the Owner.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed in triplicate, this _____day of _____, 20__.

CONTRACTOR

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

SURETY

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

BY: _____
(Local Agent's Signature)

_____
(Name - Printed or Typed)

_____
(Company Name)

_____
(Address)

Executed in Triplicate

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____
(hereinafter called the Principal) and _____
(hereinafter called the Surety) are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA (hereinafter known as the Owner), in the full sum of four hundred forty eight thousand and six hundred dollars ($448,600.00) for the use and protection of said Owner and all subcontractors and all persons supplying labor, materials, and machinery, and equipment for the performance of the Work provided for in the contract hereinafter referred to, for the payment of which well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, the above bound Principal has entered into a Contract or Contracts with the said OWNER, bearing date of _____, 20__, for furnishing material, labor and equipment for:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, it was one of the conditions of the award by the City of Port Wentworth pursuant to which said Contract was entered into, that these presents shall be executed.

NOW, THEREFORE, the conditions of this obligation are such that if the above bound Principal shall promptly pay all subcontractors and all other persons supplying labor, materials, machinery, and equipment furnished for the performance of the Work provided for by said Contract, and such alterations or additions as may be made therein or in the Plans and Specifications, then this bond to be void; otherwise, in full force and effect, and

The surety to this bond, for value received, agrees that no change, extensions of time, alterations or additions to the terms of the Contract or the Work to be performed thereunder of the Specifications accompanying the same shall in any way affect its obligation on this bond, and alterations or additions to the terms of the Contract or the Work or to the Specifications. It is agreed that this bond is executed pursuant to and in accordance with the provisions of the Official Code of the State of Georgia, as amended, and is intended to be and shall be construed to be a bond in compliance with the requirements thereof.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

PAYMENT BOND

IN WITNESS WHEREOF, the Principal and Surety have caused these presents to be duly signed and sealed in triplicate, this _____day of_____, 20__.

CONTRACTOR

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

SURETY

_____
(Company Name)

Attest: _____
(Seal)

By: _____

Title: _____

Title: _____

BY: _____
(Local Agent's Signature)

_____
(Name - Printed or Typed)

_____
(Company Name)

_____
(Address)

Executed in Triplicate

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

Illegal Immigration Reform and Enforcement Act of 2011

House Bill 87, also known as the Illegal Immigration Reform and Enforcement Act of 2011, was passed during the 2011 session of the Georgia General Assembly and was signed by Governor Nathan Deal on May 13, 2011. The bill, status history, votes, and sponsors, can be viewed on the Georgia General Assembly's website:

http://www.legis.ga.gov

All bidders are strongly encouraged to review the contents of this law.

O.C.G.A. §13-10-91(b) (1) states, in part, "A public employer shall not enter into a contract … for the physical performance of services unless the contractor registers and participates in the federal work authorization program. Before a bid for any such service is considered by a public employer, the bid shall include a signed, notarized affidavit from the contractor attesting to the following:

A. The affiant has registered with and is authorized to use, and uses the federal work authorization program;
B. The user identification number and date of authorization for the affiant;
C. The affiant will continue to use the federal work authorization program throughout the contract period; and
D. The affiant will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the same information required by subparagraphs (A), (B) and (C) of this paragraph."

O.C.G.A. §13-10-91(b) (2) states, in part, "A contractor shall not enter into any contract with a public employer for the physical performance of services unless the contractor registers and participates in the federal work authorization program."

A subcontractor shall not enter into any contract with a contractor unless such subcontractor registers and participates in the federal work authorization program. A subcontractor shall submit, at the time of such contract, an affidavit to the contractor in the same manner and with the same information required in O.C.G.A. §13-10-91(b) (1). It shall be the duty of any subcontractor receiving an affidavit from a sub-subcontractor to forward notice to the contractor of the receipt, within five business days of receipt, of such affidavit. It shall be the duty of a subcontractor receiving notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Requirements for sub-subcontractors are also contained in this law. The "Illegal Immigration Reform and Enforcement Act of 2011" establishes alternatives to the required affidavits for reporting purposes. Only the authorized alternatives will be considered.

It shall be the duty of the contractor to submit copies of all affidavits, drivers' licenses, and identification cards required pursuant to this subsection to the public employer within five business days of receipt.

Copies of the required affidavits for the contractor, subcontractor and sub-sub contractor are included in the package. **The contractor submitting a bid/proposal for the work covered in these documents is required to supply a fully completed affidavit with the submission of the bid/proposal. Bids received that do not include the required affidavit, or allowed substitution, will not be considered.**

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Contractor Affidavit under O.C.G.A. § 13-10-91(b) (1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Port Wentworth has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

EEV # 1310374
Federal Work Authorization User Identification Number

MAY 30, 2018
Date of Authorization

Griffin Contracting, INC.
Name of Contractor

Red Robin Court Roadway Improvements
Name of Project

The City of Port Wentworth
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on July 29, 2021 in Pooler (city), GA. (state)

Chris Davis
Signature of Authorized Officer or Agent

Chris Davis - Secretary
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE 29th DAY OF July, 2021

Kimberly Stuckey
NOTARY PUBLIC

My Commission Expires: Nov 2, 2022

KIMBERLY STUCKEY
NOTARY PUBLIC
GEORGIA
EXPIRES 11/02/2022
EFFINGHAM COUNTY

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Subcontractor Affidavit under O.C.G.A. § 13-10-91(b) (3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with Griffin Contracting (name of contractor) on behalf of the City of Port Wentworth has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

41699
Federal Work Authorization User Identification Number

3/15/2007
Date of Authorization

PEEK PAVEMENT MARKING, LLC
Name of Subcontractor

Red Robin Court Roadway Improvements
Name of Project

The City of Port Wentworth
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on 7/28, 2021 in Columbus (city), GA (state)

Brad Dye
Signature of Authorized Officer or Agent

Brad Dye
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE 28 DAY OF July, 2021.

Beatrix Moseley
NOTARY PUBLIC

My Commission Expires: 6/26/25

BEATRIX MOSELEY
Notary Public, Georgia
Harris County
My Commission Expires
June 26, 2025

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GENERAL CONDITIONS

1. Definitions
2. Additional Instructions
3. Schedules, Reports, and Records
4. Drawings and Specifications
5. Shop Drawings
6. Materials, Services, and Facilities
7. Inspection and Testing
8. Substitutions
9. Patents
10. Surveys, Permits, Regulations
11. Protection of Work, Property, Persons
12. Supervision by Contractor
13. Changes in the Work
14. Changes in Contract Price
15. Time for Completion and Liquidated Damages
16. Correction of Work
17. Subsurface Conditions
18. Suspension of Work, Termination and Delay
19. Payments to Contractor
20. Acceptance of Final Payment as Release
21. Insurance
22. Contract Security
23. Assignments
24. Indemnification
25. Separate Contracts
26. Subcontracting
27. Engineer's Authority
28. Land and Rights-of-way
29. Guaranty
30. Arbitration by Mutual Agreement
31. Taxes

1. DEFINITIONS

1.1 Whenever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

1.2 ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATION, by additions, deletions, clarifications or corrections.

1.3 BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.

1.4 BIDDER - Any person, firm or corporation submitting a BID for WORK.

1.5 BONDS - Bid, Performance, and Payment Bonds and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the CONTRACT DOCUMENTS.

1.6 CHANGE ORDER - A written order to the CONTRACTOR authorizing an addition, deletion or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.

1.7 CONTRACT DOCUMENTS - The contract, including Advertisement for Bidders, BID, Bid Bond, Agreement, Payment Bond, Performance Bond, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, and ADDENDA.

1.8 CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.

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1.9 CONTRACT TIME - The total number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.

1.10 CONTRACTOR - The person, firm or corporation with whom the OWNER has executed the Agreement.

1.11 DRAWINGS - The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the work to be performed and which have been prepared or approved by the ENGINEER.

1.12 ENGINEER - The person, firm or corporation named as such in the CONTRACT DOCUMENTS.

1.13 FIELD ORDER - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME issued by the ENGINEER to the CONTRACTOR during construction.

1.14 NOTICE OF AWARD - The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.

1.15 NOTICE TO PROCEED - Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.

1.16 OWNER - A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the WORK is to be performed.

1.17 PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.

1.18 RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.

1.19 SHOP DRAWINGS - All drawings, diagrams, brochures, schedules, and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrates how specific portions of the WORK shall be fabricated or installed.

1.20 SPECIFICATION - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of material, equipment, construction systems, standards and workmanship.

1.21 SUBCONTRACTOR - An individual, firm or corporation having a direct contact with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.

1.22 SUBSTANTIAL COMPLETION - That date as certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.

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1.23 SUPPLEMENTAL GENERAL CONDITIONS - Modifications to the General Conditions required by a Federal agency for participation in the PROJECT and approved by the agency in writing prior to inclusion in the CONTRACT DOCUMENTS, or such requirements that may be imposed by applicable state laws.

1.24 SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at this site.

1.25 WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.

1.26 WRITTEN NOTICE - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party or his authorized representative on the WORK.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.

2.2 The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS AND RECORDS

3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.

3.2 Prior to the first partial payment estimate the CONTRACTOR shall submit construction progress schedules showing the order in which he proposes to carry on the WORK, including the dates at which he will start the various parts of the WORK, estimated date of completion of each part and, as applicable:

3.2.1 The dates at which special detail drawings will be required; and

3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

3.3 The CONTRACTOR shall also submit a schedule of payments that he anticipates he will earn during the course of the WORK.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

4. **DRAWINGS AND SPECIFICATIONS**

4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.

4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern general DRAWINGS.

4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

5. **SHOP DRAWINGS**

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the work as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWINGS shall not release the CONTRACTOR from responsibility for deviations from CONTRACT DOCUMENTS. The approval of any SHOP DRAWINGS which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.

5.2 When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or submission shall not begin until the SHOP DRAWING has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the sire and shall be available to the ENGINEER.

6. **MATERIALS, SERVICES AND FACILITIES**

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete and deliver the WORK within the specified time.

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6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspections.

6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

6.4 Materials, supplies or equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.

6.5 Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sole contract or other agreement by which an interest is retained by the seller.

7. INSPECTION AND TESTING

7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.

7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.

7.3 The CONTRACTOR shall provide at his expense the testing and inspection services required by the CONTRACT DOCUMENTS.

7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.

7.5 Inspections, tests or approvals by the engineer or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.

7.6 The ENGINEER and his representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or state agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection, or testing thereof.

7.7 If any WORK is covered contrary to the written instruction of the ENGINEER it must, if requested by the ENGINEER, be uncovered for his inspection and replaced at the CONTRACTOR'S expense.

7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request will uncover, expose or otherwise

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make available for observation, inspection or testing as the ENGINEER may require, that portion of WORK in question, furnishing all necessary labor, materials, tools and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

8.1 Whenever a material, article or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to a brand name or catalogue number, it shall be understood that this is referenced for the purpose if defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to a brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. PATENTS

9.1 The CONTRACTOR shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design or product of a particular manufacturer or manufacturers is specified, however if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS

10.1 The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR, shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

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10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for the by CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER or the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, shall act to prevent threatened damage, injury or loss. He will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

12.1 The CONTRACTOR will supervise and direct the WORK He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all

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communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.

13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE

14.1 The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

a) Unit prices previously approved.

b) An agreed lump sum.

c) The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work. In addition there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the WORK to cover the cost of general overhead and profit.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for

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liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.

15.4 The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.

15.4.1 To any preference, priority or allocation order duly issued by the OWNER.

15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather, and

15.4.3 To any delay of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. CORRECTION OF WORK

16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.

16.2 All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. SUBSURFACE CONDITIONS

17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:

17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or

17.1.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those originally encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.

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17.2 The OWNER shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required WRITTEN NOTICE; provided that the OWNER may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which notice shall fix the date on which WORK will be resumed. The CONTRACTOR will resume WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.

18.2 If the CONTRACTOR is adjudged a bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

18.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.

18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the Contract. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.

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18.5 If, through no act of fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER, terminate the CONTRACT and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days written notice to the OWNER and the ENGINEER stop the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK .

18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time;, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME or both shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENTS TO CONTRACTOR

19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect his interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within ten (10) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER shall retain ten (10) percent of the amount of each payment until final completion and acceptance of all work covered by the CONTRACT DOCUMENTS. The OWNER at any time, however, after fifty (50) percent of the WORK has been completed, if he finds that satisfactory progress is being made, shall reduce retainage to five (5%) percent on the current and remaining estimates. When the WORK is substantially complete (operational or beneficial occupancy), the retained amount may be further reduced below five (5) percent to only that amount necessary to assure completion. This retainage shall be placed in an interest bearing Escrow account by the OWNER. The account shall be

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maintained for the duration of the project and full accounting shall be tamed over to the CONTRACTOR with retainage and interest earned when final payment is made. On completion and acceptance of a part of the WORK on which the price is stated separately in the CONTRACT DOCUMENTS, payment may be made in full, including retained percentages, less authorized deductions.

19.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.

19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK Such use shall not constitute an acceptance of such portions of the WORK.

19.4 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.

19.5 Upon completion and acceptance of the WOW the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted by him under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.

19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR’S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be, resumed in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

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20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the Performance BOND and Payment BONDS.

21. INSURANCE

21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S execution of the WORK, whether such execution be by himself or by any SUBCONTRACTOR or by anyone directly or indirectly employed by any of them, or by anyone for whose acts of them may be liable:

21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts.

21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees.

21.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees.

21.1.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person.

21.1.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

21.2 Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.

21.3 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:

21.3.1 CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting him from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising in or out of connection with any operations under the CONTRACT DOCUMENTS, whether such

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operations be by himself or by any SUBCONTRACTOR under him, or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR under him. Insurance shall be written with a limit of liability of not less than $2,000,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident, and such a limit of liability of not less than $2,000,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than $2,000,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than $2,000,000 aggregate for any such damage sustained by two or more persons in any one accident.

21.3.2 The CONTRACTOR shall acquire and maintain, if applicable, Fire and Extended Coverage insurance upon the PROTECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.

21.4 The CONTRACTOR shall procure and maintain at his own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the work is performed, Workmen's Compensation Insurance, including occupational disease provisions, for all of his employees at the site of the PROJECT and in case any work is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous work under this contract at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide adequate and suitable insurance for the protection of his employees not otherwise protected.

21.5 The CONTRACTOR shall secure, if applicable, "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, the ENGINEER, and the OWNER.

22. CONTRACT SECURITY

22.1 The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a Performance Bond and a Payment Bond in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular

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Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such bond is declared a bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal BONDS, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

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25. SEPARATE CONTRACTS

25.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the, introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

25.2 The OWNER may perform additional WORK related to the PROJECT by himself, or he may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the OWNER, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK and shall properly connect and coordinate his WORK with theirs.

25.3 If the performance of additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shah be given to the CONTRACTOR prior to starting any such additional WORK If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a claim therefore as provided in Sections 14 and 15.

26. SUBCONTRACTING

26.1 The CONTRACTOR may utilize the services of specialty SUB- CONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.

26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR (S) in excess of fifty (50%) percent of the CONTRACT PRICE, without prior written approval of the OWNER.

26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

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27. ENGINEER'S AUTHORITY

27.1 The ENGINEER shall act as the OWNER'S representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. He shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of the materials, workmanship and execution of the WORK. Inspection may be made at the factory or fabrication plant of the source if material supply.

27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures or construction safety.

27.4 The ENGINEER shall promptly make decisions relative to the interpretation of the CONTRACT DOCUMENTS.

28. LANDS AND RIGHTS-OF-WAY

28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.

28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.

28.3 The CONTRACTOR shall provide at his own expense and without liability to the OWNER and additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

29. GUARANTY

29.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period.

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30. ARBITRATION BY MUTUAL AGREEMENT

30.1 All claims, disputes, and other matters in question arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by making an acceptance of final payment as provided by Section 20, may be decided by arbitration if the parties mutually agree. Any agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

30.2 Notice of the request for arbitration shall be filed in writing with the other party to the CONTRACT DOCUMENTS and a copy shall be filed with the ENGINEER. Request for arbitration shall in no event be made on any claim, dispute or other matter in question which would be barred by the applicable statute of limitations.

30.3 The CONTRACTOR will carry on the WORK and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

31. TAXES

31.1 The CONTRACTOR will pay all sales, consumer, use and other similar taxes required by the law of the place where the WORK is performed.

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SUPPLEMENTAL GENERAL CONDITIONS

1. These "Supplemental General Conditions" shall apply to work as whole and to each and all branches of the work. Subcontractors shall be supplied with a copy of the "Supplemental General Conditions" and no arrangement of contracts with the subcontractors is to be such as to conflict with same. They shall also apply to any modifications or extra work.

2. SPECIFICATIONS AND DRAWINGS - In addition to Sections 4.2 and 4.3 of the "General Conditions", if the Contractor fails to call any discrepancy to the attention of the Engineer, the subsequent decision of the Engineers, regarding the Specifications and Drawings, as to which is correct shall be binding and final.

3. SANITARY PROVISION - The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the regulation of the State Board of Health and all local ordinances. No nuisance will be permitted.

4. AS-BUILT DRAWING - As the work progresses, the Contractor shall regularly record on one (1) set of drawings all changes and deviations from the Contract Drawings and record the exact final locations of any deviation and original work. Upon completion, the Contractor shall have these drawings and records certified as to their completeness and correctness by the Resident Inspector and deliver them to the Engineer for incorporation in the tracings. Final As-Built alignment, invert elevations and locations are to be supplied by the Contractor.

   As-Built information shall be provided monthly to the Engineer and submitted with the partial pay request.

5. SOCIAL SECURITY TAX AND SALES TAX - The Contractor assumes and is liable specifically for all State and Federal so-called Payroll or Social Security Taxes and for all State and Federal Sales and Use Taxes that may be in force at the time of the award of the Contract, and guarantees to hold the Owner harmless in every respect against same.

6. USE OF PREMISES - The Contractor shall not load nor permit any part of any structure to be loaded with a weight which will endanger its safety. The Contractor shall confine his apparatus, the storage of materials, and the operations of his workmen to the limits defined by laws, ordinance, permits or directions of the Engineer and shall not unduly encumber the premises with his material.

   The Contractor shall enforce the instructions of the Engineers regarding signs, advertisements, fire and smoking.

7. GUARDS, LIGHTS, ETC. - The Contractor shall provide all barricades, guards, lights or other such protection and walks around his work as are required by the regulation of State County or Federal laws and shall assume all responsibility of same, and keep them in repair. The necessary lighting, if required, to facilitate overtime work shall be provided. All barricades, etc., shall be promptly removed on completion of the work.

8. MOVING MATERIALS - If it becomes necessary at any time during the construction to move materials which are to enter into the construction, the materials having been temporarily placed,

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the Contractor or subcontractor shall, when so directed by the Engineer, move them or cause them to be moved without additional cost to the Owner.

9. CLEANING DURING CONSTRUCTION AND AT COMPLETION OF WORK - The General Contractor shall keep the premises clean at all times and shall remove all rubbish as often as directed by the Resident Inspector or Owner. If the Contractor does not at all times provide men to attend to the cleaning up, on request, in a manner satisfactory to the Resident Inspector, the Resident Inspector may employ such men to direct and charge the cost of same to the account of the Contractor. Every effort shall be made to minimize siltation and bank erosion during construction.

   Upon completion of the work, the Contractor shall leave the grounds in a neat and clean condition. Construction areas shall be replanted with grass and shrubs where they have been removed and where necessary, at the request of the Engineer, the ground shall be sprigged or sodded. All areas disturbed by construction shall be restored to present or better condition. Any existing structure which is damaged during construction shall be repaired or replaced to original condition at the Contractor's expense.

10. REMOVAL OF MATERIALS - All materials of unsound or otherwise unfit character and not in accordance with the terms of the Contract will be condemned by the Engineer.

    The Contractor shall promptly remove from the premises all condemned materials whether incorporated in the work or not. The Contractor shall promptly replace the materials to the satisfaction of the Engineer. If the Contractor does not remove such condemned materials within a reasonable time, fixed by written notice, the Owner may remove them and store at the expense of the Contractor. If the Contractor does not pay to the Owner the expense of such removal within ten (10) days' time thereafter, the Owner may upon ten (10) days written notice sell such materials at auction or private sale and shall account for the net proceeds thereof, after deduction of all cost and expenses that rightfully should have been borne by the Contractor.

11. MAINTENANCE - The Contractor will be required to maintain all work done by him in a first class condition for thirty (30) days after the same has been completed as a whole and the Engineers have notified the Contractor in writing that the work has been finished to their satisfaction. The retained percentage will not be due or payable to the Contractor until the thirty (30) day maintenance period has expired.

    Any damage to the site or surroundings, including paving, shoulders, culverts, drainage structures, grass, etc., shall be repaired by the Contractor and all parts of the site shall be left in as good repair as before the work started.

12. QUANTITIES OF ESTIMATE - The estimated quantities of work to be done and materials to be furnished under this contract shown in any of the documents, including the Bid, are given for use in comparing bids and to indicate approximately the total amount of the contract; the right is especially reserved, except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the work contemplated by this contract.

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13. PUBLIC CONVENIENCE AND SAFETY - No street, alley, or other roadway shall be closed to the public by the Contractor, except by written permission of the Engineer, and except while so closed, the Contractor shall maintain traffic over, through or around work, with the maximum practical convenience for the full twenty-four (24) hours of each day, whether or not work has ceased temporarily. The Contractor shall notify the Engineer in writing, at the earliest practicable date and in any case before starting any construction that might in any way inconvenience or endanger traffic, regarding each proposed closure and proposed schedule of operations thereon, so that all necessary arrangements may be made.

    The convenience of the general public and of residents along the working area shall be provided for in a reasonably adequate and satisfactory manner. Where existing roadways are not available for use as detours, traffic shall be permitted to pass through the work, except as otherwise specified or directed by the Engineer. The Contractor shall provide and maintain at his expense, and in a manner approved and deemed practicable by the Engineer such temporary roads as may be necessary to provide convenience access to driveways, houses, buildings, business establishments, and other property abutting the work, as well as temporary approaches to and crossings of, intersecting streets and other roadways. The Contractor shall provide at his expense temporary bridges for pedestrians, as required, at all street intersections over ditches, etc.

    Materials and equipment, stored along streets and other roadways, shall be so placed and the work at all times shall be conducted as to insure minimum danger and obstruction to the traveling public.

    Fire hydrants in operating condition shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to an operating fire hydrant than permitted by ordinances, rules or regulations. No operating fire hydrant shall be disconnected, removed or otherwise rendered inoperable without the written permission of the Fire Department.

    The Contractor shall give the Chief of the Fire Department at least twenty-four (24) hours' notice in writing before closure of each street and each street intersection.

14. PUBLIC UTILITIES - The Contractor will be held responsible for the protection of the property and services of public utilities within the limits of the work. Where such physical properties conflict with the performance of the work under the Contract, he shall anticipate such conflicts and give proper advance written notice thereof to the owners of the utilities involved. Until satisfactory arrangements are made for continuance of service, the Contractor shall not commence any operations which may interfere with or impair the efficiency of the existing physical properties.

    Unless otherwise specified or approved, utility lines shall be maintained in continuous service, and shall be properly supported and protected by the Contractor.

    In no case shall interruption to water or sewer service be allowed to exist outside of working hours, except as permitted by the Engineer on the pipe lines to be altered or replaced under this Contract. Operating fire hydrants shall be kept accessible to the Fire Department at all times, and shall be kept clear of excavated materials and other materials, as specified in Paragraph 13.

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In the event of interruption to water or other utility services as a result of accidental breakage, the Contractor shall promptly notify the proper authority, and shall cooperate with the said authority in the restoration of service as promptly as practicable. In the event that such pipes or other facilities are broken or improperly supported, the Contractor will be held responsible for their complete and prompt restoration in substantial and workmanlike manner, and for any claim for damage which may arise as a result of such interruption of service.

15. FUEL AND ELECTRIC CURRENT - The Contractor shall furnish fuel and electric current required for construction purposes, including any temporary incoming power connections, transformers, poles and metering equipment required therefor. The Contractor may use existing electrical systems while modifying existing facilities subject to approval by the Engineer. The Owner will furnish, without charge, all electric current required for operating tests of permanent equipment installed under the contract, and for permanent operation.

16. MAINTENANCE DURING CONSTRUCTION - The Contractor shall maintain at his expense the work during construction and until final acceptance of all work under the Contract. Continuous and effective work shall be prosecuted day by day, with adequate equipment and forces as required to keep the backfill, pavement, structures, pipe lines and other features in satisfactory and acceptable condition at all times.

    In the event that the Contractor fails to remedy any unsatisfactory maintenance, within twenty-four (24) hours after receipt of written notice from Engineer describing the unsatisfactory conditions, the Owner may immediately proceed with adequate forces and equipment to maintain the project, and the entire cost of this maintenance will be deducted from the monies otherwise due the Contractor under the Contract. As an alternative to the above specified maintenance, all of the items which are not properly maintained may be deducted at the Contract prices from the current partial payment estimate even if such items have been paid for in previous estimates.

17. ERRORS AND OMISSIONS - The Contractor shall take no advantage of any apparent error or omission in the Plans or Specifications; but if such error or omission does occur, the Engineer shall have the authority to make corrections and interpretations deemed necessary to fulfill the intent of the Drawings and Specifications; nor shall such corrections or interpretations, if any, be construed as a waiver of any Contract provision.

18. USE OF CHEMICALS - All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either A.P.A. or U.S.D.A. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

19. SCHEDULE OF WORK - The Contractor shall schedule his work so as to create as little interruption as possible of the treatment process of the existing facility and the work schedules and functions of the plant personnel. The schedule of work shall conform to that specified in Section 1, General Requirements. The Contractor shall notify the Engineer and City personnel before starting any new phase of construction to verify that no unavoidable interruption of service will be encountered.

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A. PROGRESS PAYMENT REQUESTS - The proposed format for use in monthly pay requests along with an estimated schedule of progress payment amounts for the full construction period must be submitted for approval before notice to proceed will be issued. Work in place

B. Material and/or equipment which have been delivered to the construction site and when conditional or final acceptance is made by the Owner. It shall be the Contractor's responsibility to provide adequate insurance and appropriate security measures for the protection of the subject materials and/or equipment.

20. CONTRACTOR PROPOSED WORK SCHEDULE - A work schedule showing the proposed work schedule with the time required to complete each phase shall be submitted for approval prior to the notice to proceed. This work schedule shall be updated and resubmitted with each monthly payment request. Approval of the work schedule is required by the Engineer.

21. SHOP DRAWINGS - The Contractor shall submit six (6) sets of shop drawings and details covering the required items of work, and such other items which may be necessary for the successful completion of this contract, to the Engineer for checking and approval before any fabrication, erection or installation shall commence. An approved set of shop drawings with stamp of approval shall be kept on the job at all times.

    The Contractor shall notify the Engineer in writing about any information in the shop drawings which deviates from the Contract Document.

22. COORDINATION - The Contractor shall coordinate with the Engineer and plant personnel to insure the proper and successful completion of this contract.

23. RESIDENT INSPECTOR - The Resident Inspector as the Engineer's representative on the project shall assist and advise the Contractor as to interpretation of the Drawings and Specifications. He shall be authorized to inspect all work done and all materials furnished, including preparation, fabrication and manufacture of the materials to be used. The Resident Inspector shall not be authorized to alter or waive any requirements of the Specifications without prior approval from the Engineer. He shall call the attention of the Contractor to any failure of the work or material to conform to the Specifications and Contract. He may reject material or suspend the work until any questions at issue can be referred to and decided by the Engineer.

    The presence of the Resident Inspector shall in no way lessen the responsibility of the Contractor. The Contractor in no way relieves himself of responsibility for adequacy of the work by following the directives of the Resident Inspector.

24. PRECONSTRUCTION CONFERENCE - A preconstruction conference shall be held prior to issuance of notice to proceed. The Contractor shall be represented by at least one (1) principal of the firm, the job superintendent and, if applicable, the superintendent of the electrical subcontractor. The Contractor shall at that time present the construction schedule, progress payment format and estimates, any available subcontractor approval requirements, required insurance, and any other documents deemed necessary.

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25. EXISTING PIPING AND STRUCTURES - The Contractor shall verify the location of existing piping and structures in an area prior to beginning new construction in that area.

26. INSURANCE - In addition to the requirements of Section 21 of the General Conditions, the Owner and the Engineer shall be listed as insureds on the Contractor's General Liability Policy and Builders Risk in the same amounts as required for the Contractor.

27. MODIFICATIONS - The Contractor and his subcontractors must submit in writing any requests for modifications to the plans and specifications. Shop drawings that are submitted to the Engineer for his review do not constitute "in writing" unless it is brought to the attention of the Engineer that specific changes are being suggested. In any event, changes to the plans and specifications by means of shop drawings become the responsibility of the person initiating such changes.

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ADDENDUM NUMBER ONE
TO
REQUEST FOR BIDS, CONTRACT DOCUMENTS, CONSTRUCTION SPECIFICATIONS AND DRAWINGS
FOR CONSTRUCTION OF

ROADWAY IMPROVEMENTS FOR RED ROBIN COURT
FOR
THE CITY OF PORT WENTWORTH

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY INSERTING ITS NUMBER IN THE PROPOSAL. FAILURE TO DO SO MAY SUBJECT BONA FIDE PROPOSERS TO DISQUALIFICATION. THIS ADDENDUM FORMS A PART OF THE PROJECT DOCUMENTS; IT MODIFIES THEM AS FOLLOWS:

1. Bid Documents

    a. Replace existing “Bid Bond” form with the attached “Bid Bond” form.

        i. The Bid Bond form misidentified Chatham County as the owner to be bonded to. The Bid form has been corrected to read The City of Port Wentworth as the owner to be bonded to.

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BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____ (hereinafter called the Principal) and _____ (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of Georgia with its principal offices in the City of Port Wentworth and authorized to do business in the State of Georgia, are held and firmly bound unto THE CITY OF PORT WENTWORTH, GEORGIA in the full and just sum of_____ Dollars ($_____) good and lawful money of the United States of America, to be paid upon demand of THE CITY OF PORT WENTWORTH, GEORGIA, to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, and assigns jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, THE CITY OF PORT WENTWORTH, GEORGIA, a Bid for furnishing materials, labor and equipment for:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall within ten (10) days after receipt of notification of the acceptance, execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by THE CITY OF PORT WENTWORTH, GEORGIA, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to THE CITY OF PORT WENTWORTH, GEORGIA, each in an amount of 100% of the total contract price, in form and with security satisfactory to said THE CITY OF PORT WENTWORTH, GEORGIA, and otherwise, to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to THE CITY OF PORT WENTWORTH, GEORGIA, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20__.

_____ (SEAL)
Surety

BY: _____

_____ (SEAL)
Principal

BY: _____

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SECTION 01150
MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 QUANTITIES

A. Quantities: Quantities listed in the Proposal are approximate only and are intended to serve as a guide in comparing bids and may be increased or decreased without invalidating the unit price bid.

B. Payment: Contractor shall be paid for actual in place quantities as determined by the Engineer field measurements.

C. Discrepancies: In case of discrepancies between the figures shown in the unit prices and totals, the unit prices shall apply, and the totals shall be corrected to agree with the unit price.

PART 2 – MEASUREMENT AND PAYMENT

2.01 GRADING MODIFIED

A. Measurement: Grading (modified) including haul will be measured in linear miles along the centerline of the road or the median, including ramps when so shown on the plans. Surplus material may be disposed of beyond the end of the project, but the mileage measured for payment will not extend beyond the established termini.

B. Payment: The item of Grading (modified) including haul will be paid for at the unit price per linear mile complete in place, which price shall be full compensation for clearing and grubbing inside the construction limits where the item is not shown as a separate item in the contract, for all grading, all excavation to the typical section required or as modified herein, saw cutting, pavement removal, compaction, compaction testing, formation of embankments, construction of shoulders, backing out subgrades for pavement, flushing fill slopes and ramps, filling washes, wasting surplus or unsuitable material, furnishing and placing structural fill material as required, finishing and dressing, cleaning of side ditches, all hauling of excavation, driveway and drainage demolition and removal, relocation of mailboxes and other structures or any incidentals necessary to complete the item. It is clearly understood that in no case will any separate payment be made for finishing and dressing, and that the cost of necessary finishing and dressing to comply with these specifications shall be included in the contract unit price of Grading Modified including haul.

2.02 REMOVE AND REPLACE SUBGRADE MATERIAL

A. Measurement: Measurement will be made on the basis of each cubic yard of structural subgrade fill material installed, in accordance with the construction plans or directed by the engineer. This item is for removal and replacement of unsuitable materials as directed by the engineer or shown on the plans. This item is an addition to grading modified and 18" remove and replace subgrade items to be measured separately.

B. Payment: Payment will be made on the basis of each cubic yard of soil removed and replaced within the roadway in accordance with the construction plan or approved by the engineer at the unit price bid. The unit bid price shall include all labor, equipment and material necessary to complete the item of work. The work shall include, but is not limited to the excavation, loading, hauling, placement and compaction of the fill material. Any borrow

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area dewatering, maintenance and erosion and sediment control should be included. All material must be obtained from and approved D.O.T. pit. Testing will be in accordance with D.O.T. requirements for the intended use.

2.03 GEOTEXTILE FABRIC

A. Measurement: Measurement will be made on the basis of the number of square yards of geotextile fabric applied to the roadway as shown on the construction plans or directed by the engineer. The length will be measured on the surface along the centerline and the width will be that specified on the construction plans. Irregular areas such as turnouts and intersections will be measured to the closest square yard. Overlaps will not be measured separately.

B. Payment: Payment will be made on the basis of each square yard of geotextile fabric installed in accordance with the construction plans at the unit price bid. The unit price bid shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, furnishing geotextile fabric, hauling, excavation, laying out, placement, sewing, stretching, stabilization, and clean-up.

2.04 GRADED AGGREGATE BASE (GAB)

A. Measurement: Measurement shall be made on the basis of the number of square yards of graded aggregate base applied to the roadway at the specified thickness as shown on the construction plans or directed by the engineer. Irregular areas such as turnouts, filler strips and intersections will be measured to the closest square yard. Prior to installation of the asphalt all areas will be checked for proper thickness.

B. Payment: Payment will be made on the basis of the number of square yards of graded aggregate base material installed at the specified thickness applied to the roadway at the unit price bid. The unit price bid shall include all labor, equipment and material to complete the item of work. Work shall include, but not be limited to, the furnishing, hauling, placing and compaction of the graded aggregate base material in order to bring the base to the lines, grades, and cross sections shown on the construction plans or established by the Engineer. Work shall also include complete surface restoration and clean-up.

2.05 ASPHALT PAVING

A. Measurement: Measurement will be made on the basis of each ton of asphalt in place, in accordance with the construction plans and accepted by the Engineer. Actual weight will be determined by weighing on a certified motor truck scale and presenting a notarized copy of the recorded weight to the Engineer. Partial loads will be weighed back in and the tonnage returned will not be used.

B. Payment: Payment will be made on the basis of the number of tons of asphalt in place in accordance with the unit price bid. The unit price shall include all labor, equipment and material to complete the item of work. Work shall include, but is not limited to, the furnishing, hauling, placing and compaction of the asphalt in order to bring the pavement to the lines, grades and cross sections as designated on the construction plans and as determined by the Engineer. The unit price bid shall also include surface cleaning, prime, tack and pavement.

2.06 CURB AND GUTTER

A. Measurement: Measurement will be made on the basis of each linear foot of curb and gutter removed and replaced as shown on the plans or as directed by the engineer. The size

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of the curb and gutter will be as shown on the plans and indicated in the bid documents. The measurement will be made along the back of the curb.

B. Payment: Payment will be made on the basis of each linear foot of curb and gutter installed in accordance with the construction plans or as directed by the engineer at the unit price bid. The unit price shall include all materials, labor and equipment necessary to complete the item of work. Work shall include, but not limited to, all excavation, saw cutting, forming, grade staking, grading, compaction, furnishing concrete, curb and gutter installation, filler strip installation where necessary, dewatering, form wrecking, backfilling, cleanup and surface restoration.

2.07 CONCRETE DRIVEWAY

A. Measurement: Measurement will be made on the basis of each square yard of concrete pavement installed to the lines and grades shown on the plans not covered under some other section of this document.

B. Payment: Payment will be made at the unit price bid for each square yard of concrete installed as shown on the plans or directed by the engineer at the unit price bid. The unit price shall include all labor, materials and equipment necessary to complete the item of work. Work shall include, but is not limited to, saw cutting, excavation, subgrade preparation, compaction, forming, furnishing and installation of the concrete as shown on the plans, reinforcing, finishing, form wrecking, cleanup and surface restoration.

2.08 DRAINAGE STRUCTURES (Catch Basin, Yard Drain, Junction Box, Headwall, Concrete flumes, Flared End Section, Pipe End Treatments)

A. Measurement: Measurement will be made on the basis of each drainage structure installed at the elevation & location designated on the construction plans.

B. Payment: Payment will be made on the basis of each structure installed at the unit price bid. The unit price bid shall include furnishing all labor, materials and equipment necessary to complete the item of work. Work shall include, but not be limited to, excavation, necessary shoring and sheeting, dewatering, forming, placement of concrete, bricks, or precast structure, form wrecking, foundations as required, furnishing and installing the structure, placement of grates and manhole rings and covers as applicable, grouting around pipe and lid, sealing of structure, backfill, compaction, grading, complete surface restoration and cleanup.

2.09 DRAINAGE PIPE

A. Measurement: Measurement will be made on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans or directed by the engineer.

B. Payment: Payment will be on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans or directed by the engineer at the unit price bid. The unit price bid shall include all labor, equipment and labor necessary to complete the item of work. Work shall include, but not be limited to, all excavation, trenching, dewatering, necessary shoring and sheeting, all pipe bedding, furnishing and installing pipe, backfill, compaction, complete surface restoration and cleanup.

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2.10 SOCK DRAIN WITH STONE

A. Measurement: Measurement will be made on the basis of each linear foot of sock drain pipe installed at the elevation, grade and alignment as designated on the construction plans or directed by the engineer.

B. Payment: Payment will be on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans or directed by the engineer at the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not be limited to, all excavation, trenching, dewatering, necessary shoring and sheeting, all pipe bedding, furnishing and installing pipe, furnishing and installing #57 stone, furnishing and installing fabric, backfill, compaction, complete surface restoration and cleanup.

2.11 GRASSING

A. Measurement: Measurement shall be made on the basis of the completed item in accordance with the construction plans and bid items. Work performed under this section will be measured to the nearest one-tenth acre.

B. Payment: Payment will be made based on each acre of grass that achieves a 100% stand or a portion there of at the unit price bid. The unit price shall include, but is not limited to, furnishing all labor, materials and equipment necessary for the satisfactory growth of grass on all disturbed areas in accordance with plans and specifications. Work shall include, but not be limited to, furnishing all materials, fertilizer, soil samples, grass seed, raking, leveling, watering, re-seeding, maintenance and final surface restoration. Final payment will not occur until permanent grass is established.

2.12 MULCHING

A. Measurement: Measurement shall be made on the basis of the completed item in accordance with the construction plans and bid items. Work performed under this section will be measured to the nearest one-tenth acre.

B. Payment: Payment will be made based on each acre of mulch applied and accepted by the engineer or the portion there of at the unit price bid. The unit price shall include furnishing all labor, materials and equipment necessary for the satisfactory mulching of all disturbed areas in accordance with plans and specifications. Work shall include, but not be limited to, furnishing and installing hay, straw and the like, surface restoration and clean-up. The hay or straw shall be blown, or hand broadcasted to a uniform depth, minimum 85% coverage. The unit price bid shall also include maintenance of mulch until final grassing is established. Mulching is to be completed or maintained daily to ensure no erosion of disturbed areas.

2.13 ROADWAY STRIPING/MARKING

A. Measurement: Linear measurements are made on the painted surface by a measuring device rolled along the painted surface. Traffic stripe and markings, complete in place, are measured and accepted for payment as follows:

i. Solid Traffic Stripe
Solid traffic stripe is measured by the linear foot. Breaks or omissions in solid lines or stripes at street or road intersections are not measured.

ii. Skip Traffic Stripe
Skip traffic stripe is measured by the gross linear foot. Unpainted spaces between the stripes are included in the overall measurements if the Plan

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ratio of 1 to 3 remains uninterrupted. Measurement begins and ends on a stripe.

iii. Pavement Markings

Markings are words and symbols completed according to Plan. Markings are measured by the unit.

B. Payment: Payment will be made on the basis of the unit price. The unit price shall include all materials, labor and equipment necessary to complete the item of work. Work shall include, but is not limited to, cleaning and preparing surfaces, furnishing materials, including paints, beads, and thinners, applying, curing, and protecting paints, protecting traffic, including providing and placing necessary warning signs, furnishing tools, machines, and other equipment necessary to complete the Item or work.

2.14 INLET PROTECTION

A. Measurement: Measurement will be made on the basis of each inlet protection device installed in accordance with the construction plans or as directed by the Engineer.

B. Payment: Payment will be made on a unit price basis of each inlet protection device installed in accordance with the construction plans or as directed by the engineer at the the unit price bid. The unit price shall include, but not be limited to furnishing all labor, equipment and materials necessary for the satisfactory prevention of sediment-laden storm water from entering drainage inlets or junction boxes. The work shall include, but not be limited to, trenching, furnishing and installing filter fabric, staking, backfill, furnishing and installing concrete blocks and associated materials, placement of filters, etc. The unit price shall also include complete maintenance, cleaning, and or replacement of the inlet sediment trap throughout the life of the project. It shall also include the removal of the inlet protection upon completion of the project and complete restoration of inlet grates and manhole covers.

2.15 CONCRETE WASHOUT AREA

A. Measurement: Measurement will be made on the basis of each concrete washout area installed in accordance with the construction plans or as directed by the Engineer.

B. Payment: Payment will be made on the basis of each concrete washout installed in accordance with the construction plans or as directed by the engineer at the unit price bid. The unit price shall include, but not be limited to furnishing all labor, equipment and materials necessary to complete the item of work. The work shall include, but not be limited to, trenching, furnishing and installing filter fabric, staking, backfill, furnishing and installing concrete blocks and associated materials, placement of filters, etc. The unit price shall also include complete maintenance, cleaning, and or replacement of the concrete washout area throughout the life of the project. It shall also include the removal of the concrete, concrete-laden water, and the concrete washout area upon completion of the project and complete restoration of the surface.

2.16 STORM DRAIN OUTLET PROTECTION RIP RAP

A. Measurement: Measurement shall be made on the basis of the number of square yards of granite rip rap placed at the locations shown on the plans and in accordance with “The Manual for Erosion and Sediment Control in Georgia”.

B. Payment: Payment will be made on the number of square yards of rip rap installed at the unit price bid. The unit price bid shall include all material, labor and equipment necessary to accomplish the item of work. Work shall include, but not be limited to, excavation, grading, furnishing and placing rip rap, gravel filler, geotextile filter blanket as shown on the plans to cover area entirely avoiding washouts in the future. Thickness of rip rap coverage will be at

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least the thickness shown on the plans for each location, but in no case shall be less than 1.5 times the rock diameter.

2.17 SILT FENCE

A. Measurement: Measurement will be made on the basis of each linear foot of silt fence installed in accordance with the construction drawings or as directed by the engineer.

B. Payment: Payment will be made on the basis of each linear foot of silt fence installed in accordance with the construction drawings or as directed by the engineer at the unit price bid. The unit price shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to necessary trenching, providing and placing silt fence, staking, maintenance for the life of the project, repair and/or replacement, removal, complete surface restoration and cleanup.

2.18 TRAFFIC CONTROL

A. Measurement: Measurement will be made on the basis of the completed item of work or percentage thereof.

B. Payment will be made on the basis of the completed item of work or a percentage thereof at the unit price bid. The unit price bid shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, furnishing all necessary signage, barrels and personnel necessary to adequately manage traffic during all phases of construction. This item also includes the relocation of trash bins to allow trash collection during construction, cost for placing notices on residential doors in the neighborhood.

2.19 MOBILIZATION

A. Measurement: Measurement will be made on the basis of the completed item of work or percentage thereof.

B. Payment will be made for the price as stated in the Contract once the Contractor has established his construction yard, and met the requirements established in the Contract Documents. Mobilization will be recognized complete once the Contractor has provided a construction schedule and moved his equipment and a substantial amount of material to the job site. Construction must be underway and progressing. Payment for mobilization will be limited to a maximum amount not to exceed 3.0% of the bid price.

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SECTION 02100
CLEARING AND GRUBBING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Clearing shall consist of the falling, trimming, cutting and disposal of trees and other vegetation designated for removal, including down timber, snags, brush and rubbish occurring within the area to be cleared. Grubbing shall consist of the removal and disposal of stumps, roots larger than 1.5 inches in diameter and matted roots.

PART 2 – EXECUTION

2.01 Trees, down timber, stumps, roots, brush and other vegetation in areas to be cleared shall be removed completely, except such trees and vegetation as may be indicated or directed to be left standing. Trees to be left standing within the cleared areas shall be trimmed of dead branches 1.5 inches or more in diameter.

2.02 Limbs and branches to be trimmed shall be neatly cut close to the bore of the tree or main branches.

2.03 All organic materials, masonry, concrete or metallic debris in the clearing and grubbing areas shall be excavated and removed to a depth of not less than 12 inches below grade where original grade is to remain level and two feet below finish grade, bottom of pavement base and bottom of footings.

2.04 Depressions made by grubbing shall be backfilled and compacted with fill material to meet the requirement for trenching and structural backfilling.

2.05 Machine grubbing shall not be done under trees left standing in the area covered by the branches, nor in any manner which might damage the trees or any new work.

2.06 Trees and vegetation to be left standing shall be protected from damage during clearing, grubbing and construction operations, by the erection of barriers.

2.07 Objects above or below grade interfering with construction shall be removed as directed by the Architect/Engineer.

2.08 DISPOSAL OF MATERIALS

A. Cleared and grubbed materials to be disposed of to an approved off-site disposal area. The disposal area shall be a state-approved landfill.

B. On site burning will not be allowed, without written permission of local authorities. The Forestry Department should be contacted for the permit.

C. The use of an air curtain destructor for on site burning shall be part of the permit.

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SECTION 02210
SITE GRADING

PART I – GENERAL

1.01 QUALITY ASSURANCE

A. Reference Standards:

1. Standards of American Society for Testing and Materials:
ASTM-D-698 Moisture-Density Relations of Soils Using 5.5 lb. (2.5 KG) Hammer and 12 inch (304.8 mm) Drop

2. Methods of Sampling and Testing of American Association of State Highway and Transportation Officials (AASHTO), latest edition.

1.02 TESTING

A. All soil testing shall be performed by an Independent Testing Laboratory selected by the Engineer and paid for by the Contractor.

1.03 EXCESS EXCAVATED MATERIALS

A. Excess excavated materials shall be wasted off site by the Contractor at no expense to Owner, or as directed by the Engineer.

1.04 BORROW MATERIAL

A. Any borrow material required to accomplish all levels, lines and grades indicated shall be furnished by the Contractor at no expense to the Owner.

B. Borrow material shall be obtained from borrow pits off site.

C. The Contractor shall pay for all soil analysis for borrow material

1.05 EXCAVATED MATERIAL

A. All material to be excavated shall be classified as earth.

1.06 UNSUITABLE BEARING MATERIALS

A. Should unsuitable bearing materials be encountered at levels indicated and found to have insufficient bearing values the Engineer may order the excavation carried to lower depths.

B. Compensation for the removal and/or replacement of unsuitable materials shall be in accordance with the General Conditions.

C. Excavation of unsuitable bearing materials shall not proceed until the conditions have been observed by the Engineer and written approval has been given by the Owner.

PART II – EXECUTION

2.01 TOP SOIL

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A. Areas to be stripped shall first be scraped clean of all brush, weeds, grass, roots and other material.

B. Remove topsoil from areas to be graded and stockpile in locations where it will not interfere with structures, roads or utility operations.

C. Topsoil shall be free from subsoil, debris and stones larger than 2 inches in diameter. The stored topsoil shall be left in piles to be used for finished grading.

D. Stockpiles shall be protected from contamination by undesirable foreign matter and shall be graded to shed water.

2.02 EXCAVATION

A. Excavations shall be accomplished to bring surface to the levels, lines and grades as indicated.

B. Excavated material to be used for fill or backfill material shall be stockpiled on the site as directed by the Engineer. Stockpiles shall be graded to shed water.

2.03 FILLING

A. All fill material required to bring areas to the levels, lines and grades indicated shall be selected and approved materials from approved borrow areas.

B. Sub-grades on which fill material is to be placed shall be scarified to a depth of not less than 4 inches by plowing or disking. A layer of suitable fill material, approximately 3 inches in depth, shall be spread over the scarified surface and compacted.

C. Fill material shall be spread and compacted in successive uniform layers not exceeding 8 inches in depth (loose measure) until the total thickness of fill is completed.

2.04 COMPACTION

A. Compaction required for material fill shall be 95% of Standard Proctor, maximum dry density as determined by the procedures of ASTM D-698. Fill areas shall be crowned and sloped to drainage ditches or as required to prevent ponding of surface water.

B. Compaction by flooding of any material is not acceptable. In the event that any flooding takes place, the material and all adjacent softened material shall be removed and replaced with compacted fill at no cost to the Owner.

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SECTION 02220
DEMOLITION

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PART 1 – GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AIR-CONDITIONING AND REFRIGERATION INSTITUTE (ARI)

ARI Guideline K (1997) Containers for Recovered Fluorocarbon Refrigerants

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6 (1990; R 1998) Safety Requirements for Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (1996) Safety and Health Requirements Manual

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Engineer. Do not allow accumulations inside or outside the building. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Engineer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1. Asbestos removal will be performed by others under a separate contract. All asbestos will be removed prior to the issuance of a notice to proceed.

1.3 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," safety requirements shall conform to ANSI A10.6.

1.3.1 Notifications

1.3.1.1 General Requirements

Furnish timely notification of demolition project to Federal, State, regional, and local authorities as required.

1.4 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily or as necessary. Sweep pavements as often as necessary to control the spread of debris.

1.5 PROTECTION

1.5.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the Engineer prior to beginning such work.

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1.5.2 Existing Work

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Owner; any damaged items shall be repaired or replaced as approved by the Engineer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Engineer's approval.

1.5.3 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas so as to ensure effectiveness and to prevent displacement.

1.5.4 Trees

Trees within the project site which might be damaged during demolition, and which are indicated to be left in place, shall be protected by a 1.8 m (6 foot) 6 foot high fence. The fence shall be securely erected a minimum of 1.5 m 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the Engineer.

1.5.5 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, of lateral support until demolished, unless directed otherwise by the Engineer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.5.6 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.6 BURNING

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The use of burning at the project site for the disposal of refuse and debris **will not** be permitted.

1.7 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by the Engineer.

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1.8 ENVIRONMENTAL PROTECTION

The work shall comply with all federal, state, and local laws and regulations.

1.9 USE OF EXPLOSIVES

Use of explosives **will not** be permitted.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

3.1.1 Structures

Existing structures indicated shall be removed to grade. Interior walls, other than retaining walls and partitions, shall be completely removed to grade. Basement slabs shall be broken up and completely remove. Sidewalks, curbs, gutters and street light bases shall be removed as indicated.

3.1.2 Utilities and Related Equipment

Remove existing utilities to limit of the property and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Engineer. When utility lines are encountered that are not indicated on the drawings, the Engineer shall be notified prior to further work in that area. Remove meters and related equipment.

3.1.3 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs including aggregate base as indicated to natural grade. Provide neat saw cuts at limits of pavement removal as indicated.

3.1.4 Masonry

Saw cut and remove masonry so as to prevent damage to surfaces to remain. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as specified for the new work.

3.1.5 Concrete

Saw concrete along straight lines to a depth of not less than 50 mm 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete.

3.1.6 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing

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adjacent surface as closely as possible as to texture and finish. Patching shall be as specified and indicated, and shall include:

a. Holes and depressions left as a result of removals in existing masonry walls to remain shall be completely filled with an approved masonry patching material, applied in accordance with the manufacturer's printed instructions.

b. Where existing partitions have been removed leaving damaged or missing resilient tile flooring, patch to match the existing floor tile.

c. Patch acoustic lay-in ceiling where partitions have been removed. The transition between the different ceiling heights shall be affected by continuing the higher ceiling level over to the first runner on the lower ceiling and closing the vertical opening with a painted sheet metal strip.

3.1.7 Air Conditioning Equipment

Remove air conditioning equipment without releasing chlorofluorocarbon refrigerants to the atmosphere in accordance with the Clean Air Act Amendment of 1990. Recover all refrigerants prior to removing air conditioning equipment and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS).”

3.1.8 Cylinders and Canisters

Remove all fire suppression system cylinders and canisters and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."

3.1.9 Locksets on Swinging Doors

The Contractor shall remove all locksets from all swinging doors indicated to be removed and disposed of. Contractor shall give the locksets to the County after their removal.

3.2 FILLING

Holes, open basements and other hazardous openings shall be filled in accordance with the construction drawings. The finished grade shall match the adjacent grades and shall be properly drained as directed by the Engineer.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

Except where specified in other sections, all materials and equipment removed, and not reused, shall become the property of the Contractor and shall be removed from County property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the County of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

3.3.2 Disposal of Ozone Depleting Substance (ODS)

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting ARI Guideline K suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS shall be [put back into the existing equipment] [turned over to the Contracting Officer] [remove from

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Government property and dispose of in accordance with 40 CFR 82]. Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) shall be disposed of in accordance with 40 CFR 82.

3.3.2.1 Special Instructions

Each container shall have in it no more than one type of ODS. A warning/hazardous label shall be applied to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS shall have a tag with the following information:

a. Activity name and unit identification code
b. Activity point of contact and phone number
c. Type of ODS and pounds of ODS contained
d. Date of shipment

3.3.2.2 Fire Suppression Containers

Fire suppression system cylinders and canisters with electrical charges or initiators shall be deactivated prior to shipment. Also, safety caps shall be used to cover exposed actuation mechanisms and discharge ports on these special cylinders.

3.3.3 Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of by the Contractor.

3.4 CLEANUP

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

3.4.1 Debris and Rubbish

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

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SECTION 02221
TRENCH EXCAVATION, BACKFILL AND COMPACTION

PART 1 – GENERAL

1.01 SCOPE

A. Work under this section shall consist of furnishing all materials, equipment and labor for excavation, trenching and backfilling for utility systems. "Utility systems" shall include underground piping and appurtenances for gas, gasoline, oil, and water distribution systems, storm water drains, and sewage collection systems.

1.02 EXISTING UTILITIES

A. Before opening trenches, the Contractor shall examine all available records and explore for the location of all sub-surface pipes, valves or other structures and reference such locations on the surface. It shall be the responsibility of the contractor to contact the utility clearinghouses as required by law.

B. In opening trenches, every effort shall be made not to interfere with these utilities structures. Expose existing piping by hand before excavating by machine. Excavate existing utilities sufficiently in advance of pipe laying to determine crossing arrangement. Slight deviations may be permitted in order to clear such structures. The Contractor shall be entirely responsible for the preservation of all underground or overhead utility lines and structures, such as gas, water, sewer lines, telephone conduit, power lines, etc., and shall replace, adjust or repair, without additional compensation, any such lines damaged or interfered with as a result of this construction.

C. Schedule work to keep roads and utilities in usable condition; coordinating all operation with the Governing Authority to avoid inconvenience insofar as practicable.

1.03 BORROW MATERIAL

A. Any borrow material required to accomplish all levels, lines and grades indicated shall be furnished from an approved site.

B. The OWNER or his agent shall pay for all soils analysis for borrow material.

1.04 TESTING

A. All soil testing shall be performed by an Independent Testing Laboratory selected by the Governing Authority and the design engineer.

1.05 QUALITY ASSURANCE

A. All excavation within the rights of way of city streets and county, State or Federal roadways, shall be backfilled in accordance with the then prevailing requirements of the Georgia Department of Transportation, Highway Division.

B. Reference Standards: Methods of Sampling and Testing of American Association of State Highway and Transportation Officials (AASHTO).

1.06 SAFETY

A. The Contractor is responsible for maintaining a safe job environment. He is responsible for meeting all OSHA requirements and conditions as part of the project.

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PART 2 – EXECUTION

2.01 GENERAL EXCAVATION

A. The Contractor shall do all excavation of whatever substances encountered to depth shown on plans. Excavated materials not required for fill or backfill shall be removed from site as directed by the Engineer.

B. Contractor is to excavate to provide 36 inch minimum cover over utility.

C. Excavation for manholes and other accessories to have 12 inches minimum and 24 inch maximum clearance on all sides.

D. Excavation shall not be carried below the required level.

E. Where excavation is carried below grades indicated, the Contractor shall refill same to the proper grade with compacted earth or stone, or as directed by the Engineer.

F. Width of trench shall be as shown on the plans. The bottom of trench for sewers and culverts shall be rounded so that an arc of the circumference equal to 0.6 of the outside diameter of the pipe rests on undisturbed soil.

G. Bell holes shall be excavated accurately to size by hand.

2.02 UNSUITABLE BEARING MATERIALS

A. Should unsuitable bearing materials be encountered at levels indicated and found to have insufficient bearing values the Engineer may order the excavation carried to lower depth.

B. Excavation of unsuitable bearing materials shall not proceed until the conditions have been observed by the Engineer and written approval is given by the Owner.

2.03 PIPE BEDDING

A. The contact between a pipe and the foundation on which it rests is the pipe bedding.

B. Classes of Bedding: Four typical classes of bedding to be used for pipes in trenches are described as follows:

1. Class A - Concrete Cradle or Concrete Arch Bedding: This class of bedding may take either of two forms.

a. Concrete Cradle- The pipe shall be bedded in a monolithic cradle of plain or reinforced concrete having a minimum thickness of 1/4 the inside pipe diameter of a minimum of 4 inches under the barrel and extending up the sides for a height equal to 1/4 the outside diameter. The cradle shall have width at least equal to the outside diameter of the pipe barrel plus 8 inches. Backfill above the cradle and extending to 12 inches above the crown of the pipe shall be compacted carefully.

b. Concrete Arch- The pipe shall be embedded in a carefully compacted granular material having a minimum thickness of 1/4 the outside diameter between barrel and bottom of trench excavation and extending halfway up the sides of the pipe. The top half of the pipe shall be covered with monolithic plain or reinforced concrete arch having a minimum thickness of

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1/4 the inside diameter at the crown and having a minimum width equal to the outside pipe diameter plus 8 inches.

2. Class B- First -Class Bedding - Class B bedding may be achieved by either of two construction methods.

   a. Shaped Bottom with Tamped Backfill. The bottom of the trench excavation shall be shaped to conform to a cylindrical surface with a radius at least 2 inches greater than the radius to the outside of the pipe and with a width sufficient to allow 6/10 of the width of the pipe barrel to be bedded in fine granular fill placed in the shaped excavation. Carefully compacted backfill shall be placed at the sides of the pipe to a thickness of at least 12 inches above the top of the pipe. Shaped trench bottoms shall be used only with the approval of the Engineer.

   b. Compacted Granular Bedding with Tamped Backfill. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 1/4 the outside pipe diameter and shall extend halfway up the pipe barrel at the sides. The remainder of the side fills and minimum depth of 12 inches over the top of the pipe shall be filled with carefully compacted, select material.

3. Class C - Ordinary Bedding: Class C ordinary bedding may be achieved by either of two construction methods:

   a. Shaped Bottom. The pipe shall be bedded with "ordinary" care in an earth foundation formed in the trench bottom by a shaped excavation which will fit the pipe barrel with reasonable closeness for a width of at least 50% of the outside pipe diameter. The side fills and area over the pipe to a minimum depth of 6 inches above the top of the pipe shall be filled with lightly compacted fill. The shaped bottom bedding shall be used only with the approval of the Engineer.

   b. Compacted Granular Bedding with a Tamped Backfill. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 4 inches under the barrel and shall extend 1/10 to 1/6 of the outside diameter up the pipe barrel at the sides. The remainder of the side fills and to a minimum depth of 6 inches over the top of the pipe shall be filled with lightly compacted backfill.

4. Class D - Class D bedding is not permissible. Flat bottom trench. In this class of bedding the bottom is left flat, and no care is taken to secure compaction of backfill at the sides immediately over the pipe.

C. Granular pipe bedding material shall be well graded crushed stone or crushed gravel meeting the requirements of ASTM C33, Gradation 67 (3/4 inch to No. 4). A well-graded gravel meeting these same requirements can also be used.

D. Where ledge rock, compact rocky or gravelly soil, or other unyielding foundation material is encountered, the pipes shall be bedded in accordance with the requirements of the foregoing classes of bedding, but with the following additions: The hard unyielding material shall be excavated to the elevation of the bottom of the concrete cradle (Class A bedding) or below the bottom of the pipe and the pipe bell (Class B or C bedding), to depth of at least 6 inches (15cm). The width of the excavation shall be at least 5/4 the outside diameter of the pipe and it shall be refilled with granular material as identified above.

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2.04 BRACING AND SHORING

A. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety.

B. Sheeting driven alongside the pipe should be cut off and left in place to an elevation 1.5 feet above the top of the pipe.

C. All other sheeting shall be removed as directed by the Engineer.

2.05 DEWATERING FOR EXCAVATION

A. The Contractor shall pump or remove any water accumulated in any excavated area and shall perform all work necessary to keep excavations clear of water while foundations, structures or any masonry are being constructed or while pipe is being laid, or during demolition.

B. No structure or pipe shall be laid in water, and water shall not be allowed to flow over or rise upon any concrete or masonry or piping until same has been inspected and the mortar or joint material has cured.

C. All water pumped or bailed from the trenches or other excavation shall be conveyed in a manner to a point of discharge where it will neither cause a hazard to the public health, nor damage to the public or private property, or to work completed or in progress.

2.06 BACKFILL

A. The soil at the sides of a pipe and above it is the backfill.

B. Prior to backfilling any excavation, all piping and structures, the Engineer and Governing Authority's Inspector shall be notified for observation.

C. After pipes have been tested and approved, backfilling shall be done with approved material free from large clods or stones.

D. Backfill shall be placed in uniform layers, four inches thick, on both sides of the pipe and thoroughly compacted with pneumatic or hand tampers. The backfill shall be brought up uniformly on both sides of the pipe and compacted to an elevation of one foot above the top of the pipe, after which the fill shall be placed in eight inch lifts. No rock will be allowed in the backfill within a distance of one foot from the pipe, and rock larger than six inches in the greatest dimension will not be permitted in any part of the trench or backfill.

1. Backfill shall be compacted to not less than 95% of the maximum dry weight per cubic foot as determined by AASHTO Method T-99 (Standard Proctor Test).

2. The top 18 inches of backfill under any paved area shall be compacted to 100% Standard Proctor.

3. Water settling will not be permitted in clay soils. It may be allowed at the option of the Governing Authority's Inspector and design engineer in sandy soils.

2.07 REPLACING PAVEMENTS

A. Subgrades shall be compacted with a mechanical tamper.

B. The minimum width of replaced concrete pavements shall be 4 feet at interiors and 6 feet at

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joints and constructed as shown on Standard Details. Avoid cutting pavements at joints; if unavoidable, reconstruct same as original joint. Depth shall be equal to the original thickness. Existing pavements edges shall be cut vertical.

C. Use high-early-strength cement if road is to be opened in less than 24 hours.

D. The minimum width of replaced bituminous pavements shall be 3 feet with 8 inch concrete patch. The existing pavement shall be cut vertically and horizontally to a straight line. The 8-inch concrete patch shall be minimum 3,000-psi concrete containing black dye and shall be flush with the existing pavement.

E. The minimum width of replaced bituminous pavement with asphalt shall be 3 feet with 6 inches of concrete and 2 inches of asphalt after the existing pavement is cut vertically and horizontally to a straight line.

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SECTION 02540
EROSION CONTROL

PART 1 – GENERAL

1.01 SCOPE

A. The work specified in this Section consists of furnishing, installing and maintaining temporary erosion controls and temporary sedimentation controls.

B. All erosion and sediment control measures shall be in accordance with the existing Erosion and Sedimentation Control Ordinance of the City of Hinesville.

1.02 DEFINITIONS

A. Temporary erosion controls shall include grassing, mulching, watering and reseeding on-site sloped surfaces, providing berms at the top of the slopes and providing interceptor ditches at the ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or minimized.

B. Temporary sedimentation controls shall include silt dams, traps, barriers and appurtenances at the toe slopes and in drainage ways.

PART 2 – MATERIALS

2.01 Hay bales shall be clean, seed free cereal hay type, securely bound with wire or mylar cord.

2.02 Netting shall be 1/2 inch, galvanized steel chicken wire mesh.

2.03 Filter stone shall be crushed stone conforming to the Department of Transportation State of Georgia-Standard Specifications-Construction of Roads and Bridges-1983 or latest edition - Table 800.01 H, Size Number 3.

PART 3 – EXECUTION

3.01 SEDIMENTATION CONTROL

A. Silt dams, traps, barriers, and appurtenances shall be installed and shall be maintained in-place for duration of construction.

B. Hay bales shall be staked with two (2) 1X4 wood stakes per bale driven eighteen (18) inches into the ground and finishing flush with the top of the bale.

1. Install two (2) stakes per bale with the long dimension of the stakes parallel to the long dimension of the bale.

2. Where bales are installed in multiple layers the bales shall be installed with vertical joints staggered and two (2) 1 x 4 wood stakes per bale driven through all layers, full from top of bale to eighteen inches into the ground.

3. Hay bales that have deteriorated shall be replaced with new materials.

C. Silt Fence

1. Silt fence shall be installed in accordance with manufacture instructions. The bottom 2"

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should be installed beneath the ground surface.

2. A small trench should be dug before installation. The silt fence should then be installed and the trench back filled.

D. Erosion and sedimentation controls shall be maintained in a condition that will retain unfiltered water.

E. The Contractor shall construct the sedimentation ponds and control devices prior to clearing and grubbing the site to insure complete silt control. When the silt or the debris level is greater than 1 foot above the bottom of the pond, the Contractor shall remove the silt or debris to restore the proper elevation for the bottom of the pond.

F. The Contractor shall have all erosion and sedimentation control devices in service and operating properly prior to completion and final acceptance of the contract.

3.02 RESPONSIBILITY

A. The Contractor shall be solely responsible for insuring that no silt or debris leaves the immediate construction site. Any silt or debris that does leave the immediate site shall be cleaned up and the area disturbed shall be returned to its natural state as directed by the City Inspector at the Contractor's expense.

B. The Contractor has the option to submit additional control measures in the form of shop drawings.

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SECTION 02611
BASE AND PAVING

PART 1 – GENERAL

1.01 APPLICABLE STANDARDS

A. When used in this section, the term "Standard Specifications" shall mean the DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES 1983 edition unless amended herein.

B. American Society for Testing and Materials (ASTM):

D-698 Test for, Moisture-Density Relations for soils

D-1557 Test for, Moisture-Density Relations for soils

PART 2 – PRODUCTS

2.01 MATERIALS

A. Base: The base shall conform to Section 310, Graded Aggregate Construction, of the Standard Specifications.

B. Prime: The prime coat shall be RC-70 and shall conform with Section 412, Bituminous Prime, of the Standard Specifications.

C. Tack Coat: The tack coat shall be RC-70 and shall conform with Section 413, Bituminous Tack Coat of the Standard Specifications.

D. Intermediate Course (Binder): The intermediate course shall be Type B Asphaltic Concrete and shall conform with Section 400, Hot Mix Asphaltic Concrete Construction of the Standard Specifications.

E. Surface Course - Asphalt Plant Mix: The surface course shall be Type E or F Asphaltic Concrete and shall conform with Section 400, Hot Mix Asphaltic Concrete Construction, of the Standard Specifications.

F. Paint: Paint for pavement marking shall be white Traffic Line Paint and shall conform with Section 870, Paint, of the Standard Specifications.

G. Concrete Curb and Gutter: Shall conform to Section 441- Concrete Curb, Gutter, Combination Curb and Gutter, Header, and Median of the Standard Specification.

PART 3 – EXECUTION

3.01 COMPACTION

A. Subgrade: The upper 12 inches of subgrade soils in all cut areas and all fill areas that are to receive new pavements shall be scarified and recompacted until a density equivalent to 95% standard Proctor maximum dry density in accordance with ASTM D698 has been obtained.

B. Base: All base shall have minimum compaction of 100% of the maximum density obtained by the test procedure present in ASTM D1557, Method D. The maximum

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permissible lift thickness shall be 6 inches (compacted).

C. Moisture Content: Compaction shall be performed only when the moisture content of the soil is within 4% of the optimum moisture content at the time of compaction as determined by ASTM D698. Soils are to be dried prior to compaction by discing and aeration. An Independent Testing Laboratory shall determine if soils are within the optimum moisture content.

3.02 CONSTRUCTION

A. Preparation of Subgrade: Prior to placing of base and pavements, the construction of all utility lines (water, sewer, power, gas, etc.) which are to be placed under the pavements shall have been completed.

B. Base: The base course shall be constructed in accordance with Section 310 of the Standard Specifications to the compacted thickness specified.

C. Prime: The prime coat shall be applied at a rate of 0.25 gallons per square yard and in accordance with Section 413 of the Standard Specifications.

D. Tack Coat: The tack coat shall be applied at a rate of 0.10 gallons per square yard and in accordance with Section 413 of the Standard Specifications.

E. Intermediate and Surface Course - Asphalt Plant Mix: The intermediate and surface courses shall be constructed in accordance with Section 400 of the Standard Specifications to the thickness indicated. All thicknesses are compacted.

F. Painting Centerline Stripe: Contractor shall paint a 4 inch wide broken yellow paint stripe in the center of all new streets. Broken centerline shall consist of painted segments 15 feet long with 25 foot unpainted gaps between painted segments.

G. Existing pavement which has pavement markings damaged by this construction shall be repainted.

H. Concrete Curb and Gutter: Shall be constructed in accordance with Section 441 of the Standard Specification.

3.03 TESTING

A. A compaction test by certified laboratory shall be required on the subgrade of streets dedicated to the Governing Authority. Test for compaction shall be located no more than 500 feet apart and staggered right, left and on the centerline. A minimum of two-subgrade compaction test shall be required per street location to be determined by the Governing Authority and the Design Engineer.

B. The thickness and compaction of base shall be required. A certified laboratory report shall be required as to the measured thickness and compaction of all material prior to placement of the asphalt wearing coarse. If deficiencies are found, the base material in the area will be removed and the subgrade regraded to allow the specified thickness of base material on the roadway.

C. All streets to be dedicated to the Governing Authority shall be proof rolled with a fully loaded (18 yard) tandem axle dump truck. Both subgrade and base material shall be subject to this test procedure.

3.04 EXISTING PAVEMENT RESTORATION

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A. Pavement damaged due to construction shall be patched or replaced as directed by the Governing Authority's Inspector and at no cost to the Governing Authority.

B. Pavement damaged by new utility trenches shall be restored as directed.

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SECTION 02821
GRASSING

PART 1 – GENERAL

1.01 APPLICABLE STANDARDS

A. Conform to Section 700 and other applicable articles of the "Standard Specifications Construction of Roads and Bridges", of the Department of Transportation, State of Georgia, dated September 15, 1977. Omit all references to measurement and payment.

1.02 SOIL SAMPLES

A. The Contractor shall take soil samples from several areas of the site to be grassed and have them analyzed by the Georgia Extension Service. The results of the analysis shall determine the best fertilizer mixture to use on the site.

PART 2 – MATERIALS

2.01 FERTILIZER

A. Commercial Fertilizer: Fertilizer for lawns shall be a complete fertilizer, the nitrogen content of which shall be derived from either organic or inorganic sources and meeting the following minimum requirements of plant food by weight, unless the soil analysis and report indicates a need for a different fertilizer mixture in which case the recommended mixture shall be furnished and applied. All State and Federal laws relative to fertilizer must be complied with.

10% Nitrogen - 12% Phosphoric Acid - 12% Potash

B. Ground Limestone: Lime shall be ground dolomitic limestone containing not less than 85% of total carbonates and shall be ground to such fineness that 50% will pass through a 20-mesh sieve. Coarser material will be acceptable, provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve.

C. Sodium Nitrate shall be a commercial product in dry powder form and shall be delivered in the original, unopened containers each bearing the manufacturer's guaranteed statement of analysis. It shall contain not less than 16% Nitrogen.

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2.02 LAWN MATERIALS

A. Kentucky 31 Fescue (Fescue elatior: var. arundinacea): Seed shall be 98% min. purity and 85% germination.

B. Bermuda Grass (Cyanodon Dactylon): Seed shall be 98% min. purity and 85% germination.

2.03 PREPARATION

A. Prepare the seed bed by thoroughly cultivating, discing and hand raking as necessary to produce a smooth even grade free from hollows or other inequalities. Before any seeding is attempted the soil must be in a well pulverized, smooth, friable condition of uniformly fine texture.

2.04 FERTILIZING AND LIMING

A. Approximately two (2) days prior to the start of seeding operations, apply ground limestone at the rate of 20 pounds per 1000 sq. ft. of lawn area. Either in conjunction with the above operation or immediately afterwards apply the specified Commercial Fertilizer over all lawn areas at the rate of 30 pounds per 1000 sq. ft. of lawn area. Work limestone into the top 6 inches of ground and the fertilizer into the top 2 inches of ground.

2.05 When the grass has started to cover well (approximately 4 weeks after sowing seed) apply 1-1/2 pounds of Ammonium Nitrate to all lawn areas and immediately water using a fine spray. At the end of the maintenance period and prior to the final inspection apply 10 pounds of the specified Commercial Fertilizer per 1000 sq. ft. of lawn area and immediately water.

2.06 SEEDING

A. Before any seeding is attempted the soil must be in a well pulverized, smooth, friable condition of uniformly fine texture. Lawn areas shall be seeded evenly with a mechanical spreader at the rate of 2 lbs. of seed per 1000 sq. ft., 50% in one direction and the remainder sown at right angles to first sowing. The seeded areas shall be lightly raked, rolled with a suitable weight roller and watered with a fine spray.

2.07 WATERING

A. Soak soil to a minimum depth of 6 inches immediately after seeding. Do not wash away soil or seed. Keep all surfaces continuously moist thereafter until 30 days after the lawn has been seeded. Use fine spray nozzles only.

2.08 Fescue planting season shall be as approved by Engineer.

2.09 Bermuda Grass seeding shall be planted only between May 1 to September 1.

2.10 Maintenance of grass areas shall consist of watering, weeding, cutting, repair of any erosion and reseeding or resodding as necessary to establish a uniform stand of the specified grasses, and shall continue until final acceptance.

2.11 All grassed areas that do not show satisfactory growth within 15 days after sowing shall be re-sown and re- fertilized as directed until a satisfactory blanket is established. Approximately 3 weeks after sowing the last seed, but not before the seed has taken hold and the grass is growing well, apply sulfate of ammonia or sodium nitrate at the rate of 300 pounds to the acre and water immediately. The lawns shall be considered established when they are reasonably free from weed, green in appearance and the specified grass is vigorous and growing well on each square foot of lawn area. Full coverage is required in 60 days.

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2.12 All grassed areas shall be protected until accepted. All eroded and damaged areas, regardless of cause, shall be immediately repaired and reseeded. Protect lawn areas against traffic.

2.13 Grassed areas shall be covered evenly with a loose layer of clean wheat, rye, oats, Serecia Lespedeza or Coastal Bermuda Hay. Two tons of dry mulch shall be applied to each acre seeded. Hay shall be placed during calm weather with no wind.

2.14 As soon as the grass becomes established, a final inspection of the work will be made, provided a written request for such inspection is given to the Engineer. Satisfactory coverage is defined as coverage of the areas seeded with grass that is alive and growing, leaving no bare spots larger than one (1) square foot with 98% coverage.

2.15 When grassing is required between curbs and sidewalks, behind sidewalks in areas adjacent to private property, the Engineer may change the type of seeding to that required to match any type of grass which may be planted and growing on the adjacent lawn. No increase in the Contract Sum will be made for this substitution.

2.16 All temporary valves, cutoffs and piping shall be removed by the Contractor at final acceptance of the grassing.

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SECTION 03300
CONCRETE GENERAL

PART 1 - GENERAL

1.01 QUALITY STANDARDS

A. Any procedure and material operation specified by reference to the following publications shall comply with the requirements of the current specification or standard:

1. American Society for Testing Materials (ASTM):

A185 Welded Steel Wire Fabric for Concrete Reinforcement.

A615 Deformed Billet-Steel Bars for Concrete Reinforcement.

C31 Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field.

C33 Specification for Concrete Aggregate.

C39 Compressive Strength of Molded Concrete Cylinders.

C94 Specification for Ready-Mixed Concrete.

C143 Slump of Portland Cement Concrete.

C150 Portland Cement

C172 Sampling Fresh Concrete

C192 Making and Curing Concrete Test Specimens in the Laboratory.

D1751 Preformed Expansion Joint Fillers for Concrete Paving.

2. American Concrete Institute:

ACI 301 Specification for Structural Concrete for Buildings.

ACI 305 Recommended Practice for Hot Weather Concreting.

ACI 318 Building Code Requirements for Reinforced Concrete.

ACI 350 Sanitary and Water Holding Structure.

1.02 QUALITY CONTROL

A. The Contractor shall submit to the Engineer, for review a design mix for each class of concrete listed under CLASSES OF CONCRETE, prior to placing any concrete.

B. Verification tests of design mixes and aggregates are required by the Engineer. Verification test specimens shall be made in accordance with ASTM C39 by an Independent Test Laboratory. Compressive strength shown by verification tests shall be at least fifteen percent in excess of the strengths listed under CLASSES OF

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CONCRETE. The Independent Testing Laboratory shall report the test results to the Engineer, in writing and shall note any failure to meet the specification.

C. Verification tests of design mixes made not more than one year prior to the date of submittal will be acceptable provided they were made from materials identical to those to be used in the project.

D. Mill Test: Conducted in accordance with ASTM A615 recommendations on each 15 tons, or less reinforcing shipped to the job. Two (2) copies of test to be sent to the Engineer.

E. Inspection and Testing of Concrete:

1. The cost of slump tests and sampling, molding, storing, materials, transporting concrete test specimens shall be paid by the Contractor. The laboratory or inspection agency shall be selected by the Owner. Costs of all laboratory testing services required because of failure to meet the requirements of these specifications shall be paid by the Contractor.

2. One set of four (4) acceptance cylinders shall be prepared for each day's placing of each strength of concrete and if more than 50 cubic yards of concrete is placed in any day, there shall be an additional set of cylinders prepared for each 50 cubic yards placed or for any fraction thereof. One cylinder shall be broken at seven days and two at twenty-eight days, with one cylinder held in reserve.

3. Responsibilities in Inspection:

a. Laboratory's Duties

(1. The reception and marking of specimens in the laboratory, laboratory curing, preparation for breaking and testing of cylinders shall be the responsibility of the laboratory and shall be performed by qualified laboratory personnel, observing all requirements of applicable ASTM Standards. Compression test specimens shall be tested in accordance with ASTM C39.

(2. Prior to the commencement of concrete work, the laboratory shall provide initial instruction in the performance of sampling and testing duties for an employee designated by the Contractor and shall provide him with copies of all ASTM Standards pertinent to his duties.

b. Contractor's Duties:

(1. The Contractor shall deliver to the laboratory all materials to be used in required testing. He shall supply wheelbarrows, shovels, mixing boards, shaded work space and similar equipment required for molding test cylinders. He shall provide stable, insulated storage boxes, equipped with thermostatically controlled heat, for storage of cylinders in the first 24 hours after molding.

(2. He shall designate an employee, who alone shall perform all operations of sampling concrete, molding test specimens,

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protecting test specimens for the first 24 hours after molding, and packing and shipping of test specimens. The employee shall make a record of a slump test in connection with each truckload of concrete. The designated employee shall receive initial instruction in the performance of his sampling and testing duties from a representative of the testing laboratory and shall have available copies of all ASTM Standards pertinent to his duties. Sampling shall conform to ASTM C172. Slump tests shall conform to ASTM C143. Compression test specimens shall be made and cured in accordance with ASTM C31.

(3. Each set of test cylinders shipped to the laboratory shall be accompanied by a report giving information as to location in the structure of concrete sampled, time and date of sampling, air temperature, slump, class designated nominal strength, air content if applicable, temperature of concrete, truck number, and time batched. Each report shall be signed by the employee making the test and by the Contractor or his representative, certifying that the test specimens have been made by the one designated, fully instructed employee and have been made in accordance with applicable standard specifications.

(4. Should any concrete fail to meet the specified strength, have a slump in excess of that required by the design mix for each class of concrete listed under CLASSES OF CONCRETE, or result in voids, honeycombs or otherwise fail to meet the requirements, the Engineer may order the concrete removed, further tests made, or other remedial measures taken, all at the Contractor's expense.

1.03 SHOP DRAWINGS

A. After making his check the Contractor shall submit to the Engineer one (1) blue line copy of each of placing plans, bending details and bar lists covering all reinforcing steel.

B. Full information for checking and for proper installation without reference to other drawings shall be included. At splices the amount of lap shall be shown. Location and arrangement of accessories shall be clearly shown. Elevations shall be drawn for all reinforced masonry and reinforced concrete walls to a scale no smaller than 1/4 inch = 1 foot.

C. Work shall not proceed before the Contractor has received shop drawings approved by the Engineer. The Contractor shall be responsible for the conformation of all typical and special reinforcing steel details.

D. Engineer's review is for conformance to the design concept and contract documents. Markings or comments shall not be construed as relieving the Contractor from compliance with the project plans and specifications, nor departures therefrom. The Contractor remains responsible for details and accuracy, for selecting fabrication processes, for techniques of assembly, and for performing his work in a

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safe manner.

E. Proposed construction joint shall be clearly indicated on shop drawings and subject to approval of the Engineer.

1.04 INSPECTION

A. The Contractor shall give the Governing Authority and Design Engineer 24 hours advance notice before starting to place concrete in any portion of the structure to permit observation. An authorization of the Engineer shall be secured before concrete is placed. Any concrete placed in violation to this provision shall be replaced by new concrete if required by the Engineer.

B. Prior to notification of the Engineer, the Superintendent shall personally inspect the work and verify that it is ready for observation.

C. At the time of observation, all reinforcing in the area where concrete is to be poured shall be in place, tied and ready for the placement of concrete. All anchors, sleeves, inserts, etc., shall be securely held in position.

1.05 STORAGE

A. Reinforcing steel delivered to the job and not immediately placed in forms shall be placed in racks or other supports at least eighteen (18) inches above ground.

PART 2 - MATERIALS

2.01 CEMENT: Portland cement shall conform to ASTM C150, Type I.

2.02 AGGREGATES

A. Aggregates for standard weight concrete shall conform to ASTM C33, maximum size: 3/4 inch

2.03 WATER

A. Mixing water shall be potable

2.04 REINFORCING STEEL

A. Reinforcing bars shall be American manufactured conforming to the requirements of ASTM A615 "Deformed Billet Steel Bars for Concrete Reinforcement", Grade 60.

B. Welded wire-fabric or cold-drawn wire for concrete reinforcement shall be of American manufacture and shall conform to the requirements of the ASTM A185 "Welded Steel Fabric for Concrete Reinforcement."

C. Accessories shall conform to the requirements of C.R.S.I. Manuel.

2.05 READY MIXED STRUCTURAL CONCRETE:

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A. Ready mix concrete shall be mixed and delivered in accordance with these specifications and requirements set forth in ASTM C94. In addition, these following conditions must be met:

1. Concrete shall be normal weight with an ultimate compressive strength at 28 days, and slump as follows:

2. Air entrained concrete shall be used for all structural concrete with the air content not less than 3 percent and no more than 5 percent.

B. Classes of Concrete:

Class A f'c = 3000 psi Slump 4 inches ±1 inch
Class AA f'c= 4000 psi Slump 3 inches ±1 inch
Class B f'c = 5000 psi Slump 5 inches ±1 inch

2.06 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Footings: Proportion normal-weight concrete mixture as follows:

a. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
b. Maximum Water-Cementitious Materials Ratio: 0.45.
c. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
d. Air Content: 5-1/2 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.

B. Foundation Walls: Proportion normal-weight concrete mixture as follows:

a. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
b. Maximum Water-Cementitious Materials Ratio: 0.45.
c. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
d. Air Content: 5-1/2 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.

C. Slabs: Proportion normal-weight concrete mixture as follows:

a. Minimum Compressive Strength: 4000 psi (17.6 MPa) at 28 days.
b. Minimum Cementitious Materials Content: 520 lb/cu. yd. (309 kg/cu. m).
c. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
d. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.
e. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.5 lb/cu. yd. (0.90 kg/cu. m).

2.06 EXPANSION JOINT MATERIAL

A. Expansion joint material at slabs on grade shall be premolded asphalt saturated cellulose fiber or mineral strips conforming to ASTM D1751.

2.07 WALL TIES

A. Ties shall be made with break-back ends or other means of removing the tie end to

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a depth of at least 1 inch from the concrete surface after the forms are removed.

2.08 LIQUID FORM SEALER

A. Form sealer shall be a standard product compatible with the finish required for exposed concrete and shall contain no paraffin oil or mineral oil.

2.09 VAPOR RETARDERS

A. Plastic Vapor Retarder: ASTM E 17425, Class C, or polyethylene sheet, ASTM D, 4397, not less than 10 mils (0.25 mm) thick. Include manufacturer's recommended adhesive or pressure sensitive joint tape.
   a. Products:
      i. Fortifiber Corporation; Moistop Plus.
      ii. Raven Industries, Inc.; Dura Skrim 6.
      iii. Reef Industries, Inc.; Griffolyn Type-65.
      iv. Stego Industries, LLC; Stego Wrap, 10 mils.

B. Fine-Graded Granular Material: Below all slabs on grade provide 4" minimum thick layer of clean misture of crushed stone, crushed gravel, and manufactured or natural sand; ASTM D 448, Size 10, with 100 percent passing a 3/8-inch (9.5-mm) sieve, 10 to 30 percent passing a No. 100 (0.15 mm) sieve, and at least 5 percent passing a No. 200 (0.075-mm) sieve; complying with deleterious substance limits of ASTM C 33 for fine aggregates.

PART 3 - FORMWORK

A. Forms shall conform to the shapes, lines and dimensions of the members as indicated, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be braced or tied together so as to maintain position and shape.

B. Formwork shall be observed by the Governing Authority and Design Engineer before pouring concrete. Before placing the reinforcement, surfaces of wood forms in contact with the concrete, unless lined, shall receive a thorough coating of form sealer. The Engineer shall have the right to reject any forms that do not appear to him to be sufficient as to alignment and of producing the required finished surface. Should misalignment of forms or screed, excessive deflection of forms or displacement of reinforcing occur during concrete placing, corrective measures shall be immediately made to the extent, if necessary, that placing operations shall be stopped and concrete removed from within forms. The surfaces to required dimensions and cross section. Exposed lines and surfaces shall not vary from dimensions shown on plans by more than 1/4 inch in twenty feet.

C. Forms may be constructed of wood or metal. Earth forms for footings may be permitted if local conditions are favorable, and approved by the Engineer. Form work for exposed concrete shall be form grade plywood.

D. Studs, waler, and ties shall be so spaced that the load of wet concrete will not stress ties beyond the printed working load recommended by the manufacturer not cause spans of form material to deflect from a true surface.

E. The Contractor shall maintain a continuous check upon formwork during the placing

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of concrete. An instrument check shall be periodically made or "Tattle Tail" rods or other devices shall be used to detect any settlement in forms.

F. Conduits in Concrete: Conduits shall not displace reinforcing steel from its intended position, nor impair the strength of the structure and should be isolated.

G. The Contractor shall assume all responsibility for removal of formwork. Elevated concrete slabs shall attain 70% of the specified ultimate strength before removing the forms. After removing forms, slabs shall be reshored at mid-span and at all points under shores supporting forms for the work above. No floor shall be loaded in excess of the live load for which designed unless adequate shores are place beneath members supporting the concrete of load.

3.02 PLACING REINFORCING STEEL

A. Reinforcement shall be shop fabricated, accurately positioned and secured with not less than 16 gauge annealed wire or suitable clips.

B. No bars, partially embedded in concrete shall be field bent, unless noted otherwise.

C. Reinforcing bars shall be accurately placed and secured in position by approved chairs, spacers or ties to maintain the position of the reinforcing steel prior to and during placing of concrete.

D. Reinforcing steel support chairs and bolsters for use in concrete to be exposed shall have galvanized steel leg.

E. No splices shall be made, except as shown on approved Shop Drawings or approved in writing by the Engineer.

F. The placement of reinforcement shall be observed by the Governing Authority and Design Engineer before pouring of concrete. Should there by any delay in the work, reinforcement previously placed shall be reinspected and cleaned if necessary before concrete placement is resumed.

G. Metal reinforcement shall be protected by concrete cover. Where not otherwise shown, the thickness of concrete over the reinforcement shall be as follows:

Footings	3" clear sides and bottom
Slabs	3/4" clear, top and bottom
Beams	2" clear, all around
Walls	2" clear, both faces
Columns & Piers	2" clear

H. All splicing or reinforcement not shown shall be approved by the Engineer. Splices shall not be made a point of maximum stress and shall provide sufficient lap to transfer the stress between bars by bond. Hook and bending details, column tie arrangements, etc., shall be as shown by the S.R.A.I. Manual or the ACI Detail Engineering Manual.

I. Wire mesh reinforcing shall be placed one inch from top of concrete slabs on ground. Lap all joints 12 inches and extend mesh to within 1 inch of sides and ends of slabs.

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J. Wire brush all steel prior to placing concrete.

3.03 CONCRETE MIXING AND PLACING

A. Ready-mix concrete shall conform to ASTM C94. Not more than one hour shall elapse between the time mixing water is added to the batch and the concrete is poured. No water shall be added on the job.

B. No concrete shall be placed until all embedded items and reinforcing have been placed in the forms and observed by the Engineer. At least 24 hour notice shall be given the Engineer of an impending pour, so that he may observe the work, prior to placing.

C. Concrete shall be conveyed from the mixer to the place of final deposit by methods that will prevent segregation or loss of materials.

D. Concrete shall be deposited in its final position to avoid segregations and separation do to rehandling or flowing. The placing shall be carried on at such a rate that concrete is at all times plastic and flows readily into the spaces between bars. When placing is once started, it shall be carried on as a continuous operation, until placement of that section is completed.

E. Concrete shall be worked into and around bars and embedded items with spades, rods, trowels and vibrators, so as to produce a solid homogeneous mass, free of voids, pockets or honeycombs.

F. Construction joints shall be installed and located as indicated. Where a joint occurs, the surface of the concrete shall be thoroughly cleaned and all laitance removed and shall be left rough or mechanically roughened, thoroughly wetted and slushed with a coat of neat cement grout immediately before placement of new concrete.

G. All embedded items, including anchor bolts and dowels, shall be in place, preset and held in position, before any concrete is placed.

H. No concreting shall be performed when ambient temperatures are below 40° F or if the temperature is predicted by the local U.S. Weather Bureau will fall below 40°F within 24 hours after the time of installation.

I. No concrete shall be installed against frozen ground. All foundation cavities and slab areas that have frozen, shall be thoroughly clean of all loose earth prior to pouring concrete.

J. All newly poured concrete shall be protected from freezing or near freezing weather during the cure period.

K. Hot weather precautions shall be taken whenever the maximum air temperature exceeds 80°F during the day. Hot weather concreting shall be performed in accordance with ACI 305.

3.04 ANCHORAGE

A. Slots, inserts, and connections elements for anchoring items to concrete shall be

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

built into forms before placing concrete.

3.05 SLABS ON GRADE

A. Concrete shall be compacted, screeded to grade, and prepared for the specified finish. Slabs shall be placed in panels in alternate checkerboard pattern or in alternate lanes divided into panels. Each panel shall be approximately square terminated by slab joints.

B. Contraction joints shall be true to line 1/8 inch wide, and of depth equal to approximately 1/4 of the slab thickness. Joints shall be sawed or formed.

3.06 CURING

A. Provisions shall be made for maintaining concrete in a moist condition for at least 10 days after the placement of the concrete, or by one of the following methods:

1. Spraying with water or ponding

2. Using moisture retaining covers

3. Concrete curing compound, W.R. Meadows CS-309 or Guardian Chemical Co., Master Builders or Triple-Cure by Cobra Chemicals.

B. The spraying water shall be applied on unformed surfaces within one hour after the forms are stripped and the spraying shall be continuous. The moisture retaining cover shall be applied on unformed surfaces immediately after the concrete is finished. If there is any delay, the concrete shall be kept moist until the application is made. If the surfaces are formed, the forms shall be removed and the concrete sprayed lightly with water before the cover is applied.

C. When concrete surfaces are to receive applied finishes of materials, all curing compounds shall be checked for compatibility with other material to be applied to the concrete surfaces before application.

3.07 CONCRETE FINISHES

A. All poured joints, voids, honeycombs and other imperfections shall be patched within the same working day that forms are removed.

B. Troweled Finish:

1. Troweled finish shall be applied to the surface of all floors unless ceramic tile, quarry tile or pavers are called for on finish schedule.

2. Floor slabs shall be screeded to an even surface by the use of straight-edge and screeding strips accurately set to the proper grade. The concrete shall be floated with a wood float in a manner which will compact it and produce a surface free from depressions or inequalities of any kind. Floors shall be level with a tolerance of 1/8 inch in 10 feet except where drains are indicated. After the concrete has hardened sufficiently to prevent fine materials from working to the top and has been allowed to stand until all water sheen has disappeared, it shall be steel troweled. Final troweling shall be done after the concrete is hard enough that no mortar accumulates

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

on the trowel and a ringing sound is produced as the trowel is drawn over the surface. The drying of the surface moisture before troweling shall proceed naturally and shall not be hastened by the dusting on of dry sand or cement.

C. Non-slip Finish: All exterior platforms and step treads shall be made non-slippery by application at not less than 1/4 lb. per sq. ft. of aluminum oxide or emery aggregate graded from particles retained on a #50 mesh screen to particles passing an 1/8 inch screen placed during the finishing process. Abrasive aggregate shall be sprinkled by hand as soon as the freshly placed cement will support the weight of workmen and floated into the surface.

D. Unfinished Slabs: Depressed slab areas to receive ceramic quarry tile or pavers shall be finished to remove all laitance and to leave a slightly roughened, surface to insure bond. The surface of the slab shall not vary in any direction more than 1/8 inch when tested with a ten foot straight edge. The straight edge shall be lapped one half its length as the test is being made.

3.08 CONCRETE FLOOR HARDENER

A. All concrete floor slabs shall be cured with concrete floor hardener, "Clear Bond", as manufactured by Guardian Chemical, "Triple-Cure: by Cobra Chemicals, or "Seal tight Cs-309 by W.R. Meadows. The floor hardener shall be applied in strict accordance with the manufacturer's recommendations.

B. Walks shall be tooled, full 1 inch deep into separate slabs as indicated. Surface edges of each slab shall be rounded to approximately 1/4 inch radius.

C. Final finish shall be a medium or light broom finish and all tool marks completely removed.

D. Expansion joints shall be placed a maximum 20 ft. intervals and at all intersections with steps, curbs other walks or abutting structures. Joints shall extend from the surface to the subgrade at right angles to the sidewalk.

E. Expansion joint filler shall be 1/2 inch thick and as wide as the full width and depth of the sidewalk.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

ADDENDUM NUMBER ONE
TO
REQUEST FOR BIDS, CONTRACT DOCUMENTS, CONSTRUCTION SPECIFICATIONS AND DRAWINGS
FOR CONSTRUCTION OF

ROADWAY IMPROVEMENTS FOR RED ROBIN COURT
FOR
THE CITY OF PORT WENTWORTH

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY INSERTING ITS NUMBER IN THE PROPOSAL. FAILURE TO DO SO MAY SUBJECT BONA FIDE PROPOSERS TO DISQUALIFICATION. THIS ADDENDUM FORMS A PART OF THE PROJECT DOCUMENTS; IT MODIFIES THEM AS FOLLOWS:

1. Bid Documents

    a. Replace existing “Bid Bond” form with the attached “Bid Bond” form.

        i. The Bid Bond form misidentified Chatham County as the owner to be bonded to. The Bid form has been corrected to read The City of Port Wentworth as the owner to be bonded to.

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____ (hereinafter called the Principal) and _____ (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of Georgia with its principal offices in the City of Port Wentworth and authorized to do business in the State of Georgia, are held and firmly bound unto THE CITY OF PORT WENTWORTH, GEORGIA in the full and just sum of_____ Dollars ($_____) good and lawful money of the United States of America, to be paid upon demand of THE CITY OF PORT WENTWORTH, GEORGIA, to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, and assigns jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, THE CITY OF PORT WENTWORTH, GEORGIA, a Bid for furnishing materials, labor and equipment for:

RED ROBIN COURT ROADWAY IMPROVEMENTS
FOR
THE CITY OF PORT WENTWORTH

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall within ten (10) days after receipt of notification of the acceptance, execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by THE CITY OF PORT WENTWORTH, GEORGIA, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to THE CITY OF PORT WENTWORTH, GEORGIA, each in an amount of 100% of the total contract price, in form and with security satisfactory to said THE CITY OF PORT WENTWORTH, GEORGIA, and otherwise, to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to THE CITY OF PORT WENTWORTH, GEORGIA, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20__.

_____ (SEAL)
Surety

BY: _____

_____ (SEAL)
Principal

BY: _____

Attachment: Red Robin Court Roadway Improvements Contract Documents (2490 : Contract Award for the Red Robin Court Roadway

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

AGENDA ITEM (ID # 2486)

DOC ID: 2486

2nd Reading Zoning Map Amendment Application submitted by Thomas Exley Jr., and the Estate of Thomas Exley Sr., for PIN # 7-0906-01-028 (Highway 21) to Rezone from RA (Residential Agriculture) to P-C-2 (Planned Community Business) and P-R-M (Planned Residential Multifamily) Zoning Districts for the purpose of a mixed-use development.

Issue/Item: 2nd Reading Zoning Map Amendment Application submitted by Thomas Exley Jr., and the Estate of Thomas Exley Sr., for PIN # 7-0906-01-028 (Highway 21) to Rezone from RA (Residential Agriculture) to P-C-2 (Planned Community Business) and P-R-M (Planned Residential Multifamily) Zoning Districts for the purpose of a mixed-use development.

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property.

Facts and Findings: The total amount of property to be rezoned is 31.43 acres. The applicant is requesting to rezone 29.52 acres to P-R-M (Planned Residential Multifamily) to develop either an Apartment Complex or a Townhome development. The applicant is requesting to rezone 1.91 acres to P-C-2 (Planned Community Business) for a commercial out parcel. All projects will also include associated parking, drainage, and water and sewer utilities. The proposed access is near the first round-a-bout on Rice Mill Road in the Rice Creek Subdivision.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, July 12, 2021 at 6:30 PM. **/ UPDATE: THE PLANNING COMMISSION VOTED UNANIMOUSLY TO APPROVE THE APPLICATION.**

ATTACHMENTS:

- 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (PDF)
- 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-APO (PDF)
- 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Zoning Exhibit 6.11.21 (PDF)
- 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Timeline (PDF)
- 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Apt Concept (PDF)
- Planning Commission Minutes July 12, 2021 DRAFT (PDF)
- 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Townhome Concept (PDF)

RECEIVED JUN 14 2021 BY: MDB

APPLICATION TO AMEND THE ZONING MAP OF PORT WENTWORTH, GEORGIA

Name of Applicant: Thomas L. Exley JR & Estate of Thomas L. Exley SR. Phone #: 912 658-1625

Mailing Address: PO Box 1338 Rincon, GA 31326

Name of Property Owner: Thomas L. Exley JR & Estate of Thomas L. Exley SR. Phone #: 912 658-1625
(Use back if more than one owner)

Address of Property: 0 Augusta Road Port Wentworth, GA 31407

PIN #: 7-0906-01-028 Number of Acres: 31.43

Zoning Classification: Present R-A Requested PC 2, PRM

Use of Property: Present Vacant/Residential Requested Mixed Use

✓ If the requested change is to extend an existing adjacent zoning district to include this property, explain below why the proposed change should be made.

_____ If the requested change is not to extend an adjacent zoning district, explain below why this property should be placed in a different zoning district than all adjoining properties. (How does it differ from adjoining properties and why should it be subject to different restrictions than those applying to adjoining properties?)

To Develop multifamily & Expand adjacent Commercial District

Attach the following documents:

1. Written legal description of the property (e.g. copy of deed) – full metes and bounds description rather than plat reference.
2. Name, PIN #, property address and mailing address of owners of all properties within 250 feet of this property.
3. Plat showing property lines with lengths and bearings, adjoining streets, locations of existing buildings, north arrow and scale. **Submit fifteen (15) copies of the plat in 11"x17" or larger and one copy in 8.5"x11".**
4. Site Plan of proposed use of property. **Submit fifteen (15) copies in 11"x17" or larger and one copy in 8.5"x11".**
5. Disclosure of Campaign Contributions and Gifts form.
6. Disclosure of Financial Interests form.
7. If property owner and applicant are not the same, Authorization by Property Owner form or Authorization of Attorney form.
8. Filing fee of $356 + $50 per acre + $50 Administrative Fee, payable to the City of Port Wentworth.

APPLICATION MUST BE FILED 20 BUSINESS DAYS PRIOR TO THE PLANNING COMMISSION MEETING AT WHICH THEY ARE TO BE CONSIDERED.

I hereby authorize the staff of the City of Port Wentworth to inspect the premises of the above described property and to post this property with the duly required notices. I hereby depose and say that all statements herein and attached statements submitted are true and correct to the best of my knowledge and belief.

Sworn to and subscribed before me this 11 day of June, 2021.

CAROL A RUSSELL NOTARY Comm. Exp. 07/19/22 PUBLIC TOOMBS COUNTY, GA

Carol A Russell
Notary Public

Executrix of the Est of Thomas L Exley SR

Deke M. Exley
Signature of Applicant

Thomas L Exley

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

AUTHORIZATION OF PROPERTY OWNER

Application for Rezoning or Variance

I swear that I am the owner of the property which is the subject matter of the attached application, as is shown in the records of Port Wentworth, Georgia.

I authorize the person named below to act as applicant in the pursuit of a variance or for the rezoning of this property.

Name of Applicant: Thomas L. Exley, JR & Estate of Thomas L. Exley JR

Address: PO Box 1338 Rincon, GA 31326

Telephone Number: 912 658-1625

Executrix of Estate of Thomas L. 2/

Bebe H. Exley

Signature of Owner

Thomas L Exley

Personally appeared before me

Bebe H. Exley & Thomas L. Exley

who swears that the information contained in this authorization is true and correct to the best of his or her knowledge and belief.

Carol A Russell

Notary Public

CAROL A RUSSELL NOTARY PUBLIC TOOMBS COUNTY, GA Comm. Exp. 07/19/22

June 11, 2021

Date

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS

(Required by Title 36, Chapter 67A, Official Code of Georgia Annotated)

Reference: Application filed on _____ , 20_____ , to rezone real property described as follows:

Within the two years preceding the above filing date, the applicant has made campaign contributions aggregating $250.00 or more to each member of the City Council of the City of Port Wentworth who will consider the application and is listed below. List (1) the name and official position of the local government official and (2) the dollar amount, description and date of each such campaign contribution.

I hereby depose and say that all statements herein are true, correct and complete to the best of my knowledge and belief.

Sworn to and subscribed before me this

11 day of June , 2021

Carol A Russell

Notary Public

CAROL A RUSSELL NOTARY PUBLIC TOOMBS COUNTY, GA Comm. Exp. 07/19/22

Executive Estate of Duke N. Exley

Signature of Applicant

Thomas L Exley

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

LEGAL DESCRIPTION - PARCEL B1

COMMENCING AT THE INTERSECTION OF THE SOUTHERN MITER RIGHT-OF-WAY LINE OF RICE MILL ROAD WITH THE WE RN RIGHT-OF-WAY LINE OF GEORGIA HIGHWAY NO. 21, EXTEND THENCE SOUTH 19 DEGREES 05 MINUTES 27 SECONDS WE \ DISTANCE OF 274.55 FEET TO A POINT BEGINNING;

EXTEND THENCE SOUTH 19 DEGREES 05 MINUTES 27 SECONDS WEST A DISTANCE OF 509.67 FEET TO A POINT;

EXTEND THENCE NORTH 61 DEGREES 02 MINUTES 05 SECONDS WEST A DISTANCE OF 879.68 FEET TO A POINT;

EXTEND THENCE NORTH 15 DEGREES 37 MINUTES 35 SECONDS WEST A DISTANCE OF 583.15 FEET TO A POINT;

EXTEND THENCE NORTH 23 DEGREES 03 MINUTES 47 SECONDS EAST A DISTANCE OF 112.51 FEET TO A POINT;

EXTEND THENCE NORTH 29 DEGREES 30 MINUTES 52 SECONDS EAST A DISTANCE OF 51.55 FEET TO A POINT;

EXTEND THENCE NORTH 70 DEGREES 26 MINUTES 20 SECONDS WEST A DISTANCE OF 104.58 FEET TO A POINT;

EXTEND THENCE NORTH 75 DEGREES 00 MINUTES 52 SECONDS WEST A DISTANCE OF 262.13 FEET TO A POINT;

EXTEND THENCE SOUTH 24 DEGREES 58 MINUTES 51 SECONDS WEST A DISTANCE OF 205.56 FEET TO A POINT;

EXTEND THENCE SOUTH 48 DEGREES 23 MINUTES 10 SECONDS WEST A DISTANCE OF 195.75 FEET TO A POINT;

EXTEND THENCE SOUTH 00 DEGREES 20 MINUTES 04 SECONDS EAST A DISTANCE OF 543.75 FEET TO A POINT;

EXTEND THENCE SOUTH 45 DEGREES 20 MINUTES 55 SECONDS WEST A DISTANCE OF 210.72 FEET TO A POINT;

EXTEND THENCE NORTH 73 DEGREES 43 MINUTES 00 SECONDS WEST A DISTANCE OF 192.68 FEET TO A POINT;

EXTEND THENCE NORTH 40 DEGREES 47 MINUTES 10 SECONDS WEST A DISTANCE OF 148.63 FEET TO A POINT;

EXTEND THENCE NORTH 13 DEGREES 08 MINUTES 25 SECONDS WEST A DISTANCE OF 257.44 FEET TO A POINT;

EXTEND THENCE NORTH 28 DEGREES 19 MINUTES 23 SECONDS EAST A DISTANCE OF 361.16 FEET TO A POINT;

EXTEND THENCE NORTH 78 DEGREES 27 MINUTES 28 SECONDS EAST A DISTANCE OF 159.42 FEET TO A POINT;

EXTEND THENCE NORTH 03 DEGREES 38 MINUTES 14 SECONDS EAST A DISTANCE OF 422.47 FEET TO A POINT;

EXTEND THENCE NORTH 22 DEGREES 19 MINUTES 34 SECONDS EAST A DISTANCE OF 130.11 FEET TO A POINT;

EXTEND THENCE SOUTH 67 DEGREES 40 MINUTES 26 SECONDS EAST A DISTANCE OF 1636.10 FEET TO A POINT;

EXTEND THENCE SOUTH 33 DEGREES 08 MINUTES 01 SECONDS WEST A DISTANCE OF 9.03 FEET TO A POINT;

EXTEND THENCE SOUTH 44 DEGREES 39 MINUTES 38 SECONDS WEST A DISTANCE OF 35.01 FEET TO A POINT;

EXTEND THENCE SOUTH 44 DEGREES 37 MINUTES 50 SECONDS EAST A DISTANCE OF 88.32 FEET TO A POINT;

EXTEND THENCE SOUTH 19 DEGREES 05 MINUTES 27 SECONDS WEST A DISTANCE OF 274.55 FEET TO A POINT;

EXTEND THENCE SOUTH 70 DEGREES 54 MINUTES 33 SECONDS EAST A DISTANCE OF 250.00 FEET TO THE POINT OF BEC IIN

HAVING AN AREA OF 29.52 ACRES

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

LEGAL DESCRIPTION - PARCEL B1-A

BEGINNING AT THE INTERSECTION OF THE SOUTHERN MITER RIGHT-OF-WAY LINE OF RICE MILL ROAD WITH TH WESTERN RIGHT-OF-WAY LINE OF GEORGIA HIGHWAY NO. 21;

EXTEND THENCE SOUTH 19 DEGREES 05 MINUTES 27 SECONDS WEST A DISTANCE OF 274.55 FEET TO A POINT;

EXTEND THENCE NORTH 70 DEGREES 54 MINUTES 33 SECONDS WEST A DISTANCE OF 250.00 FEET TO A POINT;

EXTEND THENCE NORTH 19 DEGREES 05 MINUTES 27 SECONDS EAST A DISTANCE OF 274.55 FEET TO A POINT;

EXTEND THENCE NORTH 44 DEGREES 37 MINUTES 50 SECONDS WEST A DISTANCE OF 88.32 FEET TO A POINT;

EXTEND THENCE NORTH 44 DEGREES 39 MINUTES 38 SECONDS EAST A DISTANCE OF 35.01 FEET TO A POINT;

EXTEND THENCE SOUTH 45 DEGREES 09 MINUTES 23 SECONDS EAST A DISTANCE OF 56.87 FEET TO A POINT;

EXTEND THENCE NORTH 44 DEGREES 50 MINUTES 37 SECONDS EAST A DISTANCE OF 19.38 FEET TO A POINT;

THENCE ALONG A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 250.00', (AND BEING SUBTENDED B A CHORD BERING OF SOUTH 61 DEGREES 28 MINUTES 35 SECONDS EAST, A CHORD DISTANCE OF 81.94), ALONG SAID ARC A DISTANCE OF 82.32', TO A POINT;

EXTEND THENCE SOUTH 70 DEGREES 54 MINUTES 33 SECONDS EAST A DISTANCE OF 123.60 FEET TO A POINT;

EXTEND THENCE SOUTH 25 DEGREES 54 MINUTES 33 SECONDS EAST A DISTANCE OF 70.71 FEET TO THE POINT OF BEGINNING. HAVING AN AREA OF 1.91 ACRES

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00317373 6/21/2021 2:00 PM
OPER: ME TERM: 011
REF#: CK 5580

TRAN: 112.0000 BLDG PERMIT
210229 1,977.50CR
EXLEY, THOMAS
7-0906-01-028
DEV-ZMA 1,977.50CR

TENDERED: 1,977.50 CHECK
APPLIED: 1,977.50-

CHANGE: 0.00

WWW.CITYOFPORTWENTWORTH.COM

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Application (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

Adjacent Property Owners

Owner Name	Mailing Address 1	City	Stat	Zip
Steven Umanzor	38 Rice Mill Road	Port Wentworth	GA	31407
Michael & Tina Banks	40 Rice Mill Road	Port Wentworth	GA	31407
Sharell E Belanfante	42 Rice Mill Road	Port Wentworth	GA	31407
Chunti M Brown	44 Rice Mill Road	Port Wentworth	GA	31407
Candice A Hester	46 Rice Mill Road	Port Wentworth	GA	31407
Fredrick Love	48 Rice Mill Road	Port Wentworth	GA	31407
Sidney & Mary Bryan Greene	26 Noble Jones Ct	Port Wentworth	GA	31407
Kyle M Eslick	28 Noble Jones Ct	Port Wentworth	GA	31407
Duoc Nguyen etal	30 Noble Jones Ct	Port Wentworth	GA	31407
William T Cardriche & Delores R Eason	32 Noble Jones Ct	Port Wentworth	GA	31407
John Lopaz & Melfenia Baker	34 Noble Jones Ct	Port Wentworth	GA	31407
Thomas Exley Jr	PO Box 1338	Rincon	GA	31326

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-APO (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway 21 2nd

RICE CREEK SUBDIVISION
CURRENT ZONING PRM

RICE MILL ROAD 60' R/W

RICE MILL ROAD R/W VARIES

CURRENT ZONING PC-2

S33°08'01"W 9.03'
S45°09'23"E 56.87'

N44°50'37"E 19.38'
A=82.32' S70°54'33"E 123.60'
R=250.00'
CH BRG=S61°28'35"E
CH=81.94'

R/W TO BE ACQUIRED BY THE CITY OF PORT WENTWORTH (0.08 ACRES)

S52°02'27"E 20.11'

S19°05'27"W

POB (PARCEL B-1A)
POC (PARCEL B-1)

PARCEL B-1A
1.91 ACRES

CURRENT ZONING RA
PROPOSED ZONING PC-2

N44°39'38"E 35.01'
88.32'
N44°37'50"W

N19°05'27"E 274.55'

S19°05'27"W 274.55'

N70°54'33"W 250.00'

POB (PARCEL B-1)

GEORGIA POWER COMPANY EASEMENT

S19°05'27"W 509.67'

GEORGIA HIGHWAY NO. 21
R/W VARIES

S67°40'26"E 2,507.47'

S67°40'26"E 871.37'

S67°40'26"E 1,636.11'

CURRENT ZONING RA
PROPOSED ZONING PRM

130.11'
N22°19'34"E

262.13'
N75°00'52"W

104.58'
N70°26'20"W

51.55'
N29°30'52"E

N23°03'47"E 112.51'

205.56'
S24°58'51"W

S23°23'10"W 195.75'

N03°36'14"E 422.41'

N70°27'20"E 159.42'

N28°19'23"E 361.16'

S00°20'04"E 545.75'

S45°20'55"W 210.72'

N13°08'25"W 257.44'

148.63'
N40°47'10"W

192.68'
N73°43'00"W

464.46'
N70°54'52"W

CURRENT ZONING RA

PARCEL B-2
34.26 ACRES

245' GEORGIA POWER EASEMENT

50' SGC GASLINE EASEMENT

S09°37'05"W 895.94'

N09°37'05"E

68.67'
N76°55'22"W

195.03'
N53°33'00"W

432.22'
N29°53'40"W

313.50'

CURRENT ZONING INDUSTRIAL

CURRENT ZONING RA

PARCEL B-1
29.52 ACRES

CURRENT ZONING RA
PROPOSED ZONING PRM

N52°37'35"W 879.69'

N61°02'05"W 914.90'

200.00'
N68°05'36"W

N06°20'09"E 147.20'

519°05'25"W 442.31'

1,118.61'

N68°05'36"W 130.68'

CURRENT ZONING RA

CURRENT ZONING INDUSTRIAL

NORTH

GRID NORTH
NAD 1983
GA EAST ZONE

0 200 400
SCALE: 1"=200'

RE-ZONING EXHIBIT

PARCEL "B-1" AND PARCEL B-2, BEING LANDS OF EXLEY, 8TH G.M. DISTRICT, PORT WENTWORTH, CHATHAM COUNTY, GEORGIA

for

T.L. EXLEY, SR ESTATE & T.L EXLEY, JR.
PO BOX 416
SPRINGFIELD GA 31329

DATE: 6-11-2021

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Zoning Exhibit 6.11.21 (2486 : Zoning Map Amendment 7-0906-01-028 Exley

Project Timeline

PIN 7-0906-01-028, Exley Property – ZMA

- 6/14/2021—application received- complete.
- 6/25/2021—received updated townhome concept plan.
- 7/12/2021—Planning Commission voted to approve.

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Timeline (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway 21

PROPOSED WETLAND IMPACT
FOR 80' ACCESS AND
UTILITY EASEMENT
0.10 ACRES
4,317.77 SF

RICE MILL ROAD
R/W VARIES

OUT PARCEL

LOT 1
1.91 ACRES
83,195.63 SF

GEORGIA HIGHWAY NO. 21
R/W VARIES

APPROXIMATE UPLAND
AREA FOR APARTMENTS
18.5 ACRES
18-3 STORY BUILDINGS

SKETCH PLAN
PROPOSED APARTMENTS
EXLEY, BVH & MCINTOSH DISTRICT, POST WENTWORTH,
CHATHAM COUNTY, GEORGIA
WENTWORTH, GA

PARCEL B, TRACT 1 AND LANDS OF

T&T Exley Properties, LLC
PO BOX 416
SPRINGFIELD GA 31329

0 100 200
SCALE: 1"=100'

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Apt Concept (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway

CITY OF PORT WENTWORTH

PLANNING COMMISSION

JULY 12, 2021

Council Meeting Room | **Regular Meeting** | **6:30 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

Chairman CJ Neesmith called the meeting to order.

2. PRAYER AND PLEDGE OF ALLEGIANCE

Commissioner Bright led the Prayer and Pledge of Allegiance.

3. ROLL CALL - SECRETARY

Attendee Name	Title	Status	Arrived
Bill Herrin	Planning Commissioner	Present	
Rufus Bright	Planning Commissioner	Present	
Rosetta Franklin	Planning Commissioner	Present	
Wanda Rollf	Planning Commissioner	Absent	
Lauree Morris	Planning Commissioner	Absent	
CJ Neesmith	Planning Commissioner	Present	
Gabrielle Nelson	Planning Commissioner	Present	
Brian Harvey	Director of Development Services	Present	
Melanie Ellis	Building Inspector	Present	

4. APPROVAL OF AGENDA

1. Approval of Agenda

RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Rosetta Franklin, Planning Commissioner
SECONDER:	Rufus Bright, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

5. ADOPTION OF MINUTES

A. Planning Commission - Regular Meeting - Jun 14, 2021 6:30 PM

RESULT:	**ACCEPTED [UNANIMOUS]**
MOVER:	Bill Herrin, Planning Commissioner
SECONDER:	Rosetta Franklin, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

6. ZONING MAP AMENDMENTS (REZONING)

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway 21 2nd

A. Zoning Map Amendment Application submitted by Phillip McCorkle, McCorkle, Johnson, McCoy, LLP., on behalf of Samuel Varnedoe, Jr., and Comer Varnedoe Meadows, for PIN's #'s 7-0976-02-044, portion of 7-0976-02-043, 7-0976-02-042, 7-0976-02-040, 7-0976-02-039, 7-0976-02-037, and a portion of 7-0976-02-036 (Saussy Road) to Rezone from RA (Residential Agriculture) to P-I-1 (Planned Industrial) Zoning District for the purpose of Warehousing

The applicant, Phillip McCorkle, was present. Mr. McCorkle gave an overview of the project and offered to answer any questions the commission may have. Commissioner Nelson asked what type of warehouses these would be and how may employees. Mr. McCorkle responded that at this time they do not know what companies will be in the warehouses and they estimate between 400 to 800 employees. Commissioner Herrin asked what the impact would be on the residents that live on Saussy Road. Mr. McCorkle responded that there will be minimum impact on the residents and the closest warehouse would be 1500 feet away from the closest home. He also stated there would be a 100-foot buffer with a 15-foot-high berm between the property and the residents.

Public Comments:

LaRay Benton - 135 Saussy Road - Spoke against the application

Tonya Brown - 150 Berrien Road - Spoke against the application

Lashawn Benton - 135 Saussy Road - Spoke against the application

J. P. Robinson - 225 Grant Road - Spoke against the application

Janet Bryant - 154 Berrien Road - Spoke against the application

After the public comment section was closed, Commissioner Nelson made a motion to Deny this application. Commissioner Bright seconded the motion to Deny the application. The vote to deny was unanimous

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Gabrielle Nelson, Planning Commissioner
SECONDER:	Rufus Bright, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

B. Zoning Map Amendment Application submitted by Thomas Exley Jr., and the Estate of Thomas Exley Sr., for PIN # 7-0906-01-028 (Highway 21) to Rezone from RA (Residential Agriculture) to P-C-2 (Planned Community Business) and P-R-M (Planned Residential Multifamily) Zoning Districts for the purpose of a mixed-use development.

Murray Marshall was present on behalf of the application. Mr. Marshall gave an overview of the project and offered to answer any questions the commission may have. Commissioner Nelson asked how many homes would be in this development. Mr. Marshall answered that they estimate around 200 units. Chairman Neesmith asked what type of commercial project would be under the P-C-2 zoning. Mr. Marshall answered that they envision a strip type commercial development, similar to what is near the Lakeside Blvd entrance of Rice Hope. Commissioner Bright asked if this development would use the same path for the pedestrian bridge overpass. Mr. Marshall answered yes, they will encourage residents to use the pedestrian bridge. Commissioner Nelson asked if the residents in Rice Creek had been notified. Mr. Marshall answered that all property owners within the 250 feet were notified per the City ordinance and that signs have been posted.

Public Comments:

J. P. Robinson - 225 Grant Road - Asked questions regarding stormwater runoff and the impact on Black Creek. Mr. Marshall responded that currently Rice Creek drains through

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway 21 2nd

this property and into Black Creek and this project would tie into the existing drainage and that the development must retain post-development runoff on the site.

LaRay Benton - 135 Saussy Road - Asked where the entrance to the development would be and if the project would have any amenities. Mr. Marshall answer that the entrance would be at the existing curb cut on Rice Mill Road and that they will ask permission from GDOT to have a right in - right out off Highway 21 and that this type of project would have some type of amenities.

After the public comments section was closed, Commissioner Nelson asked if once this project would be similar to Jasper Village and that there would not be any negative impact on the storm drainage to the existing residents of Rice Creek. Mr. Marshall responded that the development should be a product that is competition for Jasper Village and that there will be no impact on the existing residents because this project is downhill from Rice Creek and that they will capture all the runoff that is required by regulation. Commissioner Herrin made a motion to approve the application. Commissioner Franklin seconded the motion to approve. The vote to approve the application was unanimous.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Bill Herrin, Planning Commissioner
SECONDER:	Rosetta Franklin, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

7. ZONING TEXT AMENDMENTS (ORDINANCES)

8. SITE PLAN/SUBDIVISION APPROVAL

A. Site Plan Review Application submitted by Shane Malek, Next Chapter Neighborhoods for PIN # 7-0906-04-064 (Old Highway 21) for a General Development Site Plan to allow a Single-Family Home Development (Jasper Village Phase II) in a M-P-O (Master Plan Overlay) Zoning District

The applicant, Shane Malek, was present. Mr. Malek gave an overview of the project and offered to answer any questions the commission may have. Commissioner Nelson asked what the price range for these units was. Mr. Malek answered that the 1-bedroom started around $1150 a month in rent and the range goes up from there and this includes all the maintenance associated with the homes. Commissioner Nelson asked if the traffic in that area had been impacted. Mr. Malek stated that so far he has seen or heard any negative complaints on the traffic. Chairman Neesmith asked where the entrance for this phase would be. Mr. Malek responded that there would be the main entrance to Old Augusta Road, and they would like to improve and use Moore Drive as well. Commissioner Herrin asked if they would pave Moore Drive. Mr. Malek responded yes, they would like to pave if allowed to use it.

Public Comments:

Lashawn Benton - 150 Berrin Road - Asked about the fire separation between homes. Mr. Malek stated that they build to the fire code requirements and the homes would have a 10-foot separation.

Phillip Moore - 96 Moore Drive - Asked if the road that they are using for a construction road would remain in use after the development was finished. Mr. Malek responded that they do not want to use that road for the development and the road would stay as is.

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway 21 2nd

LaRay Benton - 135 Saussy Road - Asked if Old Highway 21 would be included in this project. Mr. Malek responded the improvements to Moore Drive would stop at Old Highway 21.
Betty Moore - 96 Moore Drive - Spoke in favor for the application.
After the public comments section was closed, Commissioner Bright made a motion to approve the application. Commissioner Nelson seconded the motion to approve the application. The vote to approve was unanimous.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Rufus Bright, Planning Commissioner
SECONDER:	Gabrielle Nelson, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

9. NEW BUSINESS

10. ADJOURNMENT

A. Adjournment

RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Rosetta Franklin, Planning Commissioner
SECONDER:	Gabrielle Nelson, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

_____
Chairman

The foregoing minutes are true and correct and approved by me on this _____ day of _____, 2021.

_____
Secretary

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2486 : Zoning Map Amendment 7-0906-01-028 Exley Highway 21 2nd

Attachment: 7-0906-01-028 HWY 21 ZMA RA-PC2, PRM JULY 2021-Townhome Concept (2486 : Zoning Map Amendment 7-0906-01-028 Exley

City Council
7224 GA Highway 21
Port Wentworth, GA 31407

SCHEDULED

Meeting: 08/26/21 06:30 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

AGENDA ITEM (ID # 2485)

DOC ID: 2485

Second Reading Zoning Map Amendment Application submitted by Phillip McCorkle, McCorkle, Johnson, McCoy, LLP., on behalf of Samuel Varnedoe, Jr., and Comer Varnedoe Meadows, for PIN's #'s 7-0976-02-044, portion of 7-0976-02-043, 7-0976-02-042, 7-0976-02-040, 7-0976-02-039, 7-0976-02-037, and a portion of 7-0976-02-036 (Saussy Road) to Rezone from RA (Residential Agriculture) to P-I-1 (Planned Industrial) Zoning District for the purpose of Warehousing

Issue/Item: Second Reading Zoning Map Amendment Application submitted by Phillip McCorkle, McCorkle, Johnson, McCoy, LLP., on behalf of Samuel Varnedoe, Jr., and Comer Varnedoe Meadows, for PIN's #'s 7-0976-02-044, portion of 7-0976-02-043, 7-0976-02-042, 7-0976-02-040, 7-0976-02-039, 7-0976-02-037, and a portion of 7-0976-02-036 (Saussy Road) to Rezone from RA (Residential Agriculture) to P-I-1 (Planned Industrial) Zoning District for the purpose of Warehousing

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property.

Facts and Findings: The subject property is composed of 6 separate parcels. The assemblage of the property is 404.69 acres of which approximately 125 acres is wetland areas. The proposed project consists of 5,629,500 square feet of warehouse space associated auto parking, trailer parking, drainage, utility, access and infrastructure improvements. This project's Development Impact Assessment is under review by City Engineer's T.R. Long Engineering, P.C.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, July 12, 2021 at 6:30 PM. **/ UPDATE: THE PLANNING COMMISSION VOTED TO DENY THIS APPLICATION. THE VOTE WAS UNANIMOUS.**

ATTACHMENTS:

- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Property Exhibit 5.13.21 (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Timeline (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- GSP 6.23.21 C2 (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- GSP 6.23.21 C3A (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- GSP 6.23.21 C3B (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- GSP 6.23.21 C4 (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- 1st Comment Letter TR Long 7.2.21 (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- 2nd Comment Letter TR Long 7.9.21 (PDF)
- Planning Commission Minutes July 12, 2021 DRAFT (PDF)

- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- GSP 6.23.21 C1 (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA 6.17.21 (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-2 Noise Study Exhibits (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit D - FEMA Map (PDF)
- VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (PDF)

210184

RECEIVED
MAY 14 2021
BY: MLE

APPLICATION TO AMEND THE ZONING MAP OF PORT WENTWORTH, GEORGIA

Name of Applicant: Phillip R. McCorkle, McCorkle, Johnson, & McCoy, LLP Phone #: (912) 232-6000/(912) 232-7416

Mailing Address: 319 Tattnall Street Savannah, Georgia 31401

Name of Property Owner: Please see attachment 1 Phone #: _____
(Use back if more than one owner)

Address of Property: Tax records indicate "Saussy Rd 31407"

PIN #: Please see attachment 2 Number of Acres: 404.41

Zoning Classification:	Present	R-A	Requested	P-I-1
Use of Property:	Present	Vacant	Requested	Warehousing

X If the requested change is to extend an existing adjacent zoning district to include this property, explain below why the proposed change should be made.

_____ If the requested change is not to extend an adjacent zoning district, explain below why this property should be placed in a different zoning district than all adjoining properties. (How does it differ from adjoining properties and why should it be subject to different restrictions than those applying to adjoining properties?)

The adjacent properties to the North are (i) part on a large industrial park located mostly in Effingham County and (ii) a tract recently rezoned by Council to P-I-1. Subject Property is a natural extension of thse areas that are zoned for and being developed for warehousing.

Attach the following documents:

1. Written legal description of the property (e.g. copy of deed) – full metes and bounds description rather than plat reference.
2. Name, PIN #, property address and mailing address of owners of all properties within 250 feet of this property.
3. Plat showing property lines with lengths and bearings, adjoining streets, locations of existing buildings, north arrow and scale. **Submit fifteen (15) copies of the plat in 11"x17" or larger and one copy in 8.5"x11".**
4. Site Plan of proposed use of property. **Submit fifteen (15) copies in 11"x17" or larger and one copy in 8.5"x11".**
5. Disclosure of Campaign Contributions and Gifts form.
6. Disclosure of Financial Interests form.
7. If property owner and applicant are not the same, Authorization by Property Owner form or Authorization of Attorney form.
8. Filing fee of $356 + $50 per acre + $50 Administrative Fee, payable to the City of Port Wentworth.

APPLICATION MUST BE FILED 20 BUSINESS DAYS PRIOR TO THE PLANNING COMMISSION MEETING AT WHICH THEY ARE TO BE CONSIDERED.

I hereby authorize the staff of the City of Port Wentworth to inspect the premises of the above described property and to post this property with the duly required notices. I hereby depose and say that all statements herein and attached statements submitted are true and correct to the best of my knowledge and belief.

Sworn to and subscribed before me this 14th day of May, 2021.

Signature of Applicant

Notary Public

Angela B Todaro
NOTARY PUBLIC
Chatham County, GEORGIA
My Commission Expires 01/31/2023

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

Attachment 1

List of Property Owners

Samuel Varnedoe, Jr.	(706) 358-2964
Comer Varnedoe Meadows	(912) 856-6960

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

Attachment 2

List of Property Identification Numbers (PIN)

Varnedoe and Meadows	7-0976-02-044	
	7-0976-02-043	(portion)
	7-0976-02-042	
	7-0976-02-040	
	7-0976-02-039	
	7-0976-02-037	
	7-0976-02-036	(portion)

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

COMMENCING AT A POINT AT THE INTERSECTION OF THE WESTERN RIGHT OF WAY OF GEORGIA HIGHWAY 21, VARIABLE WIDTH RIGHT OF WAY, AND THE NORTHERN PRIVATE RIGHT OF WAY OF JEFFERS ROAD (ALSO KNOWN AS COLDBROOK ROAD); THENCE ALONG THE NORTHERN PRIVATE RIGHT OF WAY OF JEFFERS ROAD (ALSO KNOWN AS COLDBROOK ROAD) THE FOLLOWING SIX COURSES AND DISTANCES: N56°43'31"W A DISTANCE OF 797.52' TO A POINT, N56°42'48"W A DISTANCE OF 974.85' TO A POINT, N15°04'35"W A DISTANCE OF 13.32' TO A POINT, N57°01'23"W A DISTANCE OF 540.55' TO A POINT, S11°05'32"E A DISTANCE OF 27.84' TO A POINT, N57°01'23"W A DISTANCE OF 816.66' TO A POINT; THENCE S13°12'10"E A DISTANCE OF 1,283.45' TO A POINT; THENCE S13°11'41"E A DISTANCE OF 138.91' TO A POINT, AND BEING THE **POINT OF BEGINNING**; THENCE S13°11'41"E A DISTANCE OF 877.27' TO A POINT; THENCE S82°26'30"W A DISTANCE OF 448.66' TO A POINT; THENCE S18°53'40"E A DISTANCE OF 532.06' TO A POINT; THENCE N82°26'30"E A DISTANCE OF 450.99' TO A POINT; THENCE S18°53'40"E A DISTANCE OF 54.38' TO A POINT; THENCE N79°52'46"E A DISTANCE OF 50.59' TO A POINT; THENCE S43°22'27"E A DISTANCE OF 290.58' TO A POINT; THENCE S10°31'44"E A DISTANCE OF 770.00' TO A POINT; THENCE S11°26'33"W A DISTANCE OF 552.06' TO A POINT; THENCE S76°12'20"W A DISTANCE OF 1,003.24' TO A POINT; THENCE S15°19'30"W A DISTANCE OF 547.57'' TO A POINT; THENCE S69°35'46"W A DISTANCE OF 207.74' TO A POINT; THENCE N88°37'15"W A DISTANCE OF 553.67' TO A POINT; THENCE S35°21'15"W A DISTANCE OF 420.51' TO A POINT; THENCE N72°23'15"W A DISTANCE OF 279.27' TO A POINT; THENCE S44°46'35"W A DISTANCE OF 675.05' TO A POINT; THENCE S86°41'55"W A DISTANCE OF 220.18' TO A POINT; THENCE N21°00'25"E A DISTANCE OF 826.52' TO A POINT; THENCE N12°16'54"W A DISTANCE OF 2023.79' TO A POINT; THENCE S89°20'25"E A DISTANCE OF 539.93' TO A POINT; THENCE N12°35'20"W A DISTANCE OF 765.78' TO A POINT; THENCE N87°26'00"W A DISTANCE OF 119.52' TO A POINT; THENCE N88°16'20"W A DISTANCE OF 678.48' TO A POINT; THENCE N26°55'25"W A DISTANCE OF 768.93' TO A POINT; THENCE S70°48'30"W A DISTANCE OF 1158.51' TO A POINT; THENCE N08°18'16"W A DISTANCE OF 2276.80' TO A POINT; THENCE N49°05'52"E A DISTANCE OF 1675.19' TO A POINT; THENCE S39°47'53"E A DISTANCE OF 367.29' TO A POINT; THENCE S69°43'54"E A DISTANCE OF 1399.65' TO A POINT; THENCE S13°44'15"E A DISTANCE OF 216.26' TO A POINT; THENCE S11°06'45"E A DISTANCE OF 824.16' TO A POINT; THENCE S11°55'55"E A DISTANCE OF 1004.20' TO A POINT; THENCE S11°55'59"E A DISTANCE OF 568.91' TO A POINT; THENCE S11°55'55"E A DISTANCE OF 275.81' TO A POINT; THENCE N81°56'10"E A DISTANCE OF 399.64' TO A POINT; THENCE N13°32'50"W A DISTANCE OF 276.45' TO A POINT; THENCE N81°56'10"E A DISTANCE OF 1091.13' TO THE **POINT OF BEGINNING**; AND CONTAINING 404.41 ACRES.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

Surrounding Property Owners within 250 feet of Phase II

Angela A. Anderson
PIN: 70975 01001
Property Address: Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 120 Danbury Court, Pooler, Georgia 31322

John Henry Hargrove, Et al.
PIN: 70975 01002
Property Address: Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 924 Mill Court, Savannah, Georgia 31419

Brenda Ann Richards
PIN: 70975 01002A
Property Address: Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 918 Barberry Lane, Peachtree City, Georgia 30269

Everlina Jones & Clifford Reynolds
PIN: 70975 01002B
Property Address: 362 Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 160 Village Lake Drive, Pooler, Georgia 31322

Ruth W. Thomas
PIN: 70976 02014
Property Address: Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 788 Hancock Street, Brooklyn, New York 11233

Matthew Jerome Jackson, Sr.
PIN: 70976 02014A
Property Address: Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 3 Winoka Drive, Garden city, Georgia 31408

Willie Steele
PIN: 70976 02007
Property Address: Punkin Bridge Road, Port Wentworth, Georgia 31407
Mailing Address: P.O. Box 23092, Savannah, Georgia 31403

Edward B. Deal Properties No. 2, LLC
PIN: 70976 02009
Property Address: Berrien Avenue, Port Wentworth, Georgia 31407
Mailing Address: 301 Oxford Lane, Savannah, Georgia 31405

Raddie Jackson, et al.
PIN: 70976 02010
Property Address: Berrien Avenue, Port Wentworth, Georgia 31407
Mailing Address: 208 Jenks Street, Savannah, Georgia 31415

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

Georgia Power Company
PIN 70975 01027
Property Address: 300 Saussy Road, Port Wentworth, Georgia 31407
Mailing Address: 241 Ralph McGill Blvd. NE, Bin 10180, Atlanta, Georgia 30308

Claretha Holmes, Dolres Hicks, Patricia Bing, Joseph (J.W.) Bowers, Clarence Bowers, Jimmy Bowers and Larry Bowers.
PIN: 70975 01014
Property Address: 0 Jeffers Rd, Port Wentworth, GA 31407
Mailing Address: P.O. Box 555616, Orlando, FL 32855

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS

(Required by Title 36, Chapter 67A, Official Code of Georgia Annotated)

Reference: Application filed on May 14th, 20 21, to rezone real property described as follows:

Within the two years preceding the above filing date, the applicant has made campaign contributions aggregating $250.00 or more to each member of the City Council of the City of Port Wentworth who will consider the application and is listed below. List (1) the name and official position of the local government official and (2) the dollar amount, description and date of each such campaign contribution.

I hereby depose and say that all statements herein are true, correct and complete to the best of my knowledge and belief.

Sworn to and subscribed before me this

14 day of May, 2021

TONIA R. HARBER ANDERSON NOTARY PUBLIC CHATHAM COUNTY GEORGIA EXPIRES 11/12/2022

Notary Public

Signature of Applicant
Phillip R. McCorkle

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

DISCLOSURE OF FINANCIAL INTERESTS

(Required by Title 36, Chapter 67A, Official Code of Georgia Annotated)

Reference: Application filed on _____, 20_____, to rezone real property described as follows:

The undersigned official of the City of Port Wentworth has a property interest (Note 1) in said property as follows:

The undersigned official of the City of Port Wentworth has financial interest (Note 2) in a business entity (Note 3) which has property interest in said property, which financial interest is as follows:

The undersigned official of the City of Port Wentworth has a member of the family (Note 4) having a property interest in said property or a financial interest in a business entity which has a property interest in said property, which family member and property interest or financial interest are as follows:

Note 1: Property Interest – Direct ownership of real property, including any percentage of ownership less than total ownership
Note 2: Financial Interest – All direct ownership interests of the total assets or capital stock of a business entity where such ownership interest is 10 percent or more
Note 3: Business Entity – Corporation, partnership, limited partnership, firm, enterprise, franchise, association or trust
Note 4: Member of the family – Spouse, mother, father, brother, sister, son or daughter

---

I hereby depose and say that all statements herein are true, correct and complete to the best of my knowledge and belief.

Sworn to and subscribed before me this
_____ day of _____ , 20_____.

_____
Signature of Official

_____
Notary Public

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

AUTHORIZATION OF PROPERTY OWNER

Application for Rezoning or Variance

I swear that I am the owner of the property which is the subject matter of the attached application, as is shown in the records of Port Wentworth, Georgia.

I authorize the person named below to act as applicant in the pursuit of a variance or for the rezoning of this property.

Name of Applicant: Phillip R. McCorkle

Address: 319 Tattnall Street, Savannah, Georgia 31401

Telephone Number: (912) 232-6000

Signature of Owner

Comer Varnedoe Meadows

Personally appeared before me

Michelle Lawrence

who swears that the information contained in this authorization is true and correct to the best of his or her knowledge and belief.

Michelle Lawrence

Notary Public

1/20/21

Date

MICHELLE LAWRENCE NOTARY PUBLIC GEORGIA CHATHAM COUNTY EXPIRES 03-26-23

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

AUTHORIZATION OF PROPERTY OWNER

Application for Rezoning or Variance

I swear that I am the owner of the property which is the subject matter of the attached application, as is shown in the records of Port Wentworth, Georgia.

I authorize the person named below to act as applicant in the pursuit of a variance or for the rezoning of this property.

Name of Applicant: Phillip R. McCorkle

Address: 319 Tattnall Street, Savannah, Georgia 31401

Telephone Number: (912) 232-6000

Signature of Owner

Samuel Varnedoe, Jr.

Donnelly Marks POA for Samuel Varnedoe, Jr.

Personally appeared before me

Michelle Lawrence

who swears that the information contained in this authorization is true and correct to the best of his or her knowledge and belief.

Michelle Lawrence

Notary Public

January 14, 2021

Date

MICHELLE LAWRENCE NOTARY PUBLIC CHATHAM COUNTY GEORGIA EXPIRES 03-28-23

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00313387 5/14/2021 2:25 PM
OPER: ME TERM: 011
REF#: CK 2214

TRAN: 112.0000 BLDG PERMIT
210184 20,626.50CR
PHILLIP MCCORKLE
HIGHWAY 21
DEV-ZMA 20,626.50CR

TENDERED: 20,626.50 CHECK
APPLIED: 20,626.50-

CHANGE: 0.00

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Application (2485 : Zoning Map Amendment VARNEDOE-WIGGINS



LINE TABLE		
LINE	LENGTH	DIRECTION
L1	13.32'	N15°04'35"W
L2	27.84'	S11°05'32"E
L3	138.91'	S13°11'41"E
L4	54.38'	S18°53'40"E
L5	50.59'	N79°52'46"E
L6	207.74'	S69°35'46"W
L7	119.52'	N87°26'00"W

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319 Walnut Street Suite A Statesboro, Georgia 30458 Phone: (912) 225-5373

STAMP:

STAMP:

ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PROPERTY EXHIBIT OF VARNEDOE - WIGGINS PROPERTY AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE:

PROPERTY EXHIBIT

SCALE:	1" = 300'
PROJECT NO:	200230.000
DATE:	5/13/21
DRAWN BY:	CRZ
CHECKED BY:	CRZ

SHEET NO:

EX-1

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DATE: _____ BY: _____

Thu 13 May 2021 - 5:01pm rmullace
DRAWING PATH: G:\2020\200230.000\dwg\VARNEDOE-WIGGINS - PH II PROPERTY EXHIBIT.dwg

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA P#1 JUNE 2021- Property Exhibit 5.13.21 (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21 2nd Reading)

Project Timeline

Varnedoe-Wiggins Tract PH II ZMA

DIA Review by T.R. Long Engineering

- 5/14/2021—application received
- 5/18/2021—sent DIA to T.R. Long Engineering for review
- 5/18/2021—Sent email to Creative Approach to order signs
- 5/18/2021—DRI report received from CRC
- 6/1/2021—Sent email to Trent for review status
- 6/1/2021—Signs received from Creative Approach.
- 6/14/2021—email received from Phillip McCorkle asking to table this item to the July meeting.
- 6/21/2021—updated dates on zoning signs
- 6/23/2021—received resubmittal for DIA from Kern & Co. Forwarded to TR Long.
- 6/29/2021—sent email to TR Long for review update.
- 7/6/2021—Sent 1st comment letter from TR Long to applicants (Phillip McCorkle & Chad Zittrouer)
- 7/9/2021—received 2nd comment letter from TR Long to applicant. Sent to Applicant.
- 7/12/2021—The Planning Commission voted to deny the application.

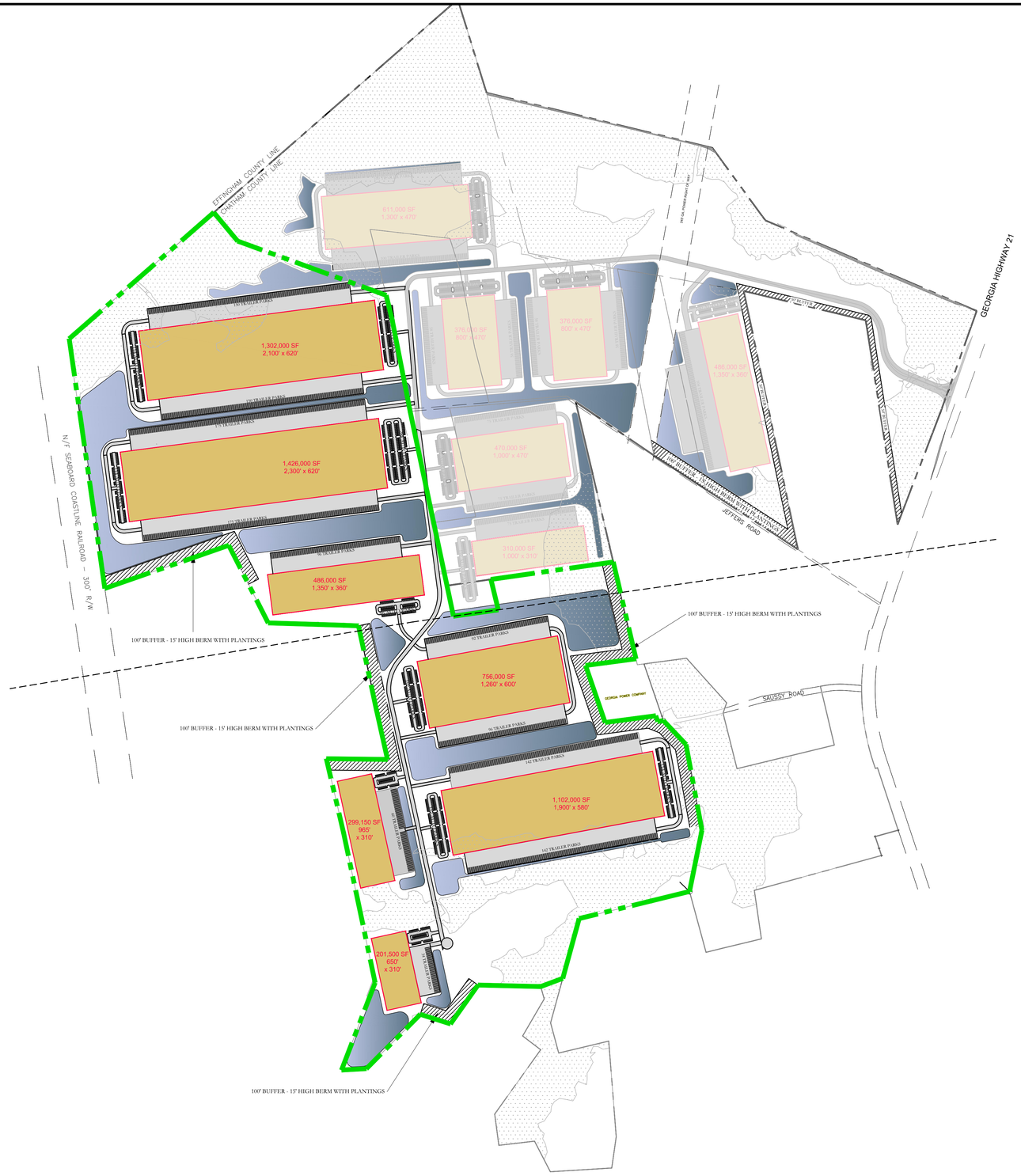
Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- Timeline (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT

PROJECT SUMMARY:

PHASE I -
2,629,000 SF
362.15 AC

PHASE II -
5,572,650 SF
404.41 AC

TOTAL -
8,201,650 SF
766.56 AC



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GRAPHIC SCALE

500 0 250 500 1000 2000

(IN FEET)
1 inch = 500 ft.

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319 Walnut Street Suite A Statesboro, Georgia 30458 Phone: (912) 225-5575

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ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PLANS OF VARNEDOE-WIGGINS TRACT AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE:
SITE PLAN W/ PONDS

SCALE:	1" = 500'
PROJECT NO:	200230.000
DATE:	6/12/21
DRAWN BY:	CRZ
CHECKED BY:	CRZ

SHEET NO:
C2

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Mon, 21 Jun 2021 - 2:03pm - cstroup
DRAWING PATH: G:\2020\200230.000\.dwg\VARNEDO-WIGGINS - Site GDP Exhibit 6.17.21-B.dwg

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA P21 JUNE 2021- GSP 6.23.21 C2 (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21 2nd Reading)

PROJECT SUMMARY:

PHASE I -
2,629,000 SF
362.15 AC

PHASE II -
5,572,650 SF
404.41 AC

TOTAL -
8,201,650 SF
766.56 AC



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GRAPHIC SCALE

300 0 150 300 600 1200

(IN FEET)
1 inch = 300 ft.

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STAMP:

ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PLANS OF VARNEDOE-WIGGINS TRACT AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE:
SITE PLAN W/ CONTOURS

SCALE:	1"= 300'
PROJECT NO:	200230.000
DATE:	6/12/21
DRAWN BY:	CRZ
CHECKED BY:	CRZ

SHEET NO:
C-3A

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Mon, 21 Jun 2021 - 2:09pm crittmser
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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PII JUNE 2021- GSP 6.23.21 C3A (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21 2nd Reading)

PROJECT SUMMARY:

PHASE I -
2,629,000 SF
362.15 AC

PHASE II -
5,572,650 SF
404.41 AC

TOTAL -
8,201,650 SF
766.56 AC



Kern & Co., LLC
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Architects • Landscape Architects • Environmental Scientist
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319 Walnut Street Suite A Statesboro, Georgia 30458 Phone: (912) 225-5575

STAMP:

STAMP:

ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PLANS OF VARNEDOE-WIGGINS TRACT AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE:

SITE PLAN W/ CONTOURS

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PROJECT NO:	200230.000
DATE:	6/12/21
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CHECKED BY:	CRZ

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SHEET NO:
C-3B

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Mon, 21 Jun 2021 - 2:00pm cstrouser
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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PII. JUNE 2021. GSP 6.23.21 C3B (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21 2nd Reading)

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362.15 AC

PHASE II -
5,572,650 SF
404.41 AC

TOTAL -
8,201,650 SF
766.56 AC


ETTINGHAM COUNTY LINE
CHATHAM COUNTY LINE
GEORGIA HIGHWAY 21
JEFFERS ROAD
SAUSSY ROAD
GEORGIA POWER COMPANY
INTRACOASTAL WATERWAY
INTRACOASTAL WATERWAY (ICW)
INTRACOASTAL WATERWAY (ICW) 100' DEP. SETBACK
INTRACOASTAL WATERWAY (ICW) 100' DEP. SETBACK (TYP.)

114 North Commerce Street
Hinesville, Georgia 31313
Office: (912) 368-5664
Fax: (912) 368-7206

T R LONG ENGINEERING, P.C.

308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

July 2, 2021

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Varnedoe-Wiggins Tract Phase 2
State Route 21
Port Wentworth, Georgia

Dear Mr. Harvey,

T. R. Long Engineering, P.C. has reviewed the "Development Impact Assessment, Varnedoe-Wiggins Tract - Phase 2" prepared by Kern & Co., LLC dated May 12, 2021. This submittal includes a Traffic Impact Analysis prepared by Kimley-Horn and Associates dated May 2021 and a Development of Regional Impact Report prepared by Coastal Regional Commission.

T. R. Long Engineering, P.C. recommends that the following items be addressed prior to approval:

1. The DRI states, in the School Section, "an estimated 200-400 employees will reside in Chatham County with approximately 50% of those families having children attending public school." Please reference and provide the supporting data for this statement. Additionally, from that supporting documentation, please provide the estimated increase the school system will experience from the refenced families.

2. The DRI states, in the Park and Recreation Section, "The development of this project will not have an impact on the local parks and recreation facilities." Please reference and provide the supporting data for this statement. If data is available for current capacity vs total capacity of those park systems, please provide it.

3. The DRI states, in the Public Safety (Police and Fire) Section, "The development of this project should have minimal impact on the police and fire departments." Please reference and provide the supporting data for the estimated increase in criminal activity, traffic accidents, and fire incidents as a result of the population increase due to the workers.

4. The DRI stated that a noise study would be provided at a later date. We recommend that a noise study be conducted, prior to approval, to ensure the proposed noise levels are below the maximum allowable limit. Detailed design should be included in the specific development plan.

5. Please revise Section D to include the designated future use of the property as stated by the City of Port Wentworth Comprehensive Plan and if this use coincides with that

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- 1st Comment Letter TR Long 7.2.21 (2485 : Zoning Map Amendment

designation. Additionally, please revise the greenspace percentage excluding the wetlands. If storm water infiltration is a concern, the wetlands should not be considered. Wetlands will generally contain poor, non-permeable soil, and/or have standing water that is not idle for storm water infiltration.

6. T. R. Long Engineering, P.C. recommends that the recommendations outlined in the Traffic Impact Analysis prepared by Kimley Horn be incorporated into the specific development plan for the Varnedoe-Wiggins Tract - Phase 2. The recommended improvements for the intersection of State Route 21 and Lakeside Boulevard are of particular importance since this intersection may currently meet the warrants for a traffic signal under current conditions.

7. T. R. Long Engineering, P.C. recommends that all improvements recommended in the Traffic Impact Analysis, and appropriate modifications, be designed, approved, and permitted by the Department of Transportation, The City of Port Wentworth, and the State of Georgia prior to the release of any Land Disturbing Activities or Building Permits.

Should you have any questions, comments, or require additional information please contact us.

Sincerely,

Trent R. Long, P.E.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- 1st Comment Letter TR Long 7.2.21 (2485 : Zoning Map Amendment

114 North Commerce Street
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T.R. LONG ENGINEERING, P.C.

308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

July 9, 2021

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Varnedoe-Wiggins Tract Phase 2
State Route 21
Port Wentworth, Georgia

Dear Mr. Harvey,

T. R. Long Engineering, P.C. has reviewed the "Development Impact Assessment, Varnedoe-Wiggins Tract - Phase 2" prepared by Kern & Co., LLC dated May 12, 2021. This submittal includes a Limited Noise Exposure Evaluation prepared by Terracon dated June 15, 2021, Traffic Impact Analysis prepared by Kimley-Horn and Associates dated May 2021, and a Development of Regional Impact Report prepared by Coastal Regional Commission.

T. R. Long Engineering, P.C. concurs with the findings of the Development Impact Assessment, Limited Noise Exposure Evaluation, and Traffic Impact Analysis along with the following recommendations:

1. T. R. Long Engineering, P.C. recommends that the recommendations outlined in the Traffic Impact Analysis prepared by Kimley Horn be incorporated into the specific development plan for the Varnedoe-Wiggins Tract - Phase 2. The recommended improvements for the intersection of State Route 21 and Lakeside Boulevard are of particular importance since this intersection may currently meet the warrants for a traffic signal under current conditions.
2. T. R. Long Engineering, P.C. recommends that the recommendations outlined in the Limited Noise Exposure Evaluation prepared by Terracon be incorporated into the specific development plan for the Varnedoe-Wiggins Tract - Phase 2.
3. T. R. Long Engineering, P.C. recommends that all improvements recommended in the Traffic Impact Analysis, Limited Noise Exposure Evaluation, and appropriate modifications, be designed, approved, and permitted by the Department of Transportation, The City of Port Wentworth, and the State of Georgia prior to the release of any Land Disturbing Activities or Building Permits.

Should you have any questions, comments, or require additional information please contact us.

Sincerely,

Adam Wilkinson, P.E.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- 2nd Comment Letter TR Long 7.9.21 (2485 : Zoning Map Amendment

CITY OF PORT WENTWORTH

PLANNING COMMISSION

JULY 12, 2021

Council Meeting Room | **Regular Meeting** | **6:30 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

Chairman CJ Neesmith called the meeting to order.

2. PRAYER AND PLEDGE OF ALLEGIANCE

Commissioner Bright led the Prayer and Pledge of Allegiance.

3. ROLL CALL - SECRETARY

Attendee Name	Title	Status	Arrived
Bill Herrin	Planning Commissioner	Present	
Rufus Bright	Planning Commissioner	Present	
Rosetta Franklin	Planning Commissioner	Present	
Wanda Rollf	Planning Commissioner	Absent	
Lauree Morris	Planning Commissioner	Absent	
CJ Neesmith	Planning Commissioner	Present	
Gabrielle Nelson	Planning Commissioner	Present	
Brian Harvey	Director of Development Services	Present	
Melanie Ellis	Building Inspector	Present	

4. APPROVAL OF AGENDA

1. Approval of Agenda

RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Rosetta Franklin, Planning Commissioner
SECONDER:	Rufus Bright, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

5. ADOPTION OF MINUTES

A. Planning Commission - Regular Meeting - Jun 14, 2021 6:30 PM

RESULT:	**ACCEPTED [UNANIMOUS]**
MOVER:	Bill Herrin, Planning Commissioner
SECONDER:	Rosetta Franklin, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

6. ZONING MAP AMENDMENTS (REZONING)

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II

A. Zoning Map Amendment Application submitted by Phillip McCorkle, McCorkle, Johnson, McCoy, LLP., on behalf of Samuel Varnedoe, Jr., and Comer Varnedoe Meadows, for PIN's #'s 7-0976-02-044, portion of 7-0976-02-043, 7-0976-02-042, 7-0976-02-040, 7-0976-02-039, 7-0976-02-037, and a portion of 7-0976-02-036 (Saussy Road) to Rezone from RA (Residential Agriculture) to P-I-1 (Planned Industrial) Zoning District for the purpose of Warehousing

The applicant, Phillip McCorkle, was present. Mr. McCorkle gave an overview of the project and offered to answer any questions the commission may have. Commissioner Nelson asked what type of warehouses these would be and how may employees. Mr. McCorkle responded that at this time they do not know what companies will be in the warehouses and they estimate between 400 to 800 employees. Commissioner Herrin asked what the impact would be on the residents that live on Saussy Road. Mr. McCorkle responded that there will be minimum impact on the residents and the closest warehouse would be 1500 feet away from the closest home. He also stated there would be a 100-foot buffer with a 15-foot-high berm between the property and the residents.

Public Comments:

LaRay Benton - 135 Saussy Road - Spoke against the application

Tonya Brown - 150 Berrien Road - Spoke against the application

Lashawn Benton - 135 Saussy Road - Spoke against the application

J. P. Robinson - 225 Grant Road - Spoke against the application

Janet Bryant - 154 Berrien Road - Spoke against the application

After the public comment section was closed, Commissioner Nelson made a motion to Deny this application. Commissioner Bright seconded the motion to Deny the application. The vote to deny was unanimous

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Gabrielle Nelson, Planning Commissioner
SECONDER:	Rufus Bright, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

B. Zoning Map Amendment Application submitted by Thomas Exley Jr., and the Estate of Thomas Exley Sr., for PIN # 7-0906-01-028 (Highway 21) to Rezone from RA (Residential Agriculture) to P-C-2 (Planned Community Business) and P-R-M (Planned Residential Multifamily) Zoning Districts for the purpose of a mixed-use development.

Murray Marshall was present on behalf of the application. Mr. Marshall gave an overview of the project and offered to answer any questions the commission may have. Commissioner Nelson asked how many homes would be in this development. Mr. Marshall answered that they estimate around 200 units. Chairman Neesmith asked what type of commercial project would be under the P-C-2 zoning. Mr. Marshall answered that they envision a strip type commercial development, similar to what is near the Lakeside Blvd entrance of Rice Hope. Commissioner Bright asked if this development would use the same path for the pedestrian bridge overpass. Mr. Marshall answered yes, they will encourage residents to use the pedestrian bridge. Commissioner Nelson asked if the residents in Rice Creek had been notified. Mr. Marshall answered that all property owners within the 250 feet were notified per the City ordinance and that signs have been posted.

Public Comments:

J. P. Robinson - 225 Grant Road - Asked questions regarding stormwater runoff and the impact on Black Creek. Mr. Marshall responded that currently Rice Creek drains through

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II

this property and into Black Creek and this project would tie into the existing drainage and that the development must retain post-development runoff on the site.

LaRay Benton - 135 Saussy Road - Asked where the entrance to the development would be and if the project would have any amenities. Mr. Marshall answer that the entrance would be at the existing curb cut on Rice Mill Road and that they will ask permission from GDOT to have a right in - right out off Highway 21 and that this type of project would have some type of amenities.

After the public comments section was closed, Commissioner Nelson asked if once this project would be similar to Jasper Village and that there would not be any negative impact on the storm drainage to the existing residents of Rice Creek. Mr. Marshall responded that the development should be a product that is competition for Jasper Village and that there will be no impact on the existing residents because this project is downhill from Rice Creek and that they will capture all the runoff that is required by regulation. Commissioner Herrin made a motion to approve the application. Commissioner Franklin seconded the motion to approve. The vote to approve the application was unanimous.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Bill Herrin, Planning Commissioner
SECONDER:	Rosetta Franklin, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

7. ZONING TEXT AMENDMENTS (ORDINANCES)

8. SITE PLAN/SUBDIVISION APPROVAL

A. Site Plan Review Application submitted by Shane Malek, Next Chapter Neighborhoods for PIN # 7-0906-04-064 (Old Highway 21) for a General Development Site Plan to allow a Single-Family Home Development (Jasper Village Phase II) in a M-P-O (Master Plan Overlay) Zoning District

The applicant, Shane Malek, was present. Mr. Malek gave an overview of the project and offered to answer any questions the commission may have. Commissioner Nelson asked what the price range for these units was. Mr. Malek answered that the 1-bedroom started around $1150 a month in rent and the range goes up from there and this includes all the maintenance associated with the homes. Commissioner Nelson asked if the traffic in that area had been impacted. Mr. Malek stated that so far he has seen or heard any negative complaints on the traffic. Chairman Neesmith asked where the entrance for this phase would be. Mr. Malek responded that there would be the main entrance to Old Augusta Road, and they would like to improve and use Moore Drive as well. Commissioner Herrin asked if they would pave Moore Drive. Mr. Malek responded yes, they would like to pave if allowed to use it.

Public Comments:

Lashawn Benton - 150 Berrin Road - Asked about the fire separation between homes. Mr. Malek stated that they build to the fire code requirements and the homes would have a 10-foot separation.

Phillip Moore - 96 Moore Drive - Asked if the road that they are using for a construction road would remain in use after the development was finished. Mr. Malek responded that they do not want to use that road for the development and the road would stay as is.

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II

LaRay Benton - 135 Saussy Road - Asked if Old Highway 21 would be included in this project. Mr. Malek responded the improvements to Moore Drive would stop at Old Highway 21.
Betty Moore - 96 Moore Drive - Spoke in favor for the application.
After the public comments section was closed, Commissioner Bright made a motion to approve the application. Commissioner Nelson seconded the motion to approve the application. The vote to approve was unanimous.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Rufus Bright, Planning Commissioner
SECONDER:	Gabrielle Nelson, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

9. NEW BUSINESS

10. ADJOURNMENT

A. Adjournment

RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Rosetta Franklin, Planning Commissioner
SECONDER:	Gabrielle Nelson, Planning Commissioner
AYES:	Herrin, Bright, Franklin, Nelson
ABSENT:	Rollf, Morris

_____
Chairman

The foregoing minutes are true and correct and approved by me on this _____ day of _____, 2021.

_____
Secretary

Attachment: Planning Commission Minutes July 12, 2021 DRAFT (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II

PROJECT SUMMARY:

PHASE I -
2,629,000 SF
362.15 AC

PHASE II -
5,572,650 SF
404.41 AC

TOTAL -
8,201,650 SF
766.56 AC



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GRAPHIC SCALE

500 0 250 500 1000 2000

(IN FEET)
1 inch = 500 ft.

☐ NOT FOR CONSTRUCTION
☐ RELEASED FOR CONSTRUCTION
DATE: _____ BY: _____

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7 Mall Court (31406) P.O. Box 13179 (31416) Savannah, Georgia (912) 354-8400
319 Walnut Street Suite A Statesboro, Georgia 30458 Phone: (912) 225-5353

STAMP:

STAMP:

ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PLANS OF VARNEDOE-WIGGINS TRACT AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE:
SITE PLAN

SCALE:	1" = 500'
PROJECT NO:	200230.000
DATE:	6/12/21
DRAWN BY:	CRZ
CHECKED BY:	CRZ

SHEET NO:
C1

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA P1L JUNE 2021- GSP 6.23.21 C1 (2485 : Zoning Map Amendment VARNEDOE-WIGGINS TRACT PHASE II HIGHWAY 21 2nd Reading)

Mon, 21 Jun 2021 - 2:00pm - cstinnett
DRAWING PATH: G:\2020\200230.000\dwg\VARNEDOE-WIGGINS - Site GDP Exhibit 6.17.21-B.dwg

DEVELOPMENT IMPACT ASSESSMENT

VARNEDOE TRACT – PHASE II

GA HWY 21
PORT WENTWORTH, GA

PROJECT NO. 200230.000



PREPARED BY:

KERN & CO., LLC.
P.O. BOX 15179
7 MALL COURT
SAVANNAH, GA 31406
(912)-354-8400
FAX (912)-356-1865

~~**May 13, 2021**~~
June 17, 2021

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA 6.17.21 (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

I. *Executive Summary-*

The subject property is composed of all or portions of 6 separate parcels owned by a single property owner. The assemblage of the property is 404.69 acres of which approximately 125 acres is wetland areas. The proposed project phase consists of 5,629,500 SF of warehouse space associated auto parking, trailer parking, drainage, utility, access and infrastructure improvements.

II. *Introduction, Project Description, Objective, Environmental Setting-*

The subject property consists of all or portions of 6 separate tax parcels owned by a single property owner. The property is currently unoccupied. The majority of the property is wooded, some of which has been periodically timbered over the past several decades.

III. *Project Impacts and Mitigation Alternatives-*

A. Fiscal-

The estimated value of this project at the proposed 2029 completion date is $422,212,500.

-Annual Projected Taxes (Based upon $422,212,500 Valuation)

Port Wentworth	County	School Board
$702,560	$2,143,665	$3,188,720

B. Community Facilities-

1. Water Supply and Distribution- The development intends to connect to existing City of Port Wentworth Water Supply System. Improvements will be the responsibility of the owner/developer.

Estimate: 5,629,500 SF Total

Office: 67,554 SF @ 15 GPD / 200 SF =	5,067 GPD
Warehouse: 5,561,946 SF @ 3 GPD / 1000 SF =	16,686 GPD
Total:	21,753 GPD

The estimated demand for this site will be 21,753 GPD.

2. Wastewater Collection and Treatment- The development intends to connect to existing City of Port Wentworth Sanitary Sewer Collection System utilizing a pumping station and force main. Improvements will be the responsibility of the owner/developer.

Estimate: 5,629,500 SF Total

Office: 67,554 SF @ 15 GPD / 200 SF =	5,067 GPD
Warehouse: 5,561,946 SF @ 3 GPD / 1000 SF =	16,686 GPD
Total:	21,753 GPD

The estimated demand for this site will be 21,753 GPD.

3. Solid Waste- No amount of hazardous waste will be generated by the development. Each individual facility shall incorporate hazardous waste guidelines into their operation plan. OSHA, EPD as well as other state

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA P1 JUNE 2021- DIA 6.17.21 (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

and federal regulations shall be utilized for the preparation of these guidelines. The amount of non-recycled solid waste generated annually from the site is projected to be less than 5,915 tons. Additional waste such as pallets, cardboard, etc. shall be recycled. Each individual facility shall have on-site dumpsters and recycling containers.

4. Stormwater Management- The parcel drains directly into Black Creek, a tributary of the Savannah River. Post-development run-off rates will be required to meet Pre-development run-off rates and comply will all local, state and federal stormwater regulations. There will be a series of detention ponds, swales and additional stormwater infrastructure incorporated into the development as shown on the general development site plan. The design and construction of all stormwater infrastructure shall be in conformance with the City of Port Wentworth ordinances, policies, codes and guidelines and will be shown in detail in the specific development plan.

5. Stormwater Quality- The City of Port Wentworth requires compliance with the Georgia Coastal Stormwater Supplement, the development will meet the requirements utilizing grassed swales, grassed channels, stormwater ponds and additional BMP's listed in the Coastal Stormwater Supplement to address water quality and shall comply with the best management practices described in the City of Port Wentworth's stormwater ordinance.

6. Schools - The development of this project will have minimal direct impact on the local school system. However, an estimated 200-400 employees will reside in Chatham County with approximately 50% of those families having children attending public school.

7. Park and Recreation- The development of this project will not have an impact on the local parks and recreation facilities.

8. Public Safety (Police and Fire)- The development of this project should have minimal impact on the police and fire departments. The truck court areas will have secure fencing and be well lit. In addition, all gates will have knox box features for emergency vehicle access and each of the buildings will have an ESFR fire system.

9. Traffic Impact Study-

   See Attached Exhibit A

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA P11 JUNE 2021- DIA 6.17.21 (2485 : Zoning Map Amendment VARNEDOE-WIGGINS

C. Environmental Quality

1. Noise- The noise ordinance identified the maximum receiving sound level limit to 55 dBA.

   See Attached Exhibit B.

2. Jurisdictional and Non-Jurisdictional Wetlands- Jurisdictional letters of approval has been provided from the United States Army Corps of Engineers. See attached Exhibit C. Wetland permitting from the USACE will be required in conjunction with the proposed development plan. Mitigation for wetland impacts shall be provided by the purchase of wetland credits and any alternative methods allowed by the USACE.

3. Floodplain- Based on my observation these properties are located .in Federal Emergency Management Agency, Insurance Rate Map Number 13051C0030G, Dated 8/16/18, Base Flood Elevation: 13'-14', NAVD 88. See attached Exhibit D.

4. Water of the State- Tidal impacted state waters do not exist on site. In addition, the GADNR utilizes a "Field Guide for Determining the Presence of State Waters that Require a Buffer". Utilizing the field guide, there was no presence of wrested vegetation requiring a buffer within the proposed development area. Based upon this determination, the only proposed state waters impacts are the jurisdictional wetland impacts which we acknowledge, the required permits to be obtained prior to development.

5. Historic Resources- No evidence of historical site observed.

D. Comprehensive Plan- The proposed development complies with the City of Port Wentworth's Comprehensive Plan. The proposed plan supports minimizing usage of water and wastewater with the proposed zoning to P-I-1 (warehouse distribution has one of the lower user rates per acre of development compared to other commercial or residential uses). The comprehensive plan identifies greenspace preservation to ensure adequate land area is available for stormwater infiltration. Based upon our site plan with the anticipated wetlands preservation, in excess of 50% of our development will be greenspace preservation area.

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E. Proposed Operating Plan- The proposed operating plan has not been defined at this time as we await results of the zoning application. However, the intent of the facility is to provide multiple warehouse distribution facilities which will operate under individual operating plans, these plans will ensure compliance with all federal, state and local regulations. The individual operating plans will also include but not limited to safety protocols and OSHA compliance. The proposed operating hours will be dictated by the individual tenants and their operation needs. Generally, the tenants serving the Georgia Port Authority operate during the same hours as the port. In addition, the property owner's association of the overall development will have an operating plan which will include maintenance of roadways, stormwater infrastructure, detention basins, etc. in addition to typical landscape/lawn maintenance.

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Varnedoe-Wiggins Tract Development
Master Plan
(Phase I and Phase II)
Port Wentworth, GA

Traffic Impact Analysis

Prepared for:

Kern and Co, LLC.
Savannah, GA

Prepared by:

Kimley»Horn



May 2021

© Kimley-Horn and Associates, Inc.

100 Bull Street, Suite 200
Savannah, GA 31401

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Traffic Impact Analysis for Varnedoe-Wiggins Tract Development Master Plan (Phase I and Phase II) Port Wentworth, GA

Prepared for:

Kern and Co, LLC.
Savannah, GA

Prepared by:

Kimley-Horn and Associates, Inc.
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Savannah, GA 31401
(912) 721-8638

May 2021
013908000



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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

1.0 EXECUTIVE SUMMARY

The proposed Varnedoe-Wiggins industrial development is located on the west side of SR 21/Augusta Road in the vicinity of the SR 21/Augusta Road intersection with Lakeside Boulevard in Port Wentworth, Georgia. The subject site is a vacant, 767-acre parcel. Based on the site plan shown in **Figure 2.1,** the Varnedoe-Wiggins Master Plan will include approximately 8,258,500 square feet of warehouse space. Phase I of the proposed development will include approximately 2,629,000 square feet of warehouse space and Phase II will include approximately 5,626,500 square feet of warehouse space. The full build-out of the development is anticipated to be complete by 2029. Access to the development will include a proposed western approach at the intersection of SR 21/Augusta Road at Lakeside Boulevard.

This traffic impact analysis (TIA) evaluates traffic operations under 2021 Existing, 2029 Background, and 2029 Build conditions during the AM and PM peak hours at the following intersections:

- SR 21/Augusta Road at Rice Mill Road/Market Boulevard (Signalized)
- SR 21/Augusta Road at Lakeside Boulevard/Site Access (Unsignalized, Proposed Signalized)
- SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road (Signalized)

Kimley-Horn was retained to determine the potential traffic impacts of this development and identify transportation improvements that may be required to accommodate these impacts in accordance with the guidelines set forth in the Georgia Department of Transportation (GDOT) *Regulations for Driveway and Encroachment Control*. This report presents trip generation, trip distribution, capacity analyses, and recommendations for transportation improvements required to mitigate anticipated traffic demands generated by the subject development.

The following improvements are included in GDOT PI 0016361 and were considered in the 2029 background (no-build) and 2029 build conditions:

SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

- Construct an additional eastbound right-turn lane
  - One right-turn lane will be free-flow and unsignalized
  - One right-turn lane will be controlled by the signal
- Construct a dedicated eastbound left-turn lane
- Construct an additional southbound through lane

It is important to note that the eastbound right-turn is anticipated to spillback beyond the available storage for GDOT PI 0016361 in the background conditions. Consideration to extend the storage for the eastbound right-turn lane for GDOT PI 0016361 should be coordinated with the PI 0016361 team. This condition is independent of the proposed Varnedoe-Wiggins Tract Development.

The following regional transportation improvements were identified as a need in the 2029 background and 2029 build conditions:

SR 21/Augusta Road

SR 21/Augusta Road should be a six-lane highway throughout the study area (three northbound and three southbound through lanes) to support increased industrial traffic volume required to support growth at the Port of Savannah as well as background commercial and residential development in the region. This improvement is independent of the proposed Varnedoe-Wiggins

Tract Development and should be coordinated with the ongoing Effingham County Transportation Master Plan.

Based on the capacity analyses performed at each of the identified study intersections and the auxiliary turn lane warrant review contained herein, the following improvements have been identified to mitigate the impact of the proposed development on the adjacent street network under 2029 Build conditions:

SR 21/Augusta Road at Rice Mill Road/Market Boulevard

No laneage/approach improvements are recommended, but optimizing the signal cycle length, splits, and offsets would improve intersection operations.

SR 21/Augusta Road at Lakeside Boulevard/Site Access

- Conduct a full signal warrant analysis
  - Peak hour signal warrants are met for the AM and PM peak hours (MUTCD Signal Warrant #3) which suggests that other warrants will also be met
  - If warranted and approved by GDOT, install a traffic signal in accordance with GDOT standards and specifications to include remote access and coordination through cellular modem, 2070 controller, Statewide MAXTIME controller software, and integration with GDOT's real-time Automated Traffic Signal Performance Measures (ATSPM)
- Construct the eastbound approach to include a left-turn lane, a through lane, and dual right-turn lanes
- Modify the chevron area on the westbound approach to be a through lane, resulting in a left-turn lane, a through lane, and a right-turn lane
- Construct a southbound right-turn lane with a minimum storage of 250 feet
- Modify the northbound-U-Turn lane to be a shared left-turn/U-turn lane
- Modify the northbound chevroned median area to develop a second left-turn lane

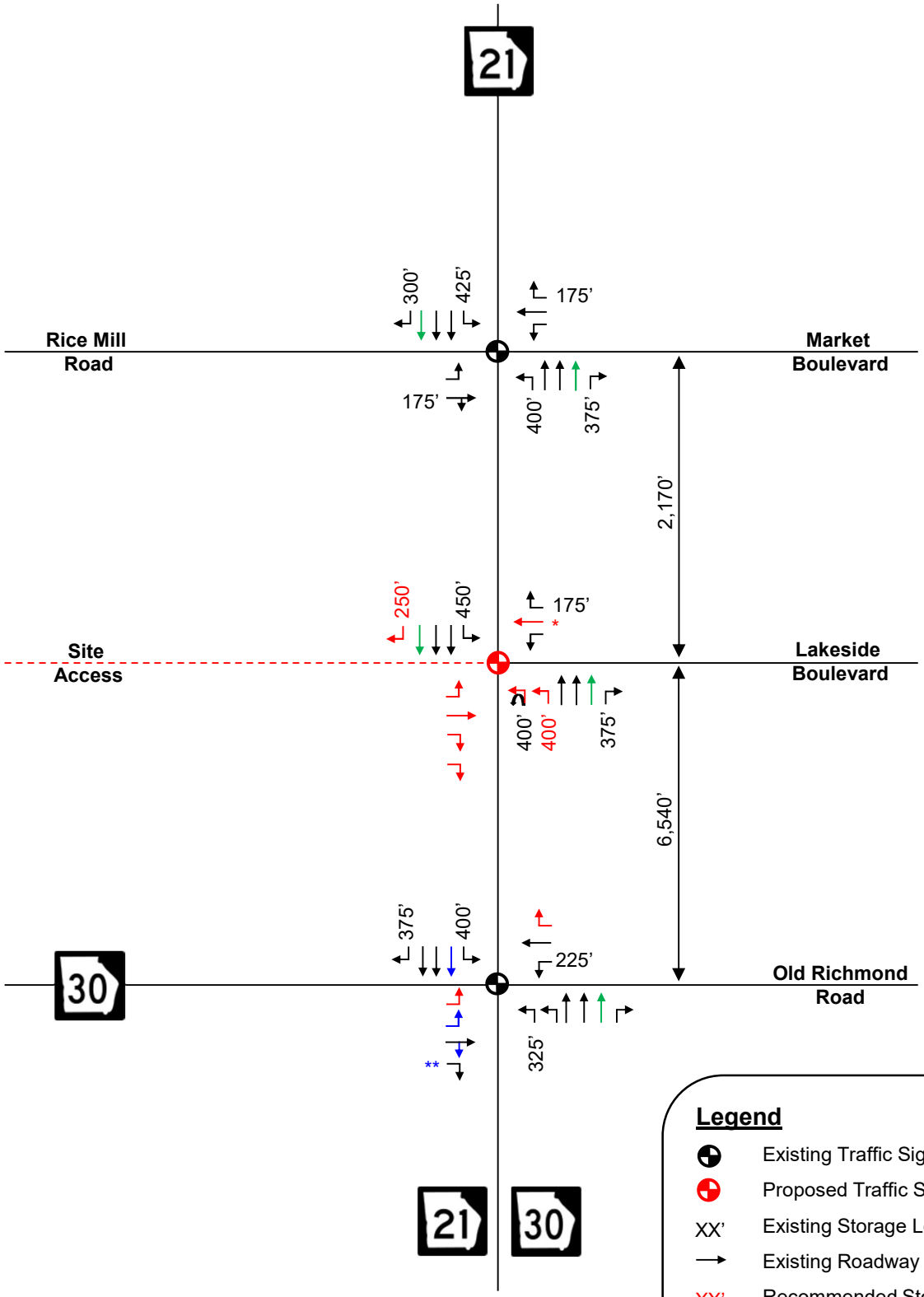
SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

The following improvements should be implemented when the Phase I development of 2,629,000 square feet is exceeded:

- Construct an additional eastbound left-turn lane to create dual left-turn lanes
- Widen the westbound approach to include a left-turn lane, a through lane, and a right-turn lane
- Optimize the approach splits for the traffic signal

The recommended improvements identified within the study area are shown in **Figure ES-1**. These improvements are subject to approval by GDOT. All encroachments and improvements to the State roadway system shall be designed, permitted, and constructed in conformance to GDOT Standards and Details.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Legend

- Existing Traffic Signal
- Proposed Traffic Signal
- XX' Existing Storage Length
- Existing Roadway Laneage
- XX' Recommended Storage Length
- Recommended Roadway Laneage
- GDOT PI 0016361 Improvements
- Regional Transportation Improvements

*Utilize existing pavement width and restripe approach to include a westbound through lane

**Proposed free-flow right-turn lane

Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	2029 Build Recommended Roadway Laneage	Figure ES-1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

2.0 INTRODUCTION

The proposed Varnedoe-Wiggins industrial development is located on the west side of SR 21/Augusta Road in the vicinity of the SR 21/Augusta Road intersection with Lakeside Boulevard in Port Wentworth, Georgia. The subject site is a vacant, 767-acre parcel. Based on the site plan shown in Figure 2.1, the Varnedoe-Wiggins Master Plan will include approximately 8,258,500 square feet of warehouse space. Phase I of the proposed development will include approximately 2,629,000 square feet of warehouse space and Phase II of the proposed development will include approximately 5,626,500 square feet of warehouse space. The full build-out of the development is anticipated to be complete by 2029. Access to the development will include a proposed western approach at the intersection of SR 21/Augusta Road at Lakeside Boulevard.

This traffic impact analysis (TIA) evaluates traffic operations under 2021 Existing, 2029 Background, and 2029 Build conditions during the AM and PM peak hours at the following intersections:

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- SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road (Signalized)

Kimley-Horn was retained to determine the potential traffic impacts of this development and identify transportation improvements that may be required to accommodate these impacts in accordance with the guidelines set forth in the Georgia Department of Transportation (GDOT) *Regulations for Driveway and Encroachment Control*. This report presents trip generation, trip distribution, capacity analyses, and recommendations for transportation improvements required to mitigate anticipated traffic demands generated by the subject development.

PROJECT SUMMARY:

PHASE I -
2,629,000 SF
362.15 AC

PHASE II -
5,629,500 SF
404.69 AC

TOTAL -
8,258,500 SF
766.84 AC



Figure 2.1

GRAPHIC SCALE
500 0 250 500 1000 2000
(IN FEET)
1 inch = 500 ft.

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319 Walnut Street Suite A Statesboro, Georgia 30458 Phone: (912) 225-1626

STAMP:

STAMP:

ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PLANS OF VARNEDOE-WIGGINS TRACT AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE: SITE PLAN

SCALE:	1" = 500'
PROJECT NO:	200230.000
DATE:	4/26/21
DRAWN BY:	CRZ
CHECKED BY:	CRZ
SHEET NO:	C1

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Mon, 26 Apr 2021 - 7:00am cstrosser
DRAWING PATH: G:\2020\200230.000\dwg\VARNEDOE-WIGGINS - Site Layout 4.19.21.dwg

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Kimley»Horn

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3.0 EXISTING TRAFFIC CONDITIONS

3.1 STUDY AREA

The study area for this TIA includes the following intersections:

- SR 21/Augusta Road at Rice Mill Road/Market Boulevard (Signalized)
- SR 21/Augusta Road at Lakeside Boulevard/Site Access (Unsignalized, Proposed Signalized)
- SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road (Signalized)

Figure 3.1 shows the study area intersections and the site location, and **Figure 3.2** shows the existing roadway laneage at the study intersections.

The primary roadways within the vicinity of the site are SR 21/Augusta Road and SR 30/Piedmont Avenue. Minor roadways within the vicinity of the site are Old Richmond Road, Lakeside Boulevard, Rice Mill Road, and Market Boulevard. Key characteristics of each of these roadways are summarized below.

SR 21/Augusta Road is a seven-lane section from I-95 to SR 30/Piedmont Avenue and a four-lane section north of SR 30/Piedmont Avenue. SR 21/Augusta Road is a divided principal arterial with a posted speed limit of 45 mph from I-95 to SR 30/Piedmont Avenue and 55 mph north of SR 30/Piedmont Avenue. Per GDOT continuous count station data, SR 21/Augusta Road had a 2019 Annual Average Daily Traffic volume (AADT) of 35,900 vpd, including approximately 7% heavy trucks.

SR 30/Piedmont Avenue is a two-lane minor arterial with a posted speed limit of 55 mph. Per GDOT continuous count station data, SR 30/Piedmont Avenue had a 2019 AADT of 13,100 vpd, including 6% heavy trucks.

Old Richmond Road is a two-lane local roadway without a posted speed limit. Historical AADTs and truck percentage data for Old Richmond Road were not available.

Lakeside Boulevard is a two-lane local roadway with a posted speed limit of 25 mph. Historical AADTs and truck percentage data for Lakeside Boulevard was not available.

Rich Mill Road is a two-lane local roadway with a posted speed limit of 20 mph. Historical AADTs and truck percentage data for Rice Mill Road were not available.

Market Boulevard is a two-lane local roadway with a posted speed limit of 25 mph. Historical AADTs and truck percentage data for Market Boulevard were not available.

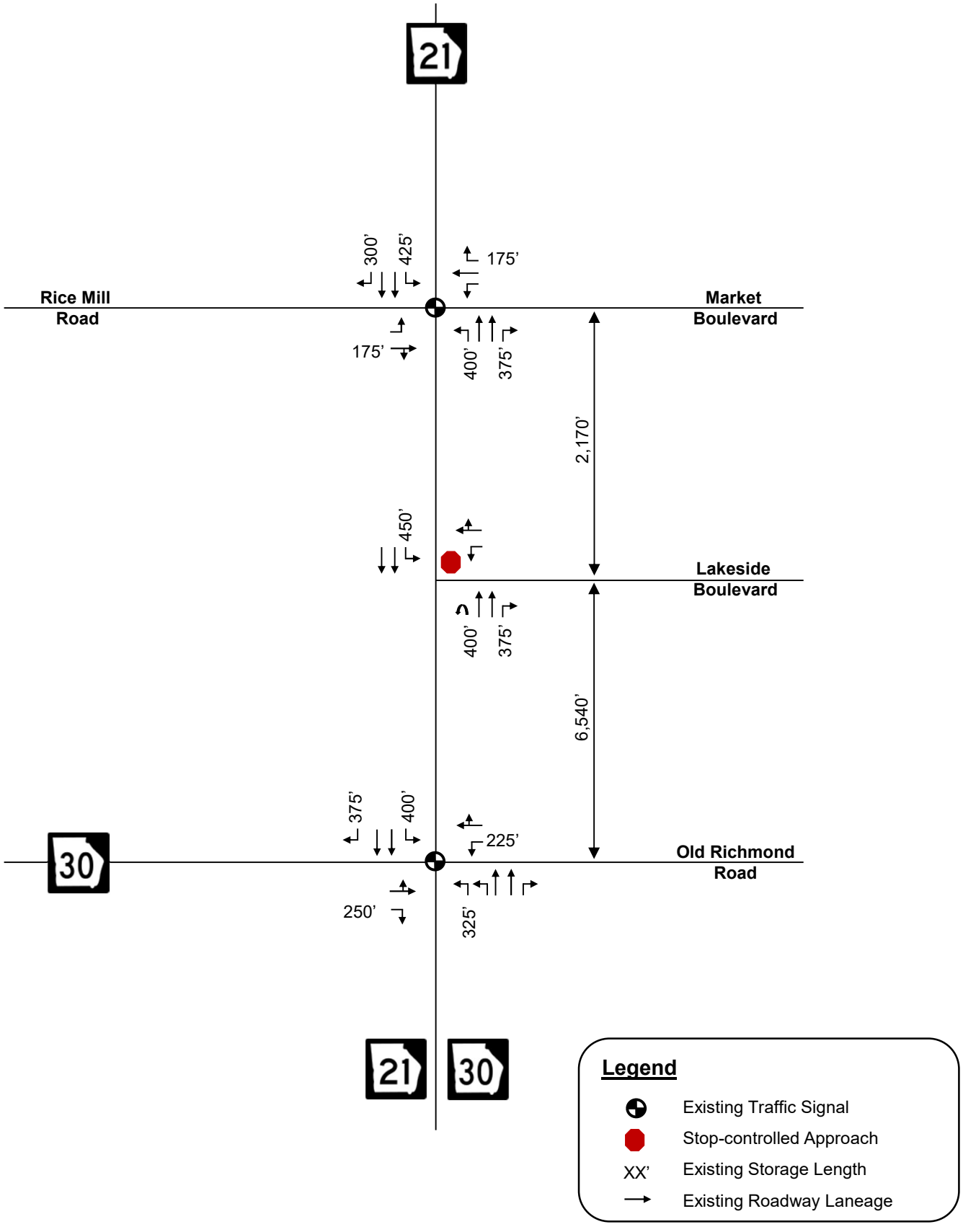


Study Intersections

1. SR 21/Augusta Road at Rice Mill Road/Market Boulevard
2. SR 21/Augusta Road at Lakeside Boulevard/Site Access
3. SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	Site Location Map	Figure 3.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	Existing Laneage	Figure 3.2

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3.2 EXISTING TRAFFIC VOLUME DEVELOPMENT

Peak hour turning movement counts (TMCs) were collected at the study intersections on Tuesday, March 9, 2021 (7:00 to 9:00 AM, 11:00 AM to 1:00 PM, and 4:00 to 6:00 PM) to facilitate the development of 2021 Existing traffic volumes. Though only the traditional AM and PM peak hours of travel were studied in detail as part of this TIA, further discussion regarding the selection of the three count periods noted above is provided in **Section 5.1**. To account for the continued influence of COVID-19 on travel patterns and to provide a thorough understanding of the distribution of traffic throughout the study area, 48-hour classification counts were also collected on Tuesday, March 9, 2021 and Wednesday, March 10, 2021. These multi-day counts were averaged and compared to historical AADT data at the following locations:

- SR 21/Augusta Road [GDOT Count Stations 051-0109 and 051-0112]
- SR 30/Piedmont Avenue [GDOT Count Station 0151-0307]

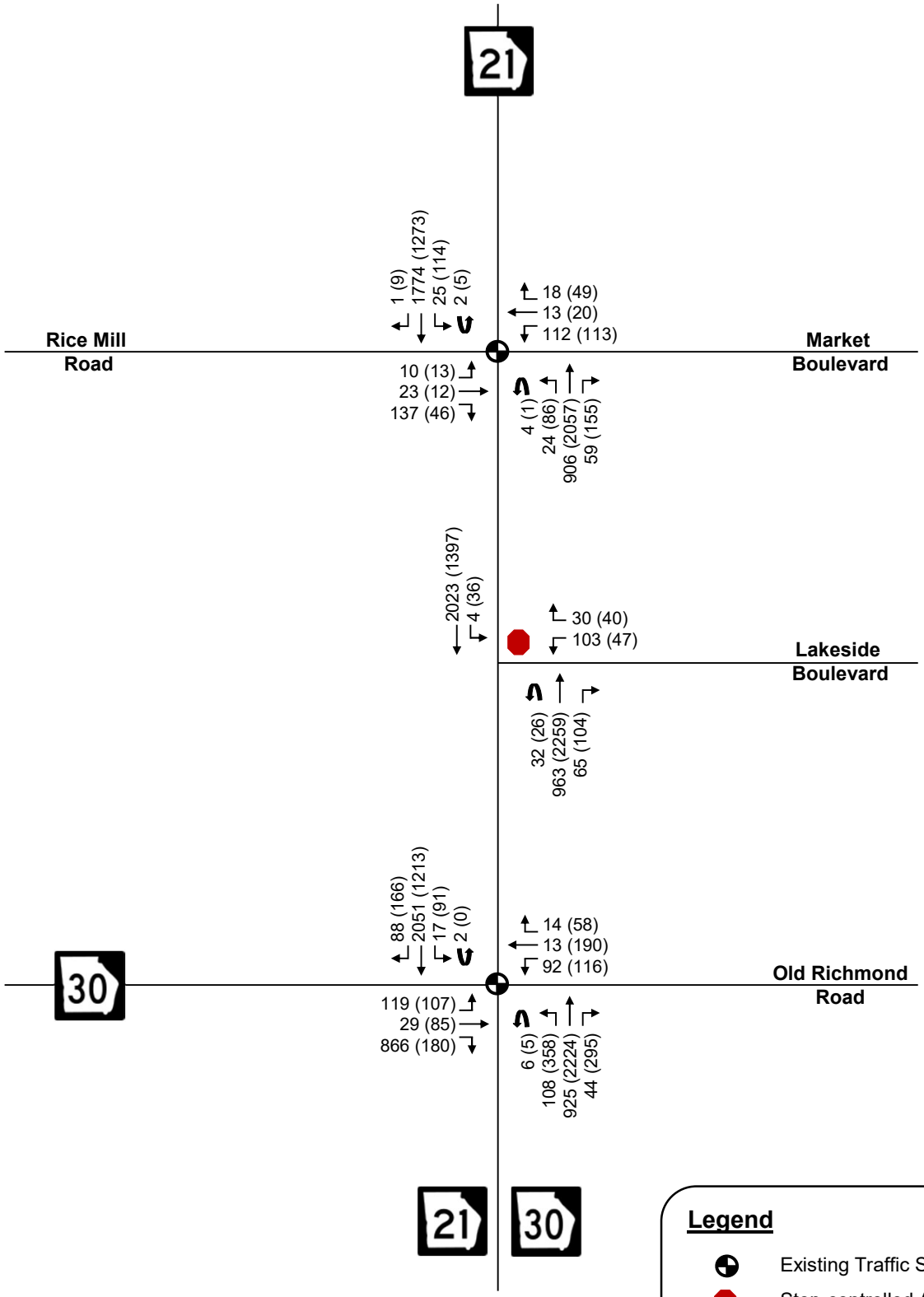
Based on this comparison, a 1.2% adjustment factor was applied to peak hour TMCs to develop 2021 Existing traffic volumes. For the purposes of this TIA, it was assumed that these adjusted TMCs are reflective of traffic volumes that would be observed on a typical weekday with school in session in 2021.

These factored TMCs were balanced upward between study intersections. Balanced 2021 Existing TMCs were carried forward to develop 2029 Background and 2029 Build traffic volumes by incorporating background traffic growth and site traffic volumes as described in later sections of this report.

Peak hour intersection TMC data and volume development worksheets are provided in the **Appendix**.

Figure 3.3 illustrates the factored 2021 Existing AM and PM peak hour traffic volumes.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Kimley»Horn	**Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis**	**2021 Existing Balanced Peak Hour Traffic Volumes**	**Figure 3.3**

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

4.0 BACKGROUND TRAFFIC VOLUME DEVELOPMENT

Projected background (non-development) traffic is defined as the expected growth or change in traffic volumes on the surrounding roadway network between the existing year (2021) and the expected build-out year (2029) absent the construction and opening of the proposed development. This includes both historical background growth and growth in traffic volumes caused by other specific approved developments near the proposed site. As noted previously, regional transportation improvements are required to accommodate background traffic volumes expected during the analysis period.

4.1 HISTORICAL BACKGROUND GROWTH TRAFFIC

Historical background growth is the anticipated increase in traffic volumes due to generalized growth in the study area that is independent of specific approved developments. Historical background growth traffic is calculated using an annual growth rate, which is applied to the existing traffic volumes up to the future horizon year. Based on GDOT count station data, CORE MPO Travel Demand Model outputs, and the Georgia Governor's Office of Planning and Budget Population Projections, an annual growth rate of 2% was assumed for this project and applied to the 2021 Existing peak hour traffic volumes throughout the study area to develop baseline 2029 Background traffic volumes. As mentioned in **Section 3.2**, it was assumed that the factored TMCs developed as part of this TIA are reflective of traffic volumes that would be observed on a typical weekday with school in session in 2021.

4.2 APPROVED DEVELOPMENTS

No other approved developments were identified within the study area for consideration in the development of this TIA. Based on future economic conditions, the proposed development may be expanded to include additional parcels. Therefore, the subject 767-acre site is referred to herein as Phase I and Phase II. This TIA will be amended as other phases are planned.

4.3 PLANNED TRANSPORTATION PROJECTS

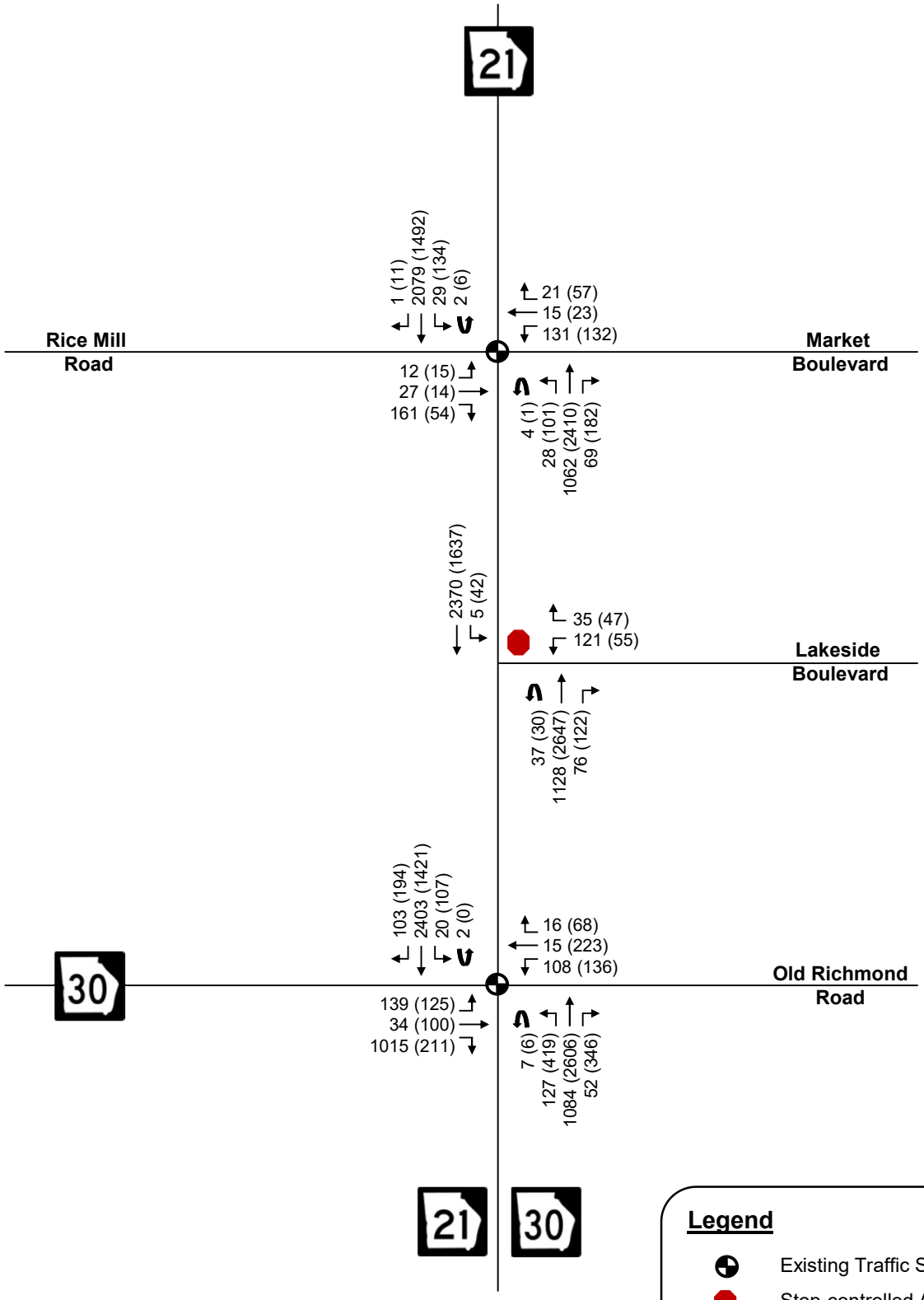
GDOT PI 0016361 and PI 0016441 are in/near the study area. GDOT PI 0016361 includes proposed improvements at the study area intersection of SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road. GDOT PI 0016441 includes improvements along SR 21/30/Augusta Road south of SR 30/Piedmont Avenue.

The following improvements are included in GDOT PI 0016361 and were considered in the 2029 background (no-build) and 2029 build conditions:

SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

- Construct an additional eastbound right-turn lane
  - One right-turn lane will be free-flow and unsignalized
  - One right-turn lane will be controlled by the signal
- Construct a dedicated eastbound left-turn lane
- Construct an additional southbound through lane

The 2029 Background traffic volumes are provided in **Figure 4.1**.



Kimley»Horn	**Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis**	**2029 Background Peak Hour Traffic Volumes**	**Figure 4.1**

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5.0 SITE TRAFFIC VOLUME DEVELOPMENT

Site traffic developed for this TIA consists of the vehicle trips expected to be generated after construction of the proposed development and the distribution and assignment of these trips throughout the surrounding study network.

5.1 SITE ACCESS AND TRIP GENERATION

Based on the site plan shown in **Figure 2.1**, access to the development will include a proposed western approach at the intersection of SR 21/Augusta Road at Lakeside Boulevard.

The trip generation potential of the proposed development was determined using the trip generation rates published in the ITE *Trip Generation Manual, 10th Edition* for the various Land Use Codes (LUCs) represented within the proposed site plan. As mentioned in **Section 2.0**, the proposed development will include approximately 8,258,500 square feet of warehouse space. Phase I of the proposed development will include approximately 2,629,000 square feet of warehouse space and Phase II will include approximately 5,626,500 square feet of warehouse space.

Table 5.1 summarizes the projected trip generation of the proposed development for both passenger cars and heavy trucks. During a typical weekday, the proposed development has the potential to generate 1,016 and 1,019 new external trips during the AM and PM peak hours of travel, respectively.

As discussed in **Section 3.2**, turning movement counts were collected during the traditional AM and PM peak hours of travel (7:00AM to 9:00AM and 4:00PM to 6:00PM) as well as the midday peak period (11:00AM to 1:00PM) to provide a thorough understanding of the existing distribution of traffic throughout the study area. Industrial land uses often exhibit peak site traffic volumes during off-peak periods on the surrounding roadway network. As such, the expected peak trip generation at the proposed site (i.e., “peak hour of generator”) was considered along with midday peak hour traffic volumes on the adjacent street network to determine if this additional analysis period was warranted. After further examination, it was determined that site trips expected to occur during the peak hour of generator are negligibly different than those anticipated during the AM and PM peak hour of adjacent street traffic. Furthermore, traffic count data collected as part of this TIA suggests that through volumes on SR 21/Augusta Road are more directionally balanced during off-peak periods, providing a more favorable operational condition regardless of site traffic patterns. As a result, only the traditional AM and PM peak hours of travel were considered in the analyses discussed throughout the remainder of this report.

All traffic counts collected as part of this TIA are provided in the **Appendix** for reference.

Table 5.1 - Trip Generation								
Land Use	**Intensity**	**Daily Trips**	**AM Peak Hour**			**PM Peak Hour**		
			Total	**In**	**Out**	**Total**	**In**	**Out**
Warehousing [ITE 150]	8,258,500 SF	13,094	1,016	782	234	1,019	275	744
Truck Trips[1]		*4,467*	*165*	*86*	*79*	*248*	*129*	*119*
Passenger Car Trips[2]		*8,627*	*851*	*696*	*155*	*771*	*146*	*625*
Subtotal		**13,094**	**1,016**	**782**	**234**	**1,019**	**275**	**744**
New External Trips		**13,094**	**1,016**	**782**	**234**	**1,019**	**275**	**744**

[1]Truck trip generation potential calculated based on the rates prescribed by the ITE *Trip Generation Manual, 10th Edition Supplement* for ITE Land Use Code 150
[2]Passenger car trip generation potential calculated as the difference between the total trip generation and anticipated truck trip generation

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5.2 SITE TRAFFIC DISTRIBUTION AND ASSIGNMENT

New external trips generated by the proposed development were assigned to the surrounding network based on existing peak hour turning movements, 48-hour classification counts, surrounding land uses, population densities in the area, and the proposed site layout. Based on existing travel patterns, the following site traffic distribution was assumed for the purposes of this TIA:

- Passenger Cars
  - 30% to/from the north along SR 21/Augusta Road
  - 40% to/from the south along SR 21/Augusta Road
  - 30% to/from the west along SR 30/Piedmont Avenue
- Heavy Trucks
  - 5% to/from the north along SR 21/Augusta Road
  - 95% to/from the south along SR 21/Augusta Road

The overall site traffic distribution and assignments are shown in **Figure 5.1A** (Passenger Cars) and **Figure 5.1B** (Heavy Trucks).

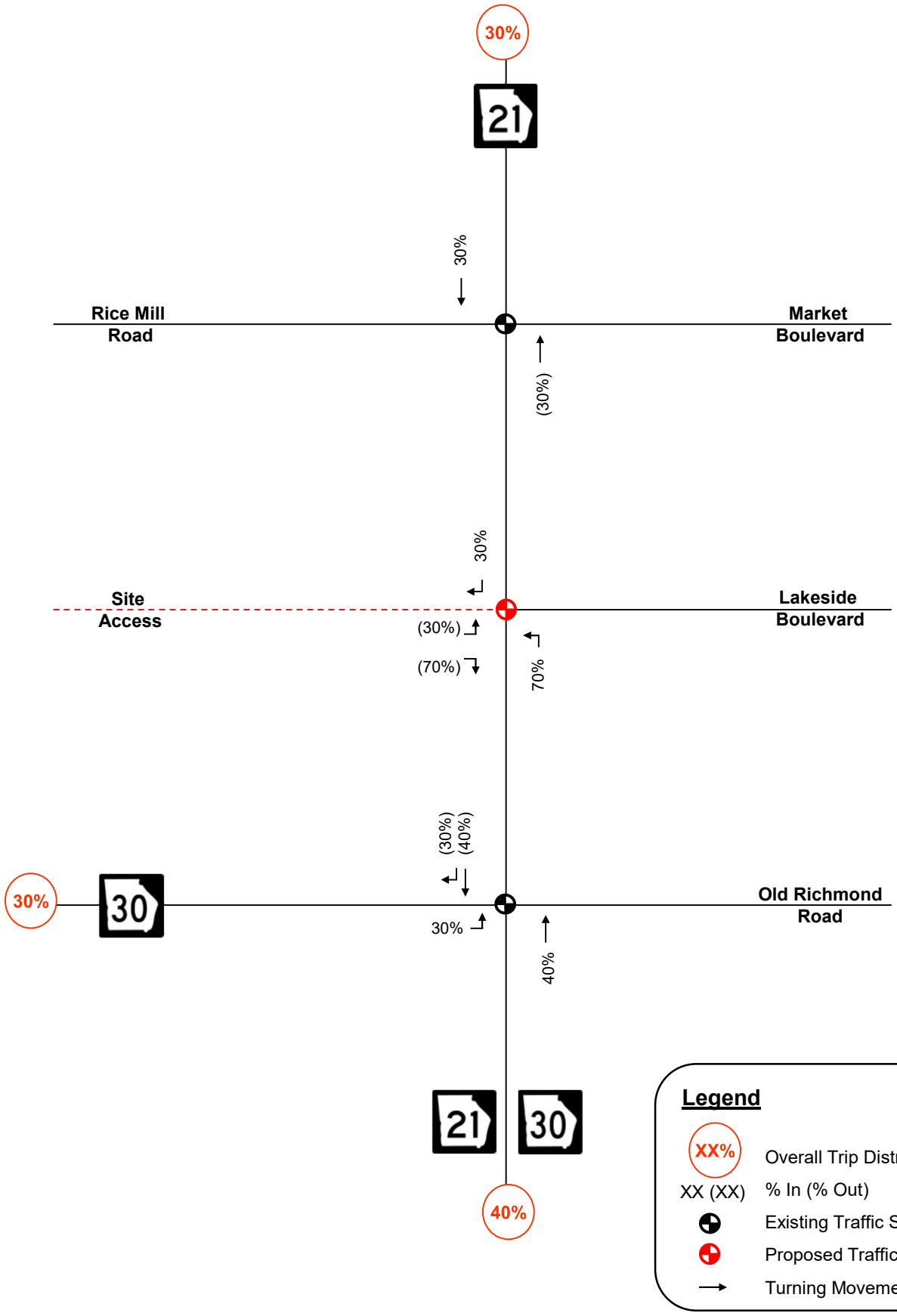
5.3 2029 BUILD TRAFFIC VOLUMES

The 2029 Build traffic volumes include assignment of site-generated trips and 2029 Background traffic volumes. Projected 2029 Build traffic volumes during the AM and PM peak hours are summarized in the following figures:

- **Figure 5.2**: 2029 Build Peak Hour Site Traffic Volumes
- **Figure 5.3**: 2029 Build Total Peak Hour Traffic Volumes

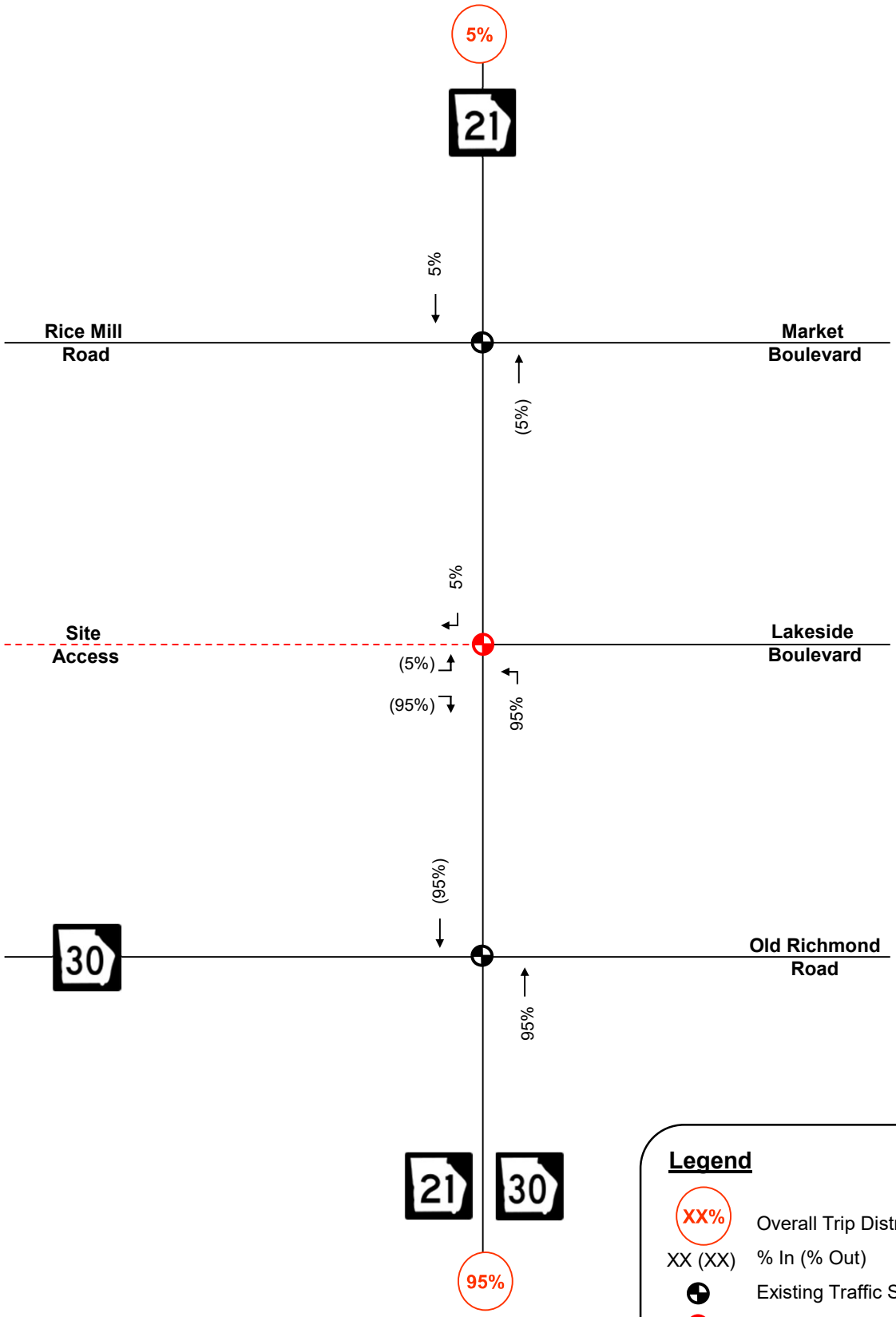
Intersection volume development worksheets for all intersections within the study network are provided in the **Appendix**.

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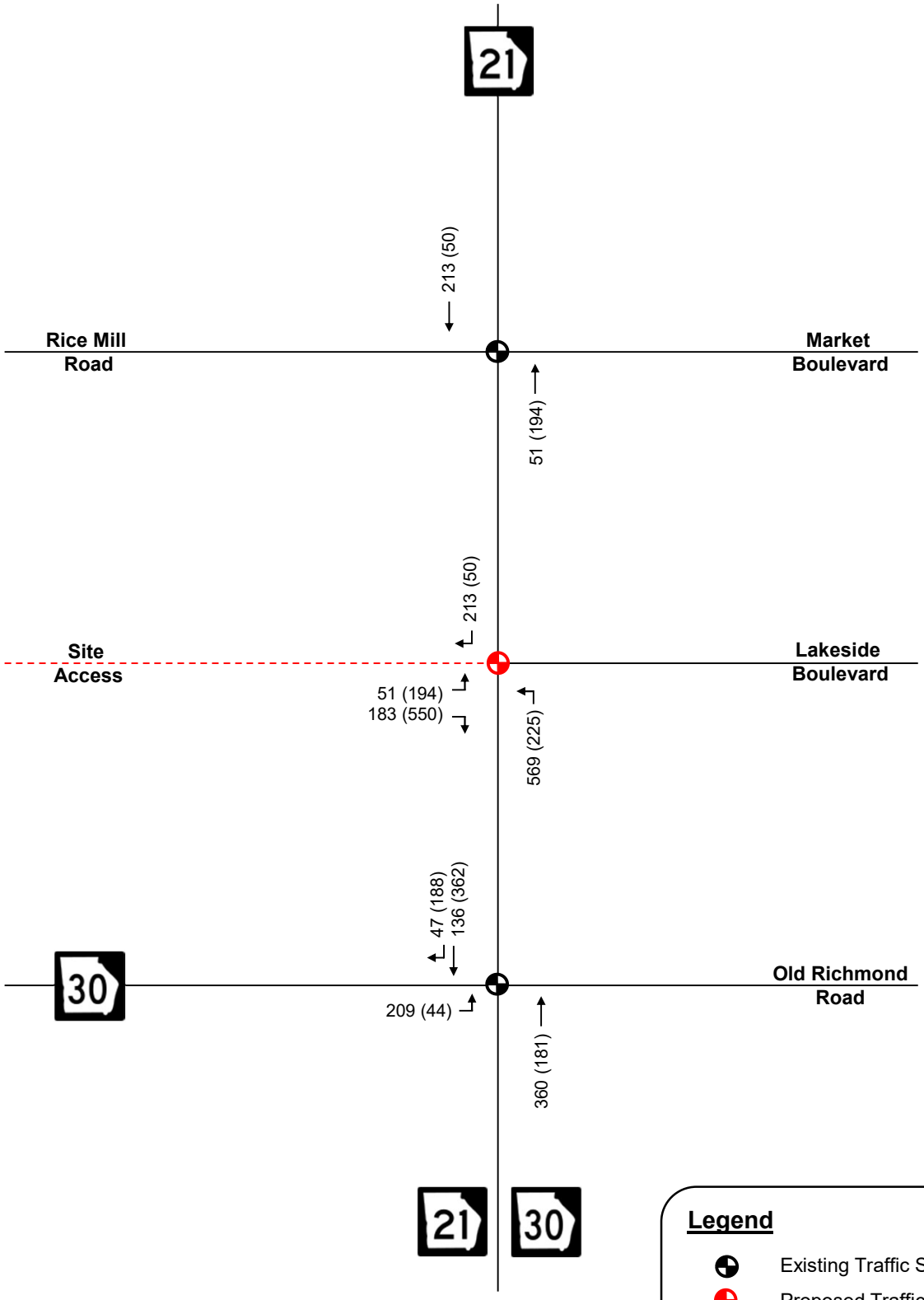
Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	Site Traffic Distribution and Assignment (Passenger Cars)	Figure 5.1A

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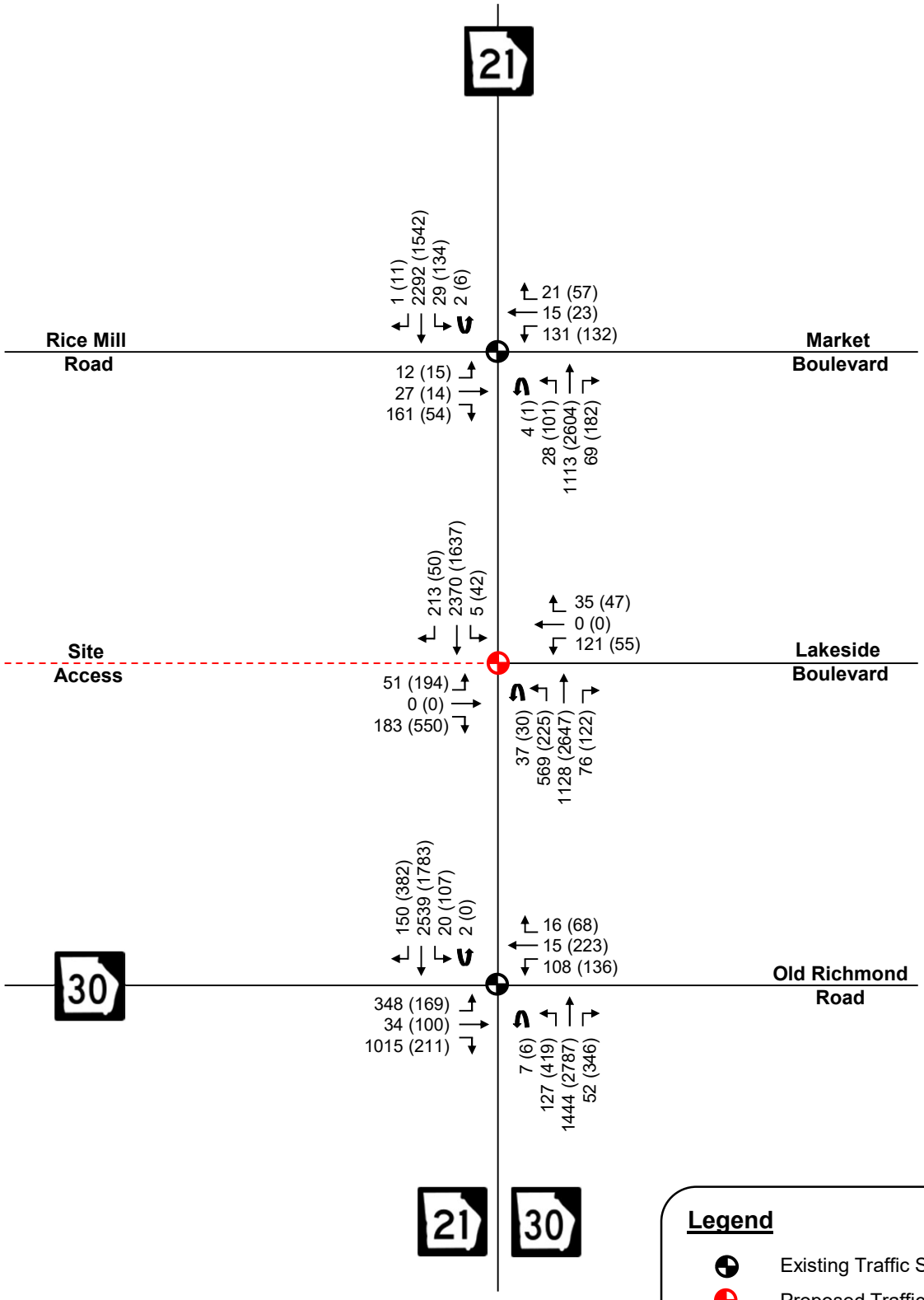
Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	Site Traffic Distribution and Assignment (Heavy Vehicles)	Figure 5.1B

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Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	2029 Build Peak Hour Site Traffic Volumes	Figure 5.2

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Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	2029 Build Total Peak Hour Traffic Volumes	Figure 5.3

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6.0 CAPACITY ANALYSIS

Capacity analyses were performed for the AM and PM peak hours using Synchro Version 10 software to determine the operating characteristics at the signalized and stop-controlled intersections of the adjacent street network and to evaluate the impacts of the proposed development. In the *Highway Capacity Manual, 6th Edition* (HCM6), capacity is defined as "the maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point of uniform section of a lane or roadway during a given time period under prevailing conditions." Synchro uses methodologies contained in HCM6 to determine the operating characteristics of an intersection, which are typically evaluated in terms of level of service (LOS).

HCM6 defines LOS as a "quantitative stratification of a performance measure or measures representing quality of service" and is used to "translate complex numerical performance results into a simple A-F system representative of travelers' perceptions of the quality of service provided by a facility or service". The HCM defines six levels of service, LOS A through LOS F, with A having the best operating conditions from the traveler's perspective and F having the worst. However, it must be understood that "the LOS letter results hides much of the complexity of facility performance", and that "the appropriate LOS for a given system element in the community is a decision for local policy makers". According to HCM6, "for cost, environmental impact, and other reasons, roadways are typically designed not to provide LOS A conditions during peak periods but instead to provide some lower LOS that balances individual travers' desires against society's desires and financial resources. Nevertheless, during low-volume periods of the day, a system element may operate at LOS A."

LOS for a two-way stop-controlled (TWSC) intersection is determined by the control delay at the side-street approaches, typically during the highest volume periods of the day, the AM and PM peak periods. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. With respect to field measurements, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. It is typical for stop sign-controlled side streets and driveways intersecting major streets to experience long delays during peak hours, particularly for left-turn movements. The majority of the traffic moving through the intersection on the major street experiences little or no delay.

Tables 6.0A and **6.0B** list the LOS control delay thresholds published in HCM6 for unsignalized and signalized intersections, respectively, as well as the unsignalized operational descriptions assumed herein.

Table 6.0A
Vehicular LOS Control Delay Thresholds for Unsignalized Intersections

Level-of-Service	Average Control Delay per Vehicle [sec/veh]	
A	≤ 10	Short Delays
B	> 10 – 15	
C	> 15 – 25	
D	> 25 – 35	Moderate Delays
E	> 35 – 50	
F	> 50	Long Delays

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Table 6.0B Vehicular LOS Control Delay Thresholds for Signalized Intersections	
Level-of-Service	**Average Control Delay per Vehicle [sec/veh]**
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Capacity analyses were performed under 2021 Existing, 2029 Background, and 2029 Build traffic conditions. Mitigation of traffic impacts associated with the proposed development were noted and recommended based on guidance provided in the GDOT *Regulations for Driveway and Encroachment Control* and GDOT *Design Policy Manual*, where applicable. When determining the traffic-related impact of the proposed development on the study area intersections, 2029 Background and 2029 Build conditions were compared. Delay and LOS are reported for each study intersection approach in the following subsections. Capacity analysis reports are included in the Appendix.

6.1 Regional Transportation Needs

At the signalized intersections of SR 21/Augusta Road at Rice Mill Road/Market Boulevard and SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road (Signalized), the 2029 Background and 2029 Build models forecast long delays on the northbound and southbound approaches. The following are maximum volumes, in vehicles per hour (VPH), are anticipated on SR 21/Augusta Road:

2029 Background:

- Northbound SR 21/Augusta Road AM: 1,239 vph
- Northbound SR 21/Augusta Road PM: 2,799 vph
- Southbound SR 21/Augusta Road AM: 2,528 vph
- Southbound SR 21/Augusta Road PM: 1,722 vph

2029 Build:

- Northbound SR 21/Augusta Road AM: 1,810 vph
- Northbound SR 21/Augusta Road PM: 3,024 vph
- Southbound SR 21/Augusta Road AM: 2,711 vph
- Southbound SR 21/Augusta Road PM: 2,242 vph

Recommendations

In the 2029 horizon year, the need to widen SR 21/Augusta Road to six lanes throughout the study area (three northbound and three southbound through lanes) is demonstrated to support the growth at the Port of Savannah. This improvement is independent of the proposed Varnedoe-Wiggins Tract Development and should be coordinated with the ongoing Effingham County Transportation Master Plan. The tables in the subsequent sections show the positive impact of this regional improvement.

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6.2 SR 21/AUGUSTA ROAD AT RICE MILL ROAD/MARKET BOULEVARD

Table 6.2 on the following page summarizes the LOS, control delay, and 95th percentile queue length at the intersection of SR 21/Augusta Road at Rice Mill Road/Market Boulevard under each analysis scenario. Five incremental analysis scenarios were evaluated, and they are summarized as follows:

- **2021 Existing:** Analyzes the roadway network as it exists today
- **2029 Background:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth
- **2029 Build:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth + the proposed development traffic
- **2029 Build OPT:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth + the proposed development traffic with signal optimization.
- **2029 Build OPT with Regional IMP:** Analyzes the roadway network with regional improvements for the existing traffic volume + the background traffic volume growth + the proposed development traffic with signal optimization.

Results

AM Peak Hour

As shown in **Table 6.2**, the model predicts that this intersection will operate at LOS B overall under 2021 Existing conditions with a volume-to-capacity ratio near 1.0 during the AM Peak Hour. For the 2029 Background conditions, the intersection is anticipated to operate at LOS C with a volume-to-capacity ratio (V/C) over 1.0. For the 2029 Build conditions, the intersection is anticipated to drop to LOS D, yet the V/C is anticipated to be the same as background conditions.

The eastbound and westbound approaches are anticipated to operate at LOS E and LOS F, respectively, for the analyzed scenarios. This is due to the amount of green time the northbound and southbound volumes require, versus the lower volume on the eastbound and westbound approaches. To mitigate the westbound left-turn delay, implementing permitted + protected flashing yellow arrow phasing was considered, however, the protected left-turn phase reduces the available green time for the northbound and southbound approaches, which results in longer northbound, southbound, and overall intersection delays. Therefore, adding the protected left-turn phase is not recommended to be implemented for the westbound left-turn.

To improve overall intersection operations, optimization of the signal cycle length, splits, and offsets is recommended. The model results for optimization improvements are included in **Table 6.2** as 2029 Build OPT. As tabulated, the westbound approach delay is anticipated to decrease by over 100 seconds in this scenario, however, the southbound approach delay is anticipated to increase.

The next step in the analysis incorporates the regional improvements mentioned in previous sections, and when combined with optimization of the signal cycle length, splits, and offsets, the intersection is expected to improve to LOS B.

PM Peak Hour

In the PM Peak Hour, the model predicts that this intersection will operate at LOS C overall under 2021 Existing conditions with a volume-to-capacity ration near 1.0. For the 2029 Background conditions, the intersection is anticipated to operate at LOS E with a V/C over 1.0. For the 2029 Build conditions, the intersection is anticipated to drop to LOS F with a V/C ratio greater than 1.0.

The eastbound and westbound approaches are anticipated to operate at LOS E for the analyzed scenarios. This is due to the amount of green time required for the northbound and southbound volumes versus that available for the lower volume eastbound and westbound approaches.

To improve overall intersection operations, optimization of the signal cycle length, splits, and offsets is recommended. The model results for optimization improvements are included in **Table 6.2** as 2029 Build OPT. As tabulated, the northbound approach delay is anticipated to decrease by over 13 seconds in this scenario, however, the southbound approach delay is anticipated to increase slightly.

The next step in the analysis incorporates the regional improvements mentioned in previous sections, and when combined with optimization of the signal cycle length, splits, and offsets are considered, the intersection is anticipated to improve to LOS A.

Recommendations

No laneage/approach improvements are recommended, but optimizing the signal cycle length, splits, and offsets would improve intersection operations.

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Table 6.2 - SR 21/Augusta Road at Rice Mill Road/Market Boulevard														
Condition	Measure	EB		WB			NB			SB			Intersection	
		EBL	EBTR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	LOS (Delay (Sec/Veh)	V/C
AM Peak Hour														
2021 Existing	LOS (Delay)	E (60.8)		F (115.9)			B (11.3)			B (15.4)			B (19.2)	0.93
	Synchro 95th Q	27'	65'	#323'	32'	0'	m10'	184'	9'	9'	671'	0'		
2029 Background	LOS (Delay)	E (61.2)		F (170.6)			B (13.2)			C (22.4)			C (26.4)	1.14
	Synchro 95th Q	30'	91'	#371'	36'	0'	m20'	234'	m9'	10'	990'	0'		
2029 Build	LOS (Delay)	E (61.2)		F (170.6)			B (14.1)			D (38.0)			D (35.7)	1.14
	Synchro 95th Q	30'	91'	#371'	36'	0'	m11'	m218'	m5'	10'	#1366'	0'		
2029 Build OPT	LOS (Delay)	E (56.0)		E (64.0)			A (2.4)			E (69.3)			D (46.0)	1.08
	Synchro 95th Q	25'	75'	#241'	30'	0'	m41'	355'	22'	23'	#1750'	0'		
2029 Build OPT with Regional IMP	LOS (Delay)	E (56.0)		E (64.0)			A (0.9)			B (19.7)			B (15.7)	0.75
	Synchro 95th Q	25'	70'	#226'	29'	0'	46'	243'	22'	25'	#967'	0'		
PM Peak Hour														
2021 Existing	LOS (Delay)	E (58.5)		E (65.0)			C (28.9)			B (19.0)			C (26.9)	0.93
	Synchro 95th Q	32'	41'	176'	38'	10'	m3'	m860'	m26'	143'	614'	0'		
2029 Background	LOS (Delay)	E (56.5)		E (63.8)			F (85.0)			C (27.2)			E (62.0)	1.12
	Synchro 95th Q	35'	43'	198'	40'	19'	m29'	m828'	m31'	170'	#948'	0'		
2029 Build	LOS (Delay)	E (56.5)		E (63.8)			F (121.9)			C (27.7)			F (84.2)	1.21
	Synchro 95th Q	35'	43'	198'	40'	19'	m27'	m851'	m29'	170'	#1004'	0'		
2029 Build OPT	LOS (Delay)	E (58.5)		E (66.1)			F (108.8)			C (29.6)			E (77.4)	0.99
	Synchro 95th Q	35'	44'	204'	42'	21'	m95'	m#1476'	m54'	176'	#1009'	0'		
2029 Build OPT with Regional IMP	LOS (Delay)	E (58.5)		E (66.1)			A (1.7)			B (15.8)			A (9.9)	0.83
	Synchro 95th Q	35'	44'	204'	42'	0'	83'	#1167'	m14'	176'	504'	0'		

m – Volume for 95th percentile queue is metered by upstream signal

- 95th percentile volume exceeds capacity; queue may be longer

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6.3 SR 21/Augusta Road at Lakeside Boulevard/Site Access

Table 6.3 on the following page summarizes the LOS, control delay, and 95th percentile queue length at the intersection of SR 21/Augusta Road at Lakeside Boulevard/Site Access under each analysis scenario. Five incremental analysis scenarios were evaluated, and they are summarized as follows:

- **2021 Existing:** Analyzes the roadway network as it exists today
- **2029 Background:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth
- **2029 Build:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth + the proposed development traffic. The intersection operates with stop-control on the eastbound and westbound approaches in this scenario.
- **2029 Build SIG:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth + the proposed development traffic. The intersection is signalized in this scenario.
- **2029 Build SIG with Regional IMP:** Analyzes the roadway network with regional improvements for the existing traffic volume + the background traffic volume growth + the proposed development traffic under signalized operations.

Results

As shown in **Table 6.3**, long delays are predicted along the side street (eastbound and westbound) for the analyzed scenarios if the intersection operates with side-street stop-control. These long delays are a result of the lack of available gaps in the northbound and southbound traffic for the side street turning movements.

Signal control was also analyzed for this intersection, and the results of this analysis are tabulated as 2029 Build SIG. In this scenario, the overall intersection is anticipated to operate at LOS D during the AM and PM peak hours. To implement a signal at the intersection of SR 21/Augusta Road at Lakeside Boulevard/Site Access, other intersection improvements are required including the following:

- Construct the eastbound approach with a left-turn lane, a through lane, and dual right-turn lanes
- Modify the chevron area on the westbound approach to be a through lane, resulting in a left-turn lane, a through lane, and a right-turn lane
- Construct a southbound right-turn lane with a minimum storage of 250 feet
- Modify the northbound-U-turn lane to be a shared left-turn/U-turn lane
- Modify the northbound chevroned median area to develop a second left-turn lane

The next step in the analysis incorporates the regional improvements mentioned in previous sections, and when combined with signalization of the intersection, the intersection is anticipated to improve to LOS B during the AM and PM peak hours.

GDOT ICE Analysis

A GDOT ICE Analysis was performed at this intersection, and the following control scenarios were analyzed:

- Multilane Roundabout
- RCUT (stop-control)
- Right-In/Right-Out (RI/RO) with downstream U-turn
- Traffic Signal

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A multilane roundabout resulted in high V/C ratios, longer overall intersection delays than the other analyzed conditions, and scored low (-1.5) for the ICE Stage 2 Score. Furthermore, a multilane roundabout on SR 21/Augusta Road is precited to impede through volumes resulting in long queues on SR 21/Augusta Road. Additionally, there will be limited gaps for the side-street volumes to enter the roundabout due to the high northbound and southbound peak hour traffic volumes.

The RCUT and RI/RO resulted in similar side-street delays as the traffic signal (all near 300 seconds in the AM and PM peak hours). However, for the RCUT, the northbound left-turns from SR 21/Augusta Road onto the Site Access, are anticipated to experience long delays in the AM and PM peak hours due to high opposing volume on SR 21Augusta Road. The RCUT scored a -1.9 for the ICE Stage 2 Score.

The RI/RO alternative redistributes the northbound, southbound, eastbound, and westbound left-turns to U-turn bulbs resulting in long delays for the U-turn movements. This is a result of high through volumes on SR 21/Augusta Road which limit the number of available gaps for the U-turning vehicles. The delays for the RI/RO scenario were similar to the RCUT, and the ICE Stage 2 Score for the RI/RO matched the RCUT at -1.9.

The traffic signal scored the highest in the ICE Stage 2 analysis with a score of 5.3. The traffic signal creates gaps for the side-street left-turn movements as well as mainline left-turn movements with protected phasing. The traffic signal provided better side-street delays than the RI/RO with downstream U-turn and the RCUT alternative, additionally, the mainline left-turn/U-turn delays were lower for the traffic signal than the RI/RO and RCUT.

Recommendations

- Conduct a full signal warrant analysis
  - Peak hour signal warrants are met for the AM and PM peak hours (MUTCD Signal Warrant #3) which suggests that other warrants will also be met
  - If warranted and approved by GDOT, install a traffic signal in accordance with GDOT standards and specifications to include remote access and coordination through cellular modem, 2070 controller, Statewide MAXTIME controller software, and integration with GDOT's real-time Automated Traffic Signal Performance Measures (ATSPM)
- Construct the eastbound approach to include a left-turn lane, a through lane, and dual right-turn lanes
- Modify the chevron area on the westbound approach to be a through lane, resulting in a left-turn lane, a through lane, and a right-turn lane
- Construct a southbound right-turn lane with a minimum storage of 250 feet
- Modify the northbound-U-Turn lane to be a shared left-turn/U-turn lane
- Modify the northbound chevroned median area to develop a second left-turn lane

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Table 6.3 - SR 21/Augusta Road at Lakeside Boulevard/Site Access													
Condition	Measure	EB		WB		NB			SB			Intersection	
		EBL	EBTR	WBL	WBTR	NBLU	NBT	NBR	SBL	SBT	SBR	LOS (Delay (Sec/Veh)	V/C
AM Peak Hour													
2021 Existing	LOS (Delay)	N/A		F ($)		A (5.9)			A (0.0)			N/A	2.07
	Synchro 95th Q			275'	8'	78'	0'	0'	0'	0'	N/A		
2029 Background	LOS (Delay)	N/A		+		B (18.7)			A (0.0)			N/A	+
	Synchro 95th Q			-	10'	135'	0'	0'	3'	0'	N/A		
2029 Build	LOS (Delay)	+		+		+			A (0.0)			N/A	+
	Synchro 95th Q	+	443'	+	10'	+	0'	0'	3'	0'	0'		
2029 Build SIG	LOS (Delay)	E (69.8)		F (92.7)		E (59.1)			C (20.7)			D (38.3)	1.23
	Synchro 95th Q	91'	14'	185'	0'	m#370'	m351'	m7'	m1'	m#1312'	m0'		
2029 Build SIG with Regional IMP	LOS (Delay)	E (69.8)		F (92.7)		C (25.2)			A (0.9)			B (13.8)	0.94
	Synchro 95th Q	91'	0'	185'	0'	#481'	301'	m14'	m1'	#1009'	m0'		
PM Peak Hour													
2021 Existing	LOS (Delay)	N/A		F ($)		A (0.4)			A (0.8)			N/A	1.84
	Synchro 95th Q			168'	23'	18'	0'	0'	20'	0'	N/A		
2029 Background	LOS (Delay)	N/A		F ($)		A (0.7)			A (1.3)			N/A	2.00
	Synchro 95th Q			235'	43'	30'	0'	0'	38'	0'	0'		
2029 Build	LOS (Delay)	+		+		+			A (1.3)			N/A	+
	Synchro 95th Q	+	1235'	+	43'	+	0'	0'	38'	0'	0'		
2029 Build SIG	LOS (Delay)	F (81.5)		E (64.2)		D (53.3)			A (2.2)			D (36.6)	1.07
	Synchro 95th Q	266'	#304'	85'	0'	m100'	m70'	m0'	m29'	#995'	m0'		
2029 Build SIG with Regional IMP	LOS (Delay)	E (72.9)		E (62.2)		B (17.2)			A (1.1)			B (14.5)	0.83
	Synchro 95th Q	259'	185'	83'	0'	m101'	m699'	m4'	64'	348'	m2'		

+ - Volume exceeds capacity, calculation for delay not made by HCM software

- 95th percentile volume exceeds capacity; queue may be longer

m – Volume for 95th percentile queue is metered by upstream signal

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6.4 SR 21/Augusta Road at SR 30/Piedmont avenue/Old Richmond Road

Table 6.3 on the following page summarizes the LOS, control delay, and 95th percentile queue length at the intersection of SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road under each analysis scenario. Five incremental analysis scenarios were evaluated, and they are summarized as follows:

- **2021 Existing:** Analyzes the roadway network as it exists today
- **2029 Background:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth
- **2029 Build:** Analyzes the roadway network as it exists today with the addition of background traffic volume growth + the proposed development traffic. The intersection operates with stop-control on the eastbound and westbound approaches in this scenario.
- **2029 Build IMP:** Analyzes the roadway network with turn lane improvements on the eastbound and westbound approaches with the existing traffic volume + the addition of background traffic volume growth + the proposed development traffic.
- **2029 Build IMP with Regional IMP:** Analyzes the roadway network with regional improvements + turn lane improvements on the eastbound and westbound approaches with the existing traffic volume + the addition of background traffic volume growth + the proposed development traffic.

GDOT PI 0016361 and 0016441 are in/near the study area. GDOT PI 0016361 is at the study area intersection of SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road. GDOT PI 0016441 includes improvements along SR 21/30/Augusta Road south of SR 30/Piedmont Avenue.

The following improvements are included in GDOT PI 0016361 and were considered in the 2029 Background (no-build) and 2029 Build conditions:

SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

- Construct an additional eastbound right-turn lane
  - One right-turn lane will be free-flow and unsignalized
  - One right-turn lane will be controlled by the signal
- Construct a dedicated eastbound left-turn lane
- Construct an additional southbound through lane

It is important to note that the eastbound right-turn is anticipated to spillback beyond the available storage for GDOT PI 0016361 in the background conditions. Consideration to extend the storage for the eastbound right-turn lane for GDOT PI 0016361 should be coordinated with the PI 0016361 team. This condition is independent of the proposed Varnedoe-Wiggins Tract Development.

Results

As shown in **Table 6.4**, this intersection operates at LOS D during the AM peak hour and LOS F during the PM peak hour in the 2021 Existing scenario. For the 2029 Background scenario, which includes the implementation of GDOT project PI 0016361 and 0016441, the model indicates that the intersection LOS will improve to LOS C during the AM peak hour but remain at LOS F in the PM. For the 2029 Build scenario, the model predicts that the intersection will drop to LOS E during the AM peak hour and remain at LOS F during the PM peak hour. The drop in LOS is due to delay increases for the eastbound left-turn and northbound through.

Recommendations

To mitigate the anticipated increase in delay, the following improvements are recommended when the Phase I development of 2,629,000 square feet is exceeded:

- Construct an additional eastbound left-turn lane to create dual left-turn lanes
- Widen the westbound approach to include a left-turn lane, a through lane, and a right-turn lane
- Optimize the approach splits for the traffic signal

With the additional turn lanes and optimization of the signal, the overall intersection is anticipated to operate at LOS D during the AM peak hour and LOS F during the PM peak hour. Implementation of the regional improvements do not improve the overall LOS, but significant delay improvements are demonstrated. For example, the northbound through queue is anticipated to decease by 562 feet (from the build improved conditions) during the AM peak hour and 985 feet during the PM peak hour. Further, the northbound approach delay is anticipated to decrease by 161.6 seconds from the build improved conditions.

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Table 6.4 - SR 21/Augusta Road at SR 30/Piedmont Ave/Old Richmond Road														
Condition	Measure	EB			WB		NB			SB			Intersection	
		EBL	EBT	EBR	WBL	WBT	NBLU	NBT	NBR	SBL	SBT	SBR	LOS (Delay (Sec/Veh)	V/C
AM Peak Hour														
2021 Existing	LOS (Delay)	E (63.7)			E (57.8)		B (19.1)			D (45.5)			D (38.6)	1
	Synchro 95th Q	N/A	126'	#1283'	109'	25'	90'	512'	0'	m34'	m#1593'	m33'		
2029 Background	LOS (Delay)	F (92.2)			E (77.7)		C (31.7)			C (20.4)			C (28.8)	1.09
	Synchro 95th Q	140'	#486'	#764'	#179'	29'	#144'	#681'	0'	m33'	m#1117'	m12'		
2029 Build	LOS (Delay)	F (599.2)			E (77.7)		C (32.5)			C (23.4)			E (71.4)	2.15
	Synchro 95th Q	368'	#486'	#764'	#179'	29'	#144'	#1090'	0'	m31'	m#1182'	m44'		
2029 Build IMP	LOS (Delay)	E (77.3)			E (58.3)		D (49.1)			C (31.3)			D (41.8)	1.23
	Synchro 95th Q	245'	369'	#701'	103'	29'	#153'	#1288'	5'	m28'	m#1045'	m21'		
2029 Build IMP with Regional IMP	LOS (Delay)	E (77.5)			E (58.3)		D (39.3)			C (33.0)			D (39.4)	1.23
	Synchro 95th Q	245'	369'	#702'	104'	29'	#153'	#726'	5'	m34'	m#1442'	m28'		
PM Peak Hour														
2021 Existing	LOS (Delay)	E (72.5)			D (43.4)		F (174.8)			D (49.3)			F (122.9)	1.34
	Synchro 95th Q	N/A	221'	37'	170'	301'	#277'	#1746'	198'	m126'	m#747'	m70'		
2029 Background	LOS (Delay)	F (118.3)			F (145.1)		F (167.8)			D (50.0)			F (129.0)	1.37
	Synchro 95th Q	138'	166'	40'	149'	373'	286'	#2149'	239'	m#176'	m#617'	m85'		
2029 Build	LOS (Delay)	F (191.8)			F (145.1)		F (226.2)			D (54.7)			F (163.4)	1.53
	Synchro 95th Q	#248'	166'	40'	149'	373'	286'	#2377'	239'	m#189'	m#938'	m226'		
2029 Build IMP	LOS (Delay)	F (84.9)			E (79.0)		F (270.6)			D (54.4)			F (175.8)	1.58
	Synchro 95th Q	135'	195'	133'	166'	325'	#355'	#2325'	133'	m#175'	m#802'	m120'		
2029 Build IMP with Regional IMP	LOS (Delay)	F (83.3)			E (70.1)		F (109.0)			E (55.0)			F (87.3)	1.24
	Synchro 95th Q	128'	201'	140'	168'	#428'	#367'	#1340'	100'	m#242'	#771'	218'		

m – Volume for 95th percentile queue is metered by upstream signal
- 95th percentile volume exceeds capacity, queue may be longer

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6.0 AUXILIARY TURN LANE WARRANTS

Warrants for additional turn lane improvements at the proposed site access point along SR 21/Augusta Road beyond those necessary for capacity, were determined based on a review of Section 4.9 in the GDOT *Regulations for Driveway and Encroachment Control*. The results of the warrants for left- and right-turn lanes are summarized below with additional data included in the **Appendix**.

A southbound right-turn lane should be constructed at the intersection of SR 21/Augusta Road at Lakeside Boulevard/Site Access with 250 feet of full-width storage.

A northbound U-turn lane already exists at this intersection, therefore auxiliary turn lane warrants were not analyzed for the northbound left-turn.

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

7.0 RECOMMENDATIONS

The following improvements are included in GDOT PI 0016361 and were considered in the 2029 background (no-build) and 2029 build conditions:

SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

- Construct an additional eastbound right-turn lane
  - One right-turn lane will be free-flow and unsignalized
  - One right-turn lane will be controlled by the signal
- Construct a dedicated eastbound left-turn lane
- Construct an additional southbound through lane

It is important to note that the eastbound right-turn is anticipated to spillback beyond the available storage for GDOT PI 0016361 in the background conditions. Consideration to extend the storage for the eastbound right-turn lane for GDOT PI 0016361 should be coordinated with the PI 0016361 team. This condition is independent of the proposed Varnedoe-Wiggins Tract Development.

The following regional transportation improvements were identified as a need in the 2029 background and 2029 build conditions:

SR 21/Augusta Road

SR 21/Augusta Road should be a six-lane highway throughout the study area (three northbound and three southbound through lanes) to support increased industrial traffic volume required to support growth at the Port of Savannah as well as background commercial and residential development in the region. This improvement is independent of the proposed Varnedoe-Wiggins Tract Development and should be coordinated with the ongoing Effingham County Transportation Master Plan.

Based on the capacity analyses performed at each of the identified study intersections and the auxiliary turn lane warrant review contained herein, the following improvements have been identified to mitigate the impact of the proposed development on the adjacent street network under 2029 Build conditions:

SR 21/Augusta Road at Rice Mill Road/Market Boulevard

No laneage/approach improvements are recommended, but optimizing the signal cycle length, splits, and offsets would improve intersection operations.

SR 21/Augusta Road at Lakeside Boulevard/Site Access

- Conduct a full signal warrant analysis
  - Peak hour signal warrants are met for the AM and PM peak hours (MUTCD Signal Warrant #3) which suggests that other warrants will also be met
  - If warranted and approved by GDOT, install a traffic signal in accordance with GDOT standards and specifications to include remote access and coordination through cellular modem, 2070 controller, Statewide MAXTIME controller software, and integration with GDOT's real-time Automated Traffic Signal Performance Measures (ATSPM)
- Construct the eastbound approach to include a left-turn lane, a through lane, and dual right-turn lanes
- Modify the chevron area on the westbound approach to be a through lane, resulting in a left-turn lane, a through lane, and a right-turn lane
- Construct a southbound right-turn lane with a minimum storage of 250 feet

- Modify the northbound-U-Turn lane to be a shared left-turn/U-turn lane
- Modify the northbound chevroned median area to develop a second left-turn lane

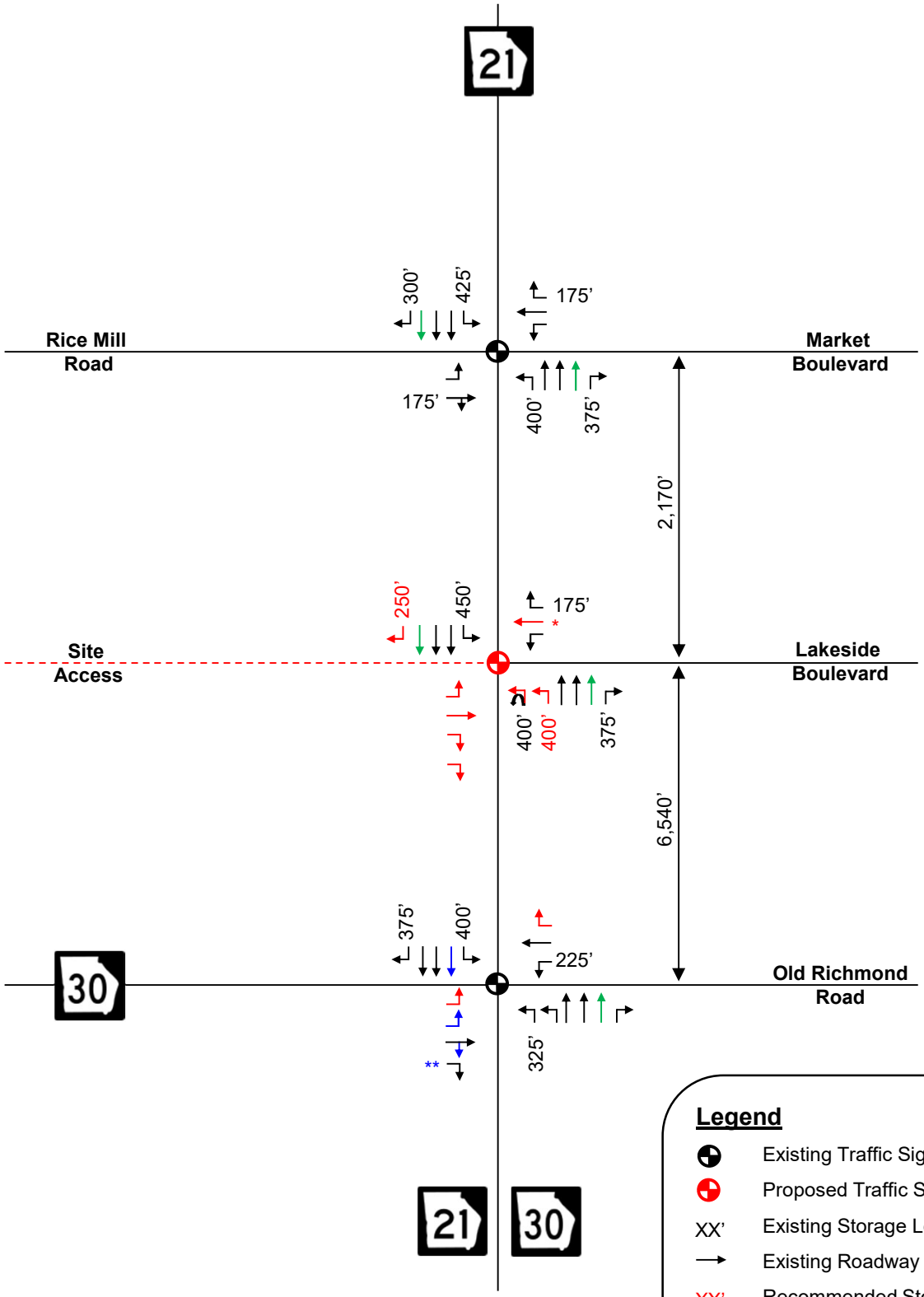
SR 21/Augusta Road at SR 30/Piedmont Avenue/Old Richmond Road

The following improvements should be implemented when the Phase I development of 2,629,000 square feet is exceeded:

- Construct an additional eastbound left-turn lane to create dual left-turn lanes
- Widen the westbound approach to include a left-turn lane, a through lane, and a right-turn lane
- Optimize the approach splits for the traffic signal

The recommended improvements identified within the study area are shown in **Figure 8.1**. The improvements shown on this figure are subject to approval by GDOT. All encroachments and improvements to the State roadway systems shall be designed, permitted, and constructed in conformance to GDOT Standards and Details.

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*Utilize existing pavement width and restripe approach to include a westbound through lane

**Proposed free-flow right-turn lane

Kimley»Horn	Varnedoe-Wiggins Tract Development Master Plan Traffic Impact Analysis	2029 Build Recommended Roadway Laneage	Figure 8.1

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APPENDIX

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Turning Movement Counts

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

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Varnedoe Wiggins Count Map

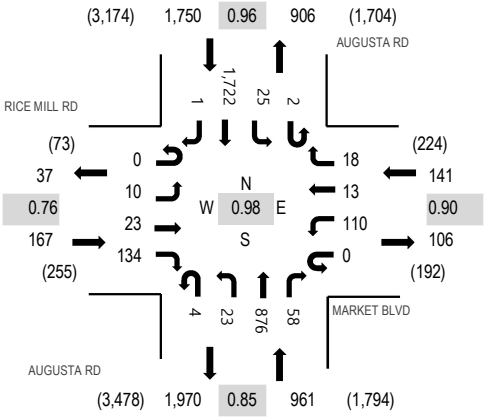



1
48-Hour Volume/Classification Count
1
6-Hour Turning Movement Count
N
Kimley»Horn
March 4, 2021 2 of 2
21
Augusta Rd
7
10
3
9
8
SR 30/
Piedmont Avenue
US 21/Augusta Road
Traveler's Way
© 2021 Google
Imagery Date:

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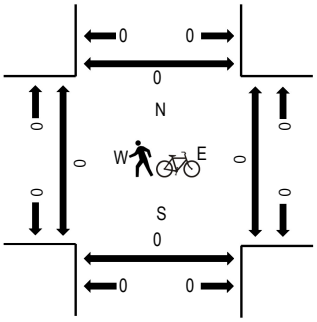
Location: #1 AUGUSTA RD & MARKET BLVD AM
Date: Tuesday, March 9, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RICE MILL RD Eastbound				MARKET BLVD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	4	35	0	29	1	1	0	3	180	22	1	8	447	0	732	3,019	0	0	0	0
7:15 AM	0	4	10	41	0	31	4	4	1	7	222	19	0	2	425	1	771	2,960	0	0	0	0
7:30 AM	0	2	6	36	0	27	5	5	0	7	205	14	0	4	432	0	743	2,811	0	0	0	0
7:45 AM	0	3	3	22	0	23	3	8	3	6	269	3	1	11	418	0	773	2,695	0	0	0	0
8:00 AM	0	3	0	22	0	8	3	5	2	6	187	6	1	3	424	3	673	2,428	0	0	0	0
8:15 AM	0	0	1	21	0	11	1	4	0	6	197	12	0	10	357	2	622		0	0	0	0
8:30 AM	0	1	0	30	0	14	0	16	1	6	201	13	2	14	329	0	627		0	0	0	1
8:45 AM	0	1	2	7	0	16	2	3	0	7	177	12	0	13	266	0	506		0	0	0	1

Peak Rolling Hour Flow Rates

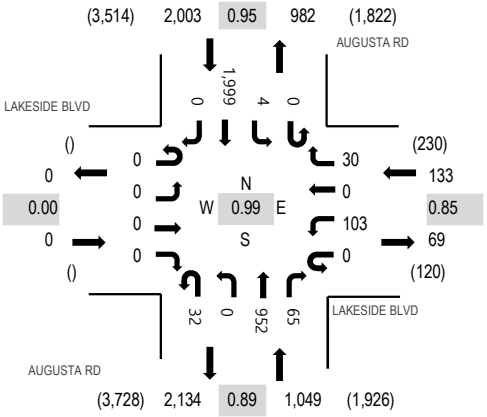
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	4	0	0	0	0	109	1	0	0	61	0	175
Lights	0	10	21	132	0	100	13	17	4	20	733	55	2	25	1,638	1	2,771
Mediums	0	0	2	2	0	6	0	1	0	3	34	2	0	0	23	0	73
Total	0	10	23	134	0	110	13	18	4	23	876	58	2	25	1,722	1	3,019

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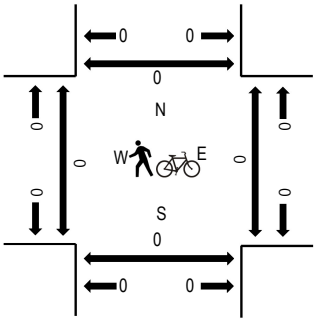
Location: #2 AUGUSTA RD & LAKESIDE BLVD AM
Date: Tuesday, March 9, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	LAKESIDE BLVD Eastbound				LAKESIDE BLVD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	24	0	6	6	0	205	20	0	1	528	0	790	3,185	0	0	0	0
7:15 AM	0	0	0	0	0	28	0	10	11	0	244	9	0	0	504	0	806	3,078	0	0	0	0
7:30 AM	0	0	0	0	0	23	0	3	7	0	234	18	0	2	503	0	790	2,938	0	0	0	0
7:45 AM	0	0	0	0	0	28	0	11	8	0	269	18	0	1	464	0	799	2,764	0	0	0	0
8:00 AM	0	0	0	0	0	19	0	7	9	0	191	10	0	4	443	0	683	2,485	0	0	0	0
8:15 AM	0	0	0	0	0	20	0	5	5	0	221	6	1	5	403	0	666		0	0	0	0
8:30 AM	0	0	0	0	0	18	0	4	4	0	205	11	1	4	369	0	616		0	0	0	0
8:45 AM	0	0	0	0	0	22	0	2	3	0	203	9	0	2	279	0	520		0	0	0	0

Peak Rolling Hour Flow Rates

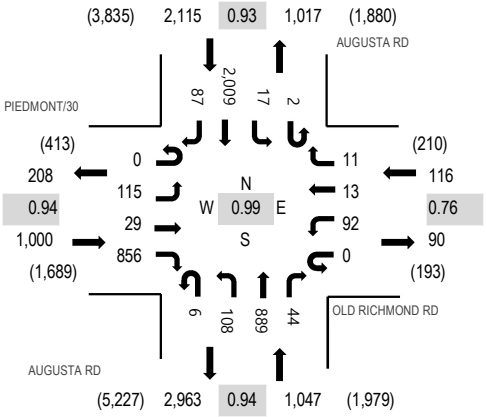
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	1	0	0	109	0	0	0	68	0	178
Lights	0	0	0	0	0	103	0	29	32	0	804	62	0	4	1,897	0	2,931
Mediums	0	0	0	0	0	0	0	0	0	0	39	3	0	0	34	0	76
Total	0	0	0	0	0	103	0	30	32	0	952	65	0	4	1,999	0	3,185

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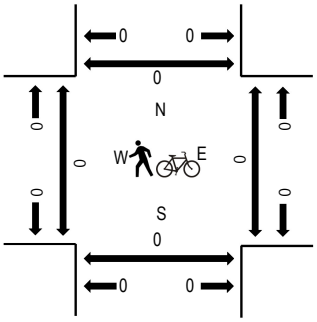
Location: #3 AUGUSTA RD & OLD RICHMOND RD AM
Date: Tuesday, March 9, 2021
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	PIEDMONT/30 Eastbound				OLD RICHMOND RD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	30	4	194	0	32	1	5	3	24	192	5	1	2	546	18	1,057	4,278	0	0	0	0
7:15 AM	0	25	3	233	0	23	4	3	0	35	219	7	1	5	498	21	1,077	4,160	0	0	0	0
7:30 AM	0	29	11	226	0	22	3	1	1	32	231	17	0	4	481	23	1,081	4,029	0	0	0	0
7:45 AM	0	31	11	203	0	15	5	2	2	17	247	15	0	6	484	25	1,063	3,784	0	0	0	0
8:00 AM	0	20	10	180	0	15	4	2	1	31	188	9	0	1	468	10	939	3,435	0	0	0	0
8:15 AM	0	28	6	163	0	23	5	0	2	29	210	14	0	8	442	16	946		0	0	0	0
8:30 AM	0	30	11	124	0	12	1	2	2	27	177	8	0	7	416	19	836		0	0	0	0
8:45 AM	0	26	5	86	0	19	11	0	3	35	180	16	0	8	308	17	714		0	0	0	0

Peak Rolling Hour Flow Rates

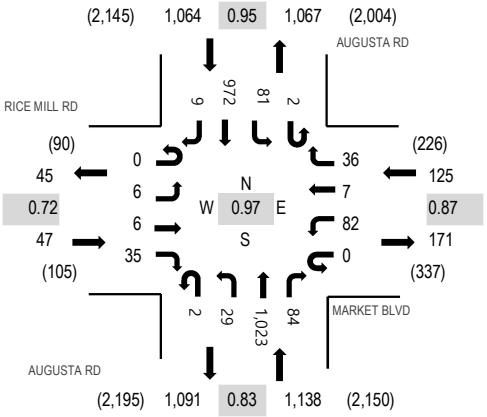
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	6	0	0	0	1	0	2	117	3	0	2	60	0	191
Lights	0	113	29	836	0	91	13	10	6	93	735	37	1	14	1,923	83	3,984
Mediums	0	2	0	14	0	1	0	0	0	13	37	4	1	1	26	4	103
Total	0	115	29	856	0	92	13	11	6	108	889	44	2	17	2,009	87	4,278

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

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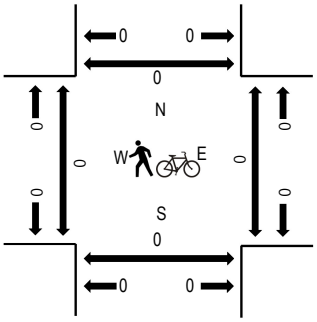
Location: #1 AUGUSTA RD & MARKET BLVD Noon
Date: Tuesday, March 9, 2021
Peak Hour: 12:00 PM - 01:00 PM
Peak 15-Minutes: 12:00 PM - 12:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RICE MILL RD Eastbound				MARKET BLVD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
11:00 AM	0	2	0	7	0	17	1	3	1	9	249	14	1	16	231	2	553	2,252	0	0	0	0
11:15 AM	0	2	2	10	0	13	1	8	0	8	230	16	0	19	273	3	585	2,310	0	0	0	0
11:30 AM	0	3	1	18	0	18	2	7	0	8	195	21	1	33	245	1	553	2,273	0	0	0	0
11:45 AM	0	2	2	9	0	22	2	7	0	6	227	28	0	14	240	2	561	2,324	0	0	0	0
12:00 PM	0	0	2	12	0	21	1	12	0	8	245	23	0	22	261	4	611	2,374	0	0	0	0
12:15 PM	0	3	2	8	0	17	4	10	0	5	214	16	1	15	251	2	548		0	0	0	0
12:30 PM	0	1	2	10	0	21	0	3	1	10	251	23	1	30	250	1	604		0	0	0	0
12:45 PM	0	2	0	5	0	23	2	11	1	6	313	22	0	14	210	2	611		0	0	0	0

Peak Rolling Hour Flow Rates

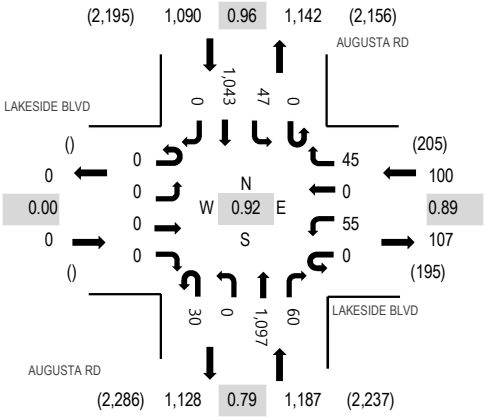
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	118	1	0	1	102	0	222
Lights	0	6	5	34	0	80	7	35	2	28	869	81	2	78	836	9	2,072
Mediums	0	0	1	1	0	2	0	1	0	1	36	2	0	2	34	0	80
Total	0	6	6	35	0	82	7	36	2	29	1,023	84	2	81	972	9	2,374

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

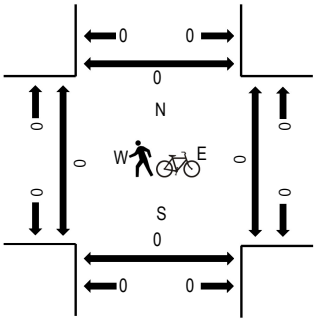
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: #2 AUGUSTA RD & LAKESIDE BLVD Noon
Date: Tuesday, March 9, 2021
Peak Hour: 12:00 PM - 01:00 PM
Peak 15-Minutes: 12:45 PM - 01:00 PM

Peak Hour - Motorized Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LAKESIDE BLVD Eastbound				LAKESIDE BLVD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
11:00 AM	0	0	0	0	0	11	0	10	3	0	257	16	0	8	248	0	553	2,260	0	0	0	0
11:15 AM	0	0	0	0	0	18	0	10	3	0	244	15	0	6	282	0	578	2,304	0	0	0	0
11:30 AM	0	0	0	0	0	16	0	10	4	0	227	15	0	10	275	0	557	2,262	0	0	0	0
11:45 AM	0	0	0	0	0	19	0	11	10	0	245	11	0	7	269	0	572	2,304	0	0	0	0
12:00 PM	0	0	0	0	0	6	0	17	11	0	253	12	0	18	280	0	597	2,377	0	0	0	0
12:15 PM	0	0	0	0	0	14	0	12	2	0	231	10	0	15	252	0	536		0	0	0	0
12:30 PM	0	0	0	0	0	17	0	6	7	0	270	17	0	9	273	0	599		0	0	0	0
12:45 PM	0	0	0	0	0	18	0	10	10	0	343	21	0	5	238	0	645		0	0	0	0

Peak Rolling Hour Flow Rates

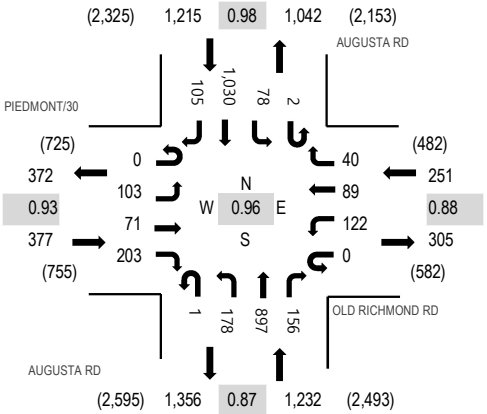
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	118	0	0	0	102	0	220
Lights	0	0	0	0	0	54	0	44	30	0	937	57	0	45	906	0	2,073
Mediums	0	0	0	0	0	1	0	1	0	0	42	3	0	2	35	0	84
Total	0	0	0	0	0	55	0	45	30	0	1,097	60	0	47	1,043	0	2,377

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

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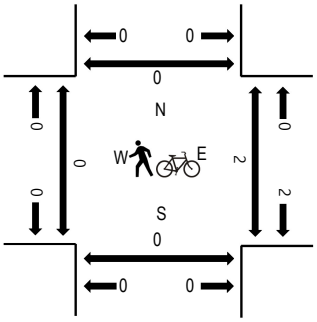
Location: #3 AUGUSTA RD & OLD RICHMOND RD Noon
Date: Tuesday, March 9, 2021
Peak Hour: 11:15 AM - 12:15 PM
Peak 15-Minutes: 11:15 AM - 11:30 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	PIEDMONT/30 Eastbound				OLD RICHMOND RD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
11:00 AM	0	25	15	53	0	15	14	6	3	38	226	35	1	18	205	31	685	3,004	0	0	0	0
11:15 AM	0	22	15	49	0	27	23	7	0	72	235	43	0	13	267	28	801	3,075	0	0	0	0
11:30 AM	0	27	21	57	0	32	19	5	1	33	184	45	0	27	256	28	735	2,970	0	0	0	0
11:45 AM	0	22	12	51	0	35	22	19	0	39	240	35	2	19	263	24	783	3,051	0	2	0	0
12:00 PM	0	32	23	46	0	28	25	9	0	34	238	33	0	19	244	25	756	3,051	0	0	0	0
12:15 PM	0	29	28	43	0	44	22	7	0	33	171	34	0	14	239	32	696		0	0	0	0
12:30 PM	0	29	11	52	0	31	14	11	1	44	279	38	1	14	257	34	816		0	0	0	0
12:45 PM	0	36	11	46	0	36	20	11	0	43	279	37	0	22	214	28	783		0	0	0	0

Peak Rolling Hour Flow Rates

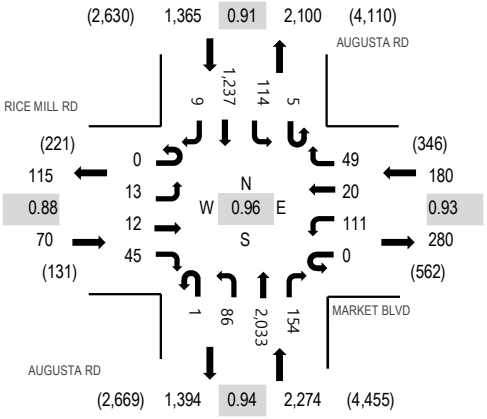
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	8	0	0	0	0	0	6	97	1	0	0	129	1	243
Lights	0	100	71	181	0	120	87	40	1	154	760	155	2	75	859	102	2,707
Mediums	0	2	0	14	0	2	2	0	0	18	40	0	0	3	42	2	125
Total	0	103	71	203	0	122	89	40	1	178	897	156	2	78	1,030	105	3,075

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

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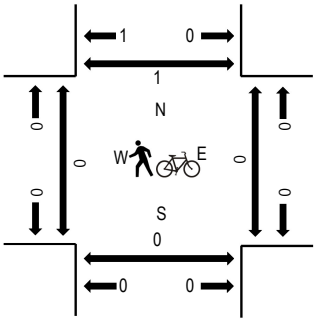
Location: #1 AUGUSTA RD & MARKET BLVD PM
Date: Tuesday, March 9, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	RICE MILL RD Eastbound				MARKET BLVD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	1	13	0	17	0	11	0	18	502	29	2	34	261	2	890	3,729	0	0	0	0
4:15 PM	0	3	2	8	0	22	4	15	2	20	507	44	2	25	307	3	964	3,849	0	0	0	0
4:30 PM	0	3	4	7	0	32	4	15	1	21	472	43	2	22	301	3	930	3,857	0	0	0	0
4:45 PM	0	3	4	9	0	32	2	14	1	33	496	36	3	27	284	1	945	3,889	0	0	0	1
5:00 PM	0	4	2	15	0	27	4	14	0	25	536	43	1	26	312	1	1,010	3,833	0	0	0	0
5:15 PM	0	4	2	11	0	25	9	12	0	13	482	41	1	35	335	2	972		0	0	0	0
5:30 PM	0	2	4	10	0	27	5	9	0	15	519	34	0	26	306	5	962		0	0	0	0
5:45 PM	0	4	6	10	0	28	4	14	0	25	457	40	1	32	266	2	889		0	0	0	0

Peak Rolling Hour Flow Rates

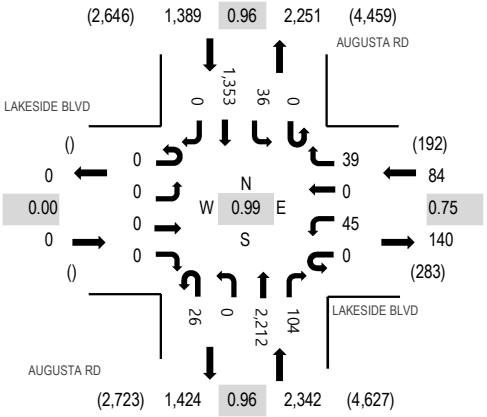
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	2	0	0	0	0	32	1	0	0	43	0	78
Lights	0	13	12	44	0	109	20	49	1	86	1,988	153	5	114	1,171	9	3,774
Mediums	0	0	0	1	0	0	0	0	0	0	13	0	0	0	23	0	37
Total	0	13	12	45	0	111	20	49	1	86	2,033	154	5	114	1,237	9	3,889

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

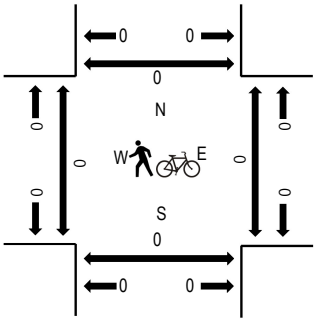
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(303) 216-2439
www.alltrafficdata.net

Location: #2 AUGUSTA RD & LAKESIDE BLVD PM
Date: Tuesday, March 9, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - Motorized Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LAKESIDE BLVD Eastbound				LAKESIDE BLVD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	12	0	13	5	0	552	21	0	7	279	0	889	3,714	0	0	0	0
4:15 PM	0	0	0	0	1	9	0	9	10	0	547	25	1	7	321	0	930	3,784	0	0	0	0
4:30 PM	0	0	0	0	0	11	0	21	11	0	522	30	0	12	329	0	936	3,795	0	0	0	0
4:45 PM	0	0	0	0	0	10	0	10	5	0	580	28	0	9	317	0	959	3,815	0	0	0	0
5:00 PM	0	0	0	0	0	11	0	9	6	0	546	28	0	7	352	0	959	3,751	0	0	0	0
5:15 PM	0	0	0	0	0	10	0	9	8	0	527	25	0	11	351	0	941		0	0	0	0
5:30 PM	0	0	0	0	0	14	0	11	7	0	559	23	0	9	333	0	956		0	0	0	0
5:45 PM	0	0	0	0	1	16	0	15	5	0	528	29	0	10	291	0	895		0	0	0	0

Peak Rolling Hour Flow Rates

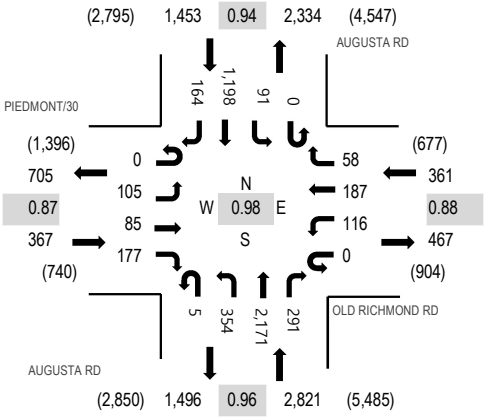
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	35	0	0	0	45	0	80
Lights	0	0	0	0	0	42	0	39	26	0	2,163	104	0	36	1,284	0	3,694
Mediums	0	0	0	0	0	3	0	0	0	0	14	0	0	0	24	0	41
Total	0	0	0	0	0	45	0	39	26	0	2,212	104	0	36	1,353	0	3,815

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

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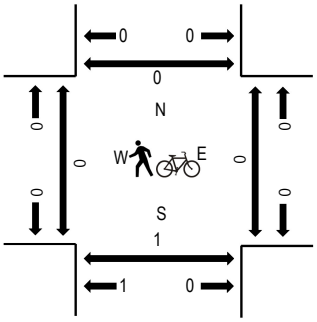
Location: #3 AUGUSTA RD & OLD RICHMOND RD PM
Date: Tuesday, March 9, 2021
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	PIEDMONT/30 Eastbound				OLD RICHMOND RD Westbound				AUGUSTA RD Northbound				AUGUSTA RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	40	16	35	0	30	31	14	0	111	471	84	1	23	249	33	1,138	4,695	0	0	0	0
4:15 PM	0	29	26	39	0	28	48	14	4	70	510	65	1	20	290	46	1,190	4,833	0	0	0	2
4:30 PM	0	28	30	33	0	24	34	14	0	79	526	72	0	10	298	55	1,203	4,907	0	0	0	0
4:45 PM	0	39	22	36	0	29	36	14	0	109	512	51	0	18	259	39	1,164	4,957	0	0	0	0
5:00 PM	0	25	13	43	0	24	49	8	1	83	566	77	0	20	318	49	1,276	5,002	0	0	1	0
5:15 PM	0	33	14	50	0	37	50	16	2	107	523	67	0	24	297	44	1,264		0	0	0	0
5:30 PM	0	21	35	55	0	34	50	16	0	74	511	77	0	23	320	37	1,253		0	0	0	0
5:45 PM	0	26	23	29	0	21	38	18	2	90	571	70	0	24	263	34	1,209		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	3	39	0	0	0	41	0	84
Lights	0	105	85	172	0	110	186	58	5	344	2,118	288	0	89	1,132	161	4,853
Mediums	0	0	0	5	0	6	0	0	0	7	14	3	0	2	25	3	65
Total	0	105	85	177	0	116	187	58	5	354	2,171	291	0	91	1,198	164	5,002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Traffic Volume Development

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

INTERSECTION VOLUME DEVELOPMENT

GA 21/Augusta Road and Rice Mill Road /Market Boulevard
AM PEAK HOUR

Description	GA 21/Augusta Road Northbound				GA 21/Augusta Road Southbound				Rice Mill Road Eastbound				Market Boulevard Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	23	886	58	4	25	1,742	1	2	10	23	134	0	110	13	18	0
Adjustment Factor*																
Adjusted Volumes																
Volume Balancing	1	20	1	0	0	32	0	0	0	0	3	0	2	0	0	0
2021 Existing Traffic	24	906	59	4	25	1,774	1	2	10	23	137	0	112	13	18	0
2021 Existng PHF	0.82	0.81	0.66	0.33	0.57	0.96	0.25	0.50	0.63	0.58	0.82	0.90	0.89	0.65	0.56	0.90
2023 PHF	0.82	0.81	0.66	0.33	0.57	0.95	0.25	0.50	0.63	0.58	0.82	0.90	0.89	0.65	0.56	0.90
2021 Existing Heavy Vehicle %	13%	16%	5%	2%	2%	5%	2%	2%	2%	9%	2%	2%	9%	2%	6%	2%
2023 Build Heavy Vehicle %	13%	16%	5%	2%	2%	5%	2%	2%	2%	9%	2%	2%	9%	2%	6%	2%
Annual Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Background Traffic	25	943	61	4	26	1,846	1	2	10	24	143	0	117	14	19	0
2029 Background Traffic	28	1,062	69	5	29	2,079	1	2	12	27	161	0	131	15	21	0
Percent Inbound Assignment (Passenger Cars)	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Passenger Cars)	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Passenger Cars	0	47	0	0	0	209	0	0	0	0	0	0	0	0	0	0
Percent Inbound Assignment (Trucks)	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Trucks)	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Trucks	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
Total Project Trips (Balanced)	0	51	0	0	0	213	0	0	0	0	0	0	0	0	0	0
2023 Buildout Total	25	994	61	4	26	2,059	1	2	10	24	143	0	117	14	19	0
2029 Buildout Total	28	1,113	69	4	29	2,292	1	2	12	27	161	0	131	15	21	0

*Traffic volumes adjusted to account for the influence of COVID-19 on travel patterns and based on count data at adjacent intersections

PM PEAK HOUR

Description	GA 21/Augusta Road Northbound				GA 21/Augusta Road Southbound				Rice Mill Road Eastbound				Market Boulevard Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	86	2,057	155	1	114	1,252	9	5	13	12	45	0	111	20	49	0
Adjustment Factor*																
Adjusted Volumes																
Volume Balancing	0	0	0	0	0	21	0	0	0	0	1	0	2	0	0	0
2021 Existing Traffic	86	2,057	155	1	114	1,273	9	5	13	12	46	0	113	20	49	0
2021 Existng PHF	0.65	0.95	0.88	0.25	0.81	0.92	0.45	0.42	0.81	0.75	0.75	0.90	0.87	0.56	0.88	0.90
2023 PHF	0.65	0.95	0.88	0.25	0.81	0.92	0.45	0.42	0.81	0.75	0.75	0.90	0.87	0.56	0.88	0.90
2021 Existing Heavy Vehicle %	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Build Heavy Vehicle %	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Annual Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Background Traffic	89	2,140	161	1	119	1,324	9	5	14	12	48	0	118	21	51	0
2029 Background Traffic	101	2,410	182	1	134	1,492	11	6	15	14	54	0	132	23	57	0
Percent Inbound Assignment (Passenger Cars)	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Passenger Cars)	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Passenger Cars	0	188	0	0	0	44	0	0	0	0	0	0	0	0	0	0
Percent Inbound Assignment (Trucks)	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Trucks)	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Trucks	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0
Total Project Trips (Balanced)	0	194	0	0	0	50	0	0	0	0	0	0	0	0	0	0
2023 Buildout Total	89	2,334	161	1	119	1,374	9	5	14	12	48	0	118	21	51	0
2029 Buildout Total	101	2,604	182	1	134	1,542	11	6	15	14	54	0	132	23	57	0

*Traffic volumes adjusted to account for the influence of COVID-19 on travel patterns and based on count data at adjacent intersections

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

INTERSECTION VOLUME DEVELOPMENT

GA 21/Augusta Road and Site Access/Lakeside Boulevard
AM PEAK HOUR

Description	GA 21/Augusta Road Northbound				GA 21/Augusta Road Southbound				Site Access Eastbound				Lakeside Boulevard Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	0	963	65	32	4	2,023	0	0	0	0	0	0	103	0	30	0
Adjustment Factor*																
Adjusted Volumes																
Volume Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021 Existing Traffic	0	963	65	32	4	2,023	0	0	0	0	0	0	103	0	30	0
2021 Existng PHF	0.90	0.89	0.81	0.73	0.50	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.90	0.68	0.90
2023 PHF	0.90	0.89	0.81	0.73	0.50	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.90	0.68	0.90
2021 Existing Heavy Vehicle %	2%	15%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%
2023 Build Heavy Vehicle %	16%	15%	5%	2%	2%	5%	4%	2%	10%	2%	42%	2%	2%	2%	3%	2%
Annual Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Background Traffic	0	1,002	68	33	4	2,105	0	0	0	0	0	0	107	0	31	0
2029 Background Traffic	0	1,128	76	37	5	2,370	0	0	0	0	0	0	121	0	35	0
Percent Inbound Assignment (Passenger Cars)	70%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Passenger Cars)	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	70%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Passenger Cars	487	0	0	0	0	0	209	0	47	0	108	0	0	0	0	0
Percent Inbound Assignment (Trucks)	95%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Trucks)	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	95%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Trucks	82	0	0	0	0	0	4	0	4	0	75	0	0	0	0	0
Total Project Trips (Balanced)	569	0	0	0	0	0	213	0	51	0	183	0	0	0	0	0
2023 Buildout Total	569	1,002	68	33	4	2,105	213	0	51	0	183	0	107	0	31	0
2029 Buildout Total	569	1,128	76	37	5	2,370	213	0	51	0	183	0	121	0	35	0

*Traffic volumes adjusted to account for the influence of COVID-19 on travel patterns and based on count data at adjacent intersections

PM PEAK HOUR

Description	GA 21/Augusta Road Northbound				GA 21/Augusta Road Southbound				Site Access Eastbound				Lakeside Boulevard Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	0	2,239	104	26	36	1,369	0	0	0	0	0	0	45	0	39	0
Adjustment Factor*																
Adjusted Volumes																
Volume Balancing	0	20	0	0	0	28	0	0	0	0	0	0	2	0	1	0
2021 Existing Traffic	0	2,259	104	26	36	1,397	0	0	0	0	0	0	47	0	40	0
2021 Existng PHF	0.90	0.95	0.93	0.81	0.82	0.96	0.90	0.90	0.90	0.90	0.90	0.90	0.80	0.90	0.89	0.90
2023 PHF	0.90	0.95	0.93	0.81	0.82	0.96	0.90	0.90	0.90	0.90	0.90	0.90	0.80	0.90	0.89	0.90
2021 Existing Heavy Vehicle %	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	2%	2%	7%	2%	2%	2%
2023 Build Heavy Vehicle %	56%	2%	2%	2%	2%	5%	14%	2%	5%	2%	22%	2%	7%	2%	2%	2%
Annual Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Background Traffic	0	2,350	108	27	37	1,453	0	0	0	0	0	0	49	0	42	0
2029 Background Traffic	0	2,647	122	30	42	1,637	0	0	0	0	0	0	55	0	47	0
Percent Inbound Assignment (Passenger Cars)	70%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Passenger Cars)	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	70%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Passenger Cars	102	0	0	0	0	0	44	0	188	0	437	0	0	0	0	0
Percent Inbound Assignment (Trucks)	95%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Trucks)	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	95%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Trucks	123	0	0	0	0	0	6	0	6	0	113	0	0	0	0	0
Total Project Trips (Balanced)	225	0	0	0	0	0	50	0	194	0	550	0	0	0	0	0
2023 Buildout Total	225	2,350	108	27	37	1,453	50	0	194	0	550	0	49	0	42	0
2029 Buildout Total	225	2,647	122	30	42	1,637	50	0	194	0	550	0	55	0	47	0

*Traffic volumes adjusted to account for the influence of COVID-19 on travel patterns and based on count data at adjacent intersections

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

INTERSECTION VOLUME DEVELOPMENT

GA 21/Augusta Road and GA 30/Piedmont Avenue/Old Richmond Road
AM PEAK HOUR

Description	GA 21/Augusta Road Northbound				GA 21/Augusta Road Southbound				GA 30/Piedmont Avenue Eastbound				Old Richmond Road Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	108	900	44	6	17	2,034	87	2	115	29	866	0	92	13	11	0
Adjustment Factor*																
Adjusted Volumes																
Volume Balancing	0	25	0	0	0	17	1	0	4	0	0	0	0	0	3	0
2021 Existing Traffic	108	925	44	6	17	2,051	88	2	119	29	866	0	92	13	14	0
2021 Existng PHF	0.77	0.90	0.65	0.50	0.71	0.92	0.87	0.50	0.93	0.66	0.92	0.90	0.72	0.65	0.55	0.90
2023 PHF	0.77	0.90	0.65	0.50	0.71	0.92	0.88	0.50	0.91	0.66	0.92	0.90	0.72	0.65	0.55	0.90
2021 Existing Heavy Vehicle %	14%	17%	16%	2%	18%	4%	5%	50%	2%	2%	2%	2%	2%	2%	9%	2%
2023 Build Heavy Vehicle %	14%	19%	16%	2%	18%	7%	4%	50%	2%	2%	2%	2%	2%	2%	9%	2%
Annual Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Background Traffic	112	962	46	6	18	2,134	92	2	124	30	901	0	96	14	15	0
2029 Background Traffic	127	1,084	52	7	20	2,403	103	2	139	34	1,015	0	108	15	16	0
Percent Inbound Assignment (Passenger Cars)	0%	40%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Passenger Cars)	0%	0%	0%	0%	0%	40%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Passenger Cars	0	278	0	0	0	61	47	0	209	0	0	0	0	0	0	0
Percent Inbound Assignment (Trucks)	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Trucks)	0%	0%	0%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Trucks	0	82	0	0	0	75	0	0	0	0	0	0	0	0	0	0
Total Project Trips (Balanced)	0	360	0	0	0	136	47	0	209	0	0	0	0	0	0	0
2023 Buildout Total	112	1,322	46	6	18	2,270	139	2	333	30	901	0	96	14	15	0
2029 Buildout Total	127	1,444	52	7	20	2,539	150	2	348	34	1,015	0	108	15	16	0

*Traffic volumes adjusted to account for the influence of COVID-19 on travel patterns and based on count data at adjacent intersections

PM PEAK HOUR

Description	GA 21/Augusta Road Northbound				GA 21/Augusta Road Southbound				GA 30/Piedmont Avenue Eastbound				Old Richmond Road Westbound			
	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn	Left	Through	Right	U-turn
Observed Volumes	358	2,197	295	5	91	1,213	166	0	105	85	180	0	116	190	58	0
Adjustment Factor*																
Adjusted Volumes																
Volume Balancing	0	27	0	0	0	0	0	0	2	0	0	0	0	0	0	0
2021 Existing Traffic	358	2,224	295	5	91	1,213	166	0	107	85	180	0	116	190	58	0
2021 Existng PHF	0.83	0.95	0.95	0.63	0.95	0.94	0.83	0.90	0.80	0.61	0.80	0.90	0.78	0.93	0.81	0.90
2023 PHF	0.83	0.95	0.95	0.63	0.95	0.93	0.87	0.90	0.83	0.61	0.80	0.90	0.78	0.93	0.81	0.90
2021 Existing Heavy Vehicle %	3%	2%	2%	2%	2%	5%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
2023 Build Heavy Vehicle %	3%	7%	2%	2%	2%	11%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Annual Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2023 Background Traffic	372	2,314	307	5	95	1,262	173	0	111	88	187	0	121	198	60	0
2029 Background Traffic	419	2,606	346	6	107	1,421	194	0	125	100	211	0	136	223	68	0
Percent Inbound Assignment (Passenger Cars)	0%	40%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Passenger Cars)	0%	0%	0%	0%	0%	40%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Passenger Cars	0	58	0	0	0	249	188	0	44	0	0	0	0	0	0	0
Percent Inbound Assignment (Trucks)	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Percent Outbound Assignment (Trucks)	0%	0%	0%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Calculated) - Trucks	0	123	0	0	0	113	0	0	0	0	0	0	0	0	0	0
Total Project Trips (Balanced)	0	181	0	0	0	362	188	0	44	0	0	0	0	0	0	0
2023 Buildout Total	372	2,495	307	5	95	1,624	361	0	155	88	187	0	121	198	60	0
2029 Buildout Total	419	2,787	346	6	107	1,783	382	0	169	100	211	0	136	223	68	0

*Traffic volumes adjusted to account for the influence of COVID-19 on travel patterns and based on count data at adjacent intersections

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Intersection Capacity Analysis

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2021 Existing Conditions

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2021 Existing AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	207	126	20	32	34	1119	89	48	1848	4
v/c Ratio	0.14	0.84	2.57	0.13	0.15	0.17	0.51	0.08	0.12	0.74	0.00
Control Delay	62.2	56.0	786.8	61.2	1.4	6.6	8.0	1.5	3.6	14.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	56.0	786.8	61.2	1.4	6.6	8.0	1.5	3.6	14.9	0.0
Queue Length 50th (ft)	14	82	~191	17	0	4	128	0	7	570	0
Queue Length 95th (ft)	27	65	#323	32	0	m10	184	9	9	671	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	118	245	49	159	216	230	2189	1110	437	2504	1179
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.84	2.57	0.13	0.15	0.15	0.51	0.08	0.11	0.74	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

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HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2021 Existing AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	23	137	112	13	18	4	24	906	59	2	25
Future Volume (veh/h)	10	23	137	112	13	18	4	24	906	59	2	25
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1767	1767	1767	1870	1811		1707	1663	1826		1870
Adj Flow Rate, veh/h	16	40	0	126	20	0		29	1119	0		44
Peak Hour Factor	0.63	0.58	0.82	0.89	0.65	0.56		0.82	0.81	0.66		0.57
Percent Heavy Veh, %	2	9	9	9	2	6		13	16	5		2
Cap, veh/h	157	151		135	160			212	2185			419
Arrive On Green	0.09	0.09	0.00	0.09	0.09	0.00		0.05	0.69	0.00		0.06
Sat Flow, veh/h	1392	1767	0	1291	1870	1535		1626	3159	1547		1781
Grp Volume(v), veh/h	16	40	0	126	20	0		29	1119	0		44
Grp Sat Flow(s),veh/h/ln	1392	1767	0	1291	1870	1535		1626	1580	1547		1781
Q Serve(g_s), s	1.5	3.0	0.0	9.0	1.4	0.0		0.6	23.7	0.0		0.9
Cycle Q Clear(g_c), s	2.9	3.0	0.0	12.0	1.4	0.0		0.6	23.7	0.0		0.9
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	157	151		135	160			212	2185			419
V/C Ratio(X)	0.10	0.26		0.93	0.12			0.14	0.51			0.11
Avail Cap(c_a), veh/h	157	151		135	160			279	2185			473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	60.5	59.9	0.0	67.0	59.1	0.0		13.7	10.3	0.0		6.7
Incr Delay (d2), s/veh	0.3	0.9	0.0	57.9	0.3	0.0		0.3	0.9	0.0		0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	0.0	6.7	0.7	0.0		0.3	7.2	0.0		0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	60.8	0.0	124.9	59.5	0.0		14.0	11.2	0.0		6.8
LnGrp LOS	E	E		F	E			B	B			A
Approach Vol, veh/h		56	A		146	A			1148	A		
Approach Delay, s/veh		60.8			115.9				11.3			
Approach LOS		E			F				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.3	105.7		20.0	15.7	104.3		20.0				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	12.5	92.5		12.0	12.5	92.5		12.0				
Max Q Clear Time (g_c+I1), s	2.6	49.6		5.0	2.9	25.7		14.0				
Green Ext Time (p_c), s	0.0	42.3		0.1	0.0	51.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		19.2
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2021 Existing AM

Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (veh/h)	1774	1
Future Volume (veh/h)	1774	1
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	1848	0
Peak Hour Factor	0.96	0.25
Percent Heavy Veh, %	5	2
Cap, veh/h	2434	
Arrive On Green	0.70	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	1848	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	47.6	0.0
Cycle Q Clear(g_c), s	47.6	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2434	
V/C Ratio(X)	0.76	
Avail Cap(c_a), veh/h	2434	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	13.3	0.0
Incr Delay (d2), s/veh	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.8	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	15.6	0.0
LnGrp LOS	B	
Approach Vol, veh/h	1892	A
Approach Delay, s/veh	15.4	
Approach LOS	B	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Intersection	
Int Delay, s/veh	23.7

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	103	30	32	963	65	4	2023
Future Vol, veh/h	103	30	32	963	65	4	2023
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	Free	-	None
Storage Length	0	0	400	-	375	450	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	68	73	89	81	50	95
Heavy Vehicles, %	2	3	2	15	5	2	5
Mvmt Flow	112	44	44	1082	80	8	2129

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2251	541	2129	0	-	1082	0
Stage 1	1170	-	-	-	-	-	-
Stage 2	1081	-	-	-	-	-	-
Critical Hdwy	6.84	6.96	6.44	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.33	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	~ 35	483	61	-	0	640	-
Stage 1	257	-	-	-	0	-	-
Stage 2	287	-	-	-	0	-	-
Platoon blocked, %				-			-
Mov Cap-1 Maneuver	~ 10	483	61	-	-	640	-
Mov Cap-2 Maneuver	~ 54	-	-	-	-	-	-
Stage 1	~ 72	-	-	-	-	-	-
Stage 2	284	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s$	477.4	5.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	61	-	54	483	640	-
HCM Lane V/C Ratio	0.719	-	2.073	0.091	0.013	-
HCM Control Delay (s)	152.7	-	$ 660.3	13.2	10.7	-
HCM Lane LOS	F	-	F	B	B	-
HCM 95th %tile Q(veh)	3.1	-	11	0.3	0	-

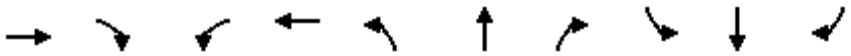
Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2021 Existing AM



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	941	128	45	152	1028	68	28	2229	101
v/c Ratio	0.35	1.39	0.31	0.08	0.64	0.70	0.09	0.37	1.58	0.15
Control Delay	36.3	212.6	35.7	17.0	74.6	33.4	0.2	65.0	293.5	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	212.6	35.7	17.0	74.6	33.4	0.2	65.0	293.5	12.2
Queue Length 50th (ft)	116	~1023	85	12	70	403	0	25	~1512	13
Queue Length 95th (ft)	126	#1283	109	25	90	512	0	m34	m#1593	m33
Internal Link Dist (ft)	546			1558		3417			6441	
Turn Bay Length (ft)		250	225		325			400		375
Base Capacity (vph)	490	678	417	592	283	1467	742	252	1414	687
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.39	0.31	0.08	0.54	0.70	0.09	0.11	1.58	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2021 Existing AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	119	29	866	92	13	14	6	108	925	44	2	17
Future Volume (veh/h)	119	29	866	92	13	14	6	108	925	44	2	17
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1693	1648	1663		1633
Adj Flow Rate, veh/h	128	44	0	128	20	0		140	1028	0		24
Peak Hour Factor	0.93	0.66	0.92	0.72	0.65	0.55		0.77	0.90	0.65		0.71
Percent Heavy Veh, %	2	2	2	2	2	2		14	17	16		18
Cap, veh/h	190	50		247	263			184	2083			56
Arrive On Green	0.14	0.14	0.00	0.14	0.14	0.00		0.06	0.67	0.00		0.04
Sat Flow, veh/h	1035	356	1585	1362	1870	0		3127	3131	1409		1555
Grp Volume(v), veh/h	172	0	0	128	20	0		140	1028	0		24
Grp Sat Flow(s),veh/h/ln	1391	0	1585	1362	1870	0		1564	1566	1409		1555
Q Serve(g_s), s	15.9	0.0	0.0	0.0	1.3	0.0		6.2	22.9	0.0		2.1
Cycle Q Clear(g_c), s	17.2	0.0	0.0	12.2	1.3	0.0		6.2	22.9	0.0		2.1
Prop In Lane	0.74		1.00	1.00		0.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	240	0		247	263			184	2083			56
V/C Ratio(X)	0.72	0.00		0.52	0.08			0.76	0.49			0.43
Avail Cap(c_a), veh/h	552	0		532	655			286	2083			252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	59.7	0.0	0.0	56.9	52.3	0.0		64.9	11.7	0.0		66.1
Incr Delay (d2), s/veh	3.9	0.0	0.0	1.7	0.1	0.0		2.4	0.8	0.0		2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	4.5	0.6	0.0		2.5	7.5	0.0		0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.0	0.0	58.6	52.4	0.0		67.3	12.5	0.0		68.1
LnGrp LOS	E	A		E	D			E	B			E
Approach Vol, veh/h		172	A		148	A			1168	A		
Approach Delay, s/veh		63.7			57.8				19.1			
Approach LOS		E			E				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	95.9		28.7	11.3	100.0		28.7				
Change Period (Y+Rc), s	7.2	6.9		9.0	* 6.3	6.9		9.0				
Max Green Setting (Gmax), s	12.8	55.1		49.0	* 23	46.1		49.0				
Max Q Clear Time (g_c+I1), s	8.2	91.0		19.2	4.1	24.9		14.2				
Green Ext Time (p_c), s	0.1	0.0		0.5	0.0	17.8		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		38.6
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2021 Existing AM

Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (veh/h)	2051	88
Future Volume (veh/h)	2051	88
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1841	1826
Adj Flow Rate, veh/h	2229	0
Peak Hour Factor	0.92	0.87
Percent Heavy Veh, %	4	5
Cap, veh/h	2223	
Arrive On Green	0.64	0.00
Sat Flow, veh/h	3497	1547
Grp Volume(v), veh/h	2229	0
Grp Sat Flow(s),veh/h/ln	1749	1547
Q Serve(g_s), s	89.0	0.0
Cycle Q Clear(g_c), s	89.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2223	
V/C Ratio(X)	1.00	
Avail Cap(c_a), veh/h	2223	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	25.5	0.0
Incr Delay (d2), s/veh	19.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.5	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	45.3	0.0
LnGrp LOS	F	
Approach Vol, veh/h	2253	A
Approach Delay, s/veh	45.5	
Approach LOS	D	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2021 Existing PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	77	130	36	56	136	2165	176	153	1384	20
v/c Ratio	0.09	0.28	0.73	0.14	0.19	0.45	1.02	0.18	0.66	0.65	0.02
Control Delay	52.3	19.4	81.5	53.5	3.8	14.4	35.9	2.7	47.5	20.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	19.4	81.5	53.5	3.8	14.4	35.9	2.7	47.5	20.9	0.0
Queue Length 50th (ft)	13	13	120	30	0	20	~1161	21	87	408	0
Queue Length 95th (ft)	32	41	176	38	10	m3	m860	m26	143	614	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	395	518	381	539	522	304	2131	1000	234	2127	1015
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.15	0.34	0.07	0.11	0.45	1.02	0.18	0.65	0.65	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2021 Existing PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	13	12	46	113	20	49	1	86	2057	155	5	114
Future Volume (veh/h)	13	12	46	113	20	49	1	86	2057	155	5	114
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	16	16	0	130	36	0		132	2165	0		141
Peak Hour Factor	0.81	0.75	0.75	0.87	0.56	0.88		0.65	0.95	0.88		0.81
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	185	217		201	217			339	2333			194
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.00		0.07	0.66	0.00		0.07
Sat Flow, veh/h	1372	1870	0	1397	1870	1585		1781	3554	1585		1781
Grp Volume(v), veh/h	16	16	0	130	36	0		132	2165	0		141
Grp Sat Flow(s),veh/h/ln	1372	1870	0	1397	1870	1585		1781	1777	1585		1781
Q Serve(g_s), s	1.5	1.1	0.0	13.3	2.5	0.0		3.2	77.7	0.0		5.3
Cycle Q Clear(g_c), s	4.1	1.1	0.0	14.4	2.5	0.0		3.2	77.7	0.0		5.3
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	185	217		201	217			339	2333			194
V/C Ratio(X)	0.09	0.07		0.65	0.17			0.39	0.93			0.73
Avail Cap(c_a), veh/h	423	542		444	542			346	2333			201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	59.6	57.1	0.0	63.5	57.7	0.0		11.6	21.9	0.0		42.3
Incr Delay (d2), s/veh	0.2	0.1	0.0	3.4	0.4	0.0		0.7	8.0	0.0		12.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	0.5	0.0	5.0	1.2	0.0		1.1	29.9	0.0		5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	57.3	0.0	67.0	58.1	0.0		12.3	29.9	0.0		54.3
LnGrp LOS	E	E		E	E			B	C			D
Approach Vol, veh/h		32	A		166	A			2297	A		
Approach Delay, s/veh		58.5			65.0				28.9			
Approach LOS		E			E				C			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	102.7		24.9	17.5	102.7		24.9				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	10.5	69.5		42.0	10.5	69.5		42.0				
Max Q Clear Time (g_c+I1), s	5.2	35.1		6.1	7.3	79.7		16.4				
Green Ext Time (p_c), s	0.1	32.2		0.1	0.1	0.0		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		26.9	
HCM 6th LOS		C	

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2021 Existing PM



Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (veh/h)	1273	9
Future Volume (veh/h)	1273	9
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	1384	0
Peak Hour Factor	0.92	0.45
Percent Heavy Veh, %	5	2
Cap, veh/h	2278	
Arrive On Green	0.66	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	1384	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	33.1	0.0
Cycle Q Clear(g_c), s	33.1	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2278	
V/C Ratio(X)	0.61	
Avail Cap(c_a), veh/h	2278	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	14.2	0.0
Incr Delay (d2), s/veh	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	15.4	0.0
LnGrp LOS	B	
Approach Vol, veh/h	1525	A
Approach Delay, s/veh	19.0	
Approach LOS	B	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Intersection	
Int Delay, s/veh	10.6

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	47	40	26	2259	104	36	1397
Future Vol, veh/h	47	40	26	2259	104	36	1397
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	Free	-	None
Storage Length	0	0	400	-	375	450	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	80	89	81	95	93	82	96
Heavy Vehicles, %	7	2	2	2	2	2	5
Mvmt Flow	59	45	32	2378	112	44	1455

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	3258	1189	1455	0	-	2378	0
Stage 1	2442	-	-	-	-	-	-
Stage 2	816	-	-	-	-	-	-
Critical Hdwy	6.94	6.94	6.44	-	-	4.14	-
Critical Hdwy Stg 1	5.94	-	-	-	-	-	-
Critical Hdwy Stg 2	5.94	-	-	-	-	-	-
Follow-up Hdwy	3.57	3.32	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	~ 6	180	169	-	0	201	-
Stage 1	~ 48	-	-	-	0	-	-
Stage 2	383	-	-	-	0	-	-
Platoon blocked, %				-			-
Mov Cap-1 Maneuver	~ 4	180	169	-	-	201	-
Mov Cap-2 Maneuver	~ 32	-	-	-	-	-	-
Stage 1	~ 39	-	-	-	-	-	-
Stage 2	299	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 389.7	0.4	0.8
HCM LOS	F		

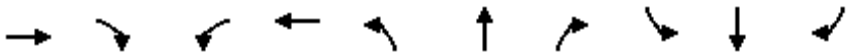
Minor Lane/Major Mvmt	NBU	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	169	-	32	180	201	-
HCM Lane V/C Ratio	0.19	-	1.836	0.25	0.218	-
HCM Control Delay (s)	31.2	-	$ 663.8	31.5	27.8	-
HCM Lane LOS	D	-	F	D	D	-
HCM 95th %tile Q(veh)	0.7	-	6.7	0.9	0.8	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive
2021 Existing PM



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	273	225	149	276	439	2341	311	96	1290	200
v/c Ratio	0.98	0.37	0.65	0.54	0.93	1.36	0.37	0.68	0.89	0.26
Control Delay	99.7	6.3	60.1	46.1	88.7	198.1	16.2	80.6	43.5	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.7	6.3	60.1	46.1	88.7	198.1	16.2	80.6	43.5	8.3
Queue Length 50th (ft)	251	0	122	207	214	~1556	110	81	629	54
Queue Length 95th (ft)	221	37	170	301	#277	#1746	198	m126	m#747	m70
Internal Link Dist (ft)	546			1558		3417			6441	
Turn Bay Length (ft)		250	225		325			400		375
Base Capacity (vph)	295	627	241	539	472	1719	831	203	1449	781
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.36	0.62	0.51	0.93	1.36	0.37	0.47	0.89	0.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary — Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive — 2021 Existing PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	107	85	180	116	190	58	5	358	2224	295	91	1213
Future Volume (veh/h)	107	85	180	116	190	58	5	358	2224	295	91	1213
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1870	1870		1856	1870	1870	1870	1826
Adj Flow Rate, veh/h	134	139	0	149	204	0		431	2341	0	96	1290
Peak Hour Factor	0.80	0.61	0.80	0.78	0.93	0.81		0.83	0.95	0.95	0.95	0.94
Percent Heavy Veh, %	2	2	2	5	2	2		3	2	2	2	5
Cap, veh/h	179	149		311	535			468	1754		120	1450
Arrive On Green	0.29	0.29	0.00	0.29	0.29	0.00		0.14	0.49	0.00	0.07	0.42
Sat Flow, veh/h	495	521	1585	1220	1870	0		3428	3554	1585	1781	3469
Grp Volume(v), veh/h	273	0	0	149	204	0		431	2341	0	96	1290
Grp Sat Flow(s),veh/h/ln	1016	0	1585	1220	1870	0		1714	1777	1585	1781	1735
Q Serve(g_s), s	26.7	0.0	0.0	0.0	12.7	0.0		18.0	71.6	0.0	7.7	50.0
Cycle Q Clear(g_c), s	39.3	0.0	0.0	20.6	12.7	0.0		18.0	71.6	0.0	7.7	50.0
Prop In Lane	0.49		1.00	1.00		0.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	328	0		311	535			468	1754		120	1450
V/C Ratio(X)	0.83	0.00		0.48	0.38			0.92	1.33		0.80	0.89
Avail Cap(c_a), veh/h	343	0		324	555			468	1754		205	1450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	0.0	44.3	41.5	0.0		61.8	36.7	0.0	66.7	39.1
Incr Delay (d2), s/veh	15.5	0.0	0.0	1.1	0.4	0.0		23.1	154.6	0.0	4.6	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.0	4.8	6.0	0.0		9.2	66.8	0.0	3.6	22.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	0.0	0.0	45.5	41.9	0.0		84.9	191.4	0.0	71.3	47.6
LnGrp LOS	E	A		D	D			F	F		E	D
Approach Vol, veh/h		273	A		353	A			2772	A		1386
Approach Delay, s/veh		72.5			43.4				174.8			49.3
Approach LOS		E			D				F			D

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.0	67.5		50.5	16.0	78.5		50.5				
Change Period (Y+Rc), s	7.2	6.9		9.0	* 6.3	6.9		9.0				
Max Green Setting (Gmax), s	19.8	59.1		43.0	* 17	63.1		43.0				
Max Q Clear Time (g_c+I1), s	20.0	52.0		41.3	9.7	73.6		22.6				
Green Ext Time (p_c), s	0.0	6.8		0.2	0.0	0.0		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		122.9
HCM 6th LOS		F

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2021 Existing PM



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	166
Future Volume (veh/h)	166
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	0
Peak Hour Factor	0.83
Percent Heavy Veh, %	2
Cap, veh/h	
Arrive On Green	0.00
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	A
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

2029 Background Conditions

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Background AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	243	147	23	38	39	1311	105	55	2166	4
v/c Ratio	0.16	0.99	3.00	0.14	0.18	0.24	0.60	0.09	0.16	0.90	0.00
Control Delay	62.9	87.9	972.5	61.7	1.8	17.6	10.7	2.8	4.1	24.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	87.9	972.5	61.7	1.8	17.6	10.7	2.8	4.1	24.2	0.0
Queue Length 50th (ft)	16	120	~231	20	0	9	195	1	9	835	0
Queue Length 95th (ft)	30	91	#371	36	0	m20	234	m9	10	990	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	118	245	49	159	216	192	2189	1113	372	2418	1142
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.99	3.00	0.14	0.18	0.20	0.60	0.09	0.15	0.90	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Background AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	12	27	161	131	15	21	4	28	1062	69	2	29
Future Volume (veh/h)	12	27	161	131	15	21	4	28	1062	69	2	29
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1767	1767	1767	1870	1811		1707	1663	1826		1870
Adj Flow Rate, veh/h	19	47	0	147	23	0		34	1311	0		51
Peak Hour Factor	0.63	0.58	0.82	0.89	0.65	0.56		0.82	0.81	0.66		0.57
Percent Heavy Veh, %	2	9	9	9	2	6		13	16	5		2
Cap, veh/h	155	151		129	160			169	2175			357
Arrive On Green	0.09	0.09	0.00	0.09	0.09	0.00		0.05	0.69	0.00		0.06
Sat Flow, veh/h	1388	1767	0	1283	1870	1535		1626	3159	1547		1781
Grp Volume(v), veh/h	19	47	0	147	23	0		34	1311	0		51
Grp Sat Flow(s),veh/h/ln	1388	1767	0	1283	1870	1535		1626	1580	1547		1781
Q Serve(g_s), s	1.8	3.5	0.0	8.5	1.6	0.0		0.7	30.9	0.0		1.0
Cycle Q Clear(g_c), s	3.4	3.5	0.0	12.0	1.6	0.0		0.7	30.9	0.0		1.0
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	155	151		129	160			169	2175			357
V/C Ratio(X)	0.12	0.31		1.14	0.14			0.20	0.60			0.14
Avail Cap(c_a), veh/h	155	151		129	160			229	2175			407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	60.8	60.1	0.0	67.4	59.2	0.0		26.7	11.6	0.0		8.4
Incr Delay (d2), s/veh	0.4	1.2	0.0	120.5	0.4	0.0		0.6	1.2	0.0		0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.7	1.6	0.0	9.0	0.8	0.0		0.7	9.5	0.0		0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	61.3	0.0	187.9	59.6	0.0		27.3	12.9	0.0		8.6
LnGrp LOS	E	E		F	E			C	B			A
Approach Vol, veh/h		66	A		170	A			1345	A		
Approach Delay, s/veh		61.2			170.6				13.2			
Approach LOS		E			F				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	105.2		20.0	16.1	103.9		20.0				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	12.5	92.5		12.0	12.5	92.5		12.0				
Max Q Clear Time (g_c+I1), s	2.7	72.4		5.5	3.0	32.9		14.0				
Green Ext Time (p_c), s	0.0	20.1		0.1	0.0	52.2		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Background AM

Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (veh/h)	2079	1
Future Volume (veh/h)	2079	1
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	2166	0
Peak Hour Factor	0.96	0.25
Percent Heavy Veh, %	5	2
Cap, veh/h	2420	
Arrive On Green	0.70	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	2166	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	70.4	0.0
Cycle Q Clear(g_c), s	70.4	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2420	
V/C Ratio(X)	0.89	
Avail Cap(c_a), veh/h	2420	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	17.0	0.0
Incr Delay (d2), s/veh	5.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	22.7	0.0
LnGrp LOS	C	
Approach Vol, veh/h	2217	A
Approach Delay, s/veh	22.4	
Approach LOS	C	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	121	35	37	1128	76	5	2370
Future Vol, veh/h	121	35	37	1128	76	5	2370
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	Free	-	None
Storage Length	0	0	400	-	375	450	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	68	73	89	81	50	95
Heavy Vehicles, %	2	3	2	15	5	2	5
Mvmt Flow	132	51	51	1267	94	10	2495

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2637	634	2495	0	-	1267	0
Stage 1	1369	-	-	-	-	-	-
Stage 2	1268	-	-	-	-	-	-
Critical Hdwy	6.84	6.96	6.44	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.33	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	~ 19	419	~ 35	-	0	544	-
Stage 1	201	-	-	-	0	-	-
Stage 2	228	-	-	-	0	-	-
Platoon blocked, %				-			-
Mov Cap-1 Maneuver	0	419	~ 35	-	-	544	-
Mov Cap-2 Maneuver	0	-	-	-	-	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	224	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		18.7	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBU	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	~ 35	-	-	419	544	-
HCM Lane V/C Ratio	1.448	-	-	0.123	0.018	-
HCM Control Delay (s)	$ 486.5	-	-	14.8	11.7	-
HCM Lane LOS	F	-	-	B	B	-
HCM 95th %tile Q(veh)	5.4	-	-	0.4	0.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive
2029 Background AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	149	581	574	150	52	179	1204	80	32	2612	118
v/c Ratio	0.28	1.16	1.06	1.28	0.12	1.19	0.88	0.11	0.58	1.28	0.17
Control Delay	31.2	132.1	93.6	207.1	19.5	189.2	45.0	0.3	71.6	169.0	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	132.1	93.6	207.1	19.5	189.2	45.0	0.3	71.6	169.0	7.3
Queue Length 50th (ft)	88	~617	~515	~118	15	~101	535	0	30	~1101	8
Queue Length 95th (ft)	140	#486	#764	#179	29	#144	#681	0	m33	m#1117	m12
Internal Link Dist (ft)		546			1558		3417			6441	
Turn Bay Length (ft)			250	225		325			400		375
Base Capacity (vph)	538	500	539	117	513	150	1367	696	55	2034	711
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	1.16	1.06	1.28	0.10	1.19	0.88	0.11	0.58	1.28	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary — Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive — 2029 Background AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	139	34	1015	108	15	16	7	127	1084	52	2	20
Future Volume (veh/h)	139	34	1015	108	15	16	7	127	1084	52	2	20
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1693	1648	1663		1633
Adj Flow Rate, veh/h	149	0	0	150	23	0		165	1204	0		28
Peak Hour Factor	0.93	0.66	0.92	0.72	0.65	0.55		0.77	0.90	0.65		0.71
Percent Heavy Veh, %	2	2	2	2	2	2		14	17	16		18
Cap, veh/h	178	0		196	107			152	2098			56
Arrive On Green	0.04	0.00	0.00	0.04	0.06	0.00		0.05	0.67	0.00		0.04
Sat Flow, veh/h	1781	0	3170	1781	1870	0		3127	3131	1409		1555
Grp Volume(v), veh/h	149	0	0	150	23	0		165	1204	0		28
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0		1564	1566	1409		1555
Q Serve(g_s), s	5.0	0.0	0.0	5.0	1.6	0.0		6.8	28.9	0.0		2.5
Cycle Q Clear(g_c), s	5.0	0.0	0.0	5.0	1.6	0.0		6.8	28.9	0.0		2.5
Prop In Lane	1.00		1.00	1.00		0.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	178	0		196	107			152	2098			56
V/C Ratio(X)	0.84	0.00		0.77	0.22			1.09	0.57			0.50
Avail Cap(c_a), veh/h	178	0		196	561			152	2098			56
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	64.2	0.0	0.0	63.4	63.0	0.0		66.6	12.4	0.0		66.3
Incr Delay (d2), s/veh	28.0	0.0	0.0	16.4	1.0	0.0		98.0	1.1	0.0		2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.0	3.8	0.8	0.0		4.7	9.4	0.0		1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.2	0.0	0.0	79.8	64.0	0.0		164.6	13.5	0.0		69.1
LnGrp LOS	F	A		E	E			F	B			E
Approach Vol, veh/h		149	A		173	A			1369	A		
Approach Delay, s/veh		92.2			77.7				31.7			
Approach LOS		F			E				C			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	98.0	11.0	17.0	11.3	100.7	11.0	17.0
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	6.8	57.1	5.0	42.0	* 5	59.8	5.0	42.0
Max Q Clear Time (g_c+I1), s	8.8	54.9	7.0	0.0	4.5	30.9	7.0	3.6
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	25.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Background AM

Movement	SBT	SBR
Lane Configurations	↑↑↑	↱
Traffic Volume (veh/h)	2403	103
Future Volume (veh/h)	2403	103
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1841	1826
Adj Flow Rate, veh/h	2612	0
Peak Hour Factor	0.92	0.87
Percent Heavy Veh, %	4	5
Cap, veh/h	3270	
Arrive On Green	0.65	0.00
Sat Flow, veh/h	5025	1547
Grp Volume(v), veh/h	2612	0
Grp Sat Flow(s),veh/h/ln	1675	1547
Q Serve(g_s), s	52.9	0.0
Cycle Q Clear(g_c), s	52.9	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	3270	
V/C Ratio(X)	0.80	
Avail Cap(c_a), veh/h	3270	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	17.8	0.0
Incr Delay (d2), s/veh	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.8	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	19.9	0.0
LnGrp LOS	B	
Approach Vol, veh/h	2640	A
Approach Delay, s/veh	20.4	
Approach LOS	C	

Timer - Assigned Phs
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Background PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	91	152	41	65	159	2537	207	179	1622	24
v/c Ratio	0.09	0.29	0.76	0.14	0.20	0.61	1.28	0.22	0.64	0.81	0.03
Control Delay	50.0	17.6	80.9	51.1	5.2	44.8	154.4	4.2	46.9	30.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	17.6	80.9	51.1	5.2	44.8	154.4	4.2	46.9	30.1	0.1
Queue Length 50th (ft)	16	16	139	34	0	83	~1632	36	109	621	0
Queue Length 95th (ft)	35	43	198	40	19	m29	m828	m31	170	#948	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	393	526	376	539	522	262	1976	936	278	1994	958
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.17	0.40	0.08	0.12	0.61	1.28	0.22	0.64	0.81	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Background PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	15	14	54	132	23	57	1	101	2410	182	6	134
Future Volume (veh/h)	15	14	54	132	23	57	1	101	2410	182	6	134
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	19	19	0	152	41	0		155	2537	0		165
Peak Hour Factor	0.81	0.75	0.75	0.87	0.56	0.88		0.65	0.95	0.88		0.81
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	206	250		224	250			272	2257			179
Arrive On Green	0.13	0.13	0.00	0.13	0.13	0.00		0.07	0.64	0.00		0.07
Sat Flow, veh/h	1366	1870	0	1393	1870	1585		1781	3554	1585		1781
Grp Volume(v), veh/h	19	19	0	152	41	0		155	2537	0		165
Grp Sat Flow(s),veh/h/ln	1366	1870	0	1393	1870	1585		1781	1777	1585		1781
Q Serve(g_s), s	1.8	1.3	0.0	15.5	2.8	0.0		4.0	92.1	0.0		9.3
Cycle Q Clear(g_c), s	4.6	1.3	0.0	16.8	2.8	0.0		4.0	92.1	0.0		9.3
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	206	250		224	250			272	2257			179
V/C Ratio(X)	0.09	0.08		0.68	0.16			0.57	1.12			0.92
Avail Cap(c_a), veh/h	419	542		441	542			279	2257			179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	57.7	55.0	0.0	62.3	55.6	0.0		21.3	26.5	0.0		52.5
Incr Delay (d2), s/veh	0.2	0.1	0.0	3.6	0.3	0.0		2.6	62.3	0.0		45.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	0.0	5.8	1.4	0.0		2.9	52.7	0.0		8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	55.1	0.0	65.9	55.9	0.0		24.0	88.7	0.0		98.4
LnGrp LOS	E	E		E	E			C	F			F
Approach Vol, veh/h		38	A		193	A			2692	A		
Approach Delay, s/veh		56.5			63.8				85.0			
Approach LOS		E			E				F			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	100.1		27.4	18.0	99.6		27.4				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	10.5	69.5		42.0	10.5	69.5		42.0				
Max Q Clear Time (g_c+I1), s	6.0	48.0		6.6	11.3	94.1		18.8				
Green Ext Time (p_c), s	0.1	21.1		0.1	0.0	0.0		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	62.0
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Background PM

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	1492	11
Future Volume (veh/h)	1492	11
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	1622	0
Peak Hour Factor	0.92	0.45
Percent Heavy Veh, %	5	2
Cap, veh/h	2216	
Arrive On Green	0.64	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	1622	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	46.0	0.0
Cycle Q Clear(g_c), s	46.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2216	
V/C Ratio(X)	0.73	
Avail Cap(c_a), veh/h	2216	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	17.8	0.0
Incr Delay (d2), s/veh	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	20.0	0.0
LnGrp LOS	B	
Approach Vol, veh/h	1787	A
Approach Delay, s/veh	27.2	
Approach LOS	C	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Intersection	
Int Delay, s/veh	32.5

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	55	47	30	2647	122	42	1637
Future Vol, veh/h	55	47	30	2647	122	42	1637
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	Free	-	None
Storage Length	0	0	400	-	375	450	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	80	89	81	95	93	82	96
Heavy Vehicles, %	7	2	2	2	2	2	5
Mvmt Flow	69	53	37	2786	131	51	1705

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	3815	1393	1705	0	-	2786	0
Stage 1	2860	-	-	-	-	-	-
Stage 2	955	-	-	-	-	-	-
Critical Hdwy	6.94	6.94	6.44	-	-	4.14	-
Critical Hdwy Stg 1	5.94	-	-	-	-	-	-
Critical Hdwy Stg 2	5.94	-	-	-	-	-	-
Follow-up Hdwy	3.57	3.32	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	~ 2	131	116	-	0	138	-
Stage 1	~ 27	-	-	-	0	-	-
Stage 2	323	-	-	-	0	-	-
Platoon blocked, %				-			-
Mov Cap-1 Maneuver	~ 1	131	116	-	-	138	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-	-	-
Stage 1	~ 18	-	-	-	-	-	-
Stage 2	203	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1221.4	0.7	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	116	-	15	131	138	-
HCM Lane V/C Ratio	0.319	-	4.583	0.403	0.371	-
HCM Control Delay (s)	50	-	$ 2121.3	49.9	45.7	-
HCM Lane LOS	E	-	F	E	E	-
HCM 95th %tile Q(veh)	1.2	-	9.4	1.7	1.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive
2029 Background PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	227	201	174	324	515	2743	364	113	1512	234
v/c Ratio	0.88	0.61	0.42	0.71	0.83	0.83	1.74	0.47	0.56	0.83	0.32
Control Delay	85.4	55.0	8.0	59.0	70.3	68.9	365.2	19.2	72.0	38.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.4	55.0	8.0	59.0	70.3	68.9	365.2	19.2	72.0	38.3	8.4
Queue Length 50th (ft)	112	194	0	127	285	240	~2029	146	92	517	66
Queue Length 95th (ft)	138	166	40	149	373	286	#2149	239	m#176	m#617	m85
Internal Link Dist (ft)		546			1558		3417			6441	
Turn Bay Length (ft)			250	225		325			400		375
Base Capacity (vph)	178	500	578	245	527	622	1573	780	202	1825	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.45	0.35	0.71	0.61	0.83	1.74	0.47	0.56	0.83	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary — Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive — 2029 Background PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	125	100	211	136	223	68	6	419	2606	346	107	1421
Future Volume (veh/h)	125	100	211	136	223	68	6	419	2606	346	107	1421
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1870	1870		1856	1870	1870	1870	1826
Adj Flow Rate, veh/h	156	239	0	174	240	0		505	2743	0	113	1512
Peak Hour Factor	0.80	0.61	0.80	0.78	0.93	0.81		0.83	0.95	0.95	0.95	0.94
Percent Heavy Veh, %	2	2	2	5	2	2		3	2	2	2	5
Cap, veh/h	133	272		132	272			539	2060		82	2305
Arrive On Green	0.03	0.15	0.00	0.03	0.15	0.00		0.16	0.58	0.00	0.05	0.46
Sat Flow, veh/h	1781	1870	1585	1739	1870	0		3428	3554	1585	1781	4985
Grp Volume(v), veh/h	156	239	0	174	240	0		505	2743	0	113	1512
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1739	1870	0		1714	1777	1585	1781	1662
Q Serve(g_s), s	5.0	18.2	0.0	5.0	18.2	0.0		21.1	84.0	0.0	6.7	33.9
Cycle Q Clear(g_c), s	5.0	18.2	0.0	5.0	18.2	0.0		21.1	84.0	0.0	6.7	33.9
Prop In Lane	1.00		1.00	1.00		0.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	133	272		132	272			539	2060		82	2305
V/C Ratio(X)	1.17	0.88		1.32	0.88			0.94	1.33		1.37	0.66
Avail Cap(c_a), veh/h	133	542		132	542			539	2060		82	2305
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	61.4	60.7	0.0	61.5	60.8	0.0		60.4	30.5	0.0	69.2	30.1
Incr Delay (d2), s/veh	131.3	9.0	0.0	187.0	9.2	0.0		23.8	152.7	0.0	227.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	9.0	0.0	9.4	9.4	0.0		10.8	76.4	0.0	8.2	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	192.7	69.7	0.0	248.6	70.0	0.0		84.2	183.2	0.0	296.4	31.6
LnGrp LOS	F	E		F	E			F	F		F	C
Approach Vol, veh/h		395	A		414	A			3248	A		1625
Approach Delay, s/veh		118.3			145.1				167.8			50.0
Approach LOS		F			F				F			D

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	73.9	11.0	30.1	13.0	90.9	11.0	30.1
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	22.8	46.1	5.0	42.0	* 6.7	63.1	5.0	42.0
Max Q Clear Time (g_c+I1), s	23.1	35.9	7.0	20.2	8.7	86.0	7.0	20.2
Green Ext Time (p_c), s	0.0	9.8	0.0	0.7	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	129.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	194
Future Volume (veh/h)	194
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	0
Peak Hour Factor	0.83
Percent Heavy Veh, %	2
Cap, veh/h	
Arrive On Green	0.00
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	A
Approach Delay, s/veh	
Approach LOS	

Timer - Assigned Phs
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

2029 Build-out Conditions

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard
2029 Build AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	243	147	23	38	39	1374	105	55	2413	4
v/c Ratio	0.16	0.99	3.00	0.14	0.18	0.24	0.63	0.09	0.17	1.00	0.00
Control Delay	62.9	87.9	972.5	61.7	1.8	13.7	11.7	2.4	4.2	39.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	87.9	972.5	61.7	1.8	13.7	11.7	2.4	4.2	39.6	0.0
Queue Length 50th (ft)	16	120	~231	20	0	8	281	5	9	~1239	0
Queue Length 95th (ft)	30	91	#371	36	0	m11	m218	m5	10	#1366	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	118	245	49	159	216	192	2189	1113	354	2418	1142
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.99	3.00	0.14	0.18	0.20	0.63	0.09	0.16	1.00	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	12	27	161	131	15	21	4	28	1113	69	2	29
Future Volume (veh/h)	12	27	161	131	15	21	4	28	1113	69	2	29
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1767	1767	1767	1870	1811		1707	1663	1826		1870
Adj Flow Rate, veh/h	19	47	0	147	23	0		34	1374	0		51
Peak Hour Factor	0.63	0.58	0.82	0.89	0.65	0.56		0.82	0.81	0.66		0.57
Percent Heavy Veh, %	2	9	9	9	2	6		13	16	5		2
Cap, veh/h	155	151		129	160			138	2175			338
Arrive On Green	0.09	0.09	0.00	0.09	0.09	0.00		0.05	0.69	0.00		0.06
Sat Flow, veh/h	1388	1767	0	1283	1870	1535		1626	3159	1547		1781
Grp Volume(v), veh/h	19	47	0	147	23	0		34	1374	0		51
Grp Sat Flow(s),veh/h/ln	1388	1767	0	1283	1870	1535		1626	1580	1547		1781
Q Serve(g_s), s	1.8	3.5	0.0	8.5	1.6	0.0		0.7	33.6	0.0		1.0
Cycle Q Clear(g_c), s	3.4	3.5	0.0	12.0	1.6	0.0		0.7	33.6	0.0		1.0
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	155	151		129	160			138	2175			338
V/C Ratio(X)	0.12	0.31		1.14	0.14			0.25	0.63			0.15
Avail Cap(c_a), veh/h	155	151		129	160			197	2175			388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	60.8	60.1	0.0	67.4	59.2	0.0		38.5	12.0	0.0		9.1
Incr Delay (d2), s/veh	0.4	1.2	0.0	120.5	0.4	0.0		0.9	1.4	0.0		0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.7	1.6	0.0	9.0	0.8	0.0		0.8	10.3	0.0		0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	61.3	0.0	187.9	59.6	0.0		39.4	13.4	0.0		9.3
LnGrp LOS	E	E		F	E			D	B			A
Approach Vol, veh/h		66	A		170	A			1408	A		
Approach Delay, s/veh		61.2			170.6				14.1			
Approach LOS		E			F				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	105.2		20.0	16.1	103.9		20.0				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	12.5	92.5		12.0	12.5	92.5		12.0				
Max Q Clear Time (g_c+I1), s	2.7	98.7		5.5	3.0	35.6		14.0				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	51.4		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	35.7	
HCM 6th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	2292	1
Future Volume (veh/h)	2292	1
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	2413	0
Peak Hour Factor	0.95	0.25
Percent Heavy Veh, %	5	2
Cap, veh/h	2420	
Arrive On Green	0.70	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	2413	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	96.7	0.0
Cycle Q Clear(g_c), s	96.7	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2420	
V/C Ratio(X)	1.00	
Avail Cap(c_a), veh/h	2420	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	21.0	0.0
Incr Delay (d2), s/veh	17.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.7	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	38.6	0.0
LnGrp LOS	D	
Approach Vol, veh/h	2464	A
Approach Delay, s/veh	38.0	
Approach LOS	D	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	51	0	183	121	0	35	37	569	1128	76	5	2370	213
Future Vol, veh/h	51	0	183	121	0	35	37	569	1128	76	5	2370	213
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	-	Free	-	-	None
Storage Length	0	-	-	0	-	175	-	400	-	375	450	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	90	68	73	90	89	81	50	95	90
Heavy Vehicles, %	10	2	42	2	2	3	2	16	15	5	2	5	4
Mvmt Flow	57	0	203	132	0	51	51	632	1267	94	10	2495	237

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	4634	5267	1366	3901	5385	634	2731	2732	0	-	1267	0	0
Stage 1	2634	2634	-	2633	2633	-	-	-	-	-	-	-	-
Stage 2	2000	2633	-	1268	2752	-	-	-	-	-	-	-	-
Critical Hdwy	7.7	6.54	7.74	7.54	6.54	6.96	6.44	4.42	-	-	4.14	-	-
Critical Hdwy Stg 1	6.7	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.6	4.02	3.72	3.52	4.02	3.33	2.52	2.36	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	~ 96	~ 1	0	419	~ 24	~ 115	-	0	544	-	-
Stage 1	~ 21	48	-	~ 24	48	-	-	-	-	0	-	-	-
Stage 2	~ 56	48	-	178	42	-	-	-	-	0	-	-	-
Platoon blocked, %									-			-	-
Mov Cap-1 Maneuver	0	0	~ 96	-	0	419	~ -34	~ -34	-	-	544	-	-
Mov Cap-2 Maneuver	0	0	-	~ 23	47	-	-	-	-	-	-	-	-
Stage 1	~ 21	47	-	~ 24	48	-	-	-	-	-	-	-	-
Stage 2	~ 49	48	-	-	41	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				0
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	96	-	-	419	544	-	-
HCM Lane V/C Ratio	-	-	-	2.118	-	-	0.123	0.018	-	-
HCM Control Delay (s)	-	-	-	$ 608.7	-	0	14.8	11.7	-	-
HCM Lane LOS	-	-	-	F	-	A	B	B	-	-
HCM 95th %tile Q(veh)	-	-	-	17.7	-	-	0.4	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive
2029 Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	382	581	574	150	52	179	1604	80	32	2760	170
v/c Ratio	0.71	1.16	1.06	1.28	0.12	1.19	1.19	0.11	0.58	1.40	0.24
Control Delay	46.4	132.1	93.6	207.1	19.5	189.2	130.0	0.3	71.1	216.5	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	132.1	93.6	207.1	19.5	189.2	130.0	0.3	71.1	216.5	13.0
Queue Length 50th (ft)	264	~617	~515	~118	15	~101	~950	0	29	~1228	40
Queue Length 95th (ft)	368	#486	#764	#179	29	#144	#1090	0	m31	m#1182	m44
Internal Link Dist (ft)		546			1558		3417			6441	
Turn Bay Length (ft)			250	225		325			400		375
Base Capacity (vph)	538	500	539	117	513	150	1344	696	55	1977	718
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	1.16	1.06	1.28	0.10	1.19	1.19	0.11	0.58	1.40	0.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary — Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive — 2029 Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	348	34	1015	108	15	16	7	127	1444	52	2	20
Future Volume (veh/h)	348	34	1015	108	15	16	7	127	1444	52	2	20
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1693	1618	1663		1633
Adj Flow Rate, veh/h	382	0	0	150	23	0		165	1604	0		28
Peak Hour Factor	0.91	0.66	0.92	0.72	0.65	0.55		0.77	0.90	0.65		0.71
Percent Heavy Veh, %	2	2	2	2	2	2		14	19	16		18
Cap, veh/h	178	0		196	107			152	2060			56
Arrive On Green	0.04	0.00	0.00	0.04	0.06	0.00		0.05	0.67	0.00		0.04
Sat Flow, veh/h	1781	0	3170	1781	1870	0		3127	3075	1409		1555
Grp Volume(v), veh/h	382	0	0	150	23	0		165	1604	0		28
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0		1564	1537	1409		1555
Q Serve(g_s), s	5.0	0.0	0.0	5.0	1.6	0.0		6.8	50.4	0.0		2.5
Cycle Q Clear(g_c), s	5.0	0.0	0.0	5.0	1.6	0.0		6.8	50.4	0.0		2.5
Prop In Lane	1.00		1.00	1.00		0.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	178	0		196	107			152	2060			56
V/C Ratio(X)	2.15	0.00		0.77	0.22			1.09	0.78			0.50
Avail Cap(c_a), veh/h	178	0		196	561			152	2060			56
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	65.1	0.0	0.0	63.4	63.0	0.0		66.6	15.9	0.0		66.3
Incr Delay (d2), s/veh	534.1	0.0	0.0	16.4	1.0	0.0		98.0	3.0	0.0		2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	30.1	0.0	0.0	3.8	0.8	0.0		4.7	16.4	0.0		1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	599.2	0.0	0.0	79.8	64.0	0.0		164.6	18.9	0.0		69.1
LnGrp LOS	F	A		E	E			F	B			E
Approach Vol, veh/h		382	A		173	A			1769	A		
Approach Delay, s/veh		599.2			77.7				32.5			
Approach LOS		F			E				C			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	98.0	11.0	17.0	11.3	100.7	11.0	17.0
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	6.8	57.1	5.0	42.0	* 5	59.8	5.0	42.0
Max Q Clear Time (g_c+I1), s	8.8	64.9	7.0	0.0	4.5	52.4	7.0	3.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Movement	SBT	SBR
Lane Configurations	↑↑↑	↱
Traffic Volume (veh/h)	2539	150
Future Volume (veh/h)	2539	150
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1796	1841
Adj Flow Rate, veh/h	2760	0
Peak Hour Factor	0.92	0.88
Percent Heavy Veh, %	7	4
Cap, veh/h	3191	
Arrive On Green	0.65	0.00
Sat Flow, veh/h	4904	1560
Grp Volume(v), veh/h	2760	0
Grp Sat Flow(s),veh/h/ln	1635	1560
Q Serve(g_s), s	62.9	0.0
Cycle Q Clear(g_c), s	62.9	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	3191	
V/C Ratio(X)	0.86	
Avail Cap(c_a), veh/h	3191	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	19.5	0.0
Incr Delay (d2), s/veh	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.1	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	22.9	0.0
LnGrp LOS	C	
Approach Vol, veh/h	2788	A
Approach Delay, s/veh	23.4	
Approach LOS	C	

Timer - Assigned Phs
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard
2029 Build PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	91	152	41	65	159	2741	207	179	1676	24
v/c Ratio	0.09	0.29	0.76	0.14	0.20	0.64	1.39	0.22	0.64	0.84	0.03
Control Delay	50.0	17.6	80.9	51.1	5.2	48.9	200.5	4.0	46.9	31.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	17.6	80.9	51.1	5.2	48.9	200.5	4.0	46.9	31.4	0.1
Queue Length 50th (ft)	16	16	139	34	0	84	~1844	34	109	662	0
Queue Length 95th (ft)	35	43	198	40	19	m27	m851	m29	170	#1004	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	393	526	376	539	522	251	1976	932	278	1994	958
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.17	0.40	0.08	0.12	0.63	1.39	0.22	0.64	0.84	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	15	14	54	132	23	57	1	101	2604	182	6	134
Future Volume (veh/h)	15	14	54	132	23	57	1	101	2604	182	6	134
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	19	19	0	152	41	0		155	2741	0		165
Peak Hour Factor	0.81	0.75	0.75	0.87	0.56	0.88		0.65	0.95	0.88		0.81
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	206	250		224	250			261	2257			179
Arrive On Green	0.13	0.13	0.00	0.13	0.13	0.00		0.07	0.64	0.00		0.07
Sat Flow, veh/h	1366	1870	0	1393	1870	1585		1781	3554	1585		1781
Grp Volume(v), veh/h	19	19	0	152	41	0		155	2741	0		165
Grp Sat Flow(s),veh/h/ln	1366	1870	0	1393	1870	1585		1781	1777	1585		1781
Q Serve(g_s), s	1.8	1.3	0.0	15.5	2.8	0.0		4.0	92.1	0.0		9.3
Cycle Q Clear(g_c), s	4.6	1.3	0.0	16.8	2.8	0.0		4.0	92.1	0.0		9.3
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	206	250		224	250			261	2257			179
V/C Ratio(X)	0.09	0.08		0.68	0.16			0.59	1.21			0.92
Avail Cap(c_a), veh/h	419	542		441	542			268	2257			179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00		1.00
Uniform Delay (d), s/veh	57.7	55.0	0.0	62.3	55.6	0.0		23.9	26.5	0.0		52.5
Incr Delay (d2), s/veh	0.2	0.1	0.0	3.6	0.3	0.0		3.4	100.8	0.0		45.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	0.0	5.8	1.4	0.0		3.4	64.7	0.0		8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	55.1	0.0	65.9	55.9	0.0		27.2	127.3	0.0		98.4
LnGrp LOS	E	E		E	E			C	F			F
Approach Vol, veh/h		38	A		193	A			2896	A		
Approach Delay, s/veh		56.5			63.8				121.9			
Approach LOS		E			E				F			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	100.1		27.4	18.0	99.6		27.4				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	10.5	69.5		42.0	10.5	69.5		42.0				
Max Q Clear Time (g_c+I1), s	6.0	51.0		6.6	11.3	94.1		18.8				
Green Ext Time (p_c), s	0.1	18.3		0.1	0.0	0.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		84.2
HCM 6th LOS		F

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM



Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (veh/h)	1542	11
Future Volume (veh/h)	1542	11
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	1676	0
Peak Hour Factor	0.92	0.45
Percent Heavy Veh, %	5	2
Cap, veh/h	2216	
Arrive On Green	0.64	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	1676	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	49.0	0.0
Cycle Q Clear(g_c), s	49.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2216	
V/C Ratio(X)	0.76	
Avail Cap(c_a), veh/h	2216	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	18.3	0.0
Incr Delay (d2), s/veh	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	20.8	0.0
LnGrp LOS	C	
Approach Vol, veh/h	1841	A
Approach Delay, s/veh	27.7	
Approach LOS	C	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	194	0	550	55	0	47	30	225	2647	122	42	1637	50
Future Vol, veh/h	194	0	550	55	0	47	30	225	2647	122	42	1637	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	-	Free	-	-	None
Storage Length	0	-	-	0	-	175	-	400	-	375	450	-	-
Veh in Median Storage, #	-	0	-	-	1	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	80	90	89	81	90	95	93	82	96	90
Heavy Vehicles, %	5	2	22	7	2	2	2	56	2	2	2	5	14
Mvmt Flow	216	0	611	69	0	53	37	250	2786	131	51	1705	56

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	3802	5195	881	4315	5223	1393	1761	1761	0	-	2786	0	0
Stage 1	1835	1835	-	3360	3360	-	-	-	-	-	-	-	-
Stage 2	1967	3360	-	955	1863	-	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.54	7.34	7.64	6.54	6.94	6.44	5.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.6	5.54	-	6.64	5.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.54	-	6.64	5.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.02	3.52	3.57	4.02	3.32	2.52	2.76	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 1	0	~ 253	0	0	131	106	~ 185	-	0	138	-	-
Stage 1	~ 76	125	-	~ 7	20	-	-	-	-	0	-	-	-
Stage 2	~ 62	20	-	268	121	-	-	-	-	0	-	-	-
Platoon blocked, %									-			-	-
Mov Cap-1 Maneuver	0	0	~ 253	-	0	131	~ -17	~ -17	-	-	138	-	-
Mov Cap-2 Maneuver	0	0	-	~ 7	20	-	-	-	-	-	-	-	-
Stage 1	~ 76	79	-	~ 7	20	-	-	-	-	-	-	-	-
Stage 2	~ 37	20	-	-	76	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s				1.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	253	-	-	131	138	-	-
HCM Lane V/C Ratio	-	-	-	2.415	-	-	0.403	0.371	-	-
HCM Control Delay (s)	-	-	-	$ 679.6	-	0	49.9	45.7	-	-
HCM Lane LOS	-	-	-	F	-	A	E	E	-	-
HCM 95th %tile Q(veh)	-	-	-	49.4	-	-	1.7	1.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive
2029 Build PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	227	201	174	324	515	2934	364	113	1917	439
v/c Ratio	1.15	0.61	0.42	0.71	0.83	0.83	1.96	0.47	0.56	1.11	0.55
Control Delay	154.5	55.0	8.0	59.0	70.3	68.9	458.1	19.2	73.5	95.1	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	154.5	55.0	8.0	59.0	70.3	68.9	458.1	19.2	73.5	95.1	11.8
Queue Length 50th (ft)	~178	194	0	127	285	240	~2263	146	95	~784	164
Queue Length 95th (ft)	#248	166	40	149	373	286	#2377	239	m#189	m#938	m226
Internal Link Dist (ft)		546			1558		3417			6441	
Turn Bay Length (ft)			250	225		325			400		375
Base Capacity (vph)	178	500	578	245	527	622	1500	780	202	1726	796
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.45	0.35	0.71	0.61	0.83	1.96	0.47	0.56	1.11	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary — Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive — 2029 Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	169	100	211	136	223	68	6	419	2787	346	107	1783
Future Volume (veh/h)	169	100	211	136	223	68	6	419	2787	346	107	1783
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1870	1870		1856	1796	1870	1870	1737
Adj Flow Rate, veh/h	204	239	0	174	240	0		505	2934	0	113	1917
Peak Hour Factor	0.83	0.61	0.80	0.78	0.93	0.81		0.83	0.95	0.95	0.95	0.93
Percent Heavy Veh, %	2	2	2	5	2	2		3	7	2	2	11
Cap, veh/h	133	272		132	272			539	1978		82	2193
Arrive On Green	0.03	0.15	0.00	0.03	0.15	0.00		0.16	0.58	0.00	0.05	0.46
Sat Flow, veh/h	1781	1870	1585	1739	1870	0		3428	3413	1585	1781	4742
Grp Volume(v), veh/h	204	239	0	174	240	0		505	2934	0	113	1917
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1739	1870	0		1714	1706	1585	1781	1581
Q Serve(g_s), s	5.0	18.2	0.0	5.0	18.2	0.0		21.1	84.0	0.0	6.7	52.9
Cycle Q Clear(g_c), s	5.0	18.2	0.0	5.0	18.2	0.0		21.1	84.0	0.0	6.7	52.9
Prop In Lane	1.00		1.00	1.00		0.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	133	272		132	272			539	1978		82	2193
V/C Ratio(X)	1.53	0.88		1.32	0.88			0.94	1.48		1.37	0.87
Avail Cap(c_a), veh/h	133	542		132	542			539	1978		82	2193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	61.4	60.7	0.0	61.5	60.8	0.0		60.4	30.5	0.0	69.2	35.2
Incr Delay (d2), s/veh	273.4	9.0	0.0	187.0	9.2	0.0		23.8	220.2	0.0	227.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	9.0	0.0	9.4	9.4	0.0		10.8	92.0	0.0	8.2	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	334.8	69.7	0.0	248.6	70.0	0.0		84.2	250.7	0.0	296.4	40.4
LnGrp LOS	F	E		F	E			F	F		F	D
Approach Vol, veh/h		443	A		414	A			3439	A		2030
Approach Delay, s/veh		191.8			145.1				226.2			54.7
Approach LOS		F			F				F			D

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	73.9	11.0	30.1	13.0	90.9	11.0	30.1
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	22.8	46.1	5.0	42.0	* 6.7	63.1	5.0	42.0
Max Q Clear Time (g_c+I1), s	23.1	54.9	7.0	20.2	8.7	86.0	7.0	20.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	163.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	382
Future Volume (veh/h)	382
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	0
Peak Hour Factor	0.87
Percent Heavy Veh, %	2
Cap, veh/h	
Arrive On Green	0.00
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	A
Approach Delay, s/veh	
Approach LOS	

Timer - Assigned Phs
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

2029 Build-out Conditions
Improved

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	243	147	23	38	39	1374	105	55	2413	4
v/c Ratio	0.07	0.57	0.94	0.06	0.10	0.26	0.74	0.11	0.22	1.17	0.00
Control Delay	44.5	31.0	114.5	44.3	0.5	21.3	15.8	4.0	11.4	112.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	31.0	114.5	44.3	0.5	21.3	15.8	4.0	11.4	112.9	0.0
Queue Length 50th (ft)	15	109	141	18	0	6	300	13	16	~1537	0
Queue Length 95th (ft)	25	75	#241	30	0	m41	320	16	23	#1750	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	363	512	198	490	465	152	1861	962	249	2056	983
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.47	0.74	0.05	0.08	0.26	0.74	0.11	0.22	1.17	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	12	27	161	131	15	21	4	28	1113	69	2	29
Future Volume (veh/h)	12	27	161	131	15	21	4	28	1113	69	2	29
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1767	1767	1767	1870	1811		1707	1663	1826		1870
Adj Flow Rate, veh/h	19	47	0	147	23	0		34	1374	0		51
Peak Hour Factor	0.63	0.58	0.82	0.89	0.65	0.56		0.82	0.81	0.66		0.57
Percent Heavy Veh, %	2	9	9	9	2	6		13	16	5		2
Cap, veh/h	243	267		229	282			130	2012			404
Arrive On Green	0.15	0.15	0.00	0.16	0.15	0.00		0.10	1.00	0.00		0.06
Sat Flow, veh/h	1388	1767	0	1283	1870	1535		1626	3159	1547		1781
Grp Volume(v), veh/h	19	47	0	147	23	0		34	1374	0		51
Grp Sat Flow(s),veh/h/ln	1388	1767	0	1283	1870	1535		1626	1580	1547		1781
Q Serve(g_s), s	1.8	3.5	0.0	16.7	1.6	0.0		0.9	0.0	0.0		1.3
Cycle Q Clear(g_c), s	3.4	3.5	0.0	20.1	1.6	0.0		0.9	0.0	0.0		1.3
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	243	267		229	282			130	2012			404
V/C Ratio(X)	0.08	0.18		0.64	0.08			0.26	0.68			0.13
Avail Cap(c_a), veh/h	399	465		373	493			156	2012			418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		0.83	0.83	0.00		1.00
Uniform Delay (d), s/veh	56.2	55.5	0.0	62.5	54.7	0.0		36.3	0.0	0.0		7.2
Incr Delay (d2), s/veh	0.1	0.3	0.0	3.0	0.1	0.0		0.9	1.6	0.0		0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	0.0	5.7	0.8	0.0		0.8	0.4	0.0		0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	55.8	0.0	65.5	54.9	0.0		37.1	1.6	0.0		7.3
LnGrp LOS	E	E		E	D			D	A			A
Approach Vol, veh/h		66	A		170	A			1408	A		
Approach Delay, s/veh		56.0			64.0				2.4			
Approach LOS		E			E				A			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.1	104.3		30.7	16.3	103.0		30.7				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	10.0	77.5		39.5	10.0	77.5		39.5				
Max Q Clear Time (g_c+I1), s	2.9	98.8		5.5	3.3	2.0		22.1				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	66.2		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

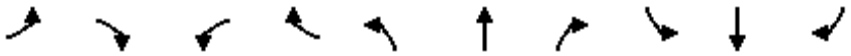
Vernadoe-Wiggins Tract
2029 Build AM Improved

Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (veh/h)	2292	1
Future Volume (veh/h)	2292	1
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	2413	0
Peak Hour Factor	0.95	0.25
Percent Heavy Veh, %	5	2
Cap, veh/h	2238	
Arrive On Green	0.65	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	2413	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	96.8	0.0
Cycle Q Clear(g_c), s	96.8	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2238	
V/C Ratio(X)	1.08	
Avail Cap(c_a), veh/h	2238	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	26.6	0.0
Incr Delay (d2), s/veh	44.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	47.8	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	70.6	0.0
LnGrp LOS	F	
Approach Vol, veh/h	2464	A
Approach Delay, s/veh	69.3	
Approach LOS	E	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved



Lane Group	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	57	203	132	51	683	1267	94	10	2495	237
v/c Ratio	0.23	0.48	0.53	0.15	1.25	0.56	0.07	0.03	1.31	0.21
Control Delay	54.2	6.0	62.9	1.0	147.9	24.8	3.5	1.6	159.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	6.0	62.9	1.0	147.9	24.8	3.5	1.6	159.6	0.1
Queue Length 50th (ft)	48	0	115	0	~440	452	9	1	~1646	0
Queue Length 95th (ft)	91	14	185	0	m282	m350	m7	m1	m#1312	m0
Internal Link Dist (ft)						6444			2132	
Turn Bay Length (ft)				175	400		375	450		375
Base Capacity (vph)	246	444	249	348	548	2268	1272	334	1902	1106
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.46	0.53	0.15	1.25	0.56	0.07	0.03	1.31	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	51	0	183	121	0	35	37	569	1128	76	5	2370
Future Volume (veh/h)	51	0	183	121	0	35	37	569	1128	76	5	2370
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1752	1870	1278	1870	1870	1856		1663	1678	1826	1870	1826
Adj Flow Rate, veh/h	57	0	0	132	0	0		632	1267	0	10	2495
Peak Hour Factor	0.90	0.90	0.90	0.92	0.90	0.68		0.90	0.89	0.81	0.50	0.95
Percent Heavy Veh, %	10	2	42	2	2	3		16	15	5	2	5
Cap, veh/h	151	1		167	1			512	2620		412	2382
Arrive On Green	0.06	0.00	0.00	0.07	0.00	0.00		0.17	0.82	0.00	0.06	1.00
Sat Flow, veh/h	1668	1870	1906	1781	1870	1572		3072	3188	1547	1781	3469
Grp Volume(v), veh/h	57	0	0	132	0	0		632	1267	0	10	2495
Grp Sat Flow(s),veh/h/ln	1668	1870	953	1781	1870	1572		1536	1594	1547	1781	1735
Q Serve(g_s), s	5.0	0.0	0.0	10.0	0.0	0.0		25.0	17.6	0.0	0.1	103.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	10.0	0.0	0.0		25.0	17.6	0.0	0.1	103.0
Prop In Lane	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	151	1		167	1			512	2620		412	2382
V/C Ratio(X)	0.38	0.00		0.79	0.00			1.23	0.48		0.02	1.05
Avail Cap(c_a), veh/h	159	200		167	200			512	2620		475	2382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.09	0.09	0.00	0.09	0.09
Uniform Delay (d), s/veh	68.3	0.0	0.0	70.4	0.0	0.0		62.5	4.0	0.0	2.6	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	22.3	0.0	0.0		107.0	0.1	0.0	0.0	22.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	6.2	0.0	0.0		17.0	3.6	0.0	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	0.0	0.0	92.7	0.0	0.0		169.5	4.0	0.0	2.6	22.7
LnGrp LOS	E	A		F	A			F	A		A	F
Approach Vol, veh/h		57	A		132	A			1899	A		2742
Approach Delay, s/veh		69.8			92.7				59.1			20.7
Approach LOS		E			F				E			C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.0	107.0	14.0	0.0	8.7	127.3	13.3	0.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	23.0	81.0	8.0	14.0	8.0	96.0	8.0	14.0
Max Q Clear Time (g_c+I1), s	27.0	105.0	12.0	0.0	2.1	19.6	7.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	27.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

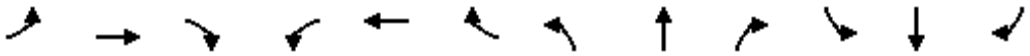


Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	213
Future Volume (veh/h)	213
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1841
Adj Flow Rate, veh/h	237
Peak Hour Factor	0.90
Percent Heavy Veh, %	4
Cap, veh/h	1167
Arrive On Green	1.00
Sat Flow, veh/h	1560
Grp Volume(v), veh/h	237
Grp Sat Flow(s),veh/h/ln	1560
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	1167
V/C Ratio(X)	0.20
Avail Cap(c_a), veh/h	1167
HCM Platoon Ratio	2.00
Upstream Filter(I)	0.09
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build AM Improved



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	382	581	574	150	23	29	174	1604	80	32	2760	170
v/c Ratio	0.52	0.93	0.79	0.66	0.05	0.07	1.25	1.46	0.11	0.63	1.73	0.18
Control Delay	59.4	56.0	39.4	41.1	39.6	0.3	212.5	247.0	3.0	86.8	351.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	56.0	39.4	41.1	39.6	0.3	212.5	247.0	3.0	86.8	351.7	3.7
Queue Length 50th (ft)	188	443	425	80	16	0	~109	~1150	0	30	~1454	30
Queue Length 95th (ft)	245	369	#701	103	29	0	#153	#1288	5	m28	m#1045	m21
Internal Link Dist (ft)		546			1558			3417			6444	
Turn Bay Length (ft)			250	225			325			400		375
Base Capacity (vph)	752	628	723	296	531	506	139	1099	792	51	1596	978
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.93	0.79	0.51	0.04	0.06	1.25	1.46	0.10	0.63	1.73	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build AM Improved

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	348	34	1015	108	15	16	134	1444	52	2	20	2539
Future Volume (veh/h)	348	34	1015	108	15	16	134	1444	52	2	20	2539
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1767	1693	1618	1663		1633	1796
Adj Flow Rate, veh/h	382	0	0	150	23	0	174	1604	0		28	2760
Peak Hour Factor	0.91	0.66	0.92	0.72	0.65	0.55	0.77	0.90	0.65		0.71	0.92
Percent Heavy Veh, %	2	2	2	2	2	9	14	19	16		18	7
Cap, veh/h	437	0		330	100		142	1853			52	2867
Arrive On Green	0.12	0.00	0.00	0.09	0.05	0.00	0.05	0.60	0.00		0.03	0.58
Sat Flow, veh/h	3563	0	3170	1781	1870	1497	3127	3075	1409		1555	4904
Grp Volume(v), veh/h	382	0	0	150	23	0	174	1604	0		28	2760
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	1497	1564	1537	1409		1555	1635
Q Serve(g_s), s	15.8	0.0	0.0	11.4	1.8	0.0	6.8	65.0	0.0		2.7	80.2
Cycle Q Clear(g_c), s	15.8	0.0	0.0	11.4	1.8	0.0	6.8	65.0	0.0		2.7	80.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Lane Grp Cap(c), veh/h	437	0		330	100		142	1853			52	2867
V/C Ratio(X)	0.87	0.00		0.45	0.23		1.23	0.87			0.54	0.96
Avail Cap(c_a), veh/h	539	0		403	524		142	1853			52	2867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00		0.09	0.09
Uniform Delay (d), s/veh	64.7	0.0	0.0	55.6	68.1	0.0	71.6	24.7	0.0		71.4	29.6
Incr Delay (d2), s/veh	12.7	0.0	0.0	1.0	1.2	0.0	149.3	5.7	0.0		0.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	0.0	5.3	0.9	0.0	5.6	23.3	0.0		1.1	29.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.3	0.0	0.0	56.6	69.2	0.0	220.9	30.5	0.0		71.9	30.9
LnGrp LOS	E	A		E	E		F	C			E	C
Approach Vol, veh/h		382	A		173	A		1778	A			2788
Approach Delay, s/veh		77.3			58.3			49.1				31.3
Approach LOS		E			E			D				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	94.6	19.6	21.8	11.3	97.3	24.4	17.0
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	6.8	49.4	19.7	45.0	* 5	52.1	22.7	42.0
Max Q Clear Time (g_c+I1), s	8.8	82.2	13.4	0.0	4.7	67.0	17.8	3.8
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	0.0	0.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	150
Future Volume (veh/h)	150
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1841
Adj Flow Rate, veh/h	0
Peak Hour Factor	0.88
Percent Heavy Veh, %	4
Cap, veh/h	
Arrive On Green	0.00
Sat Flow, veh/h	1560
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1560
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	A
Approach Delay, s/veh	
Approach LOS	

Timer - Assigned Phs

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	91	152	41	65	159	2741	207	179	1676	24
v/c Ratio	0.09	0.29	0.76	0.14	0.21	0.61	1.39	0.22	0.62	0.84	0.03
Control Delay	52.0	18.2	83.9	53.1	5.7	29.2	204.3	15.2	47.4	31.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	18.2	83.9	53.1	5.7	29.2	204.3	15.2	47.4	31.7	0.1
Queue Length 50th (ft)	16	16	145	35	0	112	~1859	68	114	683	0
Queue Length 95th (ft)	35	44	204	42	21	m95	m#1476	m54	176	#1009	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	380	511	364	521	505	259	1978	933	287	2003	960
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.18	0.42	0.08	0.13	0.61	1.39	0.22	0.62	0.84	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	15	14	54	132	23	57	1	101	2604	182	6	134
Future Volume (veh/h)	15	14	54	132	23	57	1	101	2604	182	6	134
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	19	19	0	152	41	0		155	2741	0		165
Peak Hour Factor	0.81	0.75	0.75	0.87	0.56	0.88		0.65	0.95	0.88		0.81
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	204	249		221	249			260	2298			167
Arrive On Green	0.13	0.13	0.00	0.13	0.13	0.00		0.07	0.65	0.00		0.07
Sat Flow, veh/h	1366	1870	0	1393	1870	1585		1781	3554	1585		1781
Grp Volume(v), veh/h	19	19	0	152	41	0		155	2741	0		165
Grp Sat Flow(s),veh/h/ln	1366	1870	0	1393	1870	1585		1781	1777	1585		1781
Q Serve(g_s), s	1.9	1.3	0.0	16.1	2.9	0.0		4.1	97.0	0.0		9.8
Cycle Q Clear(g_c), s	4.8	1.3	0.0	17.4	2.9	0.0		4.1	97.0	0.0		9.8
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	204	249		221	249			260	2298			167
V/C Ratio(X)	0.09	0.08		0.69	0.16			0.60	1.19			0.99
Avail Cap(c_a), veh/h	404	524		426	524			260	2298			167
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		0.09	0.09	0.00		1.00
Uniform Delay (d), s/veh	59.7	56.9	0.0	64.5	57.6	0.0		23.8	26.5	0.0		56.0
Incr Delay (d2), s/veh	0.2	0.1	0.0	3.8	0.3	0.0		0.3	87.1	0.0		66.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.7	0.7	0.0	6.0	1.4	0.0		3.2	62.7	0.0		9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	57.0	0.0	68.3	57.9	0.0		24.1	113.6	0.0		122.4
LnGrp LOS	E	E		E	E			C	F			F
Approach Vol, veh/h		38	A		193	A			2896	A		
Approach Delay, s/veh		58.5			66.1				108.8			
Approach LOS		E			E				F			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	104.5		28.0	17.5	104.5		28.0				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	10.0	75.0		42.0	10.0	75.0		42.0				
Max Q Clear Time (g_c+I1), s	6.1	51.5		6.8	11.8	99.0		19.4				
Green Ext Time (p_c), s	0.1	23.1		0.1	0.0	0.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		77.4
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

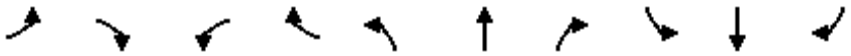
Vernadoe-Wiggins Tract
2029 Build PM Improved

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	1542	11
Future Volume (veh/h)	1542	11
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	1676	0
Peak Hour Factor	0.92	0.45
Percent Heavy Veh, %	5	2
Cap, veh/h	2244	
Arrive On Green	0.65	0.00
Sat Flow, veh/h	3469	1585
Grp Volume(v), veh/h	1676	0
Grp Sat Flow(s),veh/h/ln	1735	1585
Q Serve(g_s), s	49.5	0.0
Cycle Q Clear(g_c), s	49.5	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2244	
V/C Ratio(X)	0.75	
Avail Cap(c_a), veh/h	2244	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	18.1	0.0
Incr Delay (d2), s/veh	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	20.4	0.0
LnGrp LOS	C	
Approach Vol, veh/h	1841	A
Approach Delay, s/veh	29.6	
Approach LOS	C	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved



Lane Group	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	216	611	69	53	287	2786	131	51	1705	56
v/c Ratio	0.64	0.95	0.22	0.16	0.85	1.24	0.12	0.30	0.92	0.07
Control Delay	58.7	54.4	45.7	1.0	94.5	125.3	0.0	28.9	21.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	54.4	45.7	1.0	94.5	125.3	0.0	28.9	21.6	0.1
Queue Length 50th (ft)	180	171	52	0	153	~1904	0	9	848	0
Queue Length 95th (ft)	266	#304	85	0	m100	m70	m0	m29	#995	m0
Internal Link Dist (ft)						6459			2132	
Turn Bay Length (ft)				175	400		375	450		375
Base Capacity (vph)	338	649	313	343	344	2246	1060	179	1858	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.94	0.22	0.15	0.83	1.24	0.12	0.28	0.92	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	194	0	550	55	0	47	30	225	2647	122	42	1637
Future Volume (veh/h)	194	0	550	55	0	47	30	225	2647	122	42	1637
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1826	1870	1574	1796	1870	1870		1070	1870	1870	1870	1826
Adj Flow Rate, veh/h	216	0	0	69	0	0		250	2786	0	51	1705
Peak Hour Factor	0.90	0.90	0.90	0.80	0.90	0.89		0.90	0.95	0.93	0.82	0.96
Percent Heavy Veh, %	5	2	22	7	2	2		56	2	2	2	5
Cap, veh/h	268	68		206	1			290	2605		155	2243
Arrive On Green	0.13	0.00	0.00	0.06	0.00	0.00		0.15	0.73	0.00	0.12	1.00
Sat Flow, veh/h	1739	1870	2348	1711	1870	1585		1977	3554	1585	1781	3469
Grp Volume(v), veh/h	216	0	0	69	0	0		250	2786	0	51	1705
Grp Sat Flow(s),veh/h/ln	1739	1870	1174	1711	1870	1585		989	1777	1585	1781	1735
Q Serve(g_s), s	18.6	0.0	0.0	5.7	0.0	0.0		18.5	110.0	0.0	0.9	0.0
Cycle Q Clear(g_c), s	18.6	0.0	0.0	5.7	0.0	0.0		18.5	110.0	0.0	0.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	268	68		206	1			290	2605		155	2243
V/C Ratio(X)	0.81	0.00		0.33	0.00			0.86	1.07		0.33	0.76
Avail Cap(c_a), veh/h	268	299		223	200			290	2605		179	2243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.09	0.09	0.00	0.45	0.45
Uniform Delay (d), s/veh	65.2	0.0	0.0	63.3	0.0	0.0		62.5	20.0	0.0	40.8	0.0
Incr Delay (d2), s/veh	16.2	0.0	0.0	0.9	0.0	0.0		2.6	32.2	0.0	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	0.0	0.0	2.6	0.0	0.0		4.6	46.4	0.0	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	0.0	0.0	64.2	0.0	0.0		65.1	52.2	0.0	41.3	1.1
LnGrp LOS	F	A		E	A			E	F		D	A
Approach Vol, veh/h		216	A		69	A			3036	A		1812
Approach Delay, s/veh		81.5			64.2				53.3			2.2
Approach LOS		F			E				D			A

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	101.0	13.5	9.5	13.0	114.0	23.0	0.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	20.0	75.0	9.0	22.0	9.0	86.0	17.0	14.0
Max Q Clear Time (g_c+I1), s	20.5	2.0	7.7	0.0	2.9	112.0	20.6	0.0
Green Ext Time (p_c), s	0.0	45.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

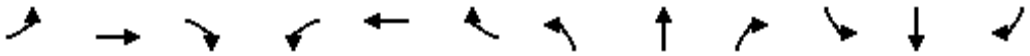
Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	50
Future Volume (veh/h)	50
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1693
Adj Flow Rate, veh/h	56
Peak Hour Factor	0.90
Percent Heavy Veh, %	14
Cap, veh/h	928
Arrive On Green	1.00
Sat Flow, veh/h	1434
Grp Volume(v), veh/h	56
Grp Sat Flow(s),veh/h/ln	1434
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	928
V/C Ratio(X)	0.06
Avail Cap(c_a), veh/h	928
HCM Platoon Ratio	2.00
Upstream Filter(I)	0.45
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.1
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
Vernadoe-Wiggins Tract
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive
2029 Build PM Improved



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	227	201	174	240	84	512	2934	364	113	1917	439
v/c Ratio	0.76	0.83	0.33	0.72	0.82	0.21	0.92	1.71	0.34	0.91	1.01	0.48
Control Delay	86.1	83.2	22.3	59.3	83.5	1.3	83.5	351.3	7.3	99.8	56.6	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.1	83.2	22.3	59.3	83.5	1.3	83.5	351.3	7.3	99.8	56.6	10.8
Queue Length 50th (ft)	102	216	91	132	229	0	260	~2218	76	~119	~632	95
Queue Length 95th (ft)	135	195	133	166	325	0	#355	#2325	133	m#175	m#802	m120
Internal Link Dist (ft)		546			1558			3417			6459	
Turn Bay Length (ft)			250	225			325			400		375
Base Capacity (vph)	274	314	614	243	335	424	557	1711	1064	124	1903	910
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.72	0.33	0.72	0.72	0.20	0.92	1.71	0.34	0.91	1.01	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build PM Improved

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	100	211	136	223	68	425	2787	346	107	1783	382
Future Volume (veh/h)	169	100	211	136	223	68	425	2787	346	107	1783	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1870	1870	1856	1796	1870	1870	1737	1870
Adj Flow Rate, veh/h	204	239	0	174	240	0	512	2934	0	113	1917	0
Peak Hour Factor	0.83	0.61	0.80	0.78	0.93	0.81	0.83	0.95	0.95	0.95	0.93	0.87
Percent Heavy Veh, %	2	2	2	5	2	2	3	7	2	2	11	2
Cap, veh/h	251	265		205	283		475	1863		80	2114	
Arrive On Green	0.07	0.14	0.00	0.08	0.15	0.00	0.14	0.55	0.00	0.04	0.45	0.00
Sat Flow, veh/h	3563	1870	1585	1739	1870	1585	3428	3413	1585	1781	4742	1585
Grp Volume(v), veh/h	204	239	0	174	240	0	512	2934	0	113	1917	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1739	1870	1585	1714	1706	1585	1781	1581	1585
Q Serve(g_s), s	8.5	18.9	0.0	12.0	18.7	0.0	20.8	81.9	0.0	6.7	56.4	0.0
Cycle Q Clear(g_c), s	8.5	18.9	0.0	12.0	18.7	0.0	20.8	81.9	0.0	6.7	56.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	265		205	283		475	1863		80	2114	
V/C Ratio(X)	0.81	0.90		0.85	0.85		1.08	1.58		1.42	0.91	
Avail Cap(c_a), veh/h	285	337		205	337		475	1863		80	2114	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.30	0.30	0.00
Uniform Delay (d), s/veh	68.7	63.4	0.0	53.1	62.0	0.0	64.6	34.1	0.0	71.7	38.7	0.0
Incr Delay (d2), s/veh	14.7	22.7	0.0	27.2	16.0	0.0	63.5	261.4	0.0	209.8	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	10.4	0.0	7.3	10.3	0.0	13.1	99.2	0.0	7.7	21.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	86.1	0.0	80.3	78.0	0.0	128.1	295.4	0.0	281.4	41.0	0.0
LnGrp LOS	F	F		F	E		F	F		F	D	
Approach Vol, veh/h		443	A		414	A		3446	A		2030	A
Approach Delay, s/veh		84.9			79.0			270.6			54.4	
Approach LOS		F			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	73.8	18.0	30.2	13.0	88.8	16.6	31.7
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	20.8	61.1	12.0	27.0	* 6.7	76.1	12.0	27.0
Max Q Clear Time (g_c+I1), s	22.8	58.4	14.0	20.9	8.7	83.9	10.5	20.7
Green Ext Time (p_c), s	0.0	2.7	0.0	0.4	0.0	0.0	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	175.8
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

2029 Build-out Conditions
Regional Improvement

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	243	147	23	38	39	1374	105	55	2413	4
v/c Ratio	0.07	0.57	0.94	0.06	0.10	0.26	0.51	0.11	0.20	0.82	0.00
Control Delay	43.8	29.9	112.8	43.6	0.5	25.1	11.9	4.3	11.1	29.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	29.9	112.8	43.6	0.5	25.1	11.9	4.3	11.1	29.3	0.0
Queue Length 50th (ft)	15	107	142	18	0	7	202	13	16	700	0
Queue Length 95th (ft)	25	70	#226	29	0	46	206	19	25	#967	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	391	544	213	527	494	152	2672	961	282	2951	982
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.45	0.69	0.04	0.08	0.26	0.51	0.11	0.20	0.82	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	12	27	161	131	15	21	4	28	1113	69	2	29
Future Volume (veh/h)	12	27	161	131	15	21	4	28	1113	69	2	29
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1767	1767	1767	1870	1811		1707	1663	1826		1870
Adj Flow Rate, veh/h	19	47	0	147	23	0		34	1374	0		51
Peak Hour Factor	0.63	0.58	0.82	0.89	0.65	0.56		0.82	0.81	0.66		0.57
Percent Heavy Veh, %	2	9	9	9	2	6		13	16	5		2
Cap, veh/h	243	267		229	283			171	2891			404
Arrive On Green	0.15	0.15	0.00	0.16	0.15	0.00		0.10	1.00	0.00		0.06
Sat Flow, veh/h	1388	1767	0	1283	1870	1535		1626	4540	1547		1781
Grp Volume(v), veh/h	19	47	0	147	23	0		34	1374	0		51
Grp Sat Flow(s),veh/h/ln	1388	1767	0	1283	1870	1535		1626	1513	1547		1781
Q Serve(g_s), s	1.8	3.5	0.0	16.7	1.6	0.0		0.9	0.0	0.0		1.3
Cycle Q Clear(g_c), s	3.4	3.5	0.0	20.1	1.6	0.0		0.9	0.0	0.0		1.3
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	243	267		229	283			171	2891			404
V/C Ratio(X)	0.08	0.18		0.64	0.08			0.20	0.48			0.13
Avail Cap(c_a), veh/h	427	501		399	530			197	2891			418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		0.93	0.93	0.00		1.00
Uniform Delay (d), s/veh	56.2	55.5	0.0	62.4	54.7	0.0		17.2	0.0	0.0		7.2
Incr Delay (d2), s/veh	0.1	0.3	0.0	3.0	0.1	0.0		0.5	0.5	0.0		0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	0.0	5.7	0.8	0.0		0.4	0.1	0.0		0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	55.8	0.0	65.4	54.8	0.0		17.7	0.5	0.0		7.3
LnGrp LOS	E	E		E	D			B	A			A
Approach Vol, veh/h		66	A		170	A			1408	A		
Approach Delay, s/veh		56.0			64.0				0.9			
Approach LOS		E			E				A			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.1	104.2		30.7	16.3	103.0		30.7				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	10.0	74.5		42.5	10.0	74.5		42.5				
Max Q Clear Time (g_c+I1), s	2.9	52.0		5.5	3.3	2.0		22.1				
Green Ext Time (p_c), s	0.0	22.5		0.2	0.0	62.1		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional

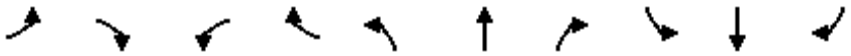


Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	2292	1
Future Volume (veh/h)	2292	1
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	2413	0
Peak Hour Factor	0.95	0.25
Percent Heavy Veh, %	5	2
Cap, veh/h	3215	
Arrive On Green	0.64	0.00
Sat Flow, veh/h	4985	1585
Grp Volume(v), veh/h	2413	0
Grp Sat Flow(s),veh/h/ln	1662	1585
Q Serve(g_s), s	50.0	0.0
Cycle Q Clear(g_c), s	50.0	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	3215	
V/C Ratio(X)	0.75	
Avail Cap(c_a), veh/h	3215	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	18.3	0.0
Incr Delay (d2), s/veh	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	20.0	0.0
LnGrp LOS	B	
Approach Vol, veh/h	2464	A
Approach Delay, s/veh	19.7	
Approach LOS	B	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional



Lane Group	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	57	203	132	51	683	1267	94	10	2495	237
v/c Ratio	0.23	0.38	0.53	0.15	0.96	0.39	0.07	0.03	1.01	0.23
Control Delay	54.2	2.0	62.9	1.0	58.7	19.6	3.5	1.6	37.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	2.0	62.9	1.0	58.7	19.6	3.5	1.6	37.3	0.7
Queue Length 50th (ft)	48	0	115	0	366	313	9	1	~943	8
Queue Length 95th (ft)	91	0	185	0	m375	m317	m11	m1	#1009	m0
Internal Link Dist (ft)						6458			2132	
Turn Bay Length (ft)				175	400		375	450		375
Base Capacity (vph)	246	557	249	348	710	3259	1272	350	2470	1049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.36	0.53	0.15	0.96	0.39	0.07	0.03	1.01	0.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	51	0	183	121	0	35	37	569	1128	76	5	2370
Future Volume (veh/h)	51	0	183	121	0	35	37	569	1128	76	5	2370
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1752	1870	1278	1870	1870	1856		1663	1678	1826	1870	1826
Adj Flow Rate, veh/h	57	0	0	132	0	0		632	1267	0	10	2495
Peak Hour Factor	0.90	0.90	0.90	0.92	0.90	0.68		0.90	0.89	0.81	0.50	0.95
Percent Heavy Veh, %	10	2	42	2	2	3		16	15	5	2	5
Cap, veh/h	151	1		167	1			676	3764		434	3157
Arrive On Green	0.06	0.00	0.00	0.07	0.00	0.00		0.22	0.82	0.00	0.06	1.00
Sat Flow, veh/h	1668	1870	1906	1781	1870	1572		3072	4580	1547	1781	4985
Grp Volume(v), veh/h	57	0	0	132	0	0		632	1267	0	10	2495
Grp Sat Flow(s),veh/h/ln	1668	1870	953	1781	1870	1572		1536	1527	1547	1781	1662
Q Serve(g_s), s	5.0	0.0	0.0	10.0	0.0	0.0		30.3	10.2	0.0	0.1	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	10.0	0.0	0.0		30.3	10.2	0.0	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	151	1		167	1			676	3764		434	3157
V/C Ratio(X)	0.38	0.00		0.79	0.00			0.94	0.34		0.02	0.79
Avail Cap(c_a), veh/h	159	200		167	200			676	3764		496	3157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.30	0.30	0.00	0.46	0.46
Uniform Delay (d), s/veh	68.3	0.0	0.0	70.4	0.0	0.0		57.4	3.3	0.0	1.9	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	22.3	0.0	0.0		8.1	0.1	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	6.2	0.0	0.0		12.1	2.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	0.0	0.0	92.7	0.0	0.0		65.5	3.4	0.0	1.9	1.0
LnGrp LOS	E	A		F	A			E	A		A	A
Approach Vol, veh/h		57	A		132	A			1899	A		2742
Approach Delay, s/veh		69.8			92.7				24.1			0.9
Approach LOS		E			F				C			A

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.0	99.0	14.0	0.0	8.7	127.3	13.3	0.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	31.0	73.0	8.0	14.0	8.0	96.0	8.0	14.0
Max Q Clear Time (g_c+I1), s	32.3	2.0	12.0	0.0	2.1	12.2	7.0	0.0
Green Ext Time (p_c), s	0.0	64.3	0.0	0.0	0.0	26.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

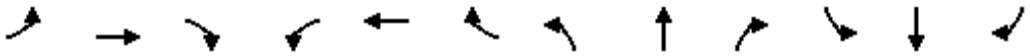


Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	213
Future Volume (veh/h)	213
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1841
Adj Flow Rate, veh/h	237
Peak Hour Factor	0.90
Percent Heavy Veh, %	4
Cap, veh/h	1084
Arrive On Green	1.00
Sat Flow, veh/h	1560
Grp Volume(v), veh/h	237
Grp Sat Flow(s),veh/h/ln	1560
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	1084
V/C Ratio(X)	0.22
Avail Cap(c_a), veh/h	1084
HCM Platoon Ratio	2.00
Upstream Filter(I)	0.46
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.2
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.2
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	382	581	574	150	23	29	174	1604	80	32	2760	170
v/c Ratio	0.52	0.93	0.80	0.67	0.05	0.07	1.25	1.01	0.11	0.62	1.73	0.18
Control Delay	59.5	56.2	39.6	41.7	39.6	0.3	212.5	73.2	3.0	106.9	350.0	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	56.2	39.6	41.7	39.6	0.3	212.5	73.2	3.0	106.9	350.0	2.7
Queue Length 50th (ft)	188	443	427	80	16	0	~109	~629	0	30	~1447	26
Queue Length 95th (ft)	245	369	#702	104	29	0	#153	#726	5	m34	m#1442	m28
Internal Link Dist (ft)		546			1558			3417			6458	
Turn Bay Length (ft)			250	225			325			400		375
Base Capacity (vph)	750	627	722	294	530	506	139	1581	791	52	1599	978
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.93	0.80	0.51	0.04	0.06	1.25	1.01	0.10	0.62	1.73	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build AM Improved_Regional

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	348	34	1015	108	15	16	134	1444	52	2	20	2539
Future Volume (veh/h)	348	34	1015	108	15	16	134	1444	52	2	20	2539
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1767	1693	1618	1663		1633	1796
Adj Flow Rate, veh/h	382	0	0	150	23	0	174	1604	0		28	2760
Peak Hour Factor	0.91	0.66	0.92	0.72	0.65	0.55	0.77	0.90	0.65		0.71	0.92
Percent Heavy Veh, %	2	2	2	2	2	9	14	19	16		18	7
Cap, veh/h	437	0		330	100		142	2663			52	2868
Arrive On Green	0.12	0.00	0.00	0.09	0.05	0.00	0.05	0.60	0.00		0.03	0.58
Sat Flow, veh/h	3563	0	3170	1781	1870	1497	3127	4418	1409		1555	4904
Grp Volume(v), veh/h	382	0	0	150	23	0	174	1604	0		28	2760
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	1497	1564	1473	1409		1555	1635
Q Serve(g_s), s	15.8	0.0	0.0	11.4	1.8	0.0	6.8	34.0	0.0		2.7	80.2
Cycle Q Clear(g_c), s	15.8	0.0	0.0	11.4	1.8	0.0	6.8	34.0	0.0		2.7	80.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Lane Grp Cap(c), veh/h	437	0		330	100		142	2663			52	2868
V/C Ratio(X)	0.87	0.00		0.45	0.23		1.23	0.60			0.54	0.96
Avail Cap(c_a), veh/h	537	0		402	524		142	2663			53	2868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00		0.22	0.22
Uniform Delay (d), s/veh	64.7	0.0	0.0	55.6	68.1	0.0	71.6	18.6	0.0		71.4	29.6
Incr Delay (d2), s/veh	12.8	0.0	0.0	1.0	1.2	0.0	149.3	1.0	0.0		1.2	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	0.0	5.3	0.9	0.0	5.6	11.2	0.0		1.1	29.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	0.0	0.0	56.6	69.2	0.0	220.9	19.6	0.0		72.6	32.6
LnGrp LOS	E	A		E	E		F	B			E	C
Approach Vol, veh/h		382	A		173	A		1778	A			2788
Approach Delay, s/veh		77.5			58.3			39.3				33.0
Approach LOS		E			E			D				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	94.6	19.6	21.8	11.3	97.3	24.4	17.0
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	6.8	49.5	19.6	45.0	* 5.1	52.1	22.6	42.0
Max Q Clear Time (g_c+I1), s	8.8	82.2	13.4	0.0	4.7	36.0	17.8	3.8
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	15.6	0.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	150
Future Volume (veh/h)	150
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1841
Adj Flow Rate, veh/h	0
Peak Hour Factor	0.88
Percent Heavy Veh, %	4
Cap, veh/h	
Arrive On Green	0.00
Sat Flow, veh/h	1560
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1560
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	A
Approach Delay, s/veh	
Approach LOS	

Timer - Assigned Phs

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	19	91	152	41	65	159	2741	207	179	1676	24
v/c Ratio	0.09	0.29	0.76	0.14	0.18	0.56	0.96	0.22	0.64	0.57	0.02
Control Delay	52.0	18.2	83.9	53.1	1.1	32.8	19.8	1.9	48.9	21.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	18.2	83.9	53.1	1.1	32.8	19.8	1.9	48.9	21.0	0.0
Queue Length 50th (ft)	16	16	145	35	0	67	164	1	115	350	0
Queue Length 95th (ft)	35	44	204	42	0	83	#1167	m14	176	504	0
Internal Link Dist (ft)		451		1235			2132			2600	
Turn Bay Length (ft)					175	400		375	425		300
Base Capacity (vph)	380	511	364	521	545	330	2870	962	278	2941	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.18	0.42	0.08	0.12	0.48	0.96	0.22	0.64	0.57	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	15	14	54	132	23	57	1	101	2604	182	6	134
Future Volume (veh/h)	15	14	54	132	23	57	1	101	2604	182	6	134
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	19	19	0	152	41	0		155	2741	0		165
Peak Hour Factor	0.81	0.75	0.75	0.87	0.56	0.88		0.65	0.95	0.88		0.81
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	204	249		221	249			305	3303			233
Arrive On Green	0.13	0.13	0.00	0.13	0.13	0.00		0.13	1.00	0.00		0.07
Sat Flow, veh/h	1366	1870	0	1393	1870	1585		1781	5106	1585		1781
Grp Volume(v), veh/h	19	19	0	152	41	0		155	2741	0		165
Grp Sat Flow(s),veh/h/ln	1366	1870	0	1393	1870	1585		1781	1702	1585		1781
Q Serve(g_s), s	1.9	1.3	0.0	16.1	2.9	0.0		4.2	0.0	0.0		4.4
Cycle Q Clear(g_c), s	4.8	1.3	0.0	17.4	2.9	0.0		4.2	0.0	0.0		4.4
Prop In Lane	1.00		0.00	1.00		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	204	249		221	249			305	3303			233
V/C Ratio(X)	0.09	0.08		0.69	0.16			0.51	0.83			0.71
Avail Cap(c_a), veh/h	404	524		426	524			403	3303			242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		0.44	0.44	0.00		1.00
Uniform Delay (d), s/veh	59.7	56.9	0.0	64.5	57.6	0.0		10.6	0.0	0.0		18.6
Incr Delay (d2), s/veh	0.2	0.1	0.0	3.8	0.3	0.0		0.6	1.2	0.0		8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.7	0.7	0.0	6.0	1.4	0.0		1.3	0.4	0.0		3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	57.0	0.0	68.3	57.9	0.0		11.2	1.2	0.0		27.3
LnGrp LOS	E	E		E	E			B	A			C
Approach Vol, veh/h		38	A		193	A			2896	A		
Approach Delay, s/veh		58.5			66.1				1.7			
Approach LOS		E			E				A			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.5	104.5		28.0	17.5	104.5		28.0				
Change Period (Y+Rc), s	7.5	7.5		8.0	7.5	7.5		8.0				
Max Green Setting (Gmax), s	18.3	66.7		42.0	10.7	74.3		42.0				
Max Q Clear Time (g_c+I1), s	6.2	28.8		6.8	6.4	2.0		19.4				
Green Ext Time (p_c), s	0.3	36.5		0.1	0.2	72.1		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
1: SR 21/Augusta Road & Rice Mill Road/Market Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional

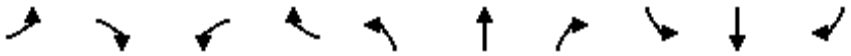


Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	1542	11
Future Volume (veh/h)	1542	11
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1826	1870
Adj Flow Rate, veh/h	1676	0
Peak Hour Factor	0.92	0.45
Percent Heavy Veh, %	5	2
Cap, veh/h	3224	
Arrive On Green	0.65	0.00
Sat Flow, veh/h	4985	1585
Grp Volume(v), veh/h	1676	0
Grp Sat Flow(s),veh/h/ln	1662	1585
Q Serve(g_s), s	26.8	0.0
Cycle Q Clear(g_c), s	26.8	0.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	3224	
V/C Ratio(X)	0.52	
Avail Cap(c_a), veh/h	3224	
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	0.00
Uniform Delay (d), s/veh	14.1	0.0
Incr Delay (d2), s/veh	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	14.7	0.0
LnGrp LOS	B	
Approach Vol, veh/h	1841	A
Approach Delay, s/veh	15.8	
Approach LOS	B	
Timer - Assigned Phs		

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional



Lane Group	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	216	611	69	53	287	2786	131	51	1705	56
v/c Ratio	0.63	0.84	0.22	0.16	0.76	0.87	0.12	0.31	0.66	0.07
Control Delay	56.9	28.4	44.4	1.0	75.9	12.2	0.5	31.8	22.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	28.4	44.4	1.0	75.9	12.2	0.5	31.8	22.3	0.3
Queue Length 50th (ft)	180	100	52	0	122	992	3	21	228	0
Queue Length 95th (ft)	259	185	83	0	m101	m699	m4	64	348	m2
Internal Link Dist (ft)						6427			2132	
Turn Bay Length (ft)				175	400		375	450		375
Base Capacity (vph)	353	762	322	353	423	3216	1057	167	2565	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.80	0.21	0.15	0.68	0.87	0.12	0.31	0.66	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
2: SR 21/Augusta Road & Site Access/Lakeside Boulevard

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	194	0	550	55	0	47	30	225	2647	122	42	1637
Future Volume (veh/h)	194	0	550	55	0	47	30	225	2647	122	42	1637
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No				No			No
Adj Sat Flow, veh/h/ln	1826	1870	1574	1796	1870	1870		1070	1870	1870	1870	1826
Adj Flow Rate, veh/h	216	0	0	69	0	0		250	2786	0	51	1705
Peak Hour Factor	0.90	0.90	0.90	0.80	0.90	0.89		0.90	0.95	0.93	0.82	0.96
Percent Heavy Veh, %	5	2	22	7	2	2		56	2	2	2	5
Cap, veh/h	291	93		225	1			300	3675		193	3132
Arrive On Green	0.14	0.00	0.00	0.06	0.00	0.00		0.15	0.72	0.00	0.12	1.00
Sat Flow, veh/h	1739	1870	2348	1711	1870	1585		1977	5106	1585	1781	4985
Grp Volume(v), veh/h	216	0	0	69	0	0		250	2786	0	51	1705
Grp Sat Flow(s),veh/h/ln	1739	1870	1174	1711	1870	1585		989	1702	1585	1781	1662
Q Serve(g_s), s	18.3	0.0	0.0	5.6	0.0	0.0		18.4	50.5	0.0	0.9	0.0
Cycle Q Clear(g_c), s	18.3	0.0	0.0	5.6	0.0	0.0		18.4	50.5	0.0	0.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	291	93		225	1			300	3675		193	3132
V/C Ratio(X)	0.74	0.00		0.31	0.00			0.83	0.76		0.26	0.54
Avail Cap(c_a), veh/h	291	324		252	212			356	3675		204	3132
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00		0.09	0.09	0.00	0.78	0.78
Uniform Delay (d), s/veh	63.2	0.0	0.0	61.4	0.0	0.0		61.8	13.0	0.0	18.9	0.0
Incr Delay (d2), s/veh	9.7	0.0	0.0	0.8	0.0	0.0		1.4	0.1	0.0	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	0.0	2.5	0.0	0.0		4.5	15.7	0.0	1.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.9	0.0	0.0	62.2	0.0	0.0		63.2	13.1	0.0	19.5	0.5
LnGrp LOS	E	A		E	A			E	B		B	A
Approach Vol, veh/h		216	A		69	A			3036	A		1812
Approach Delay, s/veh		72.9			62.2				17.2			1.1
Approach LOS		E			E				B			A

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	98.2	13.5	11.5	13.0	112.0	25.0	0.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	67.0	10.0	24.0	8.0	84.0	19.0	15.0
Max Q Clear Time (g_c+I1), s	20.4	2.0	7.6	0.0	2.9	52.5	20.3	0.0
Green Ext Time (p_c), s	0.3	39.2	0.0	0.0	0.0	30.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

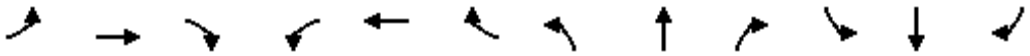


Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	50
Future Volume (veh/h)	50
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1693
Adj Flow Rate, veh/h	56
Peak Hour Factor	0.90
Percent Heavy Veh, %	14
Cap, veh/h	901
Arrive On Green	1.00
Sat Flow, veh/h	1434
Grp Volume(v), veh/h	56
Grp Sat Flow(s),veh/h/ln	1434
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	901
V/C Ratio(X)	0.06
Avail Cap(c_a), veh/h	901
HCM Platoon Ratio	2.00
Upstream Filter(I)	0.78
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	0.1
LnGrp LOS	A
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Queues
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	227	201	174	240	84	512	2934	364	113	1917	439
v/c Ratio	0.62	0.80	0.35	0.64	0.83	0.22	1.13	1.19	0.33	1.20	0.98	0.46
Control Delay	73.2	79.0	24.3	52.3	84.7	1.3	137.5	125.3	5.1	195.1	62.5	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	79.0	24.3	52.3	84.7	1.3	137.5	125.3	5.1	195.1	62.5	15.5
Queue Length 50th (ft)	100	217	95	130	230	0	~300	~1266	51	~140	530	140
Queue Length 95th (ft)	128	201	140	168	#428	0	#367	#1340	100	m#242	#771	218
Internal Link Dist (ft)		546			1558			3417			6427	
Turn Bay Length (ft)			250	225			325			400		375
Base Capacity (vph)	434	282	581	276	289	389	455	2459	1101	94	1965	996
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.80	0.35	0.63	0.83	0.22	1.13	1.19	0.33	1.20	0.98	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

HCM 6th Signalized Intersection Summary
3: SR 21/Augusta Road & SR 30/Piedmont Ave/Black Creek Drive

Vernadoe-Wiggins Tract
2029 Build PM Improved_Regional

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	100	211	136	223	68	425	2787	346	107	1783	382
Future Volume (veh/h)	169	100	211	136	223	68	425	2787	346	107	1783	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1870	1870	1856	1796	1870	1870	1737	1870
Adj Flow Rate, veh/h	204	239	0	174	240	0	512	2934	0	113	1917	0
Peak Hour Factor	0.83	0.61	0.80	0.78	0.93	0.81	0.83	0.95	0.95	0.95	0.93	0.87
Percent Heavy Veh, %	2	2	2	5	2	2	3	7	2	2	11	2
Cap, veh/h	257	263		227	303		453	2583		91	2087	
Arrive On Green	0.07	0.14	0.00	0.09	0.16	0.00	0.13	0.53	0.00	0.05	0.44	0.00
Sat Flow, veh/h	3563	1870	1585	1739	1870	1585	3428	4904	1585	1781	4742	1585
Grp Volume(v), veh/h	204	239	0	174	240	0	512	2934	0	113	1917	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1739	1870	1585	1714	1635	1585	1781	1581	1585
Q Serve(g_s), s	8.5	18.9	0.0	12.8	18.5	0.0	19.8	79.0	0.0	7.7	57.0	0.0
Cycle Q Clear(g_c), s	8.5	18.9	0.0	12.8	18.5	0.0	19.8	79.0	0.0	7.7	57.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	263		227	303		453	2583		91	2087	
V/C Ratio(X)	0.79	0.91		0.77	0.79		1.13	1.14		1.24	0.92	
Avail Cap(c_a), veh/h	451	299		227	303		453	2583		91	2087	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.66	0.66	0.00
Uniform Delay (d), s/veh	68.5	63.5	0.0	50.3	60.5	0.0	65.1	35.5	0.0	71.2	39.5	0.0
Incr Delay (d2), s/veh	5.5	27.8	0.0	14.6	13.5	0.0	83.4	66.6	0.0	153.2	5.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	10.7	0.0	6.6	10.0	0.0	13.7	45.3	0.0	7.4	22.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	91.3	0.0	64.9	73.9	0.0	148.5	102.1	0.0	224.4	45.1	0.0
LnGrp LOS	E	F		E	E		F	F		F	D	
Approach Vol, veh/h		443	A		414	A		3446	A		2030	A
Approach Delay, s/veh		83.3			70.1			109.0			55.0	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.0	72.9	20.0	30.1	14.0	85.9	16.8	33.3
Change Period (Y+Rc), s	7.2	6.9	6.0	9.0	* 6.3	6.9	6.0	9.0
Max Green Setting (Gmax), s	19.8	63.1	14.0	24.0	* 7.7	76.1	19.0	19.0
Max Q Clear Time (g_c+I1), s	21.8	59.0	14.8	20.9	9.7	81.0	10.5	20.5
Green Ext Time (p_c), s	0.0	4.1	0.0	0.2	0.0	0.0	0.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	87.3
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved ignoring U-Turning movement.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Turn Lane Warrant Analysis

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

4.9 Auxiliary Turn Lanes

4.9.1 When Deceleration Lanes Are Required

The provisions of this section should generally apply to auxiliary lanes installed on the approach to an intersection that provide for deceleration and storage of vehicles waiting to turn right or left. Such lanes are always beneficial and will be required in conjunction with commercial driveway permits when projected traffic volumes exceed minimum levels as provided in the sections below.

All existing utilities which would be under new pavement or in auxiliary/deceleration lanes should be relocated before final grading and paving, and at no cost to DOT. Existing utilities which are found to be not in conflict with construction may be allowed if a Retention Request is processed by the utility owner and approved by the Department.

4.9.1.1 Minimum Requirements for Right Turn Deceleration Lanes

Right turn deceleration lanes must be constructed at no cost to the Department if the daily site generated Right Turn Volumes (RTV) based on ITE Trip Generation (assuming a reasonable distribution of entry volumes) meet or exceed the values shown in Table 4-6. Passing lane sections fall under the criteria for two or more lanes.

Posted Speed	2 Lane Routes		More than 2 Lanes on Main Road	
	AADT		AADT	
	< 6,000	>=6,000	<10,000	>=10,000
35 MPH or Less	200 RTV a day	100 RTV a day	200 RTV a day	100 RTV a day
40 to 50 MPH	150 RTV a day	75 RTV a day	150 RTV a day	75 RTV a day
55 to 60 MPH	100 RTV a day	50 RTV a day	100 RTV a day	50 RTV a day
>= 65 MPH	Always	Always	Always	Always

Table 4-6 Minimum Volumes Requiring Right Turn Lanes

In the event the District Traffic Engineer determines that field conditions or other factors indicate that it would be in the best interest of the Department, use the form in **Appendix F** to document a waiver for the deceleration lane requirement, the District Traffic Engineer must document the recommendations using the form in **Appendix F**. The recommendations shall be approved by the District Engineer and be attached to the Permit. The District Traffic Engineer may also require the addition of a Right Turn lane, even when the conditions in Table 4-6 are not met, if roadway geometry or field conditions indicate that the safety of the traveling public would be improved. The recommendation must be documented and approved by the District Traffic Engineer for inclusion with the Permit.

The R/W for auxiliary/deceleration lanes may be dedicated in fee simple to the Department for the Department to maintain or the applicant must sign an agreement with the Department to maintain the lane to the Department's standards and to hold harmless the Department in the event that section of roadway is identified in any liability action. A Limited Warranty Deed is not acceptable when R/W is donated to the Department. See section 2.5 for details regarding RW dedication procedures.

AADT is greater than 10,000 and right-turns are greater than 50, so a right-turn lane is required

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

GDOT ICE
Analysis

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

ICE Version 2.15 | Revised 07/01/2019

GDOT PI # (or N/A): N/A Request By: GDOT

County: Chatham GDOT District: 5 - Jesup

Major (State) Road: SR-21 Speed Limit: 55 mph

Minor (Crossing) ST: Site Access #1 Speed Limit: < 35 mph

Major ST Direction: North/South Area Type: Suburb/Transition

Intersection Control: Conventional (Minor Stop)

Prepared By: Kimley-Horn Analyst: DBT

Date: 4/2/2021 Project ID: 13908000

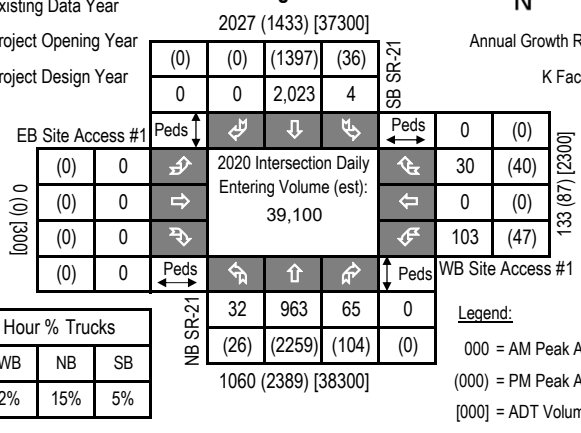
Project Purpose: Driveway for proposed Vernadoe-Wiggins Tract

2020	Existing Data Year
2023	Project Opening Year
2033	Project Design Year

Annual Growth Rate: 2.0%

K Factor*: 10%

2020 Existing Year Volumes



Peak Hour % Trucks			
EB	WB	NB	SB
2%	2%	15%	5%

Legend:

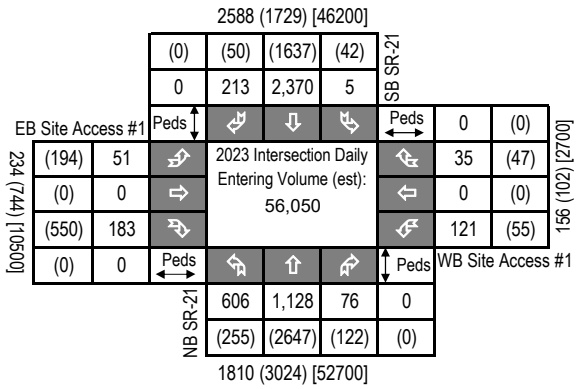
000 = AM Peak Approach Vol

(000) = PM Peak Approach Vol

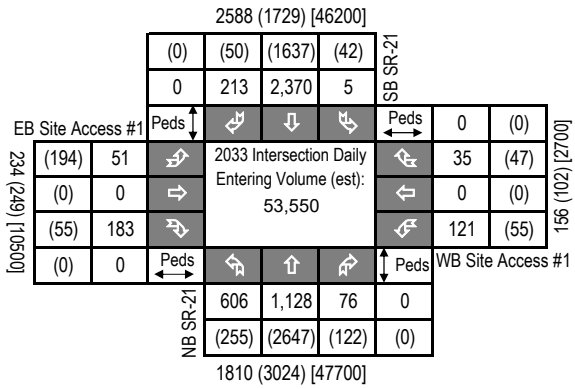
[000] = ADT Volume (Estimate)

Approach Splits: SR-21 - 0.96 / Site Access #1 - 0.04

2023 Opening Year Volumes



2033 Design Year Volumes



Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "**Waiver**" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI #	N/A
Project Location:	SR-21 @ Site Access #1
Existing Control:	Conventional (Minor Stop)
Prepared by:	Kimley-Horn
Date:	4/2/2021

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	**Screening Decision Justification:**
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	**Yes**	**Yes**	No	High site traffic volumes lead to poor operations under this alternative.
	Conventional (All-Way Stop)	No	**Yes**	No	No	No	No	No	Major street peak hour traffic volumes are too high.
	Mini Roundabout	No	No	No	No	No	No	No	Too many through volumes
	Single Lane Roundabout	No	No	No	No	No	No	No	Cant be a single lane because of through lanes
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Alternative warrants further consideration.
	RCUT (stop control)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Expected daily truck volume is too high.
	RIRO w/down stream U-Turn	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Diverted left-turn volume is too high.
	High-T (unsignalized)	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Offset-T Intersections	No	No	No	No	No	No	No	N/A.
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	N/A.
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	N/A.
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A.
	Other unsignalized (provide description):	No	No	No	No	No	No	No	N/A.
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Alternative warrants further consideration.
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	SR- 21cross section and volumes are not supportive of this type of solution.
	RCUT (signalized)	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Continuous Green-T	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Jughandle	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Quadrant Roadway	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Diverging Diamond	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	Single Point Interchange	No	No	No	No	No	No	No	SR-21 cross section and volumes are not supportive of this type of solution.
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A.
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A.

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI # (or N/A): N/A
County: Chatham
Project Location: SR-21 @ Site Access #1
Existing Intersection Control: Conventional (Minor Stop)

GDOT District: 5 - Jesup
Area Type: Suburb/Transition

Date: 4/2/2021
Agency/Firm: Kimley-Horn
Analyst: DBT

Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro 10	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2023 Opening Yr No-Build Peak Hr Intersection Delay	500.0 sec	500.0 sec
2023 Opening Yr No-Build Peak Hr Intersection V/C	2.71	5.00
2033 Design Yr No-Build Peak Hr Intersection Delay	500.0 sec	500.0 sec
2033 Design Yr No-Build Peak Hr Intersection V/C ratio	5.00	5.00

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

Crash Type: Crash Data: Enter most recent 5 years of crash data	Crash Severity: PDO	Injury Crash*	Fatal Crash*	
Angle	16	0	0	23%
Head-On	2	0	0	3%
Rear End	35	0	0	51%
Sideswipe - same	9	0	0	13%
Sideswipe - opposite	0	0	0	0%
Not Collision w/Motor Veh	7	0	0	10%
TOTALS:	69	0	0	69

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	Multilane Roundabout	RCUT (stop control)	RIRO w/down stream U-Turn	Traffic Signal	N/A
Project Cost: (From CostEst Worksheet)	*Additional description here*	*Additional description here*	*Additional description here*	*Add LT bays all approaches*	
Construction Cost	$1,307,000	$156,000	$388,000	$341,000	
ROW Cost	$385,000	$0	$0	$0	
Environmental Cost	$0	$0	$0	$0	
Reimbursable Utility Cost	$16,000	$2,000	$5,000	$6,000	
Design & Contingency Cost	$392,000	$40,000	$100,000	$119,000	
Cost Adjustment (justification req'd)	0%	0%	0%	0%	
Total Cost	$2,100,000	$198,000	$493,000	$466,000	
Traffic Operations:					
Traffic Analysis Software Used	Other (explain below)	Other (explain below)	Synchro 10	--select one--	
Analysis Period	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr	
2033 Design Yr Build Intersection Delay	352.5 sec / 200.1 sec	500.0 sec / 500.0 sec	500.0 sec / 500.0 sec	38.3 sec / 36.6 sec	
2033 Design Yr Build Intersection V/C	2.40 / 2.10	2.71 / 2.00	2.71 / 2.00	1.23 / 1.07	
Safety Analysis:					
Predefined CRF: PDO	32%	31%	35%	39%	
Predefined CRF: Fatal/Inj	71%	53%	54%	40%	
Predefined CRF Source:	FHWA Clearinghouse #s 236 / 237	NC/MO Table 4-7	FHWA Clearinghouse #s 5555 / 5556	FHWA Clearinghouse #s 7982 / 7984	
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					
Environmental Impacts:[1]					
Historic District/Property	None	None	None	None	
Archaeology Resources	None	None	None	None	
Graveyard	None	None	None	None	
Stream	None	None	None	None	
Underground Tank/Hazmat	None	None	None	None	
Park Land	None	None	None	None	
EJ Community	None	None	None	None	
Wooded Area	None	None	None	None	
Wetland	None	None	None	None	

*Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet*

[1] *Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report*

Stakeholder Posture:					
Local Community Support	Neutral	Neutral	Neutral	Neutral	
GDOT Support	Neutral	Neutral	Neutral	Neutral	
Final ICE Stage 2 Score:	-1.5	-1.9	-1.9	5.3	
Rank of Control Type Alternatives:	2	4	3	1	

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): Sidra Intersection 9.0 was used as a supporting tool for roundabout capacity analyses. The single-lane and multilane roundabout alternatives consider an eastbound right-turn bypass lane to serve proposed Site Access #1. For the two-way stop control conditions considered under the No-Build analyses, only the minor street approach experiencing the largest control delay was reported.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

GDOT ICE TOOL: COST ESTIMATING AID

ICE Version 2.15 | Revised 07/01/2019

Project Information

Location:	SR-21 @ Site Access #1	County:	Chatham	Date:	4/2/2021
GDOT PI # (or N/A):	N/A	Area Type:	Suburb/Transition	Agency/Firm:	Kimley-Horn
Existing Intersection Control:	Conventional (Minor Stop)	GDOT District:	5 - Jesup	Analyst:	DBT
Type of Analysis:	Conventional Non-Safety Funded Project			Major Street Direction:	North/South

Table 1: Existing Conditions

	NB SR-21			SB SR-21			EB Site Access #1			WB Site Access #1		
Movement	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn	Left Turn	Thru	Right Turn
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0
Lane Widths*	12'	12'	12'	12'	12'	12'	12'	12'	12'	12'	12'	12'
Bay Length**	0'		175'	0'		0'	0'		0'	0'		0'
Median Width		0'			0'			0'			0'	
Right-of-Way	30'						0'					

Table 2: Proposed Conditions

	Multilane Roundabout	RCUT (stop control)	RIRO w/down stream U-Turn	Traffic Signal	N/A
Proposed Pavement Type	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt	F.D. Asphalt
Reimbursable Utility:	Minimal	Minimal	Minimal	Minimal	Minimal
# of Driveway(s) Impacted	1	1	0	0	0
Modify/Replace Traffic Signal	0	0	1	0	0
Lighting Poles (ea)	0	0	0	0	0
Flashing Beacons (ea)	0	0	0	0	0
RFB/PHB Ped Crossings (ea)	0	0	0	0	0
New/Replace Sidewalks (LF)	0'	0'	0'	0'	0'
New/Replace Cross Drains (LF)	0'	0'	0'	0'	0'
New/Replace Guardrail (LF)	0'	0'	0'	0'	0'
New Retaining Wall (LF)	0'	0'	0'	0'	0'
Bridge:New/Widen/Replace (sqft)	0	0	0	0	0
Add'l ROW/Easements/Demolition	$0	$0	$0	$0	$0

Site Context

Topography:	Level
Traffic Mgmt Plan:	Maintain Traffic
Project Size:	Single Intersection

Cost Multipliers

Grading Complete:	15%
Reimbursable Utility:	2%
Traffic Control:	20%
Project Size:	0%
Prelim Engineering:	15%
Project Contingency:	20%

Intersections

Signal Poles	Mast Arm
Design Vehicle	WB-67
Existing Interchange?	No

Roundabouts

Inscribed DIA - Mini	80
Inscribed DIA - Single	140
Inscribed DIA - Multi	180
Circulating Lane Width	16

ROW Costs

Prevalent ROW Type:	Mixed (Average)
ROW Cost/Acre:	$308,438
ROW Multiplier:	1.6

Table 3: Control Type Cost Breakdown

Pay Item	Per Ln Mi Unit Cost	Unit Cost	Multilane Roundabout		RCUT (stop control)		Turn		Traffic Signal		N/A	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
New Construction (Base & Pave)	$500K/LM	$9.47/sqft	42,963	$549,242	5,000	$47,348	5,500	$52,083	16,000	$151,515		
Roadway Mill and Overlay	$64K/LM	$1.21/sqft	0	$0	0	$0	0	$0	0	$0		
Urban C&G/Drainage - both sides	441-6720	$19.08/LF	3330	$85,773	700	$13,356	800	$15,264	4,000	$76,320		
Rural Typ Drainage - both sides	$150K/LM	$2.84/LF	0	$0	0	$0	0	$0	0	$0		
Concrete Island (sqyd)	n/a	$51.58/syd	450	$31,335	500	$25,790	250	$12,895	0	$0		
Median Landscaping	$100K/LM	$1.89/LF	3600	$9,205	1,050	$1,989	1,200	$2,273	0	$0		
Typical Driveways Impacted (ea)	n/a	$7,500 ea	1	$10,125	1	$7,500	0	$0	0	$0		
Typical E&S Control Temp/Perm	$150K/LM	$34.09/LF	1200	$55,227	350	$11,932	400	$13,636	2,000	$68,182		
Roundabout Truck Apron (sqft)	n/a	$10.25/sqft	3833	$53,039	0	$0	0	$0	0	$0		
Signing & Marking	$0	$22.73/LF	1,200	$36,823	350	$7,956	400	$9,092	2,000	$45,460		
Flashing Beacon (ea)	n/a	$20,000 ea	0	$0	0	$0	0	$0	0	$0		
New Traffic Signal (Mast Arms)	674-1000	$182,575ea	0	$0	0	$0	1	$182,575	0	$0		
Lighting (per pole)	n/a	$5,607 ea	0	$0	0	$0	0	$0	0	$0		
Signalized Ped Crossings (ea)	n/a	$19,637 ea	0	$0	0	$0	0	$0	0	$0		
6' Sidewalk (LF)	n/a	$49.23/LF	0	$0	0	$0	0	$0	0	$0		
New/replace cross drains (LF)	n/a	$41.31/LF	0	$0	0	$0	0	$0	0	$0		
Typical Guardrail (LF)	n/a	$65.56/LF	0	$0	0	$0	0	$0	0	$0		
Retaining Wall (LF)	n/a	$808.52/LF	0	$0	0	$0	0	$0	0	$0		
Bridge widen/replace (SF)	n/a	$210/sqft	0	$0	0	$0	0	$0	0	$0		
Env Costs (from Stage 2 impacts)	n/a	n/a	0	$0	0	$0	0	$0	0	$0		
Grading Complete - 15%	n/a	n/a		$252,346		$17,381		$43,173		$0		
Traffic Control - 20%	n/a	n/a		$224,307		$23,174		$57,564		$0		
Reimbrusable Utility	n/a	n/a		$16,615		$2,317		$5,756		$6,830		
Preliminary Engineering - 15%	n/a	n/a		$168,231		$17,381		$43,173		$51,222		
Contigency - 20%	n/a	n/a		$224,307		$23,174		$57,564		$68,295		
ROW Cost/Acre: Mixed (Average)	n/a	$308,438ac		$240,746		$308		$308		$0		
Add'l ROW / Displacement / Demo	n/a	n/a		$0		$0		$0		$0		
ROW Multiplier - 1.6	n/a	n/a		$144,447		$185		$185		$0		
Project Scale Reduction - 0.0%	n/a	n/a		$0		$0		$0		$0		
Grand Total Costs				**$2,102,000**		**$200,000**		**$496,000**		**$468,000**		

Table 4: Assumption Adjustments/Quantity Overrides

Alternative Evaluated	Assumptions:	Pavement	Calculated ROW (ac)	User Override*	Calculated Pavement	User Override*	Major ST Const Limits	User Override*	Minor ST Const Limits	User Override*
Multilane Roundabout	--select one--	F.D. Asphalt	0.78	0.0	42,963	0.0	600	0.0	600	0.0
RCUT (stop control)	Loons/Leftovers Only	F.D. Asphalt	1.03	0.0	29,358	5,000.0	1,320	200.0	510	150.0
RIRO w/down stream U-Turn	Loons/Leftovers Only	F.D. Asphalt	1.03	0.0	22,158	5,500.0	1,320	250.0	510	150.0
Traffic Signal	Pave/Overlay Intersection	F.D. Asphalt	0.00	0.0	16,000	0.0	1,000	0.0	1,000	0.0
N/A	#N/A	F.D. Asphalt	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit A Traffic Study (2485 : Zoning Map Amendment VARNEDOE-

Limited Noise Exposure Evaluation

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

June 15, 2021
Terracon Project No. ES217065

Prepared for:

Kern & Co., LLC
Savannah, Georgia

Prepared by:

Terracon Consultants, Inc.
Savannah, Georgia

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Terracon

June 15, 2021

Kern & Co., LLC
PO Box 15179
Savannah, Georgia 31416

Attn: Mr. Chad Zittrouer, PE
E: CZittrouer@kernengineering.com

Re: Limited Noise Exposure Evaluation
Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia
Terracon Project No. ES217065

Dear Mr. Zittrouer:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Limited Noise Exposure Evaluation report for the above-referenced site. This assessment was performed in accordance with Supplement to Agreement for Services No. PES217151, dated June 1, 2021.

We appreciate the opportunity to be of service to you on this project. In addition to noise evaluation services, our professionals provide **geotechnical, environmental, construction materials, and facilities services** on a wide variety of projects locally, regionally and nationally. For more detailed information on all of Terracon's services please visit our website at www.terracon.com.

If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Leah R. Moore, EIT
Senior Staff Environmental Engineer

William S. Anderson, III, PE
Senior Principal / Southeast Division Manager

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Limited Noise Exposure Evaluation

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Terracon Project No. ES217065
June 15, 2021

1.0 INTRODUCTION

1.1 Project Description

Terracon Consultants, Inc. (Terracon) has completed this Limited Noise Exposure Evaluation on behalf of Kern & Co., LLC for the Varnedoe-Wiggins Tract Phases I and II rezoning project located west of Georgia Highway 21 (Augusta Road) in Port Wentworth, Chatham County, Georgia. The location of the subject site is depicted on a Vicinity and Topographic Map provided as Figure 1 of Appendix A as reproduced on a portion of the 2020 Port Wentworth, Georgia United States Geological Survey (USGS) 7.5-minute series topographic map. Diagrams of the subject site are included as Figures 2A and 2B of Appendix A.

As shown on Figures 2A and 2B, the subject site currently consists primarily of undeveloped wooded land transected by a Georgia Power overhead transmission line easement. Chatham County subject parcel numbers 70975 01026Y and 70975 01017A, addressed as 222 and 226 Jeffers Road respectively, are residentially developed and would be redeveloped as part of the proposed project. The subject parcels are currently zoned as Residential-Agriculture (R-A). As part of the proposed project, the parcels will be rezoned as Industrial (I-1), which is required to meet I-2 standards for warehousing.

Black Creek forms portions of the northern property boundary. Based on site observations, land parcels to the north-northwest have already been developed or are under construction as warehouse facilities within the Georgia International Trade Center (GITC) development along Trade Center Parkway. North-northeastern adjoining Chatham County parcel numbers 70906 01029 and 70906 01030 currently consist of undeveloped wooded land but are zoned for residential development. These parcels are followed by the existing Rice Creek residential neighborhood. Additional residential developments exist to the south-southeast and east of the subject site along Georgia Highway 21, Saussy Road, Grant Road, and Berrien Road. Western adjoining Chatham County and Effingham County land parcels consist of undeveloped wooded land and a Seaboard Coastline rail line.

The proposed Varnedoe-Wiggins Tract development will consist of 13 warehouse/truck terminal buildings of various size and orientation, employee vehicle parking areas, truck/trailer parking

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areas, and access roadways. Several 100-feet wide buffers completed with 15-feet tall earthen berms with 2:1 slopes and topped with vegetation and trees are proposed along the shared property boundaries including along Jeffers Road, the Georgia Power substation and end of Saussy Road, and various locations along the southern and western property boundaries.

The layout of the proposed development is depicted in Figures 3, 4A, and 4B in Appendix A.

1.2 Noise Overview

Noise is typically defined as unwanted or undesirable sound. The basic parameters of noise include intensity, frequency content, and variation with time. Noise intensity is determined by the level of sound, which is expressed in units of decibels (dB). The range of normally encountered sound on the decibel scale can be expressed by values between 0 dB and 120 dB. On a relative basis, a 3-dB change in sound level generally represents a barely perceptible change in a common outdoor setting. A 5-dB positive change represents a "noticeable" change and a 10-dB positive change is typically perceived as a doubling in volume. Similarly, a 10-dB decrease in noise levels is perceived as a 50% reduction in volume.

The frequency of noise is related to the tone or pitch of the sound and is expressed in terms of cycles per second, or hertz (Hz). The human ear can detect a wide range of frequencies from about 20 Hz to 17,000 Hz. However, because the sensitivity of human hearing varies with frequency, the A-weighting system is commonly used. A-weighting is applied to instrument-measured sound levels in an effort to account for the relative loudness perceived by the human ear, as the ear is less sensitive to low audio frequencies.

A-weighting is employed by arithmetically adding a table of values, listed by octave or third-octave bands, to the measured sound pressure levels in dB. The resulting octave band measurements are logarithmically added to provide a single A-weighted value describing the sound and the units are written as dB(A). The A-weighted sound level is widely accepted as a proper unit for describing environmental noise and has been adopted as the unit of measure by the Occupational Safety and Health Administration (OSHA), the American Conference of Governmental Industrial Hygienists (ACGIH), the Federal Highway Administration (FHWA), and the U.S. Environmental Protection Agency (EPA).

Because environmental noise fluctuates from moment to moment, it is common practice to condense all of this information into a single value known as the equivalent sound level (Leq). The Leq is a measure of the average sound energy during a specified period of time (typically 1 hour or 24 hours). The Leq is defined as the constant level that, over a given period of time, transmits the same amount of acoustical energy to a receiver as the actual time-varying sound. Peak 1-hour Leq provides the worst case equivalent hourly noise level for a given time period.

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1.3 Purpose

The purpose of this evaluation was to satisfy the criteria set forth in the City of Port Wentworth, Georgia Code of Ordinances, Appendix B, Article V, Section 5.2. Specifically, Part C (Environmental Quality) of the Development Impact Assessment requirements in order to comply with I-2 zoning, states that a developer shall provide a noise study that includes the following:

- A 24-hour base-line survey of existing ambient sound levels (in Leq) at or near the property boundaries at intervals of not more than 300-feet.
- Estimated sound level data for the proposed development, with supporting documentation.
- A plat depicting the expected acoustic impact of the proposed development in 5-dB increments.

In addition, the ordinance states that where the noise generated by the proposed development is expected to exceed 55 dB(A) at any point along the property line, the developer shall provide a detailed proposal for noise-reduction measures, including, but not limited to, berms, sound-absorbing barriers, and vegetative buffers, and shall depict said improvements on the Preliminary General Site Plan submitted as part of the General Development Plan. The proposed parcel rezoning and warehouse development necessitates this Limited Noise Exposure Evaluation.

1.4 Scope of Work

Pursuant to the completion of this Limited Noise Exposure Evaluation, Terracon's scope of work included a review of historical existing sound levels in the vicinity of the subject site, as well as the estimation and depiction of the expected acoustic impact of the proposed warehouse development in 5-decibel increments. A detailed discussion of Terracon's procedures, historical existing sound level data, and sound level projections are included in the following sections. Conclusions and recommendations are presented at the end of this report.

1.5 Reliance

This report is prepared for the exclusive use and reliance of Kern & Co., LLC (the client) and the City of Port Wentworth. Use or reliance by any other party is prohibited without the written authorization of the client and Terracon Consultants, Inc.

Reliance on this report by the client and all authorized parties will be subject to the terms, conditions and limitations stated in this report, the Supplement to Agreement for Services dated June 1, 2021, and the Agreement for Services between Terracon and Kern & Co., LLC, dated March 8, 2021. The limitation of liability defined in the Agreement for Services is the aggregate limit of Terracon's liability to the client and all relying parties.

2.0 FIELD ACTIVITIES

2.1 Background Sound Level Data Collection

In August 2020, Terracon collected existing background sound levels from various locations directly north of the current subject site as part of a separate rezoning project. Two (2) of these locations, referred to herein as M4 (2020) and M5 (2020), were located along the current northern property boundary as shown in Figure 3 in Appendix A. Location M4 (2020) was located near the center of the northern property boundary where the Georgia Power easement access road terminates on the north side of adjoining Black Creek. Location M5 (2020) was within the undeveloped wooded area directly north of the subject site's northwestern corner. These two (2) locations are considered representative of existing background conditions along the transecting Georgia Power overhead transmission line easement and along property boundaries with undeveloped wooded lands for the current subject site. As such, new sound level measurements were not performed for similar locations during the current study.

During the Varnedoe-Wiggins Tract Phase I noise study in March 2021, Terracon collected additional existing background sound levels from two (2) locations, M1 and M2, along property boundaries with Georgia Highway 21 and Jeffers Road as shown in Figure 3 in Appendix A. As shown, location M1 was located on the eastern property boundary along Georgia Highway 21. Location M2 was located on the southern property boundary along Jeffers Road. Location M2 is considered representative of the residences along Saussy Road as well, so new sound level measurements were not performed during the current study.

Sound levels at the subject site were recorded for approximate 24-hour periods from March 15, 2021 through March 18, 2021. At each location, sound levels were recorded utilizing laboratory and field-calibrated Quest Technologies ANSI Type II SoundPro Model DL sound level meters. Data from the sound level meters were digitally imported utilizing the 3M™ Detection Management Software and processed utilizing Microsoft Excel. Photographs of the sound level meter locations and field observations are included in Appendix B.

2.2 Observed Noise Sources

During the collection of existing sound levels, a log was kept noting the time of day, meteorological conditions, and on-site/off-site noise sources. At monitoring location M1, the primary noise source was traffic along Georgia Highway 21. Traffic included heavy trucks (tractor-trailers, dump trucks, etc.), light and medium trucks, buses, motorcycles, and passenger vehicles. At location M2, traffic noise from nearby Georgia Highway 21 was not as loud but was still noticeable. The occasional vehicle traversing Jeffers Road also contributed to vehicular noise at location M2. Locations M2, M4 (2020), and M5 (2020) were in predominantly undeveloped areas where on-site noise sources primarily consisted of wildlife such as birds, insects, and frogs. In addition to vehicular traffic, other off-site noise sources included occasional jet, airplane, and helicopters passing overhead.

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3.0 EXISTING SOUND LEVELS

The following sections provide summaries of the recorded sound levels at the subject site property boundaries. Session data from each meter location was digitally imported utilizing the 3M™ Detection Management Software and processed utilizing Microsoft Excel. The session reports for each location run as provided by the 3M™ software are provided in Appendix C. As shown on these reports, the software program automatically calculates an overall Leq for each session based on all the sound level data collected during that run. These values include, however, all potentially falsely elevated readings that may be associated with user interactions (setting up the meter, checking the batteries, approaching/leaving the meter locations, etc.) as well as non-typical environmental noise sources such as thunderstorms and rain. As such, Terracon further processes the sound level data to remove these "false" readings in order to calculate more accurate sound levels.

The following table lists all the data points removed from each meter session for the purposes of calculating existing sound levels.

Table 3.1 - Data Removed from Sound Level Analysis

Location / Session	Actual Start Time & Date	Actual Stop Time & Date	Modified Start Time & Date	Modified Stop Time & Date	Readings Removed from Data	Comments
M1	13:34 3/17/2021	13:06 3/18/2021	13:36 3/17/2021	12:29 3/18/2021	13:34-13:35 3/17/2021	Setting up meter/departing
					14:07-14:11 3/17/2021	Stopped session to check battery
					16:47-16:51 3/17/2021	Stopped session to check SD card
					12:30-13:06 3/18/2021	Rainfall followed by approaching/ breaking down meter
M2	11:48 3/15/2021	12:20 3/16/2021	11:52 3/15/2021	12:12 3/16/2021	11:48-11:51 3/15/2021	Setting up meter/departing
					12:13-12:20 3/16/2021	Surveyor's passing location, Terracon approaching/ breaking down meter
M4 (2020)	10:17 8/6/2020	09:41 8/7/2020	10:25 8/6/2020	09:39 8/7/2020	10:17-10:24 8/6/2020	Setting up meter/departing
					16:37 8/6/2020	Thunder
					16:51-19:03 8/6/2020	Thunderstorm/ rain

Location / Session	Actual Start Time & Date	Actual Stop Time & Date	Modified Start Time & Date	Modified Stop Time & Date	Readings Removed from Data	Comments
M4 (2020) *Continued*	10:17 8/6/2020	09:41 8/7/2020	10:25 8/6/2020	09:39 8/7/2020	20:59-00:03 8/6-7/2020	Thunderstorm/ rain
					09:40-09:41 8/7/2020	Approaching/ breaking down meter
M5 (2020)	10:00 8/6/2020	09:21 8/7/2020	10:03 8/6/2020	09:18 8/7/2020	10:00-10:02 8/6/2020	Setting up meter/departing
					16:37 8/6/2020	Thunder
					16:51-18:47 8/6/2020	Thunderstorm/ rain
					21:01-03:38 8/6-7/2020	Thunderstorm/ rain
					09:19-09:21 8/7/2020	Approaching/ breaking down meter

3.1 Average Leq Measurements

Using the sound level data as modified in Section 3.0, Terracon recalculated the 24-hour average Leq values at each measurement location as well as average day and night Leq values. 'Day' measurements refer to the hours between 07:00 and 19:00 when the development would be the most active. 'Night' measurements refer to the hours between 19:00 and 07:00 when development operations would be reduced. The sound levels are presented in the following table.

Table 3.2 - Summary of Average Leq Measurements

Location	24-Hour Average Leq dB(A)	"Day" Average Leq dB(A)	"Night" Average Leq dB(A)
M1	68.12	69.86	65.60
M2	54.87	57.08	49.88
M4 (2020)	52.54	50.66	53.87
M5 (2020)	50.28	47.11	53.06

*Values in red exceed the City of Port Wentworth 55 dB(A) reference threshold.

The existing 24-hour average Leq values at the subject site ranged from 50.28 dB(A) at location M5 (2020) to 68.12 dB(A) at location M1. Average "day" Leq values were higher than their respective average "night" Leq values at meter locations closer to off-site adjacent Georgia Highway 21 traffic (locations M1 and M2); whereas average "night" Leq values were generally higher in the more wooded locations [locations M4 (2020) and M5 (2020)], likely due to increased

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nocturnal wildlife/insect activity. The highest average "night" Leq, however, was recorded at location M1 which was located closest to the Georgia Highway 21. The 24-hour average Leq measurements are depicted on Figure 3 in Appendix A.

As noted in the Table 3.2, the existing 24-hour average Leq as well as the average "day" and "night" Leq sound levels at location M1 already exceed the 55 dB(A) threshold referenced in the City of Port Wentworth Code of Ordinances. Existing traffic noise generated along Georgia Highway 21 dominates the noise environment in this location and represents the existing sound levels experienced by commercial and residential developments adjacent to this roadway. The average "day" Leq sound level at location M2 also exceeds the 55 dB(A) threshold due to increased daytime traffic noise along Georgia Highway 21 and represents the existing noise environment for residences near the roadway.

3.2 Peak 1-Hour Leq Measurements

Maximum hourly Leq values were identified for each measurement location as shown in the table below. Peak 1-hour Leq values ranged from 56.01 dB(A) at location M5 (2020) to 70.56 dB(A) at location M1. The peak 1-hour Leq at M1 occurred during morning rush hour traffic on Georgia Highway 21. At locations M4 (2020) and M5 (2020), the peak hourly Leq values took place during the late evening/early morning hours, indicating they were likely due to active nocturnal wildlife and insects, especially after the thunderstorms that took place overnight from August 6, 2020 to August 7, 2020 (noise from the thunderstorms themselves were removed from the calculations as indicated in Table 3.1 previously).

Table 3.3 - Summary of Peak 1-Hour Leq Measurements

Location	Peak 1-Hour Leq dB(A)	Time Period	Date
M1	70.56	07:06-08:05	3/18/2021
M2	61.09	12:21-13:20	3/15/2021
M4	56.61	23:54-00:53	8/7/2020
M5	56.01	03:29-04:28	8/7/2020

*Values in red exceed the City of Port Wentworth 55 dB(A) reference threshold.

4.0 PROJECTED SOUND LEVELS

Based on Terracon's experience with similar warehouse developments, average noise levels of 75 dB(A) at 50-feet are typical within the warehouse loading/unloading areas and truck turnaround areas. These activities are considered point noise sources from which noise projects spherically away from the source in all directions. Noise attenuates, or decays, with distance away from the

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source. Factors such as topography, vegetation, and atmospheric conditions can further reduce noise across a distance. "Hard" flat ground surfaces, such as water, concrete/pavement, and hard-packed soil, are considered reflective surfaces where the ground does not provide any additional attenuation. The standard attenuation rate for hard site conditions is 6 dB per doubling of distance for point sources. "Soft" ground surfaces such as normal unpacked earth, vegetation, and wooded land, are considered absorptive and provide an additional 1.5 dB reduction per doubling of distance, for a total of 7.5 dB per distance doubled from the point noise source.

Additional noise reduction can be achieved using noise barriers such as noise walls or berms. As shown on Figures 4A and 4B in Appendix A, several 100-feet wide buffers completed with earthen berms are proposed between the site developments and adjoining properties. The berms will be 15-feet tall with 2:1 slopes and will be topped with vegetation and trees. A 5 dB(A) reduction in noise can be achieved by breaking the line of sight between a noise source and the receiver using a noise barrier. An additional 1 dB(A) reduction can be achieved for each additional 2-feet above the line of sight to the top of the wall or berm.

Based on the topographic data in the Line of Sight Exhibit (dated March 4, 2021) provided by Kern & Co., LLC and updated elevation data gathered for the current study, the proposed berms would break the horizontal line of sight toward a 6-feet tall receiver standing off-site at approximately 6-feet up each berm. The additional 9-feet height of the proposed 15-feet tall berm would provide an additional minimum 4 dB(A) reduction (1 dB(A) per 2-feet increase) on top of the 5 dB(A) line of sight reduction; yielding a total 9 dB(A) noise level reduction between the subject site developments and adjoining properties.

As shown in Figures 4A and 4B of Appendix A, Terracon conservatively projected the future sound levels beginning at 75 dB(A) from the edges of the proposed trailer parking and turnaround areas. Surrounding site conditions were assumed to be "soft". Using the equation below, the approximate distances from the noise sources to each sound level contour were determined:

$$D = D_o * 10^{((75\ dB(A) - \text{Projected Sound Level in } dB(A))/\alpha)}$$

Where:
D = Distance from the point noise source
D_o = Reference measurement distance (50-feet in this case)
α = 20 for hard ground cover, 25 for soft ground cover. Assumes value of 7.5 dB(A) reduction for soft cover and 6 dB(A) reduction for hard cover per doubled distance.

The resulting sound level contours are depicted on Figures 4A and 4B. As shown, projected noise levels are not expected to significantly increase at the background sound level measurement locations above their existing levels (see Section 3.0). Projected sound levels may be in excess of 55 dB(A) in a couple isolated areas along the eastern property boundaries within the adjoining

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Georgia Power easement and substation; however, these areas are are unlikely to be developed with noise sensitive receptors in the future.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Existing 24-hour average Leq values at the subject site ranged from 50.28 dB(A) at location M5 (2020) to 68.12 dB(A) at location M1. Average "day" Leq values were higher than their respective average "night" Leq values at meter locations closer to off-site adjacent Georgia Highway 21 traffic (locations M1 and M2); whereas average "night" Leq values were generally higher in the more wooded locations [locations M4 (2020) and M5 (2020)], likely due to increased nocturnal wildlife/insect activity.

The existing 24-hour average Leq as well as the average "day" and "night" Leq sound levels at location M1 already exceed the 55 dB(A) threshold referenced in the City of Port Wentworth Code of Ordinances. Existing traffic noise generated along Georgia Highway 21 dominates the noise environment in this location and represents the existing sound levels experienced by commercial and residential developments adjacent to this roadway. The average "day" Leq sound level at location M2 also exceeds the 55 dB(A) threshold due to increased daytime traffic noise along Georgia Highway 21 and represents the existing noise environment for residences near the roadway.

Existing maximum hourly Leq values ranged from 56.01 dB(A) at location M5 (2020) to 70.56 dB(A) at location M1. The peak 1-hour Leq at M1 occurred during morning rush hour traffic on Georgia Highway 21. At locations M4 (2020) and M5 (2020), the peak hourly Leq values took place during the late evening/early morning hours, indicating they were likely due to active nocturnal wildlife and insects, especially after the thunderstorms that took place overnight from August 6, 2020 to August 7, 2020.

Conservative projected sound levels indicate on-site levels should primarily attenuate to 55 dB(A) or less within the subject parcel limits except for a couple isolated areas along the eastern property boundaries within the adjoining Georgia Power easement and substation. The Georgia Power easement and substation are unlikely to be developed with noise sensitive receptors in the future. As such, the proposed development is not expected to significantly increase average sound levels at the property boundaries and will not result in significant noise impacts to off-site receivers.

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5.2 Recommendations

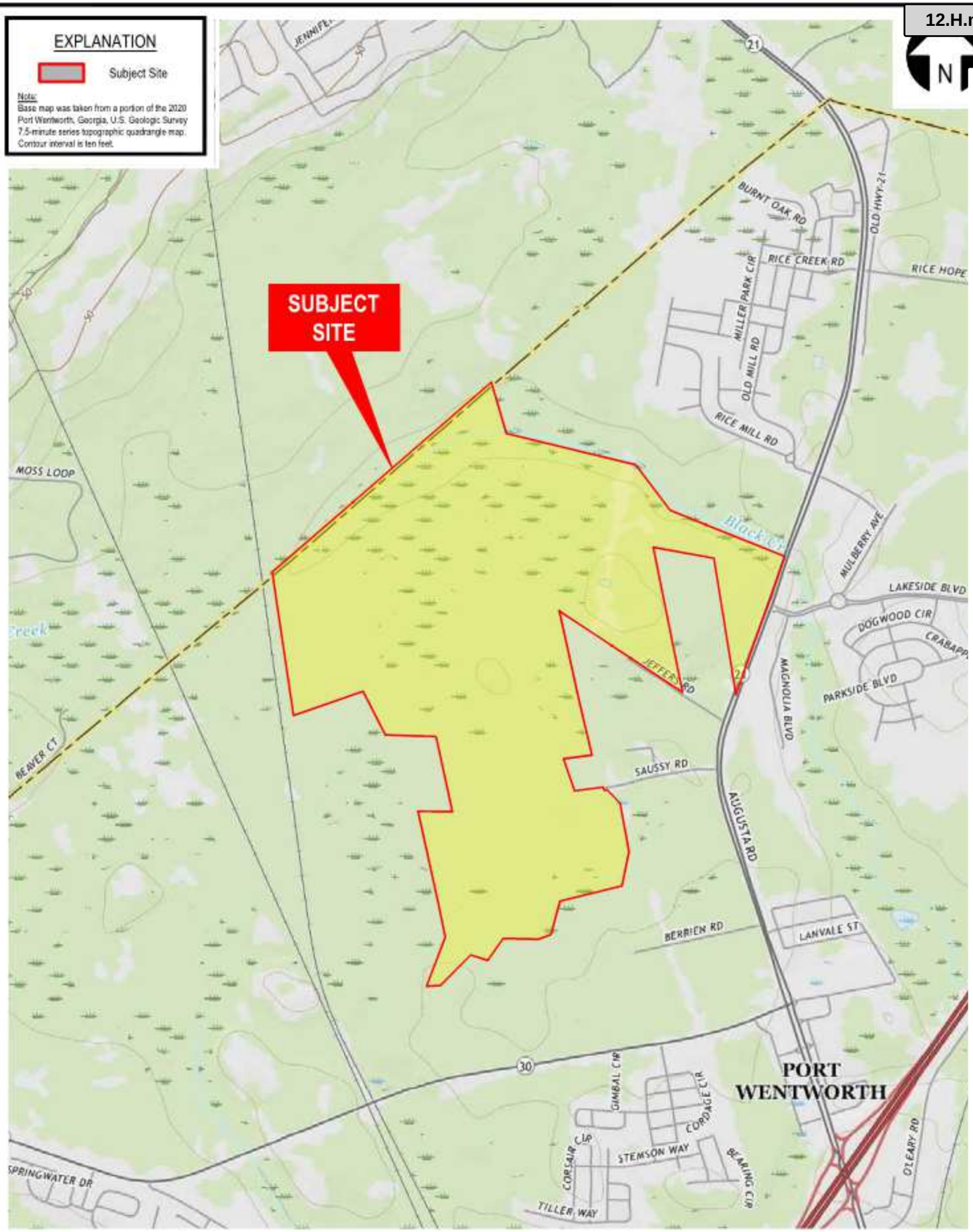
Terracon recommends the proposed earthen berms be constructed as indicated in Appendix A and herein in order to reduce the potential for adverse noise impacts off-site. Terracon also recommends leaving as much native woodland untouched as possible between the northern property developments and access roads and the northern adjoining residential land parcels to further reduce sound impacts to any future residential developments. No other recommendations are made at this time.

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APPENDIX A

Figures



Project Mngr:	LRM
Drawn By:	JDG
Checked By:	LRM
Approved By:	WSA
Project No.	ES217065
Scale:	AS SHOWN
File Name:	ES217065-2.dwg
Date:	June 10, 2021

Terracon
Consulting Engineers & Scientists
2201 Rowland Avenue, Savannah, Georgia 31404
Phone (912) 629 4000 Fax (912) 629 4001

VICINITY AND TOPOGRAPHIC MAP

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham Coun

Figu 1

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Designed:	LRM	Project No:	ES21706S
Drawn By:	JDG	Scale:	AS SHOWN
Checked By:	LRM	File Name:	ES21706S.dwg
Approved By:	WSA	Date:	June 10, 2021

Terracon
Consulting Engineers & Scientists
2324 Riverbend Avenue
Statesboro, Georgia 30458
Phone: (912) 212-0616

NORTHERN SITE DIAGRAM

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Figure 2A

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Terracon Consulting Engineers & Scientists	Designed	LRM	Project No.
	Drawn By	JDG	ES217065
	Checked By	LRM	File Name
	Approved By	WSA	ES217065.mxd
			Date
			June 10, 2021

SOUTHERN SITE DIAGRAM

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Figure 2B

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Designed by:	LRM	Job No:	ES21705
Drawn By:	JDG	File Name:	AS SHOWN
Checked by:	LRM	Date:	ES21705.dwg
Approved By:	WSA		June 11, 2021

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SOUTHERN PROJECTED SOUND LEVELS

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Figure 4B

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

APPENDIX B

Field Documentation

VARNEDOE-WIGGINS TRACT NOISE STUDY

Terracon Project No. ES217065

LOCATION ID: M1

Latitude, Longitude: 32.215983°, -81.198786°

Location Description: Along eastern property boundary adjoining Augusta Road/Highway 21 right-of-way.

FIELD NOTES

SESSION A

- Measurement Date(s): March 17, 2021 to March 18, 2021
- Session Start Time: 1334 on March 17, 2021
- Session End Time: 1306 on March 18, 2021

OBSERVATIONS

- Location is closest to Augusta Road/Highway 21 and represents existing noise experienced by receivers along the roadway.
- Ambient noise is dominated by vehicular traffic on Augusta Road/Highway 21 including heavy trucks (tractor-trailers, dump trucks, etc.), buses (school and public transportation), light trucks, passenger vehicles, and motorcycles. Occasional airplanes overhead.

EQUIPMENT AND DATA COLLECTION

Sound Level Meter Type 2, Quest Technologies SoundPro DL-2 (Meter No. 23423)

Noise measurements collected at 1-minute intervals.





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VARNEDOE-WIGGINS TRACT NOISE STUDY

Terracon Project No. ES217065

LOCATION ID: M2

Latitude, Longitude: 32.212770°, -81.204351°
Location Description: Along southern property boundary with Jeffers Road.

FIELD NOTES

SESSION A

- Measurement Date(s): March 15, 2021 to March 16, 2021
- Session Start Time: 1148 on March 15, 2021
- Session End Time: 1220 on March 16, 2021

OBSERVATIONS

- Ambient noise consists of vehicular traffic from Augusta Road/Highway 21 including heavy trucks (tractor-trailers, dump trucks, etc.), buses (school and public transportation), light trucks, passenger vehicles, and motorcycles; occasional vehicles traveling along Jeffers Road; wildlife (insects, birds, frogs); and aircraft passing overhead.

EQUIPMENT AND DATA COLLECTION

Sound Level Meter Type 2, Quest Technologies SoundPro DL-2 (Meter No. 23423)
Noise measurements collected at 1-minute intervals.





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GITC CHATHAM PARCEL NOISE STUDY
Terracon Project No. ES207015

LOCATION ID: M4

Latitude, Longitude: 32.222065, -81.205707
Location Description: Near southeastern-most property corner where the overhead transmission line easement access road dead ends at Black Creek.

FIELD NOTES

SESSION A

- Measurement Date(s): August 6, 2020 to August 7, 2020
- Session Start Time: 1017 on August 6, 2020
- Session End Time: 0941 on August 7, 2020

OBSERVATIONS

- Ambient noise included wildlife (insects, birds, frogs, gator barks); and occasional jet, airplane, and helicopters overhead.
- There were thunderstorms on-site and in the surrounding area from approximately 1651 to 1903 on August 6, 2020 and overnight from 2059 on August 6, 2020 to 0003 on August 7, 2020.

EQUIPMENT AND DATA COLLECTION

Sound Level Meter Type 2, Quest Technologies SoundPro DL-2 (Meter No. 35597)
Noise measurements collected at 1-minute intervals.



Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

GITC CHATHAM PARCEL NOISE STUDY
Terracon Project No. ES207015

LOCATION ID: M5

Latitude, Longitude: 32.225899, -81.212235
Location Description: Within the wooded southwestern property corner near the adjoining property stormwater retention pond outfall and access road.

FIELD NOTES

SESSION A

- Measurement Date(s): August 6, 2020 to August 7, 2020
- Session Start Time: 1000 on August 6, 2020
- Session End Time: 0921 on August 7, 2020

OBSERVATIONS

- Ambient noise included wildlife (insects, birds, frogs); occasional jet, airplane, and helicopters overhead; construction equipment occasionally passing on the access road; and water flowing into the surrounding wetlands from the adjoining stormwater retention pond outfall.
- There were thunderstorms on-site and in the surrounding area from approximately 1651 to 1847 on August 6, 2020 and overnight from 2101 on August 6, 2020 to 0338 on August 7, 2020.

EQUIPMENT AND DATA COLLECTION

Sound Level Meter Type 2, Quest Technologies SoundPro DL-2 (Meter No. 35598)
Noise measurements collected at 1-minute intervals.





Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

APPENDIX C

Sound Level Meter Session Reports

Location M1: Session Report #1

Meter No. 23423
3/17/2021

Information Panel

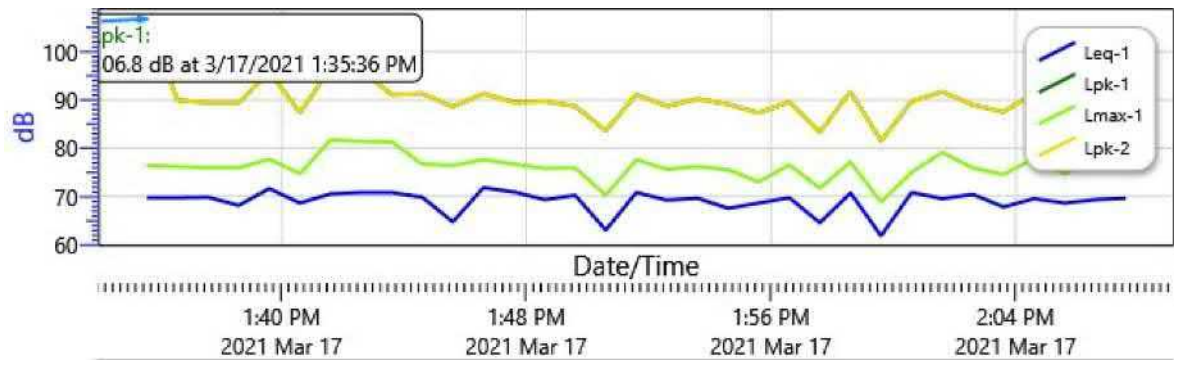
Name	S299_BLM060003_18032021_150104
Start Time	3/17/2021 1:37:34 PM
Stop Time	3/17/2021 2:07:19 PM
Device Name	BLV060003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Lc	1	69.5 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	3 dB	Weighting	2	A
Response	2	SLOW			

Logged Data Chart

S299_BLM060003_18032021_150104: Logged Data Chart



Logged Data Table

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3/17/2021 1:35:36 PM	69.7	76.4	62.7	106.8
1:36:36 PM	69.7	76.2	59.8	89.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:37:36 PM	69.8	73.9	54.4	89.4
1:38:36 PM	68.1	73.9	50.8	89.4
1:39:36 PM	71.6	77.7	60.7	93.8
1:40:36 PM	68.6	74.7	60.1	87.4
1:41:36 PM	70.3	81.7	52.3	96.4
1:42:36 PM	70.8	81.4	62.9	96.2
1:43:36 PM	70.8	81.3	57.4	91.1
1:44:36 PM	69.8	76.7	60.3	91.3
1:45:36 PM	64.7	76.4	47	88.6
1:46:36 PM	71.8	77.6	49.6	91.3
1:47:36 PM	70.9	76.7	60.6	89.5
1:48:36 PM	69.3	73.8	61.7	89.7
1:49:36 PM	70.2	73.9	59.1	88.7
1:50:36 PM	63	70.2	49.1	83.6
1:51:36 PM	70.8	77.6	62.1	91.1
1:52:36 PM	69.2	73.6	58.8	88.7
1:53:36 PM	69.6	76.2	57.2	90.2
1:54:36 PM	67.5	73.5	54.5	89.1
1:55:36 PM	68.6	73	61.2	87.3
1:56:36 PM	69.7	76.3	58.6	89.6
1:57:36 PM	64.5	71.7	56.3	83.3
1:58:36 PM	70.7	77.1	57.8	91.7
1:59:36 PM	61.8	68.8	52.4	81.3
2:00:36 PM	70.8	75	63.7	89.7
2:01:36 PM	69.5	79.1	58	91.7
2:02:36 PM	70.4	73.9	64	89
2:03:36 PM	67.8	74.3	61.3	87.3
2:04:36 PM	69.5	77.9	59.2	91.4
2:05:36 PM	68.6	74.7	57.4	88.5
2:06:36 PM	69.3	78	53.3	92.1
2:07:36 PM	69.6	76.8	61	89.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Location M1: Session Report No. 2

Meter No. 23423
3/17/2021

Information Panel

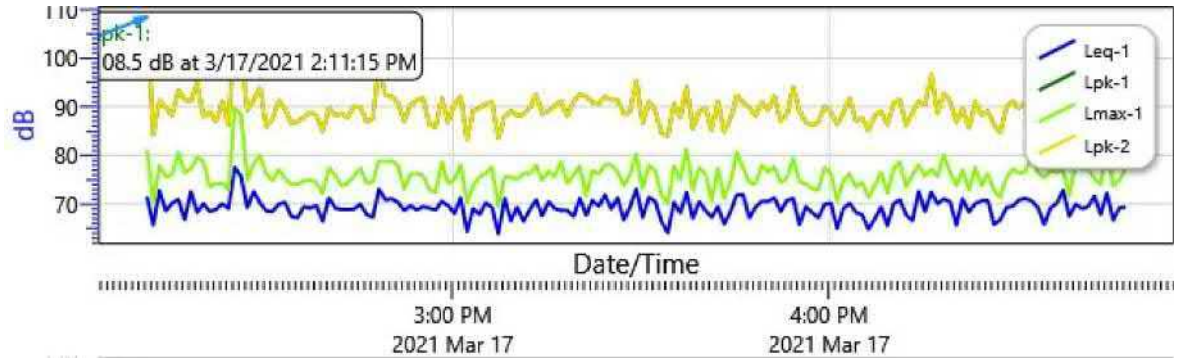
Name	5300_BLM060003_18032021_150105
Start Time	3/17/2021 2:10:15 PM
Stop Time	3/17/2021 7:17:32 PM
Device Name	BLV060003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
cc	1	69.7 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	3 dB	Weighting	2	A
Response	2	SLOW			

Logged Data Chart

5300_BLM060003_18032021_150105: Logged Data Chart



Logged Data Table

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3/17/2021 2:11:15 PM	71.5	81.1	62.6	108.5
2:12:15 PM	65.6	70.2	54	84.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:13:13 PM	72.7	77.9	60.7	91.3
2:14:13 PM	68.5	75.5	56.2	89.8
2:15:13 PM	70.1	76	56.1	88.2
2:16:13 PM	70.9	80.6	58.3	93.3
2:17:13 PM	66.7	76.3	60.7	91.4
2:18:13 PM	72.3	77.2	60.8	91.2
2:19:13 PM	68.7	79.6	57.4	95
2:20:13 PM	70	78.7	60.1	87.9
2:21:13 PM	68.4	73.3	56.1	88.9
2:22:13 PM	68.8	74.1	59.9	86.9
2:23:13 PM	70	74.3	64.7	91.1
2:24:13 PM	69	72.8	62.2	86.2
2:25:13 PM	77.3	89.7	59.1	105.2
2:26:13 PM	75.6	88.3	62	100
2:27:13 PM	69.7	74.9	62.7	89.3
2:28:13 PM	72.3	78.2	63.3	91.3
2:29:13 PM	70.2	80	59.9	94
2:30:13 PM	68.5	76.9	59.4	85.9
2:31:13 PM	68.4	74.8	57.6	87.4
2:32:13 PM	69.9	77.1	60.4	91.3
2:33:13 PM	70.3	75.9	59.5	89.5
2:34:13 PM	67.4	74	57.8	86.5
2:35:13 PM	67.1	74	53.4	86.9
2:36:13 PM	69.4	74.7	61.2	87.8
2:37:13 PM	69.1	75	57.1	88.9
2:38:13 PM	69.6	74.3	61.4	88.7
2:39:13 PM	66.4	72.1	56.3	84.9
2:40:13 PM	71.2	77.4	64.6	89.8
2:41:13 PM	69.1	75.9	59.9	88.7
2:42:13 PM	68.8	73.7	62.1	88.6
2:43:13 PM	68.8	74.2	62.2	87.7
2:44:13 PM	68.9	75.7	61.9	90.1
2:45:13 PM	69.9	77.4	59.9	89.9
2:46:13 PM	67.8	74.2	56.9	86.9
2:47:13 PM	67.2	74.3	56.8	87.3
2:48:13 PM	73	78.9	63.3	99
2:49:13 PM	70.8	78.7	56.8	97.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:50:13 PM	71	78.9	53.7	92.1
2:51:13 PM	70.3	77.9	55.2	90.8
2:52:13 PM	68.6	73.1	58.6	87
2:53:13 PM	69.6	76.1	59.3	90.4
2:54:13 PM	68.7	76.2	60.1	91.3
2:55:13 PM	69.4	75.9	61.2	91.9
2:56:13 PM	69.1	72.9	67.4	86.4
2:57:13 PM	68.7	72.3	60.2	85.8
2:58:13 PM	70.3	78.6	54.4	91.8
2:59:13 PM	69.6	74.2	57.9	86.7
3:00:13 PM	68	75	52.7	90.3
3:01:13 PM	71.2	78	52.9	92.1
3:02:13 PM	64.3	70.3	51.2	83.3
3:03:13 PM	69	73.8	56.9	89.2
3:04:13 PM	67.8	73.3	58.3	89.7
3:05:13 PM	70.2	76.3	58.2	90.6
3:06:13 PM	69.2	77.3	57.9	90.9
3:07:13 PM	63.8	69.3	50.9	83.3
3:08:13 PM	71.1	78.6	61.3	88
3:09:13 PM	66.3	73.3	58.6	89.1
3:10:13 PM	69.3	75	60.7	88.7
3:11:13 PM	66.4	76.3	56.4	88.4
3:12:13 PM	68.7	76.1	60.3	89.8
3:13:13 PM	70.8	78	60.9	92.3
3:14:13 PM	67.3	74.8	51.8	88.6
3:15:13 PM	70.4	76.7	64.6	89.1
3:16:13 PM	69	78.6	61.8	90.2
3:17:13 PM	68.6	78.7	59	91.1
3:18:13 PM	68.6	74.2	62.6	88
3:19:13 PM	67.4	75.9	59.4	91.2
3:20:13 PM	71.1	77.8	62.9	92.3
3:21:13 PM	67.6	71.6	62.5	92.1
3:22:13 PM	70.7	76.9	63	90.9
3:23:13 PM	69.3	76.1	63.3	90.6
3:24:13 PM	71.8	78.1	61.2	92.1
3:25:13 PM	68.9	78	56.3	91.4
3:26:13 PM	71.2	76.6	63.4	91.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:27:13 PM	66.6	73.7	53.2	88.4
3:28:13 PM	69.4	76.1	61.5	88.9
3:29:13 PM	73	80.2	60.2	93.4
3:30:13 PM	67.7	73.1	57.1	86.6
3:31:13 PM	71.3	77.9	58.2	91
3:32:13 PM	70.5	76.8	55.6	89.2
3:33:13 PM	66.4	71.8	56.9	84.6
3:34:13 PM	64	70	55.9	84
3:35:13 PM	70.3	77.8	63.7	90.6
3:36:13 PM	68.1	74.9	57	87.8
3:37:13 PM	72.3	81.2	66.4	94
3:38:13 PM	67	72.8	58.6	83.3
3:39:13 PM	70.4	77.4	61.5	89
3:40:13 PM	68.6	76.1	60.5	89.7
3:41:13 PM	67.7	70.7	60.6	83.7
3:42:13 PM	69.4	77.3	62.7	91.1
3:43:13 PM	65.8	71.1	56.5	84.9
3:44:13 PM	68.3	74.4	57.3	87.6
3:45:13 PM	71.8	80.7	63.5	92.3
3:46:13 PM	71.9	77.4	63.1	90.9
3:47:13 PM	67.1	74.4	57.3	89.8
3:48:13 PM	69.3	74.1	60.3	88.1
3:49:13 PM	70.5	78	61.3	90.9
3:50:13 PM	70.5	76.5	62.4	89.4
3:51:13 PM	71.2	77.7	66.9	92.2
3:52:13 PM	68.4	74.3	61.8	87.1
3:53:13 PM	70.7	75.4	65.7	88.4
3:54:13 PM	71.1	79.4	62.6	94
3:55:13 PM	65.7	74.5	57.5	89.1
3:56:13 PM	69.4	74.1	61.7	86.8
3:57:13 PM	68.2	73.1	60.1	86.1
3:58:13 PM	67.1	72.8	58.4	86.8
3:59:13 PM	69.9	77.5	61.9	90.1
4:00:13 PM	70.1	76.3	58.2	88.9
4:01:13 PM	64.9	70.6	52.4	86.4
4:02:13 PM	69	74.7	55.2	88.8
4:03:13 PM	70.1	76.7	63.1	91.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:04:13 PM	68.2	73.4	62.4	87.1
4:05:13 PM	67.7	74.4	58.8	87.7
4:06:13 PM	64.7	71.3	56.2	85.1
4:07:13 PM	66.9	73.8	57.7	88.3
4:08:13 PM	69.3	76.3	63.3	89
4:09:13 PM	65.3	72.2	58.4	86.3
4:10:13 PM	70	77.3	63.6	90.7
4:11:13 PM	70.8	78.6	58.1	91.3
4:12:13 PM	67.7	73.3	59.3	86.1
4:13:13 PM	66.5	75.9	55.1	88.7
4:14:13 PM	72.3	78	64.7	91.1
4:15:13 PM	68.4	73.7	61	90.3
4:16:13 PM	72.4	77.1	63.6	96.6
4:17:13 PM	70	75.6	62.3	88.7
4:18:13 PM	71	80.1	61.8	97.8
4:19:13 PM	70.4	76.3	61.4	91.1
4:20:13 PM	65.6	73.7	54.3	86.8
4:21:13 PM	71	76.9	63.1	89.6
4:22:13 PM	68.3	72.8	59.7	85.7
4:23:13 PM	70	77.3	61.4	91
4:24:13 PM	70.6	73.7	65.9	88.3
4:25:13 PM	70.7	76.2	64.4	89.1
4:26:13 PM	65.7	72.7	56	86.3
4:27:13 PM	66.7	71.3	60.3	84.7
4:28:13 PM	69.2	75.5	60.2	90.1
4:29:13 PM	69.5	77.7	62.7	91.1
4:30:13 PM	70.8	76.3	61	89.7
4:31:13 PM	71.1	76.6	62.9	91
4:32:13 PM	70.6	80.7	61.4	93.1
4:33:13 PM	69.2	76.3	63.3	91.9
4:34:13 PM	65.7	73.3	50.4	87.2
4:35:13 PM	69.1	76.9	55.7	89.8
4:36:13 PM	70.1	76.5	59.1	90.4
4:37:13 PM	72.8	77.1	65.5	90.8
4:38:13 PM	67.4	71.6	60.3	86.3
4:39:13 PM	69.9	78.7	63.2	94
4:40:13 PM	69	77.1	63.7	90.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:41:15 PM	69.4	77.3	61.8	89.4
4:42:15 PM	71.6	78.1	62.5	89.7
4:43:15 PM	67.8	73.9	60.7	87.3
4:44:15 PM	77.7	87.4	67.6	97.9
4:45:15 PM	66.6	73.6	60.2	85.9
4:46:15 PM	69.2	74.9	63.3	88.7
4:47:15 PM	69.3	77.7	62.9	90.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Location M1: Session Report No. 3

Meter No. 23423
3/17-18/2021

Information Panel

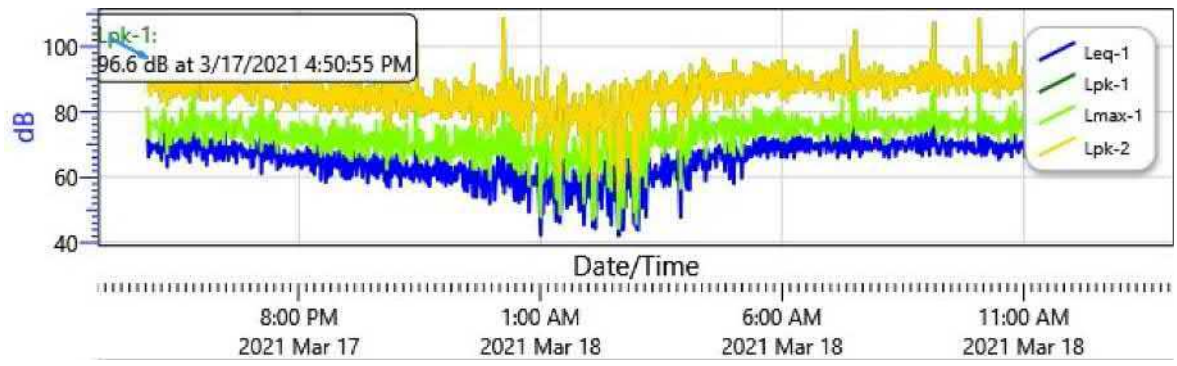
Name	S301_BLM060003_18032021_150106
Start Time	3/17/2021 4:49:55 PM
Stop Time	3/18/2021 1:07:19 PM
Device Name	BLV060003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
ec	1	67.9 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
exchange Rate	2	3 dB	Weighting	2	A
Response	2	SLOW			

Logged Data Chart

S301_BLM060003_18032021_150106: Logged Data Chart



Logged Data Table

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3/17/2021 4:50:55 PM	70.9	81.6	53.8	96.6
4:51:55 PM	71.4	79.3	63.6	108.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:52:53 PM	66.1	72.1	57.4	86.6
4:53:53 PM	70.7	74.8	64.3	89.3
4:54:53 PM	67.4	71.9	62.2	85.2
4:55:53 PM	68	76.1	57.4	88.8
4:56:53 PM	68.3	76.9	62.7	89.6
4:57:53 PM	69.8	76.3	61.9	89.2
4:58:53 PM	69	76.3	61.9	89.4
4:59:53 PM	68.6	76.2	61.8	89.9
5:00:53 PM	69.6	77.4	61.3	90.2
5:01:53 PM	68.8	74.8	63.4	86.7
5:02:53 PM	70.1	75.2	64.6	89.9
5:03:53 PM	67.5	74.6	60.2	88.2
5:04:53 PM	70	75.1	66.1	88.6
5:05:53 PM	69.3	74.7	63.4	88.4
5:06:53 PM	67.3	72.3	53.6	84.7
5:07:53 PM	72.2	78.3	64.3	91.3
5:08:53 PM	65.2	69.9	55.3	83.3
5:09:53 PM	71.3	77.3	60.9	89.3
5:10:53 PM	69.7	74	60.4	88.1
5:11:53 PM	68.8	80.8	53	92.3
5:12:53 PM	73.9	79.6	68.7	97.8
5:13:53 PM	67.6	76.1	54.3	90.3
5:14:53 PM	71.3	73	64.6	88.3
5:15:53 PM	63.1	67.2	58.4	82.2
5:16:53 PM	68.9	75.7	58	90.2
5:17:53 PM	69.3	76.4	63.8	100.7
5:18:53 PM	69.4	75.3	62.9	88
5:19:53 PM	69.4	73.7	59.8	88.3
5:20:53 PM	66.3	70.1	60.3	84.7
5:21:53 PM	72	78	63.6	96.3
5:22:53 PM	67.8	73.8	59.4	89.2
5:23:53 PM	69.2	76.3	54.7	89.9
5:24:53 PM	65.3	72.3	55.6	86.6
5:25:53 PM	69.8	74.8	61.3	87.3
5:26:53 PM	67.3	71.9	59.1	85.1
5:27:53 PM	68.1	73.2	59.4	89.1
5:28:53 PM	70.7	74.3	67.1	87.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:29:53 PM	65.5	72.4	58.1	85.8
3:30:53 PM	71.1	75.1	60.3	88.7
3:31:53 PM	68.8	72.8	63.2	86
3:32:53 PM	70.4	80.3	56	93.8
3:33:53 PM	71.7	80.7	61.8	96.8
3:34:53 PM	70.1	75	61.5	87.8
3:35:53 PM	70.7	76.6	61.6	91.1
3:36:53 PM	66.9	71.7	62.9	84.1
3:37:53 PM	70.7	77.1	60.6	91
3:38:53 PM	66.6	70.6	61.3	84.7
3:39:53 PM	71.5	78.3	63.9	91.7
3:40:53 PM	66	73	58.7	88
3:41:53 PM	69.8	74.8	62.1	89.3
3:42:53 PM	69.4	75.9	60.4	89.7
3:43:53 PM	64.5	71.1	51.1	85.3
3:44:53 PM	73	82.7	62	100.2
3:45:53 PM	68	72.8	59.6	86.4
3:46:53 PM	71	75.3	60.3	88
3:47:53 PM	71.5	76.9	66.5	90.3
3:48:53 PM	73.7	88.9	61.6	108.3
3:49:53 PM	70	74.4	64.9	88.3
3:50:53 PM	68	74.9	60.7	87.4
3:51:53 PM	70.8	75.2	64.9	88.4
3:52:53 PM	66.6	72.1	60	84.4
3:53:53 PM	70.2	78.7	60.9	92.5
3:54:53 PM	71.6	77.6	58	91.7
3:55:53 PM	68.5	78.3	60.8	91.8
3:56:53 PM	70.8	77.3	63.2	90.9
3:57:53 PM	68.8	76.9	59.3	90.7
3:58:53 PM	69.8	75.6	58.8	88.1
3:59:53 PM	65.3	69.8	58.4	83.6
6:00:53 PM	69.3	75.1	62.3	87.9
6:01:53 PM	67	72.5	55.2	86
6:02:53 PM	67.6	74.1	59.6	87.4
6:03:53 PM	72.2	79	65.1	100.8
6:04:53 PM	63.6	69.2	52.1	83.8
6:05:53 PM	71.3	79.4	63.5	93.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:06:53 PM	68.4	76	57.6	90.6
6:07:53 PM	69.9	79	63.4	91.5
6:08:53 PM	67.4	74.5	60.7	87.5
6:09:53 PM	69.4	77.8	59.7	89.9
6:10:53 PM	71.6	76.1	66.1	88.9
6:11:53 PM	69.3	75.7	63.9	89.6
6:12:53 PM	69.8	79.9	60.8	91.4
6:13:53 PM	66.8	71.7	62.4	83.8
6:14:53 PM	70.5	78.3	61.9	92.3
6:15:53 PM	64.9	69.9	56.8	84.7
6:16:53 PM	68.8	74.9	62.3	87.9
6:17:53 PM	68.9	74.7	61.3	87.7
6:18:53 PM	67.3	72.4	57.6	86.8
6:19:53 PM	70.4	77.2	62.6	91
6:20:53 PM	65.4	72.3	56.9	85.3
6:21:53 PM	69.7	75.6	64.3	87.9
6:22:53 PM	71	77.1	63.4	91.6
6:23:53 PM	67.9	75.9	59.7	89.7
6:24:53 PM	68.3	73.6	62	86.2
6:25:53 PM	65.1	70.2	54	83.8
6:26:53 PM	75.4	88	64.5	103.1
6:27:53 PM	68.7	74.6	56.7	87.5
6:28:53 PM	67.6	74.8	54.3	88.4
6:29:53 PM	68.3	78.4	61.7	93
6:30:53 PM	69	75.2	61.4	89.1
6:31:53 PM	65.1	74.3	55.3	87.8
6:32:53 PM	69.2	72.7	63.8	85.9
6:33:53 PM	69	75.1	62.2	92.2
6:34:53 PM	67	74.3	57.5	86.8
6:35:53 PM	68.3	71.5	63.2	84.3
6:36:53 PM	68.2	75.6	58.2	89.9
6:37:53 PM	71	77.2	61.3	91.4
6:38:53 PM	66.3	72.1	54.7	84.9
6:39:53 PM	67.6	73.7	54.3	87.7
6:40:53 PM	70.3	77.3	60.3	90.7
6:41:53 PM	64.3	72.3	52.2	85.2
6:42:53 PM	68.6	73.3	58.6	86.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:43:53 PM	69.4	73.9	63	88.9
6:44:53 PM	68.4	73.8	57.2	88.7
6:45:53 PM	68.2	75.1	62.3	89
6:46:53 PM	69.3	79.6	57	91.8
6:47:53 PM	70.1	76.7	53.8	90.3
6:48:53 PM	68.1	74.3	56.2	86.3
6:49:53 PM	66	73.1	50.6	86.7
6:50:53 PM	67.9	71.8	63.4	85.4
6:51:53 PM	68.7	73.9	62.8	87
6:52:53 PM	68.1	74.7	59.1	88.7
6:53:53 PM	66.8	73.8	57.7	87.7
6:54:53 PM	66.3	70.4	54.8	83.9
6:55:53 PM	65.8	73	59	85.9
6:56:53 PM	67.7	71.7	59.8	84.3
6:57:53 PM	66.9	71.8	59.7	84.9
6:58:53 PM	66.6	73.7	53.7	86.1
6:59:53 PM	69.9	78	61.1	92.3
7:00:53 PM	67.8	69.1	51.7	87.1
7:01:53 PM	68.9	73	57.3	89.6
7:02:53 PM	63.2	69	53	82.3
7:03:53 PM	71.4	76.3	59.7	89.9
7:04:53 PM	66.3	73.9	56.6	88.4
7:05:53 PM	70.3	79.1	59.8	94.3
7:06:53 PM	67.4	76.6	54.1	91.1
7:07:53 PM	68.1	77	59.3	90.7
7:08:53 PM	67.6	73.9	56.4	88.3
7:09:53 PM	67.8	72.6	58.1	86
7:10:53 PM	66.6	73.8	57.3	90.3
7:11:53 PM	74.8	88.4	67.3	101.3
7:12:53 PM	61	68	49.3	81.3
7:13:53 PM	71.6	81.1	61.2	98.3
7:14:53 PM	68.2	75	57.6	88.9
7:15:53 PM	66.3	72.1	55.3	86.9
7:16:53 PM	65.1	71	54.9	83.2
7:17:53 PM	68.3	77.3	59.4	90.6
7:18:53 PM	69.7	77.7	55.7	91.3
7:19:53 PM	68.7	73	61.9	87

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:20:53 PM	65.6	74.3	53.9	87.7
7:21:53 PM	66	70.7	57.1	84.3
7:22:53 PM	68.1	76.1	58.9	89
7:23:53 PM	65.8	77.4	56.7	87.3
7:24:53 PM	71.8	79	64.3	92.6
7:25:53 PM	64.3	70.4	56.2	84
7:26:53 PM	69.4	75.6	63.1	89.5
7:27:53 PM	70.8	80.3	55.7	100.3
7:28:53 PM	66.2	72.3	53.3	85.3
7:29:53 PM	69	76.2	59.8	90.1
7:30:53 PM	65.9	72.1	53.5	83.7
7:31:53 PM	68.3	74.9	58.7	86.2
7:32:53 PM	62.3	67.6	53.3	80.5
7:33:53 PM	69.5	77.1	57.3	88.6
7:34:53 PM	67.8	77.7	48.6	81.3
7:35:53 PM	65.8	73.1	50.8	85.6
7:36:53 PM	63.4	71.4	44.4	83.6
7:37:53 PM	66.3	70.3	58.1	83.1
7:38:53 PM	66.2	71.8	52.8	84.8
7:39:53 PM	66.7	71.4	56.3	84.3
7:40:53 PM	64.7	73.4	50.7	87.1
7:41:53 PM	68.3	74.2	57.7	87.9
7:42:53 PM	65.6	73.8	52.2	86.3
7:43:53 PM	65.8	72.6	55.5	84.7
7:44:53 PM	63.6	70.2	48.2	83.5
7:45:53 PM	65.3	70.7	54.1	83.3
7:46:53 PM	66.1	71.7	53.4	85.2
7:47:53 PM	65.8	70.5	53.6	84.3
7:48:53 PM	67.1	73.3	53.8	86.7
7:49:53 PM	66.1	76.8	52.2	89.6
7:50:53 PM	63.3	68.9	47.6	82.4
7:51:53 PM	66.1	70.7	57	84.5
7:52:53 PM	63.5	69.3	51.9	83
7:53:53 PM	63.6	68.1	56	81
7:54:53 PM	66.7	76.5	52.6	89.6
7:55:53 PM	66.3	71.6	55.8	84.4
7:56:53 PM	65.9	74.9	48.3	89

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:57:53 PM	68.1	76.1	47.8	90
7:58:53 PM	63.9	70.5	48.4	84.1
7:59:53 PM	67.3	72.7	55.9	83.4
8:00:53 PM	64.6	74.3	53.8	88.4
8:01:53 PM	67.3	73	54.6	86.7
8:02:53 PM	62.7	72.9	48.9	83
8:03:53 PM	65	70	50.6	83.7
8:04:53 PM	67.1	77.2	47.3	89.4
8:05:53 PM	65.8	72	53.2	83.4
8:06:53 PM	65.8	74.7	54.7	86.8
8:07:53 PM	63.7	70.9	51.5	84.5
8:08:53 PM	66.4	73.1	48.6	90.2
8:09:53 PM	69.1	76	51.1	89.8
8:10:53 PM	67.8	75.4	56.5	88.8
8:11:53 PM	63.9	71.7	50.9	83.8
8:12:53 PM	64.4	69.5	52.9	82.9
8:13:53 PM	68.1	73.9	62.5	86.1
8:14:53 PM	61.8	69.9	49.5	83.7
8:15:53 PM	66.9	75	52.8	90.1
8:16:53 PM	63.9	71.5	50.6	84.6
8:17:53 PM	66.1	73.1	57.7	86.9
8:18:53 PM	60.8	67.7	52.6	82.2
8:19:53 PM	64.7	71.5	54.7	83.7
8:20:53 PM	69.8	78.6	58.3	92.2
8:21:53 PM	66	71.9	56.8	84.9
8:22:53 PM	63.8	70.6	57.5	83.7
8:23:53 PM	65	74.2	54.4	88.7
8:24:53 PM	64.6	72.9	52.8	83.8
8:25:53 PM	67.3	75.1	55.8	87.4
8:26:53 PM	58.9	66.4	47.9	80.5
8:27:53 PM	67.6	74.3	53.6	88
8:28:53 PM	62.8	69.2	50.1	83.2
8:29:53 PM	66.2	71.1	51	85.5
8:30:53 PM	63.4	69.7	53	82.1
8:31:53 PM	63.7	68.4	51.4	82.4
8:32:53 PM	58.3	67.8	47.2	82
8:33:53 PM	63.4	72	53.3	86

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:34:53 PM	63.5	71.6	48	84.1
8:35:53 PM	67.1	71.3	56.3	85.8
8:36:53 PM	60.1	67.6	48.2	80
8:37:53 PM	67	73.4	54.1	90.8
8:38:53 PM	64.8	68.6	54.6	82.2
8:39:53 PM	60.7	66.9	48.3	81.2
8:40:53 PM	63.9	70.8	49.9	86
8:41:53 PM	66.3	77.3	54.2	90.1
8:42:53 PM	66.4	74.3	53.2	87.7
8:43:53 PM	67.4	77.3	53.7	90.6
8:44:53 PM	63.1	69.1	47.3	82.6
8:45:53 PM	64.7	69.6	59.3	83.9
8:46:53 PM	64.8	69.4	57.6	83.8
8:47:53 PM	62.8	69.3	48.1	82.7
8:48:53 PM	64.6	74.3	48.6	88.7
8:49:53 PM	68.1	73.1	60.9	88.2
8:50:53 PM	64.7	71.3	47.9	84.1
8:51:53 PM	67.2	68.3	50.4	80.5
8:52:53 PM	60.3	67.6	47.3	80.6
8:53:53 PM	64.8	70.9	59	83.3
8:54:53 PM	64.4	74.7	46.9	87.6
8:55:53 PM	66.3	72.1	56.4	85.5
8:56:53 PM	59.6	67.3	43.3	81.4
8:57:53 PM	63.3	73.3	52.1	87.1
8:58:53 PM	59.3	66.4	46.7	82.5
8:59:53 PM	68.6	78.7	50.7	91.1
9:00:53 PM	63.6	74.7	50.9	88
9:01:53 PM	64.4	69.7	50.9	83.2
9:02:53 PM	59.5	65.3	49.5	80.7
9:03:53 PM	64.3	69.7	53	84.1
9:04:53 PM	60.2	65.1	49.8	78.6
9:05:53 PM	65.8	75.3	57.1	87.6
9:06:53 PM	63.2	74.4	51.3	89.6
9:07:53 PM	62.6	71	49.3	84.6
9:08:53 PM	68	76	50.6	89.3
9:09:53 PM	63.9	70	52.3	84.8
9:10:53 PM	60.3	66.3	43.3	80.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:11:53 PM	63.3	73.4	49.1	84.9
9:12:53 PM	64	73.2	54.8	82
9:13:53 PM	67	74	58.6	87.7
9:14:53 PM	66.1	73.6	51.3	90.3
9:15:53 PM	63.8	69.8	56.2	83.1
9:16:53 PM	63.4	71.7	44.9	84.3
9:17:53 PM	62.1	66.8	51.6	81
9:18:53 PM	59.8	66.4	48.6	81.3
9:19:53 PM	66.3	72.6	58.1	83.8
9:20:53 PM	63.3	72.8	46	85.6
9:21:53 PM	63.2	70	48.9	83.3
9:22:53 PM	64.3	72.3	50.9	87.3
9:23:53 PM	63.7	70.7	53.1	83.2
9:24:53 PM	58.1	63.3	46.1	79.7
9:25:53 PM	60.8	66.3	51.1	80
9:26:53 PM	62.3	68.7	49.9	81.3
9:27:53 PM	65.4	73.6	56.7	87.3
9:28:53 PM	64.6	71.8	56	88.1
9:29:53 PM	63	73.1	56	86.6
9:30:53 PM	61.2	70.3	46.3	84.2
9:31:53 PM	60.9	70	47.1	82.8
9:32:53 PM	66.7	73.2	52.3	87.2
9:33:53 PM	60.3	68.9	51.3	82.6
9:34:53 PM	61.2	68.3	48.9	81.8
9:35:53 PM	69.2	77.2	56.8	92.3
9:36:53 PM	59.6	66.9	46.3	87.3
9:37:53 PM	61.3	67.6	52	80.3
9:38:53 PM	65.1	73.3	50.4	86.7
9:39:53 PM	63.4	69.3	51.8	81
9:40:53 PM	61.4	69.7	43	84.2
9:41:53 PM	64.3	71.9	50.3	84.3
9:42:53 PM	61.4	68.1	47.8	87.3
9:43:53 PM	62.3	68.3	50	81.3
9:44:53 PM	66.8	77.2	48.2	91.3
9:45:53 PM	58.7	66.4	44.8	79.2
9:46:53 PM	64.3	70.7	49.2	88
9:47:53 PM	66.4	72.9	57.1	86

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:48:55 PM	57.2	62.3	47.9	76.8
9:49:55 PM	67.4	76.1	53	89
9:50:55 PM	63.4	71	44.9	84.7
9:51:55 PM	56.8	63.3	44.4	73.1
9:52:55 PM	64.8	73.9	51.2	88.2
9:53:55 PM	67.6	73.9	52.7	88.3
9:54:55 PM	60	66.9	50.9	79.7
9:55:55 PM	61.3	69	48.8	82.8
9:56:55 PM	64.3	73.9	53	88.9
9:57:55 PM	64.9	73.8	50.1	87.7
9:58:55 PM	61.9	69.2	49.3	85
9:59:55 PM	61.2	72	45.3	84.2
10:00:55 PM	66.9	74.7	46.1	90
10:01:55 PM	62.6	73.2	49.4	87.5
10:02:55 PM	60.1	67.3	47.7	80.7
10:03:55 PM	62.3	69.1	45.3	83.6
10:04:55 PM	64.3	74.8	44.6	88.3
10:05:55 PM	57.2	63.7	45.4	80
10:06:55 PM	63.4	72.4	49.2	85.4
10:07:55 PM	60.5	64.4	52.8	78
10:08:55 PM	67.8	73.6	50.8	85.6
10:09:55 PM	62.5	72	46.2	85.1
10:10:55 PM	62.2	70.7	46.9	83.7
10:11:55 PM	60.1	65.4	46.8	77.9
10:12:55 PM	65	76.3	46.4	90.8
10:13:55 PM	67.8	70.3	46.4	90.3
10:14:55 PM	62.7	68.4	53.6	82.2
10:15:55 PM	61.8	68.7	50.4	87.6
10:16:55 PM	60.5	68.9	50.6	83.7
10:17:55 PM	59.4	67.1	42.5	82
10:18:55 PM	62.5	69.7	42.9	82.2
10:19:55 PM	59.9	66.6	46.5	80.4
10:20:55 PM	63.5	70.3	46.1	84.5
10:21:55 PM	58.6	68.5	44.3	81.8
10:22:55 PM	61.5	70.3	49.2	84.9
10:23:55 PM	65.4	73.2	54.3	86
10:24:55 PM	74.8	87.1	57.9	101.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:25:35 PM	61.9	71.4	47	84.1
10:26:35 PM	60.1	67.2	44.3	80.6
10:27:35 PM	61	66.9	47.8	80.8
10:28:35 PM	64.9	74.1	50.7	87.1
10:29:35 PM	58.6	64.6	47.9	78.6
10:30:35 PM	63.6	74.2	53	86.2
10:31:35 PM	63.8	72	46.1	84.7
10:32:35 PM	63.2	73.8	44.4	87
10:33:35 PM	61.1	68.1	45.8	82
10:34:35 PM	59.6	65.5	45.1	78.9
10:35:35 PM	62.6	69.9	45.4	83.8
10:36:35 PM	58.7	67.1	44.3	79.8
10:37:35 PM	58.9	67.4	46.1	80
10:38:35 PM	64.9	70.2	52.5	84.3
10:39:35 PM	57.7	69.7	44.3	83
10:40:35 PM	63	70.4	51.2	83.4
10:41:35 PM	57.1	64.9	48.6	79.7
10:42:35 PM	67.2	69.9	45.3	83.4
10:43:35 PM	60.6	69.8	44.9	82.9
10:44:35 PM	60.4	69.3	44.6	81.8
10:45:35 PM	62.7	69.5	51.7	81.4
10:46:35 PM	63.2	70.8	50.4	84
10:47:35 PM	60.6	67.1	49.2	80.8
10:48:35 PM	62.4	70.3	48	82.6
10:49:35 PM	62.4	70	46	83.8
10:50:35 PM	66.8	76.1	50.1	90
10:51:35 PM	59	66.7	47.3	80.3
10:52:35 PM	61.8	71.7	50.7	83.4
10:53:35 PM	65.2	75.3	45.4	88.8
10:54:35 PM	66.7	73.5	47.8	85.6
10:55:35 PM	60.6	66	45.3	80.9
10:56:35 PM	58.5	65.2	45.4	78
10:57:35 PM	62.4	72.3	50	84.9
10:58:35 PM	65.9	74.7	53.8	88.3
10:59:35 PM	61	69.1	47.6	81
11:00:35 PM	65.3	75.6	47.2	89.1
11:01:35 PM	57.3	63.3	45.3	79.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:02:35 PM	59.9	63.3	43.6	78
11:03:35 PM	64.4	73.2	48.9	86.8
11:04:35 PM	60.6	65.1	48.6	79.1
11:05:35 PM	59.7	66.4	48.9	80.8
11:06:35 PM	58.4	64.1	50	78.6
11:07:35 PM	63	68.8	51.3	83.1
11:08:35 PM	57.9	66.3	46.1	80.1
11:09:35 PM	59.3	66	43.3	80
11:10:35 PM	60.9	67.3	44.1	81
11:11:35 PM	58.7	69.7	44.8	83.6
11:12:35 PM	60.2	66.2	45.9	81.3
11:13:35 PM	63.1	73.6	44	90.1
11:14:35 PM	61.6	68.1	46.8	82.6
11:15:35 PM	58.9	68.3	45.6	81.6
11:16:35 PM	63.7	71.7	46.3	84.3
11:17:35 PM	61.4	70.3	49.4	84.4
11:18:35 PM	62	66.6	50.3	80.4
11:19:35 PM	64.4	74.4	51.7	88.8
11:20:35 PM	61.7	68.1	49.8	84.1
11:21:35 PM	62	73.3	50.4	86.8
11:22:35 PM	62.2	70.7	44.8	84.3
11:23:35 PM	56.9	68.3	46.6	78.2
11:24:35 PM	63.7	74	46	87.4
11:25:35 PM	58.7	64.3	43.3	78.3
11:26:35 PM	62.3	73.7	46.6	86.3
11:27:35 PM	58.3	63.8	48.1	79.7
11:28:35 PM	58.6	66	41.2	79.8
11:29:35 PM	61.6	74.3	41.1	86.9
11:30:35 PM	61.7	71.3	48.2	85.1
11:31:35 PM	58.3	66.7	47.3	82.3
11:32:35 PM	64.9	73.3	50.3	89
11:33:35 PM	60.3	71.1	47.1	83.4
11:34:35 PM	63.2	74.3	43.9	87.7
11:35:35 PM	53.9	62.3	44.3	76.9
11:36:35 PM	72	83.4	51.1	94.6
11:37:35 PM	58.6	67.3	42.3	81.1
11:38:35 PM	60.8	67.4	51.8	80.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:39:35 PM	53.8	62.4	46.6	73.8
11:40:35 PM	60.2	68.7	46	83.1
11:41:35 PM	62.6	72	47.3	85.1
11:42:35 PM	67.7	69.6	53.7	83.7
11:43:35 PM	62.2	74.9	42.6	88.1
11:44:35 PM	58.1	63.8	44.2	78.7
11:45:35 PM	56.8	66.8	42.8	81.7
11:46:35 PM	59.2	67.9	44.6	80.9
11:47:35 PM	53.7	63.4	42.7	79.3
11:48:35 PM	58.9	65.3	44	80.7
11:49:35 PM	62	73.8	44.9	87.7
11:50:35 PM	53.7	62.6	40.4	73
11:51:35 PM	56.6	62.7	44.6	75.6
11:52:35 PM	62.9	70.6	45.9	82.8
11:53:35 PM	67	71.4	43.7	84.3
11:54:35 PM	62	67.6	48.1	80.7
11:55:35 PM	57.9	69.2	42.6	82.6
11:56:35 PM	51.8	59.9	42.9	73.9
11:57:35 PM	60.8	70.9	42.7	83.7
11:58:35 PM	62	73.6	46.3	86.4
11:59:35 PM	58.3	67	46.6	80.9
3/18/2021 12:00:35 AM	63.2	71.9	43.3	84.6
12:01:35 AM	58.7	67.3	43	82
12:02:35 AM	52.9	67.1	41.9	76.3
12:03:35 AM	58.3	67.1	44.3	79.9
12:04:35 AM	60.4	68	48	81.6
12:05:35 AM	60.1	67.1	48.8	81.6
12:06:35 AM	66.2	74.9	53.6	88
12:07:35 AM	64	74.6	53.7	88.3
12:08:35 AM	61.8	67.8	51.2	82.3
12:09:35 AM	59.6	67.3	45.8	81.1
12:10:35 AM	61.6	67.6	49.9	81.3
12:11:35 AM	64.6	74.1	48.2	87
12:12:35 AM	57.3	67.1	43	80.9
12:13:35 AM	78.7	92.3	50.2	108.3
12:14:35 AM	55	66.6	43.7	82.3
12:15:35 AM	61.3	70.4	43.9	83.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:16:35 AM	60.4	67.6	47.7	82.2
12:17:35 AM	58.5	67.1	43.5	80.2
12:18:35 AM	57.9	66.2	44	80.8
12:19:35 AM	63.8	76.3	43.8	89.9
12:20:35 AM	61	66.8	53.2	80.2
12:21:35 AM	56.9	64.7	43.9	78.6
12:22:35 AM	58.4	65.1	45	78.9
12:23:35 AM	69.3	80.2	45.4	93.3
12:24:35 AM	59.1	71.9	43.1	81.1
12:25:35 AM	60.7	71.8	45.5	84.7
12:26:35 AM	54.4	62.7	45.5	73.8
12:27:35 AM	52.7	63	42.9	76.2
12:28:35 AM	64.7	74.3	45.2	88.3
12:29:35 AM	54.2	62.4	42.7	73.9
12:30:35 AM	60.7	72.4	43.6	86.7
12:31:35 AM	57.9	68.1	44.9	82.2
12:32:35 AM	52.1	60.7	43.6	73.2
12:33:35 AM	60.5	71.7	43.3	85.5
12:34:35 AM	63.8	76.6	44.5	90.1
12:35:35 AM	56.6	66.1	42.4	80
12:36:35 AM	55.1	66.1	41.5	79
12:37:35 AM	53.1	61	43	74.1
12:38:35 AM	57.6	68.9	42.8	79.8
12:39:35 AM	61.4	69.1	51.3	82.8
12:40:35 AM	55.3	65.8	42.8	80.6
12:41:35 AM	58.7	68.7	44.9	87.3
12:42:35 AM	59.9	67.7	46.9	82.2
12:43:35 AM	55.9	65.3	44.7	78.3
12:44:35 AM	66.5	78.9	49.1	90.7
12:45:35 AM	49.2	57.4	43.4	70.9
12:46:35 AM	58.6	67.3	44.4	83
12:47:35 AM	58.9	68	44.4	81.5
12:48:35 AM	58.9	69.3	45.1	82.1
12:49:35 AM	60.2	68.4	44.3	81.6
12:50:35 AM	58.3	67	45.3	80.7
12:51:35 AM	57.5	66.2	44.3	80.8
12:52:35 AM	58.5	67.6	47.1	81.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:53:55 AM	59.9	67.7	42.9	82.1
12:54:55 AM	57.6	70.2	41.6	83.9
12:55:55 AM	63.9	76.3	43.6	90.3
12:56:55 AM	60.4	71.8	41.4	83
12:57:55 AM	58.7	67.3	42.9	84.3
12:58:55 AM	55.4	63	41.3	76.2
12:59:55 AM	49.1	57.8	40.1	70.7
1:00:55 AM	60.3	71.1	45.2	83.4
1:01:55 AM	57.7	68.6	43.4	83.3
1:02:55 AM	48.6	58.4	40.7	72.4
1:03:55 AM	57.9	67.4	44.5	81.9
1:04:55 AM	62	71.2	43.6	84.2
1:05:55 AM	57	66.7	44.2	79.5
1:06:55 AM	61.8	73.8	44.4	89.4
1:07:55 AM	68	77.3	50.1	93.3
1:08:55 AM	51.7	59.7	44.6	72.7
1:09:55 AM	58.5	65.8	45.7	78.4
1:10:55 AM	53.4	63.1	41	79.9
1:11:55 AM	53.8	64.3	42.1	76.4
1:12:55 AM	59.9	68.3	41.3	82.3
1:13:55 AM	58.4	69.9	45.7	83
1:14:55 AM	61.1	70.8	43.5	84.5
1:15:55 AM	57.2	64.9	42.2	78.9
1:16:55 AM	52.2	60.3	44.2	74
1:17:55 AM	57.6	64.4	44.8	77.1
1:18:55 AM	46.4	53.7	42.6	63.9
1:19:55 AM	52.6	59.1	43.8	73.7
1:20:55 AM	47.5	53	43	66.2
1:21:55 AM	50.4	58	43	71.9
1:22:55 AM	62	74.3	43.3	87.7
1:23:55 AM	45.9	48.3	43.3	60.9
1:24:55 AM	50.6	59.9	42.9	73.9
1:25:55 AM	60	72.1	43.2	84.8
1:26:55 AM	63.5	73.7	46	88.9
1:27:55 AM	58.2	66.3	43.8	81.7
1:28:55 AM	65.2	75.5	44.8	91.3
1:29:55 AM	67	74.6	44.1	88.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:30:53 AM	61.7	71.4	44.8	83.9
1:31:53 AM	54.7	63.9	42.6	77.3
1:32:53 AM	50.5	59.6	41.5	72.2
1:33:53 AM	57.8	59.6	43.4	74.7
1:34:53 AM	56.6	66.8	42.8	81.7
1:35:53 AM	58	66.8	46.1	79.7
1:36:53 AM	53.5	64.2	43.2	79.9
1:37:53 AM	51.6	63.5	42.5	77.5
1:38:53 AM	56.7	66.2	43.3	80.3
1:39:53 AM	55	63.3	41.1	76.3
1:40:53 AM	62.1	71.1	48	84.7
1:41:53 AM	60.9	72.3	48	83.3
1:42:53 AM	54.9	66	43.5	79.8
1:43:53 AM	55.7	64.1	43.6	77.8
1:44:53 AM	60.3	68.7	43.7	87.1
1:45:53 AM	53.4	63.5	43.3	79.9
1:46:53 AM	56.3	65.7	43.5	78.8
1:47:53 AM	49.5	58.9	41	71
1:48:53 AM	56.1	65.2	44.9	79.2
1:49:53 AM	57.5	61.9	48.7	73.3
1:50:53 AM	61.5	72.6	45.7	85.7
1:51:53 AM	59.4	61.4	43.1	70.4
1:52:53 AM	57.4	63	43	78.9
1:53:53 AM	45.3	51.9	43.8	65.2
1:54:53 AM	57.1	66.1	43.4	81.4
1:55:53 AM	51.9	61	41.8	74.3
1:56:53 AM	56.3	65.4	42.8	78.1
1:57:53 AM	53.8	61.7	43	74.7
1:58:53 AM	60.9	73.9	42.3	88.3
1:59:53 AM	63	74.6	44.7	87.8
2:00:53 AM	57.8	66	44.7	81.4
2:01:53 AM	60.3	69.9	42.6	83.5
2:02:53 AM	53.4	64	43.5	75.8
2:03:53 AM	57.6	69.1	43.3	82.8
2:04:53 AM	44.6	46.9	43.6	59.6
2:05:53 AM	61.3	70.9	44.3	85
2:06:53 AM	58.7	68.7	43.4	81.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:07:53 AM	44.1	47.9	42.3	60.2
2:08:53 AM	54.8	67.3	43.4	80.6
2:09:53 AM	60.6	72.1	43.9	86
2:10:53 AM	53.1	67.7	44.4	73.8
2:11:53 AM	58.3	68.6	44.3	81.6
2:12:53 AM	57.3	66.8	44	80.1
2:13:53 AM	56.7	64.1	44.1	77.4
2:14:53 AM	53.8	62.7	43.4	75.7
2:15:53 AM	50.3	61.3	43.2	74.2
2:16:53 AM	59.7	67.8	44.6	80.8
2:17:53 AM	61.8	71	43.7	83.7
2:18:53 AM	64.7	74.3	44.1	87.8
2:19:53 AM	57.8	70.1	44.4	84.8
2:20:53 AM	58.9	72.1	42	86.3
2:21:53 AM	61	69.8	44.3	81.7
2:22:53 AM	52.1	64	42.6	79.1
2:23:53 AM	48.2	57.1	41.4	69.6
2:24:53 AM	59.9	69.7	42.4	82.3
2:25:53 AM	55.2	66.3	42.8	79.7
2:26:53 AM	56.9	67.9	41.1	82.3
2:27:53 AM	45.2	55.7	42.2	64
2:28:53 AM	63.9	75.1	43.7	88.2
2:29:53 AM	60.4	71.6	42.9	84.9
2:30:53 AM	58.7	67.8	42.9	81.3
2:31:53 AM	62.8	75.2	43.8	89.2
2:32:53 AM	57.6	64.3	40.3	79
2:33:53 AM	53.3	63.8	41.1	77.7
2:34:53 AM	55.5	64.4	41.6	77.8
2:35:53 AM	47.4	57.8	40.5	71.1
2:36:53 AM	41.9	44.1	40.1	56.1
2:37:53 AM	42.1	45.3	39.4	56.7
2:38:53 AM	54.6	64.4	43.1	78.1
2:39:53 AM	59.9	70.6	43.4	88
2:40:53 AM	62	74.3	42.8	87.6
2:41:53 AM	59.5	72.1	42	85.6
2:42:53 AM	43.8	50.6	40.9	61.3
2:43:53 AM	53.9	60.6	41.7	73.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:44:53 AM	50.6	61.3	41.1	73.9
2:45:53 AM	66.8	77.2	43.2	90
2:46:53 AM	59.3	70.4	42.9	84.4
2:47:53 AM	56.3	66.4	42.1	79.9
2:48:53 AM	63.4	73.9	43.4	88.4
2:49:53 AM	57.4	68.1	42.3	82.8
2:50:53 AM	61	73.4	41.7	87.4
2:51:53 AM	58.7	69.7	44.4	82.2
2:52:53 AM	53.9	64.3	43.2	78.6
2:53:53 AM	58.6	68.1	43.2	82.1
2:54:53 AM	52.6	59.7	42.6	73.6
2:55:53 AM	45.6	49.3	43.1	60.6
2:56:53 AM	60.6	71.7	44.4	84.6
2:57:53 AM	61.9	74.3	44.3	87
2:58:53 AM	44.1	45.6	42	58
2:59:53 AM	64.4	75.9	42.3	89.3
3:00:53 AM	43.6	50.4	41.8	63.9
3:01:53 AM	59.4	69.3	43.4	82.3
3:02:53 AM	61.3	72.4	44.3	85.7
3:03:53 AM	63.1	73.3	44.4	89.3
3:04:53 AM	60.1	66	46.3	80.3
3:05:53 AM	50.3	60.3	40.7	73.7
3:06:53 AM	60.1	71.6	43.3	83.4
3:07:53 AM	62.4	68.8	46	82.3
3:08:53 AM	64.3	76.9	44.3	90.3
3:09:53 AM	58.3	70.4	42.4	84.9
3:10:53 AM	47.7	57	42.2	69.8
3:11:53 AM	58.4	67.3	42.8	80.6
3:12:53 AM	60.7	70.4	43.4	84.8
3:13:53 AM	57.6	64.8	44.8	80
3:14:53 AM	63.6	78.2	46	92.1
3:15:53 AM	59.4	70.9	45.8	85.3
3:16:53 AM	59.7	71.2	46.3	82.3
3:17:53 AM	61.3	69.6	45	83.4
3:18:53 AM	59.1	71.2	47.1	83.6
3:19:53 AM	57	71.3	43.4	83.3
3:20:53 AM	61.8	74	45.4	86.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:21:53 AM	62.6	71.9	47.1	83.8
3:22:53 AM	63.7	74.7	50.5	89.3
3:23:53 AM	59.4	71.7	45.9	84.1
3:24:53 AM	60.4	70.6	44.8	83.8
3:25:53 AM	61.2	70	42.4	83.7
3:26:53 AM	60.2	71.4	44.8	83.3
3:27:53 AM	59.8	69.3	42.5	82
3:28:53 AM	63.1	70.7	44.3	84
3:29:53 AM	63.3	74.7	43.2	91.1
3:30:53 AM	58.7	70.8	40.4	84.1
3:31:53 AM	67.1	78.1	47.2	91.9
3:32:53 AM	56.9	66.4	41.6	78.6
3:33:53 AM	68.6	78.1	45.9	91.4
3:34:53 AM	65.8	77.1	47	90.7
3:35:53 AM	61.9	73.7	44.6	86.7
3:36:53 AM	58	69.3	42.2	82.3
3:37:53 AM	66.8	72.7	43.8	87.3
3:38:53 AM	64.5	73.9	49.5	85.9
3:39:53 AM	57.3	68.8	43	83.4
3:40:53 AM	60.9	69.3	41.4	83.3
3:41:53 AM	60.7	70.4	44.7	84.3
3:42:53 AM	64.3	73.6	46.2	87.9
3:43:53 AM	64.6	73	43.6	83.9
3:44:53 AM	62.1	70.3	41.7	83.9
3:45:53 AM	63.1	71	42	84.6
3:46:53 AM	64.8	73.9	46.9	89.4
3:47:53 AM	63.8	73.4	50.9	85.9
3:48:53 AM	59.2	69.2	44.1	83.1
3:49:53 AM	63.4	73.5	43.7	89.1
3:50:53 AM	67.8	76.3	53.6	88.8
3:51:53 AM	67.1	73.3	54.4	90.6
3:52:53 AM	55.4	63.8	42	78.5
3:53:53 AM	47.5	56.5	41.9	69.2
3:54:53 AM	64.8	73.8	42.1	91
3:55:53 AM	66.7	74.1	52.3	88
3:56:53 AM	63.6	78.2	46.6	91.4
3:57:53 AM	63	72.3	47.3	83.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:58:53 AM	61.4	66.9	48.3	80.4
3:59:53 AM	60.2	70.6	42	83.9
4:00:53 AM	57.2	66.4	41.6	80.3
4:01:53 AM	56.7	64.7	43.7	78.6
4:02:53 AM	61.3	70.7	49	84.1
4:03:53 AM	63.3	74	50	88.3
4:04:53 AM	56	66.1	43.4	78.1
4:05:53 AM	67.9	80.4	49.1	94.2
4:06:53 AM	64.8	78.9	50.6	87.3
4:07:53 AM	67.9	77	51.1	90.1
4:08:53 AM	64.7	74.9	45.3	87.4
4:09:53 AM	62.1	69.9	42.9	82.9
4:10:53 AM	63.2	71	45.4	84.3
4:11:53 AM	67.2	77.2	52.3	91
4:12:53 AM	67	70.7	46.1	83.9
4:13:53 AM	63.3	72.1	42.2	84.3
4:14:53 AM	63.6	71	49.4	87.3
4:15:53 AM	68	76	49.8	90.1
4:16:53 AM	66.3	74.8	52.2	90.1
4:17:53 AM	68.2	79	51.8	92.4
4:18:53 AM	65	75.9	47.4	89.4
4:19:53 AM	66.2	76.8	50.3	91.2
4:20:53 AM	62.3	71.8	47.7	85.1
4:21:53 AM	67.8	76	54.1	88.7
4:22:53 AM	68.3	79.2	46.8	96.2
4:23:53 AM	67.8	77.3	43.7	91.7
4:24:53 AM	58.7	63.6	43.1	80.2
4:25:53 AM	62.7	68.6	45.4	82.8
4:26:53 AM	68.6	80.1	45.1	94.1
4:27:53 AM	64.8	72.2	53.1	83.9
4:28:53 AM	67.1	75.3	48.1	90.1
4:29:53 AM	62.4	71.5	50.4	83.9
4:30:53 AM	63.1	72.8	51	85.4
4:31:53 AM	65.6	73	45.6	89
4:32:53 AM	66.9	75.9	52.8	89.7
4:33:53 AM	66.6	74.6	48	92.1
4:34:53 AM	65.8	76.8	44.3	89.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:35:53 AM	65.5	73	48	86.3
4:36:53 AM	68.6	75.4	53	87.2
4:37:53 AM	63	70.3	46.3	82.6
4:38:53 AM	66.7	74.6	46.7	88.4
4:39:53 AM	68.8	75.9	56.3	88.7
4:40:53 AM	67.3	73.7	49.3	88.1
4:41:53 AM	69.7	76.4	53.9	91.7
4:42:53 AM	67.6	75.2	50.7	87.2
4:43:53 AM	68.2	78.3	50.2	91.3
4:44:53 AM	65.3	72.9	54.1	86.6
4:45:53 AM	66.8	73.9	55.8	86.6
4:46:53 AM	65.7	74	49.1	83.7
4:47:53 AM	68.3	78.4	53.3	91
4:48:53 AM	61.7	67.5	46.9	81.2
4:49:53 AM	69.1	78.7	47.3	91.3
4:50:53 AM	70.4	77.6	52.7	90.2
4:51:53 AM	64.6	74.2	48.3	87.2
4:52:53 AM	67.6	75.5	50.4	88
4:53:53 AM	68.7	77.3	56	91.4
4:54:53 AM	59.4	67.7	41.7	81.3
4:55:53 AM	69.9	77.5	46.9	91.5
4:56:53 AM	64.4	71.6	45.8	83.3
4:57:53 AM	70.4	77.3	56.3	91.7
4:58:53 AM	68.3	75.1	52.6	89.1
4:59:53 AM	57.9	66.6	46.8	82.8
5:00:53 AM	71.1	81.9	50	93.7
5:01:53 AM	64.7	73.2	51.1	86.9
5:02:53 AM	68.9	76	59.9	90
5:03:53 AM	67.1	75.5	51.4	89.1
5:04:53 AM	67.2	77.3	49.6	92.3
5:05:53 AM	66.2	72.7	50.3	83.8
5:06:53 AM	65	74.6	49.9	89.6
5:07:53 AM	66.3	72.7	56.3	86.1
5:08:53 AM	66.9	73.6	47.2	86.7
5:09:53 AM	59.6	66.7	45.7	82.2
5:10:53 AM	67	78.9	45.2	91.4
5:11:53 AM	68.3	76.7	53.3	88.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:12:53 AM	69.8	76.3	53.9	90.1
3:13:53 AM	64.8	74.7	48.9	89.3
3:14:53 AM	68.2	75.3	47	87.9
3:15:53 AM	65.6	71.1	56.7	84.7
3:16:53 AM	66.4	72.1	52.1	86.2
3:17:53 AM	69.2	77	57	90.8
3:18:53 AM	68.9	75.7	59.3	89.1
3:19:53 AM	69	75.7	54.3	90.3
3:20:53 AM	68.3	74.3	60.1	87.4
3:21:53 AM	66.7	73	57.8	86.9
3:22:53 AM	66.9	74.3	55.2	87.8
3:23:53 AM	68.2	72.3	56.4	86.2
3:24:53 AM	71.3	81.3	54.9	94.8
3:25:53 AM	69.7	79.2	51.8	93.3
3:26:53 AM	69.1	74	54.7	87.4
3:27:53 AM	66.8	71.3	51.3	85.7
3:28:53 AM	69.3	76.1	53.3	89.6
3:29:53 AM	68.3	76.3	51.8	89.7
3:30:53 AM	71.7	80.6	51.7	94.6
3:31:53 AM	71.7	77.2	64.3	90.7
3:32:53 AM	66.4	73.6	56.4	86.3
3:33:53 AM	71.4	80.4	54.1	92.7
3:34:53 AM	72	79.3	53.4	93.2
3:35:53 AM	67.8	73	56.6	86.7
3:36:53 AM	68.8	73.3	60.4	86.4
3:37:53 AM	68.3	73.4	53.7	86.4
3:38:53 AM	72.4	78.6	58.8	93.3
3:39:53 AM	67.3	73	54.9	86.1
3:40:53 AM	70.4	75.6	54.8	87.7
3:41:53 AM	66.8	72.3	55.9	84.8
3:42:53 AM	69	76.8	56.2	89
3:43:53 AM	68.4	78.7	55.3	92.8
3:44:53 AM	70.8	76.8	58.4	89.4
3:45:53 AM	68	73.7	52.3	87.3
3:46:53 AM	69	76.3	59.3	89.6
3:47:53 AM	68.8	79.3	53.9	94.6
3:48:53 AM	71.6	79	61.6	92.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:49:53 AM	70.4	76.6	56.9	90.4
3:50:53 AM	66.6	72.8	54.9	86.6
3:51:53 AM	70.8	78.7	53.3	93
3:52:53 AM	69.9	74.4	56.9	87.4
3:53:53 AM	68.3	78.3	54.3	92.6
3:54:53 AM	71.3	81.1	53.4	93.4
3:55:53 AM	69.8	78.7	58.9	91.4
3:56:53 AM	70	80	52.6	92.2
3:57:53 AM	71	78.3	62.1	94.9
3:58:53 AM	66.1	71.3	54	84
3:59:53 AM	70	77.4	59.7	90.7
6:00:53 AM	66.2	71.3	53.2	84.3
6:01:53 AM	72.3	76.9	60.2	92.6
6:02:53 AM	71.2	78.8	58.2	93.7
6:03:53 AM	68.4	73.6	53.7	86
6:04:53 AM	69.9	78	59.7	92.6
6:05:53 AM	63.9	71	52.7	83.4
6:06:53 AM	69.2	74.3	60.7	87.6
6:07:53 AM	67.8	73.8	56.8	88.3
6:08:53 AM	70.7	73.6	62.6	89.4
6:09:53 AM	67.8	72.9	58.7	85.8
6:10:53 AM	68.1	74.9	56.4	86.8
6:11:53 AM	71.3	79.2	61.1	91.9
6:12:53 AM	68.6	76.6	52.4	90.2
6:13:53 AM	72.7	77.8	62.1	91.8
6:14:53 AM	65.8	72.8	58.9	86.8
6:15:53 AM	68.7	72.3	61.3	86
6:16:53 AM	68.9	73	59.4	88.3
6:17:53 AM	70.6	78.7	50.6	94
6:18:53 AM	72.4	79.2	63	92.2
6:19:53 AM	68.1	73.1	56.6	86.3
6:20:53 AM	71.3	76.6	62.6	90.2
6:21:53 AM	69.3	75.3	60.7	87.6
6:22:53 AM	72.4	76.3	65.6	90.1
6:23:53 AM	70.2	76.6	61.2	89.6
6:24:53 AM	68.2	73.4	53.3	89.1
6:25:53 AM	71	77.9	61.4	91.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:26:53 AM	71.4	77.9	60.3	91.7
6:27:53 AM	70.8	75.7	60	89
6:28:53 AM	67.7	72.9	54.9	86
6:29:53 AM	71.6	75.7	64.7	90.8
6:30:53 AM	70.8	75.8	63.2	90.2
6:31:53 AM	71.3	77.8	61.9	91.1
6:32:53 AM	69.4	75.2	63.7	89
6:33:53 AM	67.3	73.9	55.1	87.1
6:34:53 AM	71.7	78	64.3	91.9
6:35:53 AM	70	76.4	62.4	92.2
6:36:53 AM	69.6	75.7	58.7	88.3
6:37:53 AM	69.8	73	61.6	87.6
6:38:53 AM	68.7	73.8	57.6	87
6:39:53 AM	69.6	73	61.2	86.2
6:40:53 AM	68.4	74.7	60	87.6
6:41:53 AM	70.2	75.2	61.3	87.8
6:42:53 AM	68.7	73.3	53.6	88.9
6:43:53 AM	70.2	74.3	63.1	88.1
6:44:53 AM	68.3	73	63.4	86.7
6:45:53 AM	69.4	73.2	63.8	87.7
6:46:53 AM	66.6	71.3	59.2	85.1
6:47:53 AM	67.8	73.2	58.6	88.8
6:48:53 AM	70.7	73.4	63.7	89.8
6:49:53 AM	70.4	79.1	57.1	90.8
6:50:53 AM	69.8	74.2	58	87.6
6:51:53 AM	69.3	76.6	57.7	91
6:52:53 AM	70.6	77.6	58.1	90.3
6:53:53 AM	70.6	76.6	63.8	90.1
6:54:53 AM	67.4	73.3	58.1	86.6
6:55:53 AM	72.6	76.3	67.7	91.9
6:56:53 AM	69.4	76	54	89.8
6:57:53 AM	71	77.3	53.8	89.6
6:58:53 AM	69.1	77.3	56.7	88.3
6:59:53 AM	69	74.3	54.2	87.6
7:00:53 AM	67.6	74.3	53.7	87.2
7:01:53 AM	68	71.1	62.3	83.7
7:02:53 AM	68.6	73.9	53.6	88.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:03:53 AM	71.2	78.6	59.5	91.9
7:04:53 AM	68.8	73.7	54.9	87
7:05:53 AM	69.7	73.9	59.5	88.5
7:06:53 AM	69.5	74.7	63.8	87.6
7:07:53 AM	72.1	77.7	63.3	92.6
7:08:53 AM	65.9	71.2	55.4	86.3
7:09:53 AM	72.4	78.8	66	91.4
7:10:53 AM	67	74.4	58.8	89.3
7:11:53 AM	70.2	75	64.1	88.5
7:12:53 AM	71.5	79.3	54.7	92.7
7:13:53 AM	68.1	74	53.5	86
7:14:53 AM	74.1	83.9	68	97.4
7:15:53 AM	67.6	72.3	55.4	85.2
7:16:53 AM	70.9	75.6	59.8	88.7
7:17:53 AM	67.5	73.7	60.9	88.8
7:18:53 AM	70.5	75.9	56.2	89.2
7:19:53 AM	71	76	63	89.5
7:20:53 AM	67.5	75.9	54.1	87.8
7:21:53 AM	71.3	76.3	66.6	88.4
7:22:53 AM	69.8	71.2	53.8	83.7
7:23:53 AM	69.4	74.7	56.7	87.8
7:24:53 AM	68.9	73.8	57.3	86.6
7:25:53 AM	68.4	74.9	58.8	87.6
7:26:53 AM	74.4	85.5	64.7	99.4
7:27:53 AM	70	76.5	63.5	90
7:28:53 AM	69	76.1	64.9	89.3
7:29:53 AM	70.1	76.2	60.3	90.6
7:30:53 AM	78.8	88.7	63.9	104.8
7:31:53 AM	68.3	73.1	62.9	86
7:32:53 AM	71	77	57.4	91.1
7:33:53 AM	72.3	79.9	63.7	93.2
7:34:53 AM	69.6	76	61.5	89.4
7:35:53 AM	69.9	77.3	60.8	90.7
7:36:53 AM	66.3	74.3	56.2	87
7:37:53 AM	70.9	75.3	54.2	88.6
7:38:53 AM	67.3	76.1	58.2	89.8
7:39:53 AM	69.8	74.7	58.3	88.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:40:53 AM	71.1	79.4	60.3	92.3
7:41:53 AM	68.3	74.6	56.6	89.3
7:42:53 AM	71.1	76.6	63.7	89.9
7:43:53 AM	70.1	76.3	56.7	90.1
7:44:53 AM	71.6	75.3	66.4	89.8
7:45:53 AM	68.2	71.6	62	85
7:46:53 AM	69.7	75.7	62.8	90.1
7:47:53 AM	71.1	80.4	61.9	93.3
7:48:53 AM	68.9	74.7	58.3	87.2
7:49:53 AM	69.8	75.3	58.5	89.4
7:50:53 AM	68.1	74.6	57.3	87.8
7:51:53 AM	69.3	74.8	53.8	88.1
7:52:53 AM	68.6	76.2	60.2	90.3
7:53:53 AM	68.9	75	55.1	88.1
7:54:53 AM	71.9	81.1	53.4	94.7
7:55:53 AM	69.8	76.8	58.2	91.1
7:56:53 AM	70.1	75.2	64.6	87.2
7:57:53 AM	69.2	76.7	59.2	89.3
7:58:53 AM	71	75.3	61.8	88.4
7:59:53 AM	68.2	77.7	53.1	91.1
8:00:53 AM	71.6	78.1	64.3	90
8:01:53 AM	68.3	74.5	61	89.3
8:02:53 AM	70.4	78	59.2	94.1
8:03:53 AM	70.9	76.8	51.2	92.2
8:04:53 AM	69.2	74	56.6	87.2
8:05:53 AM	71.3	77.7	60.3	91
8:06:53 AM	66.3	70.2	56.6	84.4
8:07:53 AM	69.2	74.6	60.4	87.9
8:08:53 AM	68.3	75.8	57.1	89.9
8:09:53 AM	67.2	73	56.9	86.4
8:10:53 AM	68.9	73.4	59.3	91.4
8:11:53 AM	69.8	77.8	53.7	91.6
8:12:53 AM	65.8	71.1	52	83.8
8:13:53 AM	70	78.4	54.6	91.7
8:14:53 AM	69.3	76	59.9	90
8:15:53 AM	70	76.3	52.7	89.3
8:16:53 AM	69.7	76.7	53	89.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:17:53 AM	71.6	79.1	62.3	91.9
8:18:53 AM	69.7	76.6	57.2	89.8
8:19:53 AM	70.4	74.8	57.2	88.2
8:20:53 AM	66.4	72.9	53.8	83.7
8:21:53 AM	69.8	75.6	60.9	87.6
8:22:53 AM	70.2	73.8	62	88.6
8:23:53 AM	71	77.3	57.4	90.5
8:24:53 AM	69.3	75.9	58.7	87.9
8:25:53 AM	68.4	73.8	54.3	89.2
8:26:53 AM	70.1	77.9	57.8	90.5
8:27:53 AM	70.6	75	62.1	87.9
8:28:53 AM	70.6	73.3	58.2	89.3
8:29:53 AM	71	77.7	64.3	91.7
8:30:53 AM	69.9	74.5	62.7	87.6
8:31:53 AM	69	73.1	61.8	88.8
8:32:53 AM	67.9	75.1	53	87.7
8:33:53 AM	68.1	73	60.4	89.3
8:34:53 AM	68.8	75.4	57.5	88.4
8:35:53 AM	69.3	77.1	58.6	90.2
8:36:53 AM	71.6	76.9	62.8	90.9
8:37:53 AM	69.4	74	61.9	86.8
8:38:53 AM	72.1	77.5	63.1	91.3
8:39:53 AM	70	78.4	57.7	91.2
8:40:53 AM	68.3	73.1	59.8	93.7
8:41:53 AM	70.3	75.5	61.5	89
8:42:53 AM	70.5	76.6	59.5	89.3
8:43:53 AM	70.1	75.6	62.9	90.1
8:44:53 AM	69.8	76.9	58	91.1
8:45:53 AM	72.5	76.9	65.1	89.7
8:46:53 AM	67.7	75.2	55	88.1
8:47:53 AM	71.7	79.1	66.2	92.6
8:48:53 AM	70.8	78.1	62.3	91.2
8:49:53 AM	67.4	73.5	59.8	85.9
8:50:53 AM	71.3	77.8	61.9	91.6
8:51:53 AM	67.6	75.9	56.3	89.4
8:52:53 AM	73	80.8	59.1	93.1
8:53:53 AM	66.3	73.9	54.4	87.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:54:53 AM	69.9	73.8	54.6	89
8:55:53 AM	68.4	73.9	53.6	86.3
8:56:53 AM	68.7	73.8	59.3	86.6
8:57:53 AM	71.6	80.3	54.7	93
8:58:53 AM	73.3	78.7	60.7	92.8
8:59:53 AM	69.1	73.1	52.3	89.7
9:00:53 AM	68.4	76.7	53.7	90
9:01:53 AM	71.6	79.1	58.9	94.2
9:02:53 AM	66.6	74.4	53.6	86.7
9:03:53 AM	72.7	76.8	67.3	90.8
9:04:53 AM	69.4	76.1	63	88.9
9:05:53 AM	74.4	83.1	57	98.9
9:06:53 AM	69.7	80.6	53.7	90.9
9:07:53 AM	69.3	77.7	55	92
9:08:53 AM	73.7	89.7	53.7	107.3
9:09:53 AM	71.2	77.3	61.3	87.4
9:10:53 AM	69.6	73.3	59.4	88
9:11:53 AM	70.3	78.3	61.3	94.6
9:12:53 AM	67.1	72.1	53.3	84.8
9:13:53 AM	68.7	78.4	54.7	90.2
9:14:53 AM	68.3	76.5	59.1	89.7
9:15:53 AM	67	74.3	56.2	88.7
9:16:53 AM	69.6	78.6	59.3	93.8
9:17:53 AM	70.1	76	56.6	88.8
9:18:53 AM	72.3	80.1	65.2	92
9:19:53 AM	70.6	73.3	61.3	90
9:20:53 AM	70.6	78.7	59.6	92.2
9:21:53 AM	68.7	74	59.2	83.7
9:22:53 AM	71.3	77.9	67.7	91.7
9:23:53 AM	66.6	71.2	59	85
9:24:53 AM	71.3	79.7	62.2	92.4
9:25:53 AM	70.9	76.3	58.7	89.3
9:26:53 AM	71	77.9	61	92.2
9:27:53 AM	69.7	74.7	60.7	88.3
9:28:53 AM	66.4	74.4	52.9	87.9
9:29:53 AM	71.3	76.8	65.3	89.2
9:30:53 AM	69.3	73.9	63.7	88.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:31:53 AM	69.3	76	58.4	89.3
9:32:53 AM	70.2	77.2	55	90.5
9:33:53 AM	70.3	75.6	62.4	90
9:34:53 AM	69.6	75.6	60	88.6
9:35:53 AM	70	75.5	59.3	89.1
9:36:53 AM	70.5	77.2	64.3	91.6
9:37:53 AM	70.6	76.8	63.8	89
9:38:53 AM	67.7	72	60.2	85.3
9:39:53 AM	69.7	75.8	58.7	88.7
9:40:53 AM	69.1	75.7	57.7	88.8
9:41:53 AM	70.4	75.5	52.1	89.8
9:42:53 AM	70.8	77	63.3	90.6
9:43:53 AM	68.6	76.1	55.6	90.3
9:44:53 AM	69.4	78.2	54.4	91.1
9:45:53 AM	69.8	75.7	54.3	88.1
9:46:53 AM	68.2	76.2	53.8	90.6
9:47:53 AM	67.1	72.1	58.4	83.3
9:48:53 AM	72.2	81.3	60.6	96.5
9:49:53 AM	68.5	74.3	55.2	92.8
9:50:53 AM	68.6	74.9	59.2	88.7
9:51:53 AM	70	75.7	54.3	89.5
9:52:53 AM	70	75.3	55.1	88.7
9:53:53 AM	70.3	75.4	60.1	89.3
9:54:53 AM	67.9	76	49.3	88.6
9:55:53 AM	68.8	75	59.8	89.5
9:56:53 AM	70.5	75.6	61.4	89.3
9:57:53 AM	67.6	74.7	58.9	91.6
9:58:53 AM	68.3	74.4	54.1	86.8
9:59:53 AM	67	76.9	53.9	89.9
10:00:35 AM	67.7	74.6	53.1	88.2
10:01:35 AM	67.4	74.1	58.3	86.2
10:02:35 AM	68.8	75.9	61.3	88.8
10:03:35 AM	68	73.8	60.4	87.7
10:04:35 AM	77.4	89.9	63	108.3
10:05:35 AM	69.9	76.1	57.9	89.5
10:06:35 AM	71.5	75.3	65.6	90
10:07:35 AM	66.5	72.3	54.3	86.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:08:35 AM	69.4	75.6	58.5	89.3
10:09:35 AM	69.6	75.6	60.5	89.4
10:10:35 AM	72.5	80.2	65	93.9
10:11:35 AM	67.8	73.8	53.5	89.3
10:12:35 AM	66.7	74	59.7	86.4
10:13:35 AM	71	76.7	59.8	90.3
10:14:35 AM	67.8	75.9	59.7	88.9
10:15:35 AM	72	78.5	58.4	93.7
10:16:35 AM	68.9	74.2	57	89
10:17:35 AM	69.6	74.7	58.4	87.6
10:18:35 AM	71	76.5	63.9	90.2
10:19:35 AM	69.4	73.3	62.5	89.6
10:20:35 AM	70.6	78.6	58.2	92.1
10:21:35 AM	69.9	76.9	59.2	89.3
10:22:35 AM	67.7	72.9	57.8	83.7
10:23:35 AM	67.1	73.2	58.9	88
10:24:35 AM	67.2	74.2	57.7	87
10:25:35 AM	70.7	75.3	57	87.9
10:26:35 AM	67.2	73.3	57.4	86.4
10:27:35 AM	69.4	76.8	60.5	90
10:28:35 AM	65.3	70.8	57.5	84.5
10:29:35 AM	66.6	75.1	53.8	94.6
10:30:35 AM	70.3	74.8	62.2	92.6
10:31:35 AM	66.2	73.1	55.1	89
10:32:35 AM	69.4	75.7	51.1	89.5
10:33:35 AM	69.5	76.1	51.7	89.4
10:34:35 AM	67.6	74	59.1	87.4
10:35:35 AM	68.5	76	59.9	90.6
10:36:35 AM	70.1	77.1	58.9	90.7
10:37:35 AM	68	73	54.5	87.6
10:38:35 AM	69.6	75.2	61.1	88.2
10:39:35 AM	69	75.3	60.5	89
10:40:35 AM	71.4	79.1	60.9	93.8
10:41:35 AM	67.8	73.4	56.9	86.3
10:42:35 AM	70.8	81.4	53.8	95.8
10:43:35 AM	68.2	72.9	59.6	85.5
10:44:35 AM	66.7	70.6	61.5	83.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:45:35 AM	72.4	79.2	66.1	92.1
10:46:35 AM	70.7	78	59	93.3
10:47:35 AM	69	77.9	58.3	90.7
10:48:35 AM	77.9	83.7	53.7	101.1
10:49:35 AM	69.1	78.9	58	87.1
10:50:35 AM	69.3	76.3	60.9	89.6
10:51:35 AM	69.7	76.7	59.7	90.4
10:52:35 AM	67.6	73.1	59	87.1
10:53:35 AM	67.3	77.8	53	90.3
10:54:35 AM	70.4	76.6	58.7	90.7
10:55:35 AM	68.9	74.7	60.1	87.8
10:56:35 AM	70.6	76.4	54.6	89.3
10:57:35 AM	70.3	75.7	56.3	89.3
10:58:35 AM	69.3	76.1	62.3	89.4
10:59:35 AM	70.9	79.1	59.9	93.1
11:00:35 AM	68.6	75.4	62.8	90.3
11:01:35 AM	66.2	71	60	84.3
11:02:35 AM	69.9	76.3	67.8	88.1
11:03:35 AM	71.6	77.3	63.8	90.7
11:04:35 AM	68.4	74.8	57.3	87.7
11:05:35 AM	69.3	75.3	63.3	87.7
11:06:35 AM	69	76	60.2	89.4
11:07:35 AM	71.8	82.3	63	97.3
11:08:35 AM	69.7	75	60.2	88.6
11:09:35 AM	69.2	73.5	62.3	86.9
11:10:35 AM	70.3	74.6	64.4	87.9
11:11:35 AM	66.4	71.3	57.3	83.8
11:12:35 AM	68.1	73.2	62	90.6
11:13:35 AM	73.7	79.8	68.1	93.4
11:14:35 AM	71.7	76.3	64.7	89.4
11:15:35 AM	70	74.2	64.6	87.2
11:16:35 AM	69.9	75.8	61.3	89.6
11:17:35 AM	72.3	79.9	61.9	94
11:18:35 AM	68.9	77.3	54.7	91.3
11:19:35 AM	72	77.4	63.7	89.3
11:20:35 AM	72.7	79.1	62.4	92.1
11:21:35 AM	71.7	76.7	67.7	89.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:22:35 AM	69.4	72.4	60.6	85.3
11:23:35 AM	72	78	66.1	92.7
11:24:35 AM	70	74.7	62.4	88.4
11:25:35 AM	67	76.3	57	93.1
11:26:35 AM	72.4	77.6	61.3	90.8
11:27:35 AM	62.7	71.3	55.5	82
11:28:35 AM	72.4	77.1	57.1	92.1
11:29:35 AM	67.3	73.3	61.7	87.8
11:30:35 AM	69.3	75.5	57	90.6
11:31:35 AM	71.3	79.1	64.4	93.7
11:32:35 AM	73.5	80.8	65.4	97.1
11:33:35 AM	71	75.5	61	90.3
11:34:35 AM	67.2	72.9	57.4	85.5
11:35:35 AM	70.6	78.9	61	93.5
11:36:35 AM	71.4	79.4	63.7	94
11:37:35 AM	67.7	76.3	58.2	88.2
11:38:35 AM	72.3	79	66.4	92
11:39:35 AM	65.1	74	50.4	86.6
11:40:35 AM	72.9	79.4	60.4	96.2
11:41:35 AM	68.1	74.3	59.7	87.6
11:42:35 AM	67.3	72.6	60.5	86.7
11:43:35 AM	69.4	75.8	61.4	89.9
11:44:35 AM	69.4	74.9	64.2	87.8
11:45:35 AM	69.5	75.8	60.2	89.2
11:46:35 AM	63.7	71.4	53.3	84.9
11:47:35 AM	71	77.9	67.7	91.7
11:48:35 AM	71.8	78.3	61.7	92.1
11:49:35 AM	70.6	76.3	63.5	89.8
11:50:35 AM	71.7	76.6	67.8	89.7
11:51:35 AM	65.1	71.8	58.8	82.8
11:52:35 AM	69.1	75.7	60.6	88.1
11:53:35 AM	63.9	72	53.7	85.9
11:54:35 AM	72.3	77.6	65.8	92.6
11:55:35 AM	66.5	74.4	54	87.7
11:56:35 AM	70.5	76.6	51.5	90.1
11:57:35 AM	69.4	75.4	58	88.7
11:58:35 AM	68.7	74.4	61.5	89.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:59:35 AM	68.6	75.3	61.3	89.1
12:00:35 PM	69.7	76.9	57.8	89.9
12:01:35 PM	72.2	79	62.4	92.4
12:02:35 PM	69.1	73.4	51.6	86.3
12:03:35 PM	67.6	74.2	57	86.7
12:04:35 PM	68.6	74.7	53.9	87.3
12:05:35 PM	70.1	81.2	62.4	93.3
12:06:35 PM	70.9	78.1	61.6	91.3
12:07:35 PM	69.7	76.2	61.4	89.9
12:08:35 PM	70.2	75.9	63	89.2
12:09:35 PM	71.1	76	63.6	88.3
12:10:35 PM	70.4	78	61.3	91.9
12:11:35 PM	72.3	76.6	63.3	89.3
12:12:35 PM	68.4	74.7	61.1	87.8
12:13:35 PM	71.8	80	61.4	98.2
12:14:35 PM	71.2	77.2	63	92.9
12:15:35 PM	71.3	77.3	63.3	90.7
12:16:35 PM	67.8	75.6	59.8	88.7
12:17:35 PM	69.3	74.4	61.1	92.1
12:18:35 PM	68.8	73.2	60.6	88.6
12:19:35 PM	66.6	70	60.2	84.3
12:20:35 PM	68.8	75.8	63.3	90.3
12:21:35 PM	72.4	80.3	63.1	97.3
12:22:35 PM	70.3	75.9	66.2	91
12:23:35 PM	67.8	74.3	58.8	88
12:24:35 PM	75.9	88.2	67.3	103.6
12:25:35 PM	69.7	74.6	61.7	89.4
12:26:35 PM	67.2	73	60.2	86.7
12:27:35 PM	73.1	77.3	65.8	91
12:28:35 PM	67.4	72.7	60.4	85.6
12:29:35 PM	70.3	74.6	64	87.9
12:30:35 PM	69.2	77.2	54.9	90.8
12:31:35 PM	68.2	75.1	55.4	90.7
12:32:35 PM	71.7	78.3	65.1	90.8
12:33:35 PM	68.8	73.5	57.7	86.7
12:34:35 PM	69.8	75.7	62.8	88
12:35:35 PM	72.8	78	65.3	91.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:36:55 PM	68	74.4	61.8	86.9
12:37:55 PM	72.9	81.9	60.7	95.8
12:38:55 PM	66.7	71.7	60.2	84.4
12:39:55 PM	70.9	76.9	67.3	91.1
12:40:55 PM	68.6	73.1	59	90.3
12:41:55 PM	71.8	81	64.8	93.9
12:42:55 PM	72.7	76.4	64.5	90.4
12:43:55 PM	69.4	76	64.1	89.7
12:44:55 PM	72.1	76.6	66.2	89.7
12:45:55 PM	70.3	74.9	64.6	89.3
12:46:55 PM	69	73.5	59.5	86.1
12:47:55 PM	71.9	76.3	59	89.9
12:48:55 PM	71.6	76.8	66.6	90.5
12:49:55 PM	67.7	73.1	58.8	89.3
12:50:55 PM	73.9	78.6	70.3	97.9
12:51:55 PM	67.6	74.4	54.6	86.9
12:52:55 PM	72.4	78.3	53	91.1
12:53:55 PM	71.5	78.3	66	93.7
12:54:55 PM	68.6	72.1	63	86
12:55:55 PM	72.7	77	63.6	91.1
12:56:55 PM	70.6	78.6	61.4	97
12:57:55 PM	69.8	74.5	61.6	87.6
12:58:55 PM	72.1	78.1	61.2	91.1
12:59:55 PM	69.7	75.2	60.1	88.6
1:00:53 PM	71.2	77.2	61.3	90.1
1:01:53 PM	69.9	76.7	61.7	90.7
1:02:53 PM	72.3	78	62.2	91.3
1:03:53 PM	70.9	78.1	58.4	90.9
1:04:53 PM	70.1	76.5	64	90.7
1:05:53 PM	69	71.9	63.1	86.1
1:06:53 PM	71.4	74.3	63.6	87.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Location M2: 24-Hour Session Report

Meter No. 23423
3/15-16/2021

Information Panel

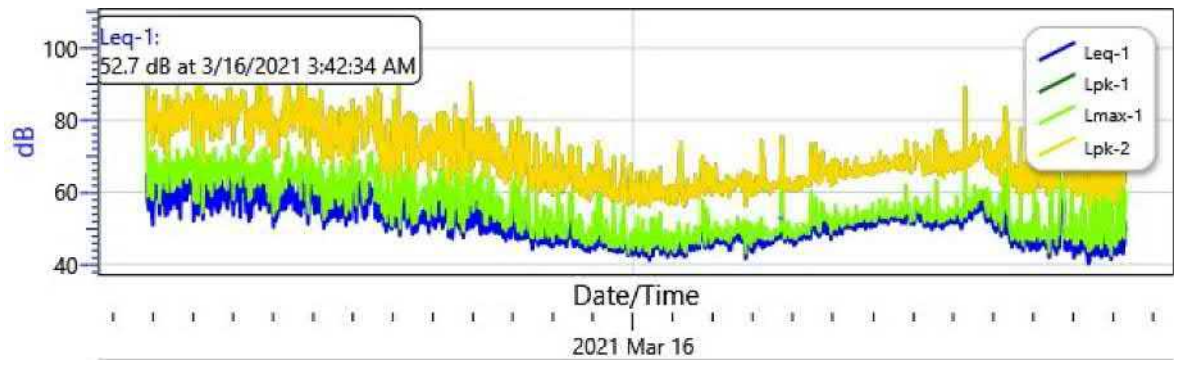
Name	5298_BLM060003_16032021_123435
Start Time	3/15/2021 11:48:35 AM
Stop Time	3/16/2021 12:20:26 PM
Device Name	BLV060003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
ce	1	54.8 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
exchange Rate	2	3 dB	Weighting	2	A
Response	2	SLOW			

Logged Data Chart

5298_BLM060003_16032021_123435: Logged Data Chart



Logged Data Table

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3/15/2021 11:48:35 AM	65.1	79	51.7	107.7
11:50:35 AM	57.6	65.1	50.5	79.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:51:35 AM	55.5	58.9	51.2	76.7
11:52:35 AM	56	63.4	50.6	78.3
11:53:35 AM	59.9	69.2	52.7	84.9
11:54:35 AM	67.6	70.9	53.7	86.3
11:55:35 AM	57.3	64.1	53.1	82.3
11:56:35 AM	58.3	63.2	53.3	83.1
11:57:35 AM	52.9	58	48.4	73.7
11:58:35 AM	50.9	58.4	47.6	74
11:59:35 AM	55.1	58.9	52.1	74.2
12:00:35 PM	67.4	70.8	57.5	84.9
12:01:35 PM	65	71.5	54.3	88.3
12:02:35 PM	62.4	69.2	52.2	83.6
12:03:35 PM	59.6	65.9	51.6	81.7
12:04:35 PM	58.5	62.9	51.5	79.4
12:05:35 PM	59.6	64.7	53.3	80.7
12:06:35 PM	59.1	62.6	54.4	76.6
12:07:35 PM	57.7	64.1	49.9	77.6
12:08:35 PM	53.8	57.1	50.1	74.1
12:09:35 PM	58.6	68	49.6	81.2
12:10:35 PM	56.5	61.1	50.7	73.1
12:11:35 PM	60.7	66.5	55.5	81.7
12:12:35 PM	57.7	63.9	50.4	79.3
12:13:35 PM	57.6	63.4	51.5	79.7
12:14:35 PM	62.3	69.2	51.3	86.8
12:15:35 PM	60.7	66.4	55.3	83.8
12:16:35 PM	58.8	68.9	50.6	87.7
12:17:35 PM	53.6	61.1	51.6	70.6
12:18:35 PM	59.7	66.2	52.4	81.8
12:19:35 PM	54.4	63.9	49.1	77.7
12:20:35 PM	53.9	60.2	51.3	71.6
12:21:35 PM	61.9	69.9	50.8	84.9
12:22:35 PM	66.4	72.7	55.1	86.7
12:23:35 PM	61.7	66.9	54.6	81.3
12:24:35 PM	59.5	68.2	52.5	81.4
12:25:35 PM	55.3	64.6	50.1	80.6
12:26:35 PM	62.5	67.1	51.7	82.6
12:27:35 PM	56.6	60.7	52.6	73.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:28:35 PM	57.8	63	49.5	77.9
12:29:35 PM	60.5	68.2	50.1	85.2
12:30:35 PM	58.2	66.1	50.2	83
12:31:35 PM	59.4	63.1	57	79.7
12:32:35 PM	56.9	62.7	52.5	77.5
12:33:35 PM	57.9	63.4	50.3	80.2
12:34:35 PM	55.7	62.1	51.9	77.1
12:35:35 PM	62.8	71.8	52.6	89.1
12:36:35 PM	64.7	70.3	56.1	88.8
12:37:35 PM	60.4	67	54.3	83.8
12:38:35 PM	56.3	63.1	50.5	81.7
12:39:35 PM	52.7	61.3	48.8	78.3
12:40:35 PM	61.1	67.8	51.3	82.2
12:41:35 PM	62.7	67.7	54.2	83.7
12:42:35 PM	59.6	66	52.7	79.3
12:43:35 PM	63.9	69.1	54.1	83.7
12:44:35 PM	57.8	64	50	77.7
12:45:35 PM	61.4	68.5	53	87
12:46:35 PM	63.8	69.2	55.5	82.8
12:47:35 PM	64.3	69.2	53.6	83.3
12:48:35 PM	63.6	69.9	53	85.3
12:49:35 PM	57.7	62.8	51.4	77.9
12:50:35 PM	63.3	71.8	52.9	87.3
12:51:35 PM	60.9	70.7	51.3	87.1
12:52:35 PM	63.6	68.5	58.2	83.4
12:53:35 PM	60.9	69.4	51.6	86.6
12:54:35 PM	59.8	66.3	52.7	82.4
12:55:35 PM	61.5	68.5	52.1	83.2
12:56:35 PM	62.5	68	53	85.4
12:57:35 PM	60.8	67.4	55.4	82
12:58:35 PM	60.5	69.7	50.3	84.6
12:59:35 PM	52.1	57.9	48.7	73
1:00:35 PM	53.7	58.5	48.7	72.8
1:01:35 PM	58.9	66.8	52.1	81.3
1:02:35 PM	54.1	57.1	49.5	75.2
1:03:35 PM	63.4	75.6	51	93.9
1:04:35 PM	64.2	71.5	54.2	86.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:05:33 PM	56.7	62.9	50.5	78
1:06:33 PM	53.8	57.2	50.3	74.5
1:07:33 PM	58.5	68.6	50.8	87.3
1:08:33 PM	59.1	63.8	52.3	79.7
1:09:33 PM	59.9	66.8	51.6	80.7
1:10:33 PM	63.3	70.2	53	86.9
1:11:33 PM	65.8	74.8	53.9	89.5
1:12:33 PM	63.7	70	51.3	85
1:13:33 PM	52.5	54.4	50.9	68.1
1:14:33 PM	57.7	64.3	52.3	78.3
1:15:33 PM	60.3	68.8	52.9	84.2
1:16:33 PM	60.5	66.2	49.3	80.4
1:17:33 PM	56.1	62.7	49	78.6
1:18:33 PM	63	70.1	52.3	86.9
1:19:33 PM	59.4	64.3	51.3	77.9
1:20:33 PM	60.8	65.8	53.1	80.4
1:21:33 PM	58.9	64	53	79
1:22:33 PM	55.6	60.9	49.1	78.9
1:23:33 PM	62.1	70.2	51.1	85.2
1:24:33 PM	62.5	69.2	50	84.3
1:25:33 PM	59.3	65.3	51.7	81.1
1:26:33 PM	53.7	59	49.2	74.7
1:27:33 PM	54.7	59.2	50.8	74.3
1:28:33 PM	62.7	70.7	53.1	84.8
1:29:33 PM	57.1	64.5	49.9	80.7
1:30:33 PM	63.3	71.1	54.1	83.8
1:31:33 PM	63.9	72.2	51.8	86.6
1:32:33 PM	56.1	63.2	51.5	76.7
1:33:33 PM	59.5	66	50.9	79.4
1:34:33 PM	54.9	61.2	51.8	75.5
1:35:33 PM	61.3	68	51.6	82.4
1:36:33 PM	54.4	62.5	46.8	78.6
1:37:33 PM	55.4	62	51.6	76.8
1:38:33 PM	55.9	64.6	48.4	79.4
1:39:33 PM	55.9	62.3	53.2	75.1
1:40:33 PM	58.2	68.3	50.8	81.9
1:41:33 PM	63.3	69.5	51.8	83.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:42:33 PM	61	68.2	48.1	82.6
1:43:33 PM	58.4	68.1	50.1	82.7
1:44:33 PM	58	64.9	51.2	81
1:45:33 PM	60.4	68.3	52	81.9
1:46:33 PM	57.7	67.7	52.6	83.7
1:47:33 PM	60.8	66.3	52.9	84.7
1:48:33 PM	57.2	66.7	50.2	81.8
1:49:33 PM	55.3	60.8	51	78.3
1:50:33 PM	55.4	61.9	49.6	78.8
1:51:33 PM	65.1	73	54.3	88.8
1:52:33 PM	61.1	67.4	56.1	81.9
1:53:33 PM	59.3	68.3	52.3	82.6
1:54:33 PM	63	71.2	50.3	88.9
1:55:33 PM	59.2	67	50.8	85.3
1:56:33 PM	58.3	64.3	50.8	81.6
1:57:33 PM	56.8	64.4	51.9	80.3
1:58:33 PM	59.4	67	53.1	84.1
1:59:33 PM	53.7	57.9	51.7	73.3
2:00:33 PM	62.9	68.9	53.1	83.2
2:01:33 PM	57	62.4	49.7	78.7
2:02:33 PM	60.9	67.8	52.4	84.7
2:03:33 PM	62.8	70.1	52.7	86.4
2:04:33 PM	60.6	68.6	51.6	83.8
2:05:33 PM	57.8	63.1	51.9	81.7
2:06:33 PM	60.8	65.7	54	80.8
2:07:33 PM	67.7	68.8	53.6	83.4
2:08:33 PM	61.7	68.1	52.8	83
2:09:33 PM	53	61.6	49.1	83
2:10:33 PM	61.3	67.1	50.3	85.8
2:11:33 PM	61.6	65.1	51.3	83.7
2:12:33 PM	62.8	72.6	51.2	88.1
2:13:33 PM	60.3	71.3	48.8	87.7
2:14:33 PM	63	69.6	54.8	85.4
2:15:33 PM	63.9	72.8	50.7	87.6
2:16:33 PM	64.6	72.2	56.3	84.7
2:17:33 PM	60.3	68.7	48.9	83.4
2:18:33 PM	54.4	61.7	49.3	73.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:19:33 PM	56.1	61.6	50.3	73.1
2:20:33 PM	61.9	67.9	50.4	81.8
2:21:33 PM	59.2	65.7	50.5	80.1
2:22:33 PM	51.9	57.7	47	70.8
2:23:33 PM	58.6	67.2	50.1	82.6
2:24:33 PM	57.4	66.9	48.8	81.9
2:25:33 PM	55.1	65.7	48.3	87.9
2:26:33 PM	53.1	58.6	50.3	72.3
2:27:33 PM	57.2	64.9	50.9	81.3
2:28:33 PM	56.4	62.2	52.4	77.9
2:29:33 PM	60.7	67.9	53.5	83.9
2:30:33 PM	60.1	66.6	51.6	82.4
2:31:33 PM	60.4	67	52.6	83.9
2:32:33 PM	57.2	61.8	49.9	79.9
2:33:33 PM	58.3	67.6	52.4	84
2:34:33 PM	60.3	65.6	49.6	81.2
2:35:33 PM	62.1	70.9	51.3	89.7
2:36:33 PM	58.6	66.1	49.7	80.9
2:37:33 PM	58.1	67.8	49.1	82.7
2:38:33 PM	57.2	64.1	50.1	78.3
2:39:33 PM	55.2	62.1	49.3	76.4
2:40:33 PM	60	65.3	52.7	80.2
2:41:33 PM	56.8	64.2	51.9	80.3
2:42:33 PM	61.6	67.9	53.6	85.1
2:43:33 PM	63.4	71.9	51.8	90.2
2:44:33 PM	63	70.8	52.7	84.3
2:45:33 PM	56.3	62.7	50.2	78.2
2:46:33 PM	61.5	65.8	55.2	83.1
2:47:33 PM	65.2	72.3	54.6	90.3
2:48:33 PM	61.2	69.9	51.8	84.6
2:49:33 PM	59	67.9	53.3	81.3
2:50:33 PM	56.3	60.3	53.2	76.4
2:51:33 PM	59.4	65.9	51.8	84.2
2:52:33 PM	54.4	57.4	52.2	72.9
2:53:33 PM	55.8	60.3	51	74.3
2:54:33 PM	58.4	67.8	50.3	84
2:55:33 PM	63.2	70.3	50.2	86.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:56:33 PM	60.1	65.7	52.6	79.7
2:57:33 PM	59.8	67.1	52.6	81
2:58:33 PM	56.8	63.4	51.6	79.3
2:59:33 PM	50.3	53.3	46.7	69.3
3:00:33 PM	56.3	64.2	46.7	80.8
3:01:33 PM	53.9	57.2	51.8	70.9
3:02:33 PM	52	54.9	50.2	71
3:03:33 PM	53.9	61.1	49	75.1
3:04:33 PM	54.1	60.7	48.9	73.8
3:05:33 PM	53.2	55.6	49	69.8
3:06:33 PM	55.7	62.8	49.3	79.3
3:07:33 PM	56.3	63	50.6	78.3
3:08:33 PM	57.4	63.1	50.7	78.3
3:09:33 PM	58.2	65.2	52.9	79.9
3:10:33 PM	57.6	63.7	52.9	78
3:11:33 PM	58.6	63.4	49.9	80
3:12:33 PM	55.1	59.8	52.3	76.1
3:13:33 PM	59.7	67	48.3	82.4
3:14:33 PM	61.7	67.3	51.4	82.7
3:15:33 PM	59.3	63.8	54.8	84.3
3:16:33 PM	55.3	61.4	48.1	75.7
3:17:33 PM	63.2	71.3	50.4	89.3
3:18:33 PM	55.6	61.3	52.8	75.3
3:19:33 PM	58.4	65.7	51.3	82.1
3:20:33 PM	58.2	66.6	53.9	81.9
3:21:33 PM	65.7	73.9	54.6	90.7
3:22:33 PM	59.3	68.7	50.8	81.9
3:23:33 PM	57	64.3	50.6	78.7
3:24:33 PM	58.4	65.3	53.7	79.6
3:25:33 PM	60.2	65.4	53.2	81.3
3:26:33 PM	61.7	69.6	52.7	83.9
3:27:33 PM	62.3	69.1	49.9	83.4
3:28:33 PM	57.3	62.2	52.3	78.3
3:29:33 PM	57.3	63.3	50.7	77.3
3:30:33 PM	55.1	63.6	51.3	77.8
3:31:33 PM	56.4	65.3	52.3	79.2
3:32:33 PM	58.7	64.3	51.4	80.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:33:33 PM	57.9	64.3	53.6	80.8
3:34:33 PM	59.6	65.6	53.9	85
3:35:33 PM	54.3	62.5	50.5	80.2
3:36:33 PM	56.7	66.1	52.7	83.3
3:37:33 PM	57.4	66.1	50.1	80.1
3:38:33 PM	61.6	71	54	89.2
3:39:33 PM	65.7	70.6	53	86.7
3:40:33 PM	53.3	58.2	50.6	75.4
3:41:33 PM	63.9	70.4	54.3	88.4
3:42:33 PM	60.9	69	52.5	87.1
3:43:33 PM	55.9	64.2	52.9	78.6
3:44:33 PM	58.3	66.9	53.7	84.1
3:45:33 PM	60.9	67.4	52.1	81.8
3:46:33 PM	59.1	66.6	52.3	82.3
3:47:33 PM	62.1	70.1	53	89.4
3:48:33 PM	55.9	63.3	52.3	81
3:49:33 PM	53.9	57.3	51.7	72.6
3:50:33 PM	56.8	62.9	49.7	77.1
3:51:33 PM	51.2	54.3	48.2	67.8
3:52:33 PM	55.8	60.6	50.9	74.3
3:53:33 PM	61.4	67.3	53.7	85.7
3:54:33 PM	61.3	68.6	52.7	82.5
3:55:33 PM	60.4	66.3	53.8	80
3:56:33 PM	58.1	66.3	51	81.4
3:57:33 PM	62.6	69.5	50	82.1
3:58:33 PM	57.3	62.7	51.8	78.1
3:59:33 PM	61	68.2	49.2	82.8
4:00:33 PM	56.4	60.9	53.1	73.4
4:01:33 PM	54.1	59.6	49.1	76.9
4:02:33 PM	59	66.7	48.8	83.4
4:03:33 PM	58.7	63.6	54.3	81.2
4:04:33 PM	56.5	65.6	49.9	80.5
4:05:33 PM	59.1	66.2	51.4	81.7
4:06:33 PM	55.2	62.3	50.6	77.7
4:07:33 PM	54.3	59.4	50.6	73
4:08:33 PM	57.3	66.7	51.4	80.5
4:09:33 PM	59.1	66.6	50.3	80.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:10:33 PM	60.1	69.9	52.8	88.4
4:11:33 PM	56.9	64.7	52.5	80.5
4:12:33 PM	56	66	49.6	80.5
4:13:33 PM	57.3	64.1	50.7	68.7
4:14:33 PM	54.1	57.5	49.9	70.4
4:15:33 PM	50	52.6	47.6	68.5
4:16:33 PM	53.9	57.6	51.6	71.7
4:17:33 PM	51.1	53.5	48.6	71.1
4:18:33 PM	55.3	62	48.6	76
4:19:33 PM	53.5	56.7	51.7	77.8
4:20:33 PM	57.8	63.8	51.2	81.2
4:21:33 PM	55.9	62.3	51.4	76.6
4:22:33 PM	52.1	55.6	50.1	70
4:23:33 PM	54.3	60.6	49.7	80.3
4:24:33 PM	54.9	67.6	51	77.7
4:25:33 PM	58.2	67.4	50.7	83.6
4:26:33 PM	53	57.2	50.4	72.1
4:27:33 PM	53.9	55.8	51.7	69
4:28:33 PM	57.8	68.8	50.2	82.6
4:29:33 PM	54.8	61.3	49.6	73.4
4:30:33 PM	58.1	64.7	51.6	80.4
4:31:33 PM	53.3	58.8	49	74.5
4:32:33 PM	54.7	61.4	50.8	73.7
4:33:33 PM	57.1	65.1	49.3	81.9
4:34:33 PM	57.6	63.2	50.4	76.1
4:35:33 PM	54.7	59.7	50.7	77.3
4:36:33 PM	52	58.6	47.9	73.4
4:37:33 PM	52.8	56.4	51	70.4
4:38:33 PM	57.7	63.7	52.7	77.8
4:39:33 PM	55.4	60.4	50.1	75
4:40:33 PM	53	57.1	48.8	70.7
4:41:33 PM	59.8	68.7	48.7	83.4
4:42:33 PM	55.4	61	52.3	78.2
4:43:33 PM	53.6	58.7	50.1	70.8
4:44:33 PM	53.3	59.1	50.1	74
4:45:33 PM	55.4	61.5	49.4	76
4:46:33 PM	55	63.3	49.6	80.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:47:33 PM	56.2	63.8	50.2	79.2
4:48:33 PM	50.8	53.7	49.4	67.1
4:49:33 PM	55.3	59.5	52.6	73.5
4:50:33 PM	61.5	67.9	50.6	87
4:51:33 PM	60	66.6	52.5	80.3
4:52:33 PM	58	63.7	50.1	79.7
4:53:33 PM	57.5	59.9	49.6	76.6
4:54:33 PM	53.1	55.6	50.7	70
4:55:33 PM	52.6	54.9	50.4	69.1
4:56:33 PM	61.3	69.5	53	84
4:57:33 PM	63.7	69.6	52.1	83.1
4:58:33 PM	63.8	70.4	53.8	83.6
4:59:33 PM	55.1	61.8	51.1	76.5
5:00:33 PM	58.5	64.2	54.2	78
5:01:33 PM	56.7	61.6	51	73.9
5:02:33 PM	56.7	63.4	49.9	76.5
5:03:33 PM	51.7	56.5	49.2	70.9
5:04:33 PM	52.8	57	48.7	71
5:05:33 PM	62.3	68.5	51.8	82.4
5:06:33 PM	61	66.8	50	80.1
5:07:33 PM	60.9	66.4	53.4	82.1
5:08:33 PM	62.8	68.7	52.8	83.7
5:09:33 PM	57.6	63.2	49.1	80.1
5:10:33 PM	58.6	64.2	46.8	79.1
5:11:33 PM	56.5	64.8	47.9	79.6
5:12:33 PM	56.7	61.4	51.8	76.7
5:13:33 PM	56	64.1	47.4	79.1
5:14:33 PM	53.1	56.8	49.3	72.2
5:15:33 PM	56.2	61.8	49	78
5:16:33 PM	52.6	59.2	48.7	73.8
5:17:33 PM	56.1	62	49.7	73.8
5:18:33 PM	57.8	64.8	49.4	80.5
5:19:33 PM	53.5	58.7	50.4	73.7
5:20:33 PM	59.1	64.7	51.6	79.8
5:21:33 PM	60.1	67.9	51.1	82.1
5:22:33 PM	62.8	70.5	50.1	86.3
5:23:33 PM	67.3	68	53.3	81.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:24:35 PM	56.9	67.6	50.3	82.7
5:25:35 PM	59.6	67.3	54	78.7
5:26:35 PM	61	71.2	52.9	84.3
5:27:35 PM	59.7	64.7	51.8	80.1
5:28:35 PM	59.3	64.3	54.2	79
5:29:35 PM	59.3	63	50.8	79.3
5:30:35 PM	60.7	65.5	54.6	81.7
5:31:35 PM	58.7	63	51.8	76.8
5:32:35 PM	52.8	57.7	47.8	74.1
5:33:35 PM	57.8	63.7	48.7	78.9
5:34:35 PM	60	67.5	49.6	88.9
5:35:35 PM	56.9	62.8	49.2	82.7
5:36:35 PM	54.1	59.6	50.3	71.8
5:37:35 PM	52.1	57.2	49.6	70.6
5:38:35 PM	54.3	59.9	50.4	73.8
5:39:35 PM	64.7	71.8	52.9	87.2
5:40:35 PM	55.2	59.6	50.1	73.2
5:41:35 PM	55.7	62.7	50	78.7
5:42:35 PM	52.7	54.7	51.1	67.6
5:43:35 PM	53	60	49.4	74.2
5:44:35 PM	53.3	55.9	51.7	73.7
5:45:35 PM	50.8	53.9	49.2	67.3
5:46:35 PM	51.5	53.6	49.7	66.6
5:47:35 PM	52.8	54.5	51.6	67.1
5:48:35 PM	49.1	51.9	47.1	64.1
5:49:35 PM	54.7	61	48.7	74.6
5:50:35 PM	58.2	63.9	50.5	79
5:51:35 PM	54.1	58.9	48.2	73.3
5:52:35 PM	58.1	64.4	53.7	80
5:53:35 PM	50.7	55.2	47.9	69.8
5:54:35 PM	50.3	53.1	48.1	68.7
5:55:35 PM	50.8	53.4	49	65.8
5:56:35 PM	50	52.2	48.3	65
5:57:35 PM	49.8	50.7	48.7	64.3
5:58:35 PM	50.5	51.8	49.7	65
5:59:35 PM	56.6	61.6	49.9	76.4
6:00:35 PM	58.7	66.6	51.8	83.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:01:33 PM	62.2	68.6	58.3	88.3
6:02:33 PM	57.8	63.3	51.1	79.3
6:03:33 PM	56.9	62.1	51.9	76.1
6:04:33 PM	50.4	53.6	47.9	68.6
6:05:33 PM	53.3	56.6	48.7	69.6
6:06:33 PM	53.9	59.1	47.6	74.2
6:07:33 PM	53.9	66	46.3	90.3
6:08:33 PM	50.7	54.7	48.8	67.3
6:09:33 PM	48	50.1	46.4	63.1
6:10:33 PM	51.2	54.2	46.7	66.3
6:11:33 PM	55.1	62.1	50.6	77.6
6:12:33 PM	53.3	60.6	48.8	73.1
6:13:33 PM	52.4	60	50	72.2
6:14:33 PM	55.8	62.5	47.8	73.9
6:15:33 PM	56.4	63.3	49.7	78.7
6:16:33 PM	53.1	58.8	50.3	77.2
6:17:33 PM	59.4	63.8	50.1	80.9
6:18:33 PM	58.9	66.4	50.9	80.8
6:19:33 PM	55.2	61.6	50.3	76.4
6:20:33 PM	50.2	53	48.2	67.3
6:21:33 PM	53.7	56.1	51.9	69.1
6:22:33 PM	51.4	55	48.2	71.6
6:23:33 PM	57.9	67.1	49.9	82.3
6:24:33 PM	54	59.4	49.3	73.2
6:25:33 PM	52.3	58.3	50	71.6
6:26:33 PM	51	54.7	49.7	70.7
6:27:33 PM	51.7	53.1	49.9	67.7
6:28:33 PM	48.4	51.1	46.7	63.7
6:29:33 PM	50.9	52.9	48.7	66.8
6:30:33 PM	54.2	63.3	48.9	81.4
6:31:33 PM	57.1	66	49.8	80.3
6:32:33 PM	53.1	58.4	48.9	74.4
6:33:33 PM	49	51.6	46.7	66.3
6:34:33 PM	49.4	53	46.9	67.3
6:35:33 PM	50.9	54.9	47.6	71
6:36:33 PM	51	54.9	47.6	72.3
6:37:33 PM	52.7	57	50.4	69.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:38:33 PM	53.3	57.2	50.6	71.3
6:39:33 PM	51.3	56	48.8	68.9
6:40:33 PM	52.2	57.8	49.9	73.3
6:41:33 PM	53.6	59.3	46.9	74.6
6:42:33 PM	53.1	58.4	47.2	72.7
6:43:33 PM	54.8	61	51.4	77.1
6:44:33 PM	51.5	59.2	47.7	71.1
6:45:33 PM	53.3	58.8	48.9	73.6
6:46:33 PM	52.3	56.4	49.7	69.3
6:47:33 PM	55.6	61.6	48.4	78
6:48:33 PM	52.1	58.9	49.2	75.2
6:49:33 PM	51.1	53.1	48.9	73.1
6:50:33 PM	52.4	60.8	49.3	73.7
6:51:33 PM	51.1	55.3	46.3	70.1
6:52:33 PM	48.8	52.3	43.7	64.3
6:53:33 PM	52.6	56.7	49.3	70.3
6:54:33 PM	57.1	64.1	49.4	78.7
6:55:33 PM	54.1	62.3	50.1	77.6
6:56:33 PM	56.8	62.4	50.4	76.7
6:57:33 PM	53.9	60.1	49	73.3
6:58:33 PM	55.2	60.4	49.6	75.1
6:59:33 PM	50.8	54.1	47.7	68.2
7:00:33 PM	53.2	59.3	46.4	73.9
7:01:33 PM	55.1	60.3	46.2	76.1
7:02:33 PM	50	53.4	45.7	66.4
7:03:33 PM	51.7	61.7	45.1	73.9
7:04:33 PM	55.9	61.9	48.6	76.1
7:05:33 PM	52.3	60.6	47.3	73.2
7:06:33 PM	53	63.3	47.3	81.3
7:07:33 PM	51.9	58.1	47.6	73.3
7:08:33 PM	53	58.9	49.1	73
7:09:33 PM	58.4	66.3	49.1	81.9
7:10:33 PM	53	58.4	49.3	72
7:11:33 PM	56.3	66.3	47.9	80.2
7:12:33 PM	52.4	58.3	47.8	73.3
7:13:33 PM	50.1	53.8	47.8	67.4
7:14:33 PM	51.1	60.1	47.4	73.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:15:33 PM	57.9	67.3	48	82.2
7:16:33 PM	53.7	64.7	47.9	80.5
7:17:33 PM	52.8	55.9	48.8	70.6
7:18:33 PM	51.9	59.9	48.8	73
7:19:33 PM	57.5	63.5	49.9	81
7:20:33 PM	55.5	63.4	46.5	78.8
7:21:33 PM	54.1	59.5	47.7	78.4
7:22:33 PM	47.6	50.3	46.1	62.9
7:23:33 PM	48	49.9	47.4	63.6
7:24:33 PM	55.7	62.7	48.1	76.7
7:25:33 PM	53.7	58.5	49.4	74.9
7:26:33 PM	53.9	59.3	48	73.2
7:27:33 PM	55.4	60.8	48	75.7
7:28:33 PM	47.1	50.5	45.5	63.4
7:29:33 PM	49.9	57.3	47.8	66
7:30:33 PM	52.9	60.4	48.8	77
7:31:33 PM	50.9	55.2	46.4	67.2
7:32:33 PM	54.7	66.3	49.7	84.1
7:33:33 PM	60.2	67.5	48.8	81
7:34:33 PM	56.7	64	48.1	80
7:35:33 PM	57.7	63.5	49	78.5
7:36:33 PM	50.8	56.1	46.2	73.3
7:37:33 PM	50.8	56.3	46.3	71.6
7:38:33 PM	50	51.8	48.1	66.4
7:39:33 PM	52.7	58	45.7	72.6
7:40:33 PM	55.4	64.6	47.7	80.1
7:41:33 PM	49.4	51.7	47.8	62.7
7:42:33 PM	48.4	50.4	46.4	63.1
7:43:33 PM	49	52.5	46.3	67
7:44:33 PM	47.5	49.2	46.1	62.5
7:45:33 PM	48.8	52.6	46.9	71
7:46:33 PM	49.7	52.6	46.6	69
7:47:33 PM	50.7	54.6	48.9	68.1
7:48:33 PM	56.5	64	47	80.1
7:49:33 PM	52.5	55.4	50.3	69
7:50:33 PM	50.4	53.1	48.5	66.3
7:51:33 PM	49.7	53.3	47	63.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:52:33 PM	53.8	63.3	46.9	77.3
7:53:33 PM	54	62.8	49.4	80.2
7:54:33 PM	54.6	63.8	47.3	76.3
7:55:33 PM	67.7	69.4	50.1	90.1
7:56:33 PM	62.2	69	47.3	84.1
7:57:33 PM	50.2	56.3	47.6	72.2
7:58:33 PM	54.3	61.7	47.3	76.3
7:59:33 PM	50.4	54.8	47.3	67.2
8:00:33 PM	51.6	59.3	46.1	71.6
8:01:33 PM	55.5	62.1	46.3	76.8
8:02:33 PM	53.4	59.4	46	74.7
8:03:33 PM	57.6	61.7	50.2	76.7
8:04:33 PM	51.4	58.3	47	69.9
8:05:33 PM	53.7	61.7	48.7	77.4
8:06:33 PM	56.4	63.8	51	77.4
8:07:33 PM	53	58.7	49.8	69.3
8:08:33 PM	50.3	55.8	47.2	74
8:09:33 PM	49.3	56.9	46.7	72
8:10:33 PM	48.4	58.3	46.4	69.3
8:11:33 PM	57.4	63.4	49.3	77.8
8:12:33 PM	53.1	59.1	47.5	74.3
8:13:33 PM	51	56.6	45.6	71.7
8:14:33 PM	49	54.7	45.1	71.3
8:15:33 PM	51.7	59.9	46.7	74.8
8:16:33 PM	48.8	51.3	45.8	64.6
8:17:33 PM	51.3	57.1	47.3	70.7
8:18:33 PM	52.6	59.8	48.9	72.6
8:19:33 PM	48.6	53.6	45.9	67.2
8:20:33 PM	48.8	51	46.6	65.1
8:21:33 PM	58.3	63.4	50.3	80.7
8:22:33 PM	49.1	54	47.6	71.6
8:23:33 PM	50.2	55	47.3	71.4
8:24:33 PM	49.2	55.4	47	70.4
8:25:33 PM	52.9	61.2	47.3	73
8:26:33 PM	50.8	58	48.3	73.8
8:27:33 PM	50	53.9	47.7	68.7
8:28:33 PM	55.3	64.2	47.2	78.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:29:33 PM	53.7	59	46.8	73.1
8:30:33 PM	50.1	56.9	46.2	72.9
8:31:33 PM	48.9	52	47.5	67.6
8:32:33 PM	48.7	57.6	47	69.6
8:33:33 PM	50	54.8	48.3	68.8
8:34:33 PM	49.4	53.7	47.7	67.1
8:35:33 PM	49.7	57.8	46	73.5
8:36:33 PM	53.2	59.1	47.2	75.8
8:37:33 PM	48.6	54.4	45.7	66.8
8:38:33 PM	49.1	52.9	47.5	64.5
8:39:33 PM	48.6	52.4	47	68.3
8:40:33 PM	48.7	53.3	45.8	68.8
8:41:33 PM	48.8	55	45.3	69.3
8:42:33 PM	51.4	58	45.2	72.5
8:43:33 PM	49.5	57.6	46.6	66.7
8:44:33 PM	47.6	50.2	45.7	64.1
8:45:33 PM	50	52.7	47.1	67.8
8:46:33 PM	48.5	52.4	46.1	68.4
8:47:33 PM	47.9	49.4	46.3	62.6
8:48:33 PM	46.6	49.3	45.7	62.9
8:49:33 PM	49.1	52.8	46.7	67.8
8:50:33 PM	48.6	50.6	47	64
8:51:33 PM	49.2	53.3	44.8	68.7
8:52:33 PM	49.6	52.7	45.2	72.4
8:53:33 PM	48	50.9	45.1	63.9
8:54:33 PM	49	53.3	45.7	69.7
8:55:33 PM	47.3	50.9	45.2	64.1
8:56:33 PM	51.5	59.6	45.5	74
8:57:33 PM	55.2	62.5	47.6	79.1
8:58:33 PM	50.6	58.7	46.4	72.2
8:59:33 PM	49.9	57.3	45	73.3
9:00:33 PM	52.1	63.2	45.2	76.1
9:01:33 PM	55	63	46.2	74.9
9:02:33 PM	47.7	52.1	45.9	66.4
9:03:33 PM	49.2	52.5	45	67
9:04:33 PM	47	52.5	45.1	66.9
9:05:33 PM	48.6	51.4	45.3	64.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:06:33 PM	46.8	49.2	43.4	62.4
9:07:33 PM	57	63.8	48.5	80.5
9:08:33 PM	55.4	62.7	46.7	80.4
9:09:33 PM	52.6	59.8	46.3	73.7
9:10:33 PM	49.3	52.2	45.6	66
9:11:33 PM	48.9	51	46.7	67.9
9:12:33 PM	47	48.4	45.8	62.6
9:13:33 PM	47.4	52.6	44.9	68
9:14:33 PM	48.6	52.4	46.3	70.4
9:15:33 PM	52.6	58.4	47.6	75.4
9:16:33 PM	48.2	50	46.8	65
9:17:33 PM	47.2	53.6	44.9	68.1
9:18:33 PM	50	57.5	46.2	72.4
9:19:33 PM	49.4	54.9	45.4	69.3
9:20:33 PM	47.5	54.4	45.1	69.1
9:21:33 PM	52.4	62.7	45.6	76.6
9:22:33 PM	50.8	57.2	45.8	72.5
9:23:33 PM	47.6	50.3	45.9	66.8
9:24:33 PM	48	49.3	46.5	62.5
9:25:33 PM	46.4	48.7	44.5	61.4
9:26:33 PM	46.1	47.5	44.8	62.5
9:27:33 PM	46.2	50.1	43.9	66.7
9:28:33 PM	44.2	47.6	43	64.9
9:29:33 PM	46.2	47.5	44	60.8
9:30:33 PM	46.7	50	45	63.8
9:31:33 PM	47.1	49.7	44.7	63.4
9:32:33 PM	46.6	52.1	44	67.4
9:33:33 PM	49.5	59.5	44.7	73.8
9:34:33 PM	47.7	53.1	44.5	70.6
9:35:33 PM	49.2	56.8	45	73.8
9:36:33 PM	45.6	47.1	44.3	59.8
9:37:33 PM	45.2	47.9	44.1	62.7
9:38:33 PM	47.7	52.6	46.1	63.5
9:39:33 PM	45.8	47.6	44.4	60.6
9:40:33 PM	46.7	48.9	44.4	61.5
9:41:33 PM	47.2	49.1	45.2	62.5
9:42:33 PM	48.8	52.9	44.9	67.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:43:35 PM	45.8	47.5	44.3	61.1
9:44:35 PM	47.4	51.1	44.3	64
9:45:35 PM	50.4	56.3	44.6	71.8
9:46:35 PM	48	54.7	43.8	68.3
9:47:35 PM	47.8	54.1	43.8	73.6
9:48:35 PM	46	50.6	44.2	63.7
9:49:35 PM	47.8	55.7	43.6	70.5
9:50:35 PM	47.1	51	43.1	64.1
9:51:35 PM	45.5	47.8	44.2	61.1
9:52:35 PM	46.4	48.3	44.7	62.7
9:53:35 PM	46.1	47.9	44.4	60.6
9:54:35 PM	48.8	51.1	47.3	64.3
9:55:35 PM	48.1	49.1	47.5	68.6
9:56:35 PM	49.8	53.1	48.5	70.6
9:57:35 PM	47.3	53.4	44.7	66.3
9:58:35 PM	44.8	46.4	43.6	59.2
9:59:35 PM	47	49.1	45.1	63.2
10:00:35 PM	46.6	48.9	45	61.5
10:01:35 PM	48.4	51.6	45.2	65.9
10:02:35 PM	46.4	49.4	44.9	63
10:03:35 PM	45.7	48.7	44.3	62.7
10:04:35 PM	46.7	48.9	44.5	62.7
10:05:35 PM	47.1	49.4	43.9	62.9
10:06:35 PM	51.1	63.1	43.4	77.7
10:07:35 PM	48.3	52.3	45.8	66.7
10:08:35 PM	46.7	51.9	44.6	67.7
10:09:35 PM	45.5	47.6	44.4	60.8
10:10:35 PM	49.5	54.9	44.3	70.6
10:11:35 PM	49.7	56.4	44.7	68.1
10:12:35 PM	49.4	53.6	44.6	67.3
10:13:35 PM	47	50.2	43.8	63.1
10:14:35 PM	46	47.4	44.9	60.1
10:15:35 PM	46	51.5	43.8	65.1
10:16:35 PM	45.8	47.4	44.3	61.9
10:17:35 PM	46.2	48.2	45	64
10:18:35 PM	45.5	47.4	43.9	61.6
10:19:35 PM	44.9	47.6	43.4	67.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:20:35 PM	47.1	51	44.2	66.3
10:21:35 PM	46.9	50.1	44.5	62.9
10:22:35 PM	47.4	51.5	43.7	64.3
10:23:35 PM	50.9	57.7	47.9	68.9
10:24:35 PM	51.3	59.7	45.3	70
10:25:35 PM	54.3	59.9	49.2	72.9
10:26:35 PM	50	56.6	46	71.1
10:27:35 PM	47.4	52.8	44.2	65.4
10:28:35 PM	50	59	45.4	72.3
10:29:35 PM	45.5	48.5	43.4	67.9
10:30:35 PM	45	47.5	42.8	60.6
10:31:35 PM	46.1	47.6	44.6	60.4
10:32:35 PM	45.1	47.3	43.8	60.6
10:33:35 PM	46.5	49.5	45.1	63.6
10:34:35 PM	47	52.7	44.6	66.9
10:35:35 PM	45.5	47.4	43.6	61.1
10:36:35 PM	47.2	49.4	44.2	63
10:37:35 PM	47.3	51.3	44.7	70.7
10:38:35 PM	49.1	52	46.9	72.3
10:39:35 PM	48.5	53.7	44.7	68.7
10:40:35 PM	44.8	51.4	43.3	61.5
10:41:35 PM	45.1	46.1	44	59.4
10:42:35 PM	47	52.1	43.6	63.3
10:43:35 PM	44.7	48.4	42.7	61.4
10:44:35 PM	44.2	46.3	42.9	59.2
10:45:35 PM	45.7	47.9	44	64
10:46:35 PM	45.9	47.5	43.7	60.7
10:47:35 PM	46.3	47.9	44.4	61.7
10:48:35 PM	43.7	45.1	41.8	58.9
10:49:35 PM	44.3	48.1	42.7	61.9
10:50:35 PM	45.4	48.4	43.4	63.7
10:51:35 PM	45.1	48.6	43.4	61.1
10:52:35 PM	45.4	48	43.6	62
10:53:35 PM	45.3	50	42.8	67.7
10:54:35 PM	43.4	45.5	42.1	57.8
10:55:35 PM	45.4	47.8	43.2	64.1
10:56:35 PM	45.7	50.3	43.7	63.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:57:35 PM	44.5	45.4	43.4	59.3
10:58:35 PM	45.7	47.4	44.2	60.6
10:59:35 PM	45.8	47.6	43.6	61.1
11:00:35 PM	48.7	54.6	46.1	67.4
11:01:35 PM	45	48.4	42.5	64
11:02:35 PM	44.1	46.4	42.5	66.7
11:03:35 PM	45.6	47.4	43.7	60.6
11:04:35 PM	48.5	50.6	45.8	63.8
11:05:35 PM	45	47.5	43.2	61.1
11:06:35 PM	48.4	57.3	43.9	72.2
11:07:35 PM	52.6	59.9	44.1	74.1
11:08:35 PM	47.3	49.7	45.1	63.7
11:09:35 PM	45.5	48.5	43.3	62.1
11:10:35 PM	51.4	59	42.8	71.4
11:11:35 PM	47.7	51.9	43.9	64
11:12:35 PM	47.7	53.6	44.7	67.5
11:13:35 PM	45.5	46.7	44.8	59.9
11:14:35 PM	44.6	46	43.6	59.8
11:15:35 PM	45.2	46.4	43.8	59.3
11:16:35 PM	45	46.7	43.6	60.1
11:17:35 PM	46.9	49.1	44.5	61.8
11:18:35 PM	47.9	50.4	45.1	63.7
11:19:35 PM	47.6	52.3	44.7	63.9
11:20:35 PM	45.3	46.3	44.2	60.3
11:21:35 PM	44.8	45.9	43.7	59.5
11:22:35 PM	45.5	49	43.7	66.7
11:23:35 PM	43.9	45	42.6	58.8
11:24:35 PM	45.2	46.5	43.6	60.7
11:25:35 PM	44.4	45.7	43.4	58.6
11:26:35 PM	45.2	46.7	43.8	60
11:27:35 PM	44.4	45.6	43.4	59.1
11:28:35 PM	43.8	44.9	42.7	57.8
11:29:35 PM	43.9	46.6	42	58.9
11:30:35 PM	51.5	56.7	43.9	69.7
11:31:35 PM	46.5	52.1	43.9	63.1
11:32:35 PM	43.6	44.7	42.5	58
11:33:35 PM	44.6	46.8	43	60.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:34:35 PM	43.4	44.9	42.3	57.9
11:35:35 PM	43.8	47.6	42.4	60.6
11:36:35 PM	43.6	45	42.5	57.4
11:37:35 PM	43.3	43.7	41.7	58.7
11:38:35 PM	44.2	45.8	42.4	58.9
11:39:35 PM	44.7	46.7	43.2	59.6
11:40:35 PM	45.1	46.5	43.9	59.1
11:41:35 PM	45.8	51.4	43.5	63.3
11:42:35 PM	45.7	47.6	43.4	61.8
11:43:35 PM	43.4	44.6	41.9	58
11:44:35 PM	47	52.8	42.1	65
11:45:35 PM	50.6	56.6	44.6	70
11:46:35 PM	46.5	54.4	41.6	67
11:47:35 PM	45.1	48.6	43.5	61.8
11:48:35 PM	44.7	46	42.7	59.7
11:49:35 PM	44.2	46.8	43.1	59.8
11:50:35 PM	44	46.1	41.9	59.4
11:51:35 PM	43.4	46.4	41.3	59.4
11:52:35 PM	42.4	43.1	41.4	56.6
11:53:35 PM	42.9	46.3	40.6	60.3
11:54:35 PM	43.1	45.2	40.9	57.9
11:55:35 PM	44	46.6	41.3	63.5
11:56:35 PM	44.2	48.7	41.4	67.7
11:57:35 PM	44.6	47.8	42.3	61.9
11:58:35 PM	43.9	46.3	42.8	60.6
11:59:35 PM	42.6	44.2	41.6	57.3
3/16/2021 12:00:35 AM	44.7	49.6	42.9	62.6
12:01:35 AM	44.5	46.1	43.4	59.1
12:02:35 AM	43.9	45.8	42.5	58.1
12:03:35 AM	43.6	46.4	41.7	59.2
12:04:35 AM	43	45.4	41.7	58.3
12:05:35 AM	45	48.7	42.1	61.6
12:06:35 AM	48.5	53.3	42.9	65.5
12:07:35 AM	43.3	45.4	42	60.9
12:08:35 AM	42.2	43.9	41.2	56.3
12:09:35 AM	43.6	45.1	42.2	59.9
12:10:35 AM	43	44.8	41.9	57.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:11:35 AM	43.9	46	41.6	59.6
12:12:35 AM	45.7	48.1	43.9	62.1
12:13:35 AM	43.9	46	42.2	58.5
12:14:35 AM	48.6	52.3	44.7	63.7
12:15:35 AM	44.9	46.5	43.6	60.9
12:16:35 AM	42.8	43.7	41.6	57.9
12:17:35 AM	42.3	44	40.3	56.9
12:18:35 AM	43.6	46	40.3	58.7
12:19:35 AM	44.2	48.7	41.1	62.7
12:20:35 AM	42.9	43.9	41.6	58.7
12:21:35 AM	42.2	44.2	40.9	57.1
12:22:35 AM	42.8	44.1	41.3	58.7
12:23:35 AM	42.5	44.3	41.5	58.8
12:24:35 AM	41.1	42.9	39.9	56.3
12:25:35 AM	45.5	47.3	42.7	60.1
12:26:35 AM	48	52.9	45	63.5
12:27:35 AM	44.1	45.6	42.1	59
12:28:35 AM	45.9	48.3	42.4	61.7
12:29:35 AM	42.4	45	40.9	58.1
12:30:35 AM	47.4	52.9	41.7	63.7
12:31:35 AM	45.2	46.2	43.6	60.2
12:32:35 AM	45.9	49.5	43.8	62.8
12:33:35 AM	45.7	49.3	43.2	62.1
12:34:35 AM	44.4	45.4	43.4	58.3
12:35:35 AM	45.6	47.2	44	60.2
12:36:35 AM	44.6	46.2	43.3	58.6
12:37:35 AM	47.1	52.8	43.3	64.3
12:38:35 AM	44.5	46.4	42.8	60
12:39:35 AM	45.6	50.6	42	63.9
12:40:35 AM	46	54.4	43.4	66.9
12:41:35 AM	42.8	44.3	41.3	58
12:42:35 AM	44.6	47.3	41.5	59.8
12:43:35 AM	43.1	46.3	40.1	58.9
12:44:35 AM	45.5	47.6	42	60.8
12:45:35 AM	43.6	45.9	42	61.2
12:46:35 AM	43.8	45.4	42.3	59.5
12:47:35 AM	44.8	47.4	43	61.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:48:35 AM	46	49.3	42.3	61.3
12:49:35 AM	43.1	44.6	41.9	58.4
12:50:35 AM	42.6	43.7	41.3	57.3
12:51:35 AM	42	43.6	40.7	56.9
12:52:35 AM	44.7	46	43.6	58.4
12:53:35 AM	43.7	44.7	42.8	57.6
12:54:35 AM	45	47.4	43.7	59.2
12:55:35 AM	46.3	49	44.1	61.9
12:56:35 AM	44.8	47.6	43.7	60.1
12:57:35 AM	45.1	47.6	43.2	59.6
12:58:35 AM	42.8	44.3	41.3	57
12:59:35 AM	44.7	47.8	43.2	60.1
1:00:35 AM	46	48.7	42.7	61.9
1:01:35 AM	42.5	43.4	41.2	57.3
1:02:35 AM	42.7	43.4	41.3	58.7
1:03:35 AM	42.9	44.2	41.5	58.2
1:04:35 AM	42.8	44.2	41.2	56.8
1:05:35 AM	42.5	45.6	40.5	59.1
1:06:35 AM	44.4	47	41.3	60.5
1:07:35 AM	46.1	51.6	41.1	63.7
1:08:35 AM	45.3	49.3	42.5	65.4
1:09:35 AM	45.5	50.8	42.1	63.6
1:10:35 AM	44.4	48.9	40.4	71.8
1:11:35 AM	42.9	48.9	41.1	73.8
1:12:35 AM	44	46.2	42.3	59.1
1:13:35 AM	44.3	48	41.3	61.6
1:14:35 AM	42.9	44.8	41.5	57.7
1:15:35 AM	43.3	44.8	41.8	58.6
1:16:35 AM	42.1	43.8	41.1	56.2
1:17:35 AM	43.1	44.6	41.6	57.5
1:18:35 AM	42.2	43.4	41.1	56.8
1:19:35 AM	44.2	45.6	42.5	58.2
1:20:35 AM	46.1	48.5	44.3	61.5
1:21:35 AM	46.2	51.2	44.4	63.6
1:22:35 AM	44.7	46.4	42.8	59.4
1:23:35 AM	45	46.3	42.8	60.4
1:24:35 AM	43.2	47.3	43.6	60.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:25:35 AM	43.8	45.9	41.3	58.7
1:26:35 AM	44.5	46.4	41.5	58.8
1:27:35 AM	45.7	48.5	44.1	61.6
1:28:35 AM	44.6	47.3	42.6	61.3
1:29:35 AM	45.3	47.3	43.1	60.7
1:30:35 AM	44.4	46.8	42	58.9
1:31:35 AM	43.9	45.8	42.6	58.8
1:32:35 AM	45.4	46.5	43.7	59.9
1:33:35 AM	47.1	50.6	43.9	64.8
1:34:35 AM	44.7	47.8	42.3	60
1:35:35 AM	46.7	49.8	44.5	63.5
1:36:35 AM	44.6	47.1	43.2	59.7
1:37:35 AM	45.8	48.5	43.8	61.3
1:38:35 AM	44.3	45.7	43	58.5
1:39:35 AM	46	48.9	44.7	61.3
1:40:35 AM	46.4	50.4	44	62.9
1:41:35 AM	47.1	49.3	45	61.8
1:42:35 AM	46.9	50	45.4	63.1
1:43:35 AM	51	57.7	46.9	69.5
1:44:35 AM	50.4	57.7	45.8	69.8
1:45:35 AM	48.9	50	47	63.1
1:46:35 AM	46.4	49.4	43.7	62.1
1:47:35 AM	44.9	45.8	43.8	59.3
1:48:35 AM	44.5	45.5	43.7	59.9
1:49:35 AM	45.6	51.6	43.9	63.8
1:50:35 AM	52.4	53.3	47.4	67.8
1:51:35 AM	52.5	53.8	50.4	66.2
1:52:35 AM	47.3	50.4	45.7	61.8
1:53:35 AM	47	50.7	43.8	67.6
1:54:35 AM	44.7	47.7	43.1	66.1
1:55:35 AM	44.6	48.4	43.1	66.3
1:56:35 AM	44.4	45.9	43.2	61.4
1:57:35 AM	45.1	47	44.1	59.3
1:58:35 AM	45.4	48.9	43.3	63.4
1:59:35 AM	44.9	46.8	43.1	60.1
2:00:35 AM	46.4	49	43.7	63
2:01:35 AM	45.9	48.7	44	61.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:02:35 AM	47.6	50.8	46.5	63.9
2:03:35 AM	49.2	51.8	46.6	67.7
2:04:35 AM	47.8	50.6	46	62.5
2:05:35 AM	46.7	47.7	44.9	60.7
2:06:35 AM	46	47.8	44.2	61.2
2:07:35 AM	46.3	47.7	44.8	60.2
2:08:35 AM	47.1	48.3	45.8	60.9
2:09:35 AM	47.9	49.4	46.2	62.2
2:10:35 AM	47.7	50.3	45.3	62.7
2:11:35 AM	45.7	47	44.3	59.9
2:12:35 AM	46	47	44.6	60.9
2:13:35 AM	45.9	47	44.7	59.4
2:14:35 AM	46.7	48.3	45	61.2
2:15:35 AM	47.4	49.5	45.9	62
2:16:35 AM	47.4	49.1	46.1	61.9
2:17:35 AM	47.7	49.2	46.1	63
2:18:35 AM	46.4	48.9	44.9	61.9
2:19:35 AM	45.5	46.9	44	60.7
2:20:35 AM	47	49	44.4	61.6
2:21:35 AM	49.9	52.1	44.7	64.6
2:22:35 AM	45.5	46.9	44.3	60.1
2:23:35 AM	44	46.1	42	58.6
2:24:35 AM	46.1	48.2	43.8	60.3
2:25:35 AM	45.5	46.7	44	60.7
2:26:35 AM	44.1	47.4	42.9	60.8
2:27:35 AM	47.5	50.3	45.4	63.3
2:28:35 AM	46.8	49	44.4	61.6
2:29:35 AM	47.3	48.7	45.9	61.5
2:30:35 AM	46.7	48.1	44.4	60.7
2:31:35 AM	46.4	48.5	45.5	60.8
2:32:35 AM	47.6	49.3	46.2	61.3
2:33:35 AM	48.1	50	46.5	67.9
2:34:35 AM	47.4	48.9	46	62
2:35:35 AM	48	49.9	46.2	63.3
2:36:35 AM	48.1	53.1	44.9	64.6
2:37:35 AM	47.3	49.8	44.7	62.4
2:38:35 AM	46.7	51.3	44.7	64.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:39:35 AM	47.7	50.3	46.3	62.1
2:40:35 AM	48.6	51.1	46.1	63.3
2:41:35 AM	46.8	49.8	45.5	62.8
2:42:35 AM	46.4	48.5	43.9	61.9
2:43:35 AM	46.2	50.1	43.1	62.4
2:44:35 AM	47.1	50.7	43	63.6
2:45:35 AM	46	47.9	44.7	60.3
2:46:35 AM	48.9	52.5	46	66
2:47:35 AM	45.3	48.1	41.1	60.3
2:48:35 AM	41.6	43.9	39.9	56.3
2:49:35 AM	43.1	49.8	40	62.7
2:50:35 AM	45.3	49.7	41.3	62.1
2:51:35 AM	47.1	51.7	41.9	65.4
2:52:35 AM	45.7	47.6	43.3	60.8
2:53:35 AM	44.8	46.7	43.6	59.1
2:54:35 AM	47.8	51.7	44.2	64.3
2:55:35 AM	47.8	51.6	43.6	64.8
2:56:35 AM	43.7	45.1	42.7	59.9
2:57:35 AM	47.4	50.9	43.1	62.9
2:58:35 AM	44.1	47.6	40.7	62.1
2:59:35 AM	43.3	46.9	40.8	60
3:00:35 AM	45.1	47.8	43	60.7
3:01:35 AM	45.5	47.3	44.1	60.3
3:02:35 AM	44.7	46.5	42.8	59.3
3:03:35 AM	46.1	49.9	42.8	62.9
3:04:35 AM	46.7	51.1	42.4	63.4
3:05:35 AM	47	50.9	43.9	64.5
3:06:35 AM	47.5	51.3	45.4	63.1
3:07:35 AM	46.1	49.5	44	61.7
3:08:35 AM	45.8	48.1	43.5	61
3:09:35 AM	45.8	47.5	43.9	60.3
3:10:35 AM	45.4	49.4	43.3	63.5
3:11:35 AM	45.3	47.5	43.5	61.1
3:12:35 AM	47	53	43	74.4
3:13:35 AM	44.6	47.3	42	64.2
3:14:35 AM	46.5	49.7	42	61.7
3:15:35 AM	44.8	49.4	41.9	70

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:16:35 AM	44.9	50.4	42.3	63.2
3:17:35 AM	45.7	47.8	43.6	60.6
3:18:35 AM	45.2	48.7	43.9	61.6
3:19:35 AM	45.7	48.3	43.3	61.1
3:20:35 AM	46.4	50.1	44.7	63.1
3:21:35 AM	45.5	49.5	42.3	61.5
3:22:35 AM	46.5	49.5	44	62.4
3:23:35 AM	45.9	48.3	44.5	60.7
3:24:35 AM	45.6	47.1	43.7	60.4
3:25:35 AM	45.5	46.8	44.1	59.6
3:26:35 AM	46.4	48	44.7	60.4
3:27:35 AM	45.9	47.9	44.3	61.3
3:28:35 AM	45.8	47.1	44	61.2
3:29:35 AM	46	48.1	44.3	61.6
3:30:35 AM	47.4	48.4	46	62.6
3:31:35 AM	47.1	49.8	45.4	62.8
3:32:35 AM	46.7	49.5	44	61.8
3:33:35 AM	47.5	48.7	45.3	62.3
3:34:35 AM	46.9	48.5	44.9	61.5
3:35:35 AM	47.3	48.7	45.9	61.3
3:36:35 AM	47.2	49.7	45.1	62.2
3:37:35 AM	47.4	48.7	45.8	61.6
3:38:35 AM	47.6	49.4	46.1	62.9
3:39:35 AM	47.2	49.2	45.9	62.8
3:40:35 AM	48	50.3	45.7	63.1
3:41:35 AM	48.7	50	47.2	63
3:42:35 AM	52.7	62.2	47.6	74.8
3:43:35 AM	52.5	62.4	47.4	75.5
3:44:35 AM	47.9	49.7	46.6	63.7
3:45:35 AM	47.6	49.4	46	62.4
3:46:35 AM	46.8	48	45.2	60.5
3:47:35 AM	46.2	47.3	44.6	60.7
3:48:35 AM	46.5	48.3	44.1	60.9
3:49:35 AM	48.2	49.9	46.4	63.4
3:50:35 AM	47.7	49.5	46.5	61.9
3:51:35 AM	49.4	51.9	47.1	63.6
3:52:35 AM	49.1	52	46.5	63.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:53:35 AM	46.9	48.4	45.7	61
3:54:35 AM	47	48.8	45.4	61.6
3:55:35 AM	46.2	47.5	44.7	60.9
3:56:35 AM	46.7	47.9	44.6	60.6
3:57:35 AM	47.3	50	45.7	62
3:58:35 AM	46.2	47.6	44.8	60.8
3:59:35 AM	47.1	48.9	45.4	61.7
4:00:35 AM	46.5	48.2	44.5	62.6
4:01:35 AM	45.3	47.7	44.1	61.6
4:02:35 AM	45.8	48.7	44.7	60.3
4:03:35 AM	46.2	47	45.4	60.3
4:04:35 AM	45.8	47.3	45	60.3
4:05:35 AM	48.4	51.3	46.6	62.7
4:06:35 AM	48.1	51.1	46.2	64.2
4:07:35 AM	47.5	48.8	46.4	61.8
4:08:35 AM	47.6	48.9	46.4	61.7
4:09:35 AM	46.9	48.1	45.3	61.6
4:10:35 AM	47	48.9	45.7	61
4:11:35 AM	47.1	49.1	45.5	60.9
4:12:35 AM	46.7	48.6	45.2	60.9
4:13:35 AM	48.7	50.5	46.3	64.3
4:14:35 AM	48.5	51.4	46.7	64.3
4:15:35 AM	48.1	51.1	46.3	63.9
4:16:35 AM	48.4	50	46.7	63.1
4:17:35 AM	47.6	49.9	45.7	62.5
4:18:35 AM	47.8	49.3	46.7	62.7
4:19:35 AM	47.1	48.6	46.1	62.1
4:20:35 AM	47.6	50.7	45.4	62.7
4:21:35 AM	48.1	50.7	46	63.5
4:22:35 AM	48.3	49.6	47.3	63
4:23:35 AM	47.5	48.5	46.6	61.7
4:24:35 AM	49.4	50.8	47.7	64
4:25:35 AM	47.1	50.1	45.9	62
4:26:35 AM	50.5	57.6	46.6	70.4
4:27:35 AM	52.1	60.3	48.8	73.5
4:28:35 AM	49.8	51	48.9	63.7
4:29:35 AM	49.7	51.4	48	64.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:30:35 AM	50.3	51.5	48.4	63.6
4:31:35 AM	49.9	53.9	47.8	69.3
4:32:35 AM	50.4	52.8	47.6	65.3
4:33:35 AM	48.8	51.5	47.1	63.3
4:34:35 AM	49.4	58.4	47.3	73.4
4:35:35 AM	48.4	50.9	46.9	63.9
4:36:35 AM	48.4	50.9	46.7	62.8
4:37:35 AM	48.4	50.3	47.1	63.5
4:38:35 AM	47.7	49.6	46.5	62.5
4:39:35 AM	47.8	49.1	46.6	62.6
4:40:35 AM	48.1	50	46.4	62.8
4:41:35 AM	51.2	54.6	48.4	70.1
4:42:35 AM	52.1	57	48.9	69.5
4:43:35 AM	52.4	55.2	50.4	68.8
4:44:35 AM	49.4	57.1	43.6	71.7
4:45:35 AM	48.9	52.4	46.1	65.1
4:46:35 AM	49.7	52.7	48	65.2
4:47:35 AM	49.9	52.9	46.9	65.8
4:48:35 AM	51.7	54.2	46.8	66.7
4:49:35 AM	49.1	52.8	46.1	63.6
4:50:35 AM	48.5	52.2	45	65.5
4:51:35 AM	49.4	52.7	46.5	65.7
4:52:35 AM	50.8	54	45.3	67.2
4:53:35 AM	48.6	51.3	46.3	63.4
4:54:35 AM	49.2	51.5	46.6	65.8
4:55:35 AM	50.7	52.3	46.9	63.1
4:56:35 AM	46.9	48.7	45.4	61.9
4:57:35 AM	49.5	51.1	48.1	63.7
4:58:35 AM	49	50.8	47	68.7
4:59:35 AM	48.4	49.9	47	62.5
5:00:35 AM	50	52	47.5	63.3
5:01:35 AM	50.4	52.7	47.8	65.1
5:02:35 AM	49.4	53.3	46.9	68.1
5:03:35 AM	51	56.3	46.5	69.1
5:04:35 AM	48.2	49.9	46.3	62.9
5:05:35 AM	50.7	54.9	45.3	68.1
5:06:35 AM	49.1	53.7	46.4	66.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:07:33 AM	49.2	51.2	46.3	64.7
3:08:33 AM	51.3	54	46	68.4
3:09:33 AM	48.7	52.2	45.4	64.7
3:10:33 AM	49.9	52.3	43.7	63.7
3:11:33 AM	49.3	51.8	47.1	65.2
3:12:33 AM	48.3	52.3	46.3	63.6
3:13:33 AM	48.5	50.4	47.2	64.5
3:14:33 AM	50.8	52.5	48.6	65.3
3:15:33 AM	51.4	52.9	48.9	66.3
3:16:33 AM	52.1	53.4	50.3	66.2
3:17:33 AM	50.1	51.1	49	63.8
3:18:33 AM	50.3	52.7	48.3	67
3:19:33 AM	51.7	53.4	49.7	65.9
3:20:33 AM	51.3	53.4	49.2	69.1
3:21:33 AM	50.3	53.6	48.9	66.7
3:22:33 AM	51.8	54.2	49.5	67.1
3:23:33 AM	51.3	52.3	49.8	63.3
3:24:33 AM	50.1	51.2	48.6	64.8
3:25:33 AM	50.3	51.4	49.1	65.6
3:26:33 AM	50.2	52.6	48.3	63.8
3:27:33 AM	51.1	52.3	50	65.3
3:28:33 AM	50.7	51.9	49.2	63.4
3:29:33 AM	50	51.1	49.1	64.4
3:30:33 AM	50.3	52.4	48.6	65.1
3:31:33 AM	51.9	53.2	50.7	66.4
3:32:33 AM	49.3	51.7	47.1	64.3
3:33:33 AM	50.2	53.1	47.2	65.4
3:34:33 AM	52	56.2	50.3	69.6
3:35:33 AM	50.3	51.9	48.3	65.6
3:36:33 AM	51.9	53.8	50.3	65.9
3:37:33 AM	50.8	52	49.3	64.6
3:38:33 AM	51.8	53.3	50.6	67.3
3:39:33 AM	51.8	53.8	49.9	66.6
3:40:33 AM	50.3	52.1	49.3	64.9
3:41:33 AM	51.8	53.1	50.3	66.1
3:42:33 AM	50.8	52.1	49.3	66.3
3:43:33 AM	52.1	54.4	50.3	66.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:44:35 AM	51.4	52.8	50.1	63.4
5:45:35 AM	50.6	53.4	49.4	66.6
5:46:35 AM	52.6	54.7	50.8	67.1
5:47:35 AM	51	52.8	50	67.3
5:48:35 AM	49.8	53.6	47.8	66.8
5:49:35 AM	50.5	54.9	47.5	67.2
5:50:35 AM	52.5	53.6	51.7	66.5
5:51:35 AM	51.3	52	50.3	63.3
5:52:35 AM	51.4	53.2	50.1	66.4
5:53:35 AM	50.7	52.2	49.3	65.1
5:54:35 AM	52.2	53.5	50.9	66.4
5:55:35 AM	52.5	53.1	51.4	67.7
5:56:35 AM	50.2	53	48.3	67.4
5:57:35 AM	50.6	52.3	49	63.5
5:58:35 AM	50.8	52.4	49.5	63.1
5:59:35 AM	52.1	57	50.1	69.3
6:00:35 AM	51	52.3	50	63.1
6:01:35 AM	50.5	52.1	49.4	67.9
6:02:35 AM	51.4	52.3	50.3	63.9
6:03:35 AM	50.6	51.9	49.5	63.3
6:04:35 AM	52.5	53.7	51.7	66.5
6:05:35 AM	51.2	52.7	50	66.8
6:06:35 AM	51.9	54.3	50.7	67.3
6:07:35 AM	52.1	53.8	49.6	66.2
6:08:35 AM	52.4	54.1	50.1	67.5
6:09:35 AM	52.8	53.4	50.3	67.4
6:10:35 AM	53.1	57.9	49.9	71.2
6:11:35 AM	53.5	55.5	51.9	67.9
6:12:35 AM	51.6	55.8	49.8	68.6
6:13:35 AM	51.9	53.2	49.6	66
6:14:35 AM	51.8	53	50.3	67.1
6:15:35 AM	52	53.3	51	66.3
6:16:35 AM	52.3	53.1	51.2	66.5
6:17:35 AM	51.7	53	50.3	66.3
6:18:35 AM	53.2	54.2	52.4	67.3
6:19:35 AM	53.9	58.1	51.4	69.8
6:20:35 AM	53.7	54.6	52	67.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:21:33 AM	51.8	53.3	48.6	66.1
6:22:33 AM	51.3	52.8	48.6	66.3
6:23:33 AM	52.7	53.8	50.6	67.1
6:24:33 AM	52.4	54.3	50.3	66.8
6:25:33 AM	52.8	54.4	51	67.3
6:26:33 AM	52.6	53.1	49.8	67.4
6:27:33 AM	52.9	54	52.1	67.1
6:28:33 AM	53.3	54.8	51.7	68.3
6:29:33 AM	52.6	53.8	51.2	67.8
6:30:33 AM	52.5	53.5	51	67
6:31:33 AM	52.1	54.8	49.8	67.7
6:32:33 AM	54.7	57	53.2	70.1
6:33:33 AM	52.9	54.6	50.7	67.8
6:34:33 AM	53	54.1	51.4	67.8
6:35:33 AM	52.9	54.7	52.1	69.3
6:36:33 AM	52.3	53.2	51.6	66.6
6:37:33 AM	52.6	54.1	51.8	66.6
6:38:33 AM	52.5	53.8	51.3	67.2
6:39:33 AM	52.7	53	51.9	68.8
6:40:33 AM	52.3	53.3	51.1	66.3
6:41:33 AM	53	57.2	50.6	70.5
6:42:33 AM	52.2	53.3	50.6	66.3
6:43:33 AM	51.4	53	50.1	66.1
6:44:33 AM	53.8	55.3	52.2	67.3
6:45:33 AM	52.4	54.1	51.3	67.5
6:46:33 AM	54.1	55.9	52.7	68.9
6:47:33 AM	52	53.8	50.4	66.6
6:48:33 AM	51.4	54.2	49.1	67.1
6:49:33 AM	55.1	61.9	51.5	74.2
6:50:33 AM	53.8	57.9	51.3	70.6
6:51:33 AM	54	55	53	68.3
6:52:33 AM	53.2	54.4	52.5	67
6:53:33 AM	54.9	56.8	53.6	69.7
6:54:33 AM	53.2	53.7	51.4	68.3
6:55:33 AM	52.1	53.5	51.1	66.3
6:56:33 AM	51.2	51.9	49.9	65.3
6:57:33 AM	51.7	53.3	50.3	66.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:58:35 AM	52.3	53.3	51.3	66.9
6:59:35 AM	51.9	53.2	50.4	67
7:00:35 AM	51.3	53.3	50.1	66.8
7:01:35 AM	51.1	52.4	49.7	66.3
7:02:35 AM	53.4	56.6	52.1	71
7:03:35 AM	55.2	58.6	51.3	73.7
7:04:35 AM	54.7	57.8	50.9	71
7:05:35 AM	54.3	58.3	51.6	72.9
7:06:35 AM	53.4	56.1	50	71.2
7:07:35 AM	54.1	57.3	51.5	70.7
7:08:35 AM	52.9	56	50.8	69.6
7:09:35 AM	52.4	54.4	50.7	70.1
7:10:35 AM	51.9	54.4	49.4	69
7:11:35 AM	52.9	54.6	50.1	69.1
7:12:35 AM	53.8	55.3	51	70
7:13:35 AM	53	55.6	50.3	71.3
7:14:35 AM	52.8	53	50.4	69
7:15:35 AM	51.9	54.2	49.3	66.7
7:16:35 AM	50.8	52.1	49.6	66
7:17:35 AM	50.4	51.6	49.3	64.8
7:18:35 AM	53.9	56.7	49.6	69.8
7:19:35 AM	50.7	52.6	48.8	66.1
7:20:35 AM	51.3	54.3	48.8	67.3
7:21:35 AM	52.1	56	49.8	71.7
7:22:35 AM	54.2	59	50.1	72.7
7:23:35 AM	51.7	53.3	50.7	68.3
7:24:35 AM	51.6	58.1	47.9	70.4
7:25:35 AM	50.4	52	48.1	66.4
7:26:35 AM	50.9	52.7	49.7	65.4
7:27:35 AM	50.3	52.8	49.3	67.3
7:28:35 AM	49.7	51.8	48.3	63.9
7:29:35 AM	51.9	53.6	49	67.7
7:30:35 AM	51.2	52.4	50.1	66
7:31:35 AM	50.8	52.7	49.1	63.8
7:32:35 AM	50.4	52.6	48.9	67.1
7:33:35 AM	51	52.7	49.6	68.7
7:34:35 AM	53.1	67	49.4	74.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:35:35 AM	54.2	63.3	51.9	76.9
7:36:35 AM	52.4	53.5	51.3	66.9
7:37:35 AM	52.7	56.7	51.1	69.4
7:38:35 AM	51	53.1	49.7	63.6
7:39:35 AM	50.6	51.5	49.7	64.8
7:40:35 AM	51.5	54.3	48.4	68.1
7:41:35 AM	51.6	53.4	48.7	70.6
7:42:35 AM	52.1	55	49.9	77.2
7:43:35 AM	49.9	52.3	48.5	71
7:44:35 AM	51.9	53	50.5	67.8
7:45:35 AM	50.2	51.8	48.7	70.8
7:46:35 AM	50.4	51.8	48.9	64.2
7:47:35 AM	51.6	53.9	49.7	66.9
7:48:35 AM	51.9	53.8	50.5	66.9
7:49:35 AM	51.3	54	49.9	74.1
7:50:35 AM	51.4	54.1	49.9	69.3
7:51:35 AM	51.1	52.5	50	69.6
7:52:35 AM	51.9	53.1	50.9	65.8
7:53:35 AM	53	55.9	51	69
7:54:35 AM	51.8	54.3	50	67.3
7:55:35 AM	51.7	53.5	50.5	66.5
7:56:35 AM	52.1	54.3	49.8	66.8
7:57:35 AM	51.6	54	48.8	68.4
7:58:35 AM	52.1	55.2	50.2	70.6
7:59:35 AM	51.6	53.6	49.9	67.5
8:00:35 AM	52.2	54.2	49.3	67.8
8:01:35 AM	51.5	52.6	50.2	65.6
8:02:35 AM	52.1	53.6	50.7	67.3
8:03:35 AM	52.2	54.5	50.4	67.1
8:04:35 AM	51.5	54.6	49.2	67.6
8:05:35 AM	54.1	58.9	50.1	71.1
8:06:35 AM	53.5	56.8	50.5	69.6
8:07:35 AM	52.7	54.4	51	68.4
8:08:35 AM	51.7	53.7	49.4	67.2
8:09:35 AM	51.3	53.9	49.3	66.7
8:10:35 AM	52.1	54.8	49.9	70
8:11:35 AM	51.4	53.3	47.3	67.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:12:35 AM	49.9	52.2	46.9	66.3
8:13:35 AM	50.2	53.7	48.1	71.5
8:14:35 AM	52.3	55.5	49.6	68
8:15:35 AM	52.7	55.7	48.6	67
8:16:35 AM	52.3	53.6	49.9	67.2
8:17:35 AM	52.4	55	50.4	68
8:18:35 AM	57	69.8	48.7	89.1
8:19:35 AM	51.8	53.3	49.9	66
8:20:35 AM	53.2	57.6	49	72
8:21:35 AM	53.5	57.2	50.3	68.9
8:22:35 AM	53.5	57.2	52	70.9
8:23:35 AM	53.3	57.3	51	71.4
8:24:35 AM	55.6	58.4	52.8	71.9
8:25:35 AM	52.9	55.3	50.8	67.4
8:26:35 AM	55.1	57.3	52.1	69.4
8:27:35 AM	54	56.8	51	72.7
8:28:35 AM	52.5	55	50.1	68.1
8:29:35 AM	54.7	57	52.7	70.8
8:30:35 AM	55.7	57.4	53.3	70.9
8:31:35 AM	55.6	57.5	52.2	72.3
8:32:35 AM	55.6	62	51.1	75.8
8:33:35 AM	56.7	58.8	54.8	71.2
8:34:35 AM	54.2	55.9	51.6	68.8
8:35:35 AM	55.4	57.9	51.2	71.1
8:36:35 AM	54.4	57.4	51.1	70.3
8:37:35 AM	56.5	58.7	51.8	71.5
8:38:35 AM	55.3	57.9	53.1	69.9
8:39:35 AM	57.9	60.6	54.3	73.1
8:40:35 AM	56.7	58.7	53.5	73.7
8:41:35 AM	55	59.3	51.6	73.4
8:42:35 AM	56.8	59.9	53.8	73.9
8:43:35 AM	55.6	58.3	53.3	73.1
8:44:35 AM	57.6	60.6	53.6	73.7
8:45:35 AM	56.1	58.3	54.1	73.2
8:46:35 AM	55.8	59.3	53.4	73.1
8:47:35 AM	55.6	59.9	53.2	72.8
8:48:35 AM	57.7	56.1	50.8	69.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:49:35 AM	54.1	57.7	52.1	69.3
8:50:35 AM	51.7	54.6	49.5	67.1
8:51:35 AM	53.3	61.2	50.2	73.3
8:52:35 AM	52.1	53.3	50.7	67.1
8:53:35 AM	53.8	59	49.5	72.3
8:54:35 AM	54.8	59.9	50.1	74.2
8:55:35 AM	52.7	54.9	51.2	66.6
8:56:35 AM	53.3	56.2	51.3	70.5
8:57:35 AM	53.8	57	50.8	70.9
8:58:35 AM	51.7	56.3	48.9	70
8:59:35 AM	51.3	53.3	50.1	63.9
9:00:35 AM	50.6	52.8	48.3	63.3
9:01:35 AM	49.9	53.4	47.9	67.5
9:02:35 AM	51.2	53.5	48.2	66
9:03:35 AM	52.1	53.3	47.9	71.4
9:04:35 AM	49	51	47.2	63.1
9:05:35 AM	51.3	53.9	49.1	69.1
9:06:35 AM	49.5	56.1	47.6	73.1
9:07:35 AM	51.2	54.6	48.6	68.8
9:08:35 AM	50.7	54.3	47.3	69
9:09:35 AM	50.9	55.3	47.7	70.7
9:10:35 AM	52.1	59.3	47.7	74.7
9:11:35 AM	49.6	52.1	47.6	67.1
9:12:35 AM	47.8	49.6	45.5	62.4
9:13:35 AM	48.8	50.4	46.1	64.1
9:14:35 AM	50.9	53.7	46.3	66.3
9:15:35 AM	53.2	60	46	70.2
9:16:35 AM	54.7	60.8	46	73
9:17:35 AM	57.5	62.5	45.7	75.6
9:18:35 AM	52.3	66.3	46.6	83.7
9:19:35 AM	48.6	56.3	46.6	74.1
9:20:35 AM	48.5	55.9	46.6	71.5
9:21:35 AM	48.6	54	45.1	70.4
9:22:35 AM	59.5	67.1	47.8	79
9:23:35 AM	51.1	56.7	47.8	71.4
9:24:35 AM	47.6	50.4	45.1	65.3
9:25:35 AM	47.7	51.5	44.9	66.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:26:35 AM	46	48.3	44.3	62.3
9:27:35 AM	47.4	49.4	44.9	63.1
9:28:35 AM	44.8	46.9	43.2	62.3
9:29:35 AM	47.6	51.1	44.7	68
9:30:35 AM	45.8	47.3	44.7	62.1
9:31:35 AM	45.7	47.6	44.2	61.8
9:32:35 AM	45.9	48.3	43.7	63.1
9:33:35 AM	46.8	48.4	45.4	62
9:34:35 AM	46.2	49.2	44.4	63.2
9:35:35 AM	47	52.2	45	66.8
9:36:35 AM	46.9	50.2	43.5	61.9
9:37:35 AM	44.8	46.6	42.3	59.9
9:38:35 AM	44.8	46.9	43.3	60
9:39:35 AM	44.6	49	42.8	64.7
9:40:35 AM	45.4	47.4	43.3	60.6
9:41:35 AM	48.3	60.6	43.4	77.7
9:42:35 AM	46.9	49.9	44.4	63.7
9:43:35 AM	45.9	49.9	44.3	67.4
9:44:35 AM	46.2	47.7	44.5	61
9:45:35 AM	43.6	45.4	42.2	59.8
9:46:35 AM	46	50.8	43.1	67.7
9:47:35 AM	46.8	50	44.6	62.7
9:48:35 AM	46.9	50.7	44.4	68.1
9:49:35 AM	46.1	47.3	45	60.6
9:50:35 AM	46.1	47.7	44.4	60.7
9:51:35 AM	45.5	48.1	43	61.8
9:52:35 AM	46.8	51.5	43.5	68.2
9:53:35 AM	47.8	49.7	45.5	63.7
9:54:35 AM	45.1	46.9	43.9	60
9:55:35 AM	44.8	47.5	43.1	61.6
9:56:35 AM	43.9	46.9	41.5	60.3
9:57:35 AM	47.6	51.6	43.8	67.7
9:58:35 AM	48.5	52.3	45.5	65.3
9:59:35 AM	47.3	50.8	44.3	65.2
10:00:35 AM	45.6	49.4	43.7	69.2
10:01:35 AM	44.5	46.6	43.2	61.2
10:07:35 AM	53.8	63.8	44	79.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:03:35 AM	44.8	48.3	42.3	61.2
10:04:35 AM	45.2	50.1	41.2	65.9
10:05:35 AM	43.9	47.9	42.2	68.5
10:06:35 AM	46.3	51.4	42.7	73.7
10:07:35 AM	48.4	57	44.2	74.1
10:08:35 AM	46.8	52.9	43.4	69.3
10:09:35 AM	44.3	46.7	42.4	62.9
10:10:35 AM	45.3	46.6	44	61.4
10:11:35 AM	45.1	47	41.9	62
10:12:35 AM	46.4	49.1	43.6	63.9
10:13:35 AM	45.3	48	42.3	64.3
10:14:35 AM	45.4	48.6	42.1	62.8
10:15:35 AM	45.7	48.2	43	62
10:16:35 AM	45.5	47.7	43.5	64.4
10:17:35 AM	46.6	50.7	44.3	66
10:18:35 AM	45.6	48.1	42.2	68.3
10:19:35 AM	45.9	50.6	42.2	68.2
10:20:35 AM	44.5	48	40.4	61.9
10:21:35 AM	44.9	46.4	42.5	59.5
10:22:35 AM	45.1	48.3	41.9	62.3
10:23:35 AM	44	47.1	42.1	60.1
10:24:35 AM	41.9	43.5	40	60.4
10:25:35 AM	43.4	44.3	42.3	61.1
10:26:35 AM	45.3	52.7	42.7	72.7
10:27:35 AM	57.3	68.8	44.4	85.1
10:28:35 AM	53.8	63.1	44.4	93
10:29:35 AM	44.8	47.5	43.5	61.3
10:30:35 AM	47.2	50.5	44.1	64.7
10:31:35 AM	46.4	49.8	44.4	64.4
10:32:35 AM	47	50.9	42.7	64.4
10:33:35 AM	43.9	47.3	42.2	61.3
10:34:35 AM	45.6	48.9	43.6	64.8
10:35:35 AM	42.9	45.4	40.8	66.6
10:36:35 AM	47.6	50.7	42.5	63.8
10:37:35 AM	44.8	48.3	42.4	61.5
10:38:35 AM	45.3	48.2	43	62.8
10:39:35 AM	44.6	49.7	42.6	63.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:40:35 AM	47.9	58.2	42.7	72.6
10:41:35 AM	5[illegible].7	62.9	47.1	7[illegible].4
10:42:35 AM	57.7	61.5	49.5	78.2
10:43:35 AM	53.6	60.7	46.3	74.7
10:44:35 AM	5[illegible].9	62.1	4[illegible].6	76.9
10:45:35 AM	57.9	63.6	44.3	77.2
10:46:35 AM	57.6	61.5	43.5	77.1
10:47:35 AM	48.9	60.1	44.1	73.7
10:48:35 AM	44.1	47.1	40.7	61.3
10:49:35 AM	45.4	49.3	42.5	62.5
10:50:35 AM	46	50.2	42.2	63
10:51:35 AM	43.9	47.3	40.9	62
10:52:35 AM	45.9	47.9	43.3	62.8
10:53:35 AM	44.6	47.8	41.9	61.6
10:54:35 AM	45.7	48.6	42.9	67.8
10:55:35 AM	46.6	50.6	43.3	63.8
10:56:35 AM	44.1	47.4	41.8	63.6
10:57:35 AM	47	58	40.9	77.1
10:58:35 AM	50.8	61.1	43.4	74.7
10:59:35 AM	50.9	53.3	45.1	67.9
11:00:35 AM	46.1	48	41.4	64.8
11:01:35 AM	41.8	45.6	39	60.6
11:02:35 AM	42.1	46.7	39.3	61.6
11:03:35 AM	45.3	49.7	41.4	63
11:04:35 AM	47.8	53.7	42.2	70.9
11:05:35 AM	43.4	50.3	40	68.3
11:06:35 AM	43.2	45.6	40.3	59.2
11:07:35 AM	45.1	47.7	42.4	60.3
11:08:35 AM	44.6	48	41.7	64.7
11:09:35 AM	44	49.9	40.2	66.8
11:10:35 AM	43.2	47.3	40.2	60
11:11:35 AM	44.8	48.1	41.5	63.7
11:12:35 AM	47	55.7	41.6	72.5
11:13:35 AM	44.4	47.3	42.1	61.2
11:14:35 AM	45.3	47.1	43.4	60.2
11:15:35 AM	49	55.1	44	69.7
11:16:35 AM	55.7	61.1	47.1	76.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:17:35 AM	49.4	53.3	43.1	69.6
11:18:35 AM	44	46.8	41.8	60.1
11:19:35 AM	46.8	50.4	43	63.1
11:20:35 AM	43.1	49.1	38.3	60.8
11:21:35 AM	43.4	46.2	41.6	62.6
11:22:35 AM	41.1	43.3	39	61.2
11:23:35 AM	40.2	43.7	38.3	57.1
11:24:35 AM	41.7	44.4	39.3	60.3
11:25:35 AM	40.8	43.9	38.3	56.6
11:26:35 AM	46.7	56.3	42.7	68.9
11:27:35 AM	57.2	65.4	44.7	81.1
11:28:35 AM	45	50.1	41.6	61
11:29:35 AM	42.9	44.6	40.7	57.3
11:30:35 AM	58.2	71.8	40.2	94.9
11:31:35 AM	44.3	46.4	42	64.9
11:32:35 AM	42.3	45.7	38.6	59.3
11:33:35 AM	56.3	69.9	42.8	90.8
11:34:35 AM	48.7	55.2	41.8	69.1
11:35:35 AM	43.9	45.7	42.8	60.1
11:36:35 AM	42.9	46	39.7	59.3
11:37:35 AM	43.9	45.9	40.8	61.1
11:38:35 AM	53.1	58	44.5	71.4
11:39:35 AM	44.8	50.3	40.5	63.6
11:40:35 AM	44.8	49.2	42.1	63.9
11:41:35 AM	42.1	47.9	39.1	62.6
11:42:35 AM	43	44.6	41.4	58.9
11:43:35 AM	42.1	49	40.1	64.6
11:44:35 AM	45.9	50.3	40.8	66
11:45:35 AM	46.5	51.9	42.4	64.5
11:46:35 AM	51.2	63	41.2	79.4
11:47:35 AM	52.9	59.6	42.1	74.2
11:48:35 AM	43	46.3	40.8	63.3
11:49:35 AM	42.5	46	40	59.6
11:50:35 AM	43.6	46	41.8	59.6
11:51:35 AM	54.8	64.2	43.2	78.3
11:52:35 AM	46.9	54.3	42.9	63.8
11:53:35 AM	43	45.1	41.3	61.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:54:35 AM	42.6	44.9	39.6	58.2
11:55:35 AM	42.9	48.3	38.8	64.7
11:56:35 AM	44.8	52.4	40.9	70
11:57:35 AM	41.4	42.7	40.1	59
11:58:35 AM	54.9	63.1	40.3	81.6
11:59:35 AM	46.3	49.2	44	61.9
12:00:35 PM	45.7	49.2	43.6	63.7
12:01:35 PM	42.9	45.4	41.8	56.6
12:02:35 PM	43.4	46.2	41.3	60.1
12:03:35 PM	43.4	48.1	40.6	65.6
12:04:35 PM	43.4	45.2	40.7	63.4
12:05:35 PM	42.7	43.6	40	58.2
12:06:35 PM	42.9	47.3	39	58.7
12:07:35 PM	53.6	61.6	39.8	77.3
12:08:35 PM	44.7	47.9	39.6	61.8
12:09:35 PM	43.8	47.6	39.3	61.1
12:10:35 PM	44.1	47.1	40.3	64
12:11:35 PM	43.4	48	38.6	61
12:12:35 PM	44.2	48.6	41.3	61.9
12:13:35 PM	60.2	68.9	44.9	82.6
12:14:35 PM	47.7	50.9	44.8	63.7
12:15:35 PM	43	49	39.5	70.2
12:16:35 PM	49.3	61.4	38.7	79.8
12:17:35 PM	45.4	47.4	43.9	62.7
12:18:35 PM	51.9	59.3	43.1	74
12:19:35 PM	49.3	57.7	42.9	87.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Location M4: 24-hour Session Report

Meter No. 035597
8/6-7/2020

Information Panel

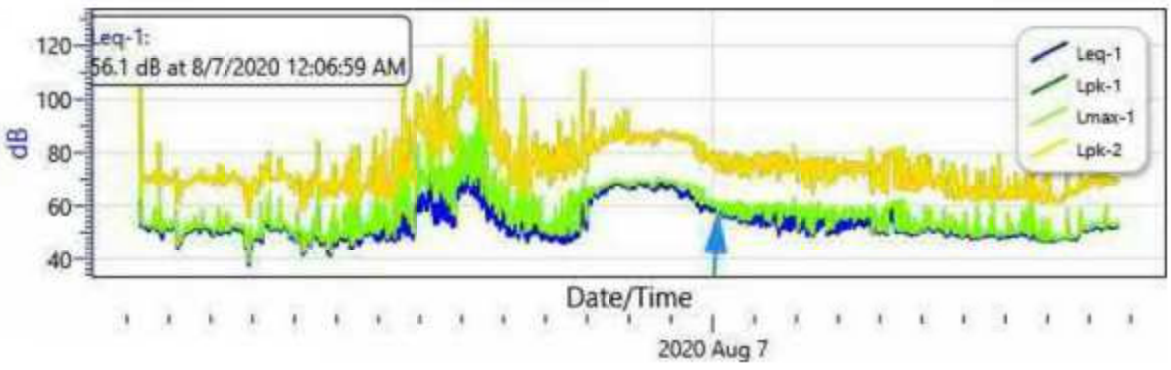
Name	S047_BGQ080007_07082020_115533
Start Time	8/6/2020 10:17:00 AM
Stop Time	8/7/2020 9:41:24 AM
Device Name	BGQ080007
Model Type	Sound Pro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	61.4 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	3 dB	Weighting	2	A
Response	2	SLOW			

Logged Data Chart

S047_BGQ080007_07082020_115533: Logged Data Chart



Logged Data Table

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8/6/2020 10:18:00 AM	62.6	77.9	51.5	110.1
10:19:00 AM	62.1	84.4	51.7	79

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:20:00 AM	55.3	59.7	52.2	72.3
10:21:00 AM	52.4	53.3	51.3	70
10:22:00 AM	52	52.5	51	70.4
10:23:00 AM	52.3	53.2	51	69.7
10:24:00 AM	52.3	53.2	50.6	71.5
10:25:00 AM	51.4	52.7	49.7	70.1
10:26:00 AM	51	52.8	49	69.2
10:27:00 AM	51.4	53	50	70.4
10:28:00 AM	51.9	52.9	50.6	69.6
10:29:00 AM	51.6	52.6	50.3	68.8
10:30:00 AM	50.4	52.0	48.5	69.8
10:31:00 AM	50.4	51.7	48.8	69
10:32:00 AM	51.5	52.1	50.6	69.1
10:33:00 AM	51.9	53	50.5	69.4
10:34:00 AM	51.8	53.2	50.8	70.9
10:35:00 AM	51.9	52.6	51.1	70.5
10:36:00 AM	52.2	53.2	50.8	69.9
10:37:00 AM	52.5	54.5	51	70
10:38:00 AM	52.3	54.7	51.2	71.2
10:39:00 AM	53.1	58.8	49.7	72.8
10:40:00 AM	50.7	51.5	49.5	70
10:41:00 AM	51.6	52.5	50.2	70.1
10:42:00 AM	51.6	52.6	50.1	68.7
10:43:00 AM	50.8	52.2	49.6	69.7
10:44:00 AM	51.5	55.1	49.5	69.7
10:45:00 AM	58.4	66.9	48.7	83.4
10:46:00 AM	49.5	50.7	47.1	67.7
10:47:00 AM	49.9	50.9	48	68.6
10:48:00 AM	50.2	50.8	48.5	68.8
10:49:00 AM	47.5	50.2	46.1	67.3
10:50:00 AM	48.0	50.4	46.6	69.8
10:51:00 AM	50.3	51.3	48.2	68.7
10:52:00 AM	51.3	53.1	50.1	69.2
10:53:00 AM	52.1	51.9	50.1	70.9
10:54:00 AM	51.7	52.3	50.5	70.2
10:55:00 AM	51.4	52.2	50.1	69.4
10:56:00 AM	51.5	52.3	50.2	70.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:57:00 AM	51.8	52.4	50.6	71.5
10:58:00 AM	51.3	52.1	49.8	70.1
10:59:00 AM	51.2	51.9	50.3	69.5
11:00:00 AM	50.7	51.7	49.7	68.5
11:01:00 AM	51.2	52.5	50.3	68.5
11:02:00 AM	50.8	51.5	48.8	69.1
11:03:00 AM	51.2	52.2	50.3	69.2
11:04:00 AM	51.7	54.4	50.3	69.8
11:05:00 AM	51.4	53.3	50	69.5
11:06:00 AM	51.1	52.1	50.1	70
11:07:00 AM	51.6	52.7	50.5	69.4
11:08:00 AM	51.4	52.3	50.9	70.2
11:09:00 AM	54	59	50.3	73.9
11:10:00 AM	45.9	50.3	43.9	64.9
11:11:00 AM	44.2	45.2	42.4	61
11:12:00 AM	43.9	44.8	42.5	61.5
11:13:00 AM	45.7	46.9	44.4	62.1
11:14:00 AM	45	46.1	43.2	60
11:15:00 AM	45.9	46.7	45.1	64.4
11:16:00 AM	45.9	47.4	44.8	64.4
11:17:00 AM	47.9	49	45.8	67.1
11:18:00 AM	48.5	49.3	47.2	68.6
11:19:00 AM	48.5	49.5	47	67.3
11:20:00 AM	48.5	49.1	46.7	67.6
11:21:00 AM	49.1	50.5	47	68
11:22:00 AM	49	50.7	47.7	68
11:23:00 AM	49.1	51	47.3	67.9
11:24:00 AM	50.1	53.6	48.5	68
11:25:00 AM	50	51.9	48.3	69
11:26:00 AM	49.8	50.6	48.3	68.6
11:27:00 AM	50.3	51.2	49.4	68.5
11:28:00 AM	50	50.6	48.4	67.8
11:29:00 AM	50.2	50.8	49.1	69.2
11:30:00 AM	50.8	51.7	49.8	68.5
11:31:00 AM	50.9	52.6	49.6	69.1
11:32:00 AM	51	52.8	50	69.5
11:33:00 AM	50.6	51.5	49.3	69.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:34:00 AM	50.8	51.7	49.4	69.6
11:35:00 AM	52.3	56	50.8	70.8
11:36:00 AM	51.9	53.6	50.8	70.9
11:37:00 AM	51.7	52.9	49.8	71.2
11:38:00 AM	51.4	52.2	50.4	71
11:39:00 AM	51.7	52.3	50.6	71.4
11:40:00 AM	52.5	53.2	51.1	71.4
11:41:00 AM	52.2	52.9	51.1	71.2
11:42:00 AM	51.4	52.8	46.8	71.3
11:43:00 AM	49.6	51.6	45.5	69.5
11:44:00 AM	51.8	52.7	50.7	71.3
11:45:00 AM	51.8	52.9	50.6	71.2
11:46:00 AM	51.4	52.5	49.6	69.5
11:47:00 AM	54.1	58.6	51.1	73.8
11:48:00 AM	51.7	52.6	50.7	70.9
11:49:00 AM	51.6	52.2	50.7	68.8
11:50:00 AM	51.6	52.7	50.4	70.6
11:51:00 AM	51.6	52	51.1	70.2
11:52:00 AM	51.1	52.2	49.9	69.5
11:53:00 AM	51.3	52.1	50.1	69.9
11:54:00 AM	51.6	52.4	50.5	69.6
11:55:00 AM	51.7	52.6	50.7	69.5
11:56:00 AM	51.7	52.3	50.3	70.4
11:57:00 AM	50.3	51.9	48.6	69.4
11:58:00 AM	50.8	51.6	49.4	70.2
11:59:00 AM	50.9	51.5	49.1	70.8
12:00:00 PM	48.9	51.0	46.1	70.4
12:01:00 PM	49.6	51.1	47.4	69.3
12:02:00 PM	48.8	51.2	46.3	69.7
12:03:00 PM	48.6	49.3	46.6	67.8
12:04:00 PM	49.9	51.5	47.6	70.2
12:05:00 PM	50.5	51.5	48.6	69.9
12:06:00 PM	51.6	52.6	49.5	70.9
12:07:00 PM	50.7	52.5	46.9	70.4
12:08:00 PM	49.5	51.6	47.1	70.6
12:09:00 PM	50.9	51.7	48.8	70.6
12:10:00 PM	52.8	59.4	49.8	74.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:11:00 PM	54.3	58.4	49.4	75
12:12:00 PM	49.4	50.2	47.3	68.3
12:13:00 PM	49.1	50.4	47.5	67.8
12:14:00 PM	49.9	52.8	48.3	71.7
12:15:00 PM	50.3	51.7	49.5	69.3
12:16:00 PM	50.4	51.1	49.7	69.1
12:17:00 PM	50.6	51	49.8	69.5
12:18:00 PM	49.7	50.8	47.8	67.8
12:19:00 PM	50.3	52	48.1	69.9
12:20:00 PM	51.9	56.1	48.8	71.3
12:21:00 PM	50.2	50.9	48.7	69.2
12:22:00 PM	50.8	53.9	48.8	69.8
12:23:00 PM	54.1	57.2	50	70.9
12:24:00 PM	50.1	51.1	48.3	69.1
12:25:00 PM	50.1	50.9	48.7	69.1
12:26:00 PM	49.5	50.8	47.8	68.9
12:27:00 PM	50.8	51.9	49.6	69.8
12:28:00 PM	51.3	52.3	50	70.6
12:29:00 PM	51.4	52.2	50.1	69.9
12:30:00 PM	51.3	52.7	50.3	70.4
12:31:00 PM	51	52.9	48.5	71.1
12:32:00 PM	52.3	53.2	50.6	72.7
12:33:00 PM	52.4	53.3	50.6	72.5
12:34:00 PM	51.9	53.2	50.5	71.3
12:35:00 PM	51.7	52.6	50.4	71.7
12:36:00 PM	50.9	53.4	46.3	70.6
12:37:00 PM	50.5	51.8	46.2	69.8
12:38:00 PM	50.8	53.2	48.8	68.7
12:39:00 PM	51	51.6	49.6	69.1
12:40:00 PM	50.8	51.9	49.4	68.9
12:41:00 PM	50.6	51.9	49.2	69.1
12:42:00 PM	51.2	52.1	50.1	69.8
12:43:00 PM	51.6	52.7	50.7	69.4
12:44:00 PM	51.9	52.9	50.8	70.6
12:45:00 PM	49.5	51.2	47.2	67.8
12:46:00 PM	51.2	51.9	50.3	68.6
12:47:00 PM	51.2	51.8	50.3	69.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:48:00 PM	48.4	51.3	44.2	69
12:49:00 PM	44.2	45.2	42.7	62.1
12:50:00 PM	45.5	46.8	44.2	64.1
12:51:00 PM	43.7	45.4	42	63.1
12:52:00 PM	41.9	47	38	65.4
12:53:00 PM	37.3	39	36	57.4
12:54:00 PM	37.7	38.5	36.9	55.9
12:55:00 PM	41.8	51	38.1	66.6
12:56:00 PM	45.4	52.5	41.4	67.3
12:57:00 PM	43.5	45.5	41.2	61.5
12:58:00 PM	46.4	47.5	45	65.1
12:59:00 PM	46.9	48.3	45.7	65.5
1:00:00 PM	46.8	48.8	43.6	67.7
1:01:00 PM	46.8	48.9	44.8	70.7
1:02:00 PM	47.4	48.2	46.6	65.8
1:03:00 PM	48.3	49.1	47.5	67.4
1:04:00 PM	48.2	49.1	47.1	68.4
1:05:00 PM	47.7	49.9	45.9	67
1:06:00 PM	47	48	45.8	64.8
1:07:00 PM	48.9	50.1	47.7	67.8
1:08:00 PM	48.1	49.1	46.8	68.5
1:09:00 PM	49.4	50.6	47.7	69
1:10:00 PM	47.3	50.8	43.5	68.2
1:11:00 PM	53.8	61.7	47.1	75.1
1:12:00 PM	45.8	47.8	43.9	68.6
1:13:00 PM	49.8	52.1	47.5	68.4
1:14:00 PM	50.8	52.1	49.6	70
1:15:00 PM	51.6	52.8	50.4	70.1
1:16:00 PM	52.5	53.6	49.7	72.4
1:17:00 PM	52.7	53.9	50.5	73.6
1:18:00 PM	53.7	54.5	52.8	74.5
1:19:00 PM	52.7	53.9	50.9	74.3
1:20:00 PM	52.4	54.3	50.4	75.3
1:21:00 PM	52.5	54	51.1	72.2
1:22:00 PM	52.9	55.9	51.6	72.5
1:23:00 PM	59.6	65.7	52.5	80.3
1:24:00 PM	50.9	52.9	49	69.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:02:00 PM	48.2	50.7	46.1	69.7
2:03:00 PM	53.7	58.7	49	72.4
2:04:00 PM	49.3	50.9	47.6	70.8
2:05:00 PM	50.1	50.9	48.7	70.1
2:06:00 PM	50.3	51	49.3	70.4
2:07:00 PM	49.7	51.7	47.4	69.7
2:08:00 PM	50	50.9	48.9	70.3
2:09:00 PM	48.2	51.1	43.4	69.5
2:10:00 PM	42	44	40.5	60.1
2:11:00 PM	41.5	42.5	40.6	61.9
2:12:00 PM	41.9	42.8	41.1	58.8
2:13:00 PM	42.3	43	41.8	68.2
2:14:00 PM	42.6	43.3	42.1	59.5
2:15:00 PM	45	46.4	42.2	66.1
2:16:00 PM	46.8	48.3	45.5	68
2:17:00 PM	48.5	49.9	47.1	69
2:18:00 PM	48	49.9	46.7	67.7
2:19:00 PM	47.6	48.6	46.5	65.3
2:20:00 PM	46.8	49.3	45	65.4
2:21:00 PM	45.5	46.6	44.3	64.6
2:22:00 PM	44.6	45.4	43.7	63.6
2:23:00 PM	46.2	47.1	44.7	64.1
2:24:00 PM	47.4	48.6	46	66.5
2:25:00 PM	48.3	49.1	47.1	68.4
2:26:00 PM	51	55.3	48.6	72.6
2:27:00 PM	49.6	50.5	48.4	68.1
2:28:00 PM	50.8	53.4	49.1	68.5
2:29:00 PM	48.8	50.4	47.1	69.2
2:30:00 PM	50	50.9	47.2	68
2:31:00 PM	47.3	48.7	46	67.6
2:32:00 PM	49.4	50.7	48	68.4
2:33:00 PM	59.4	69.4	48.3	84.2
2:34:00 PM	48.3	49.4	46.7	68.1
2:35:00 PM	48.1	49.5	45.1	66.9
2:36:00 PM	45.3	46.9	43.7	65.5
2:37:00 PM	47.4	49.1	44.4	66.7
2:38:00 PM	46.2	49.2	43.2	67.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:39:00 PM	45.2	46.4	42.2	63
2:40:00 PM	45.5	46.8	42.4	64.3
2:41:00 PM	45.9	47.8	42.4	67
2:42:00 PM	47.2	48.3	42.4	68.5
2:43:00 PM	47.2	48.6	42.5	67
2:44:00 PM	47.6	48.5	46	67.4
2:45:00 PM	47.3	48.4	46	68.4
2:46:00 PM	45	47.8	41.1	67.2
2:47:00 PM	42	43.9	39.6	64.5
2:48:00 PM	43.5	45.1	40.2	66.5
2:49:00 PM	43.4	45	39.7	65.2
2:50:00 PM	47	53.5	40.4	68.3
2:51:00 PM	41.1	42.2	39.1	67.3
2:52:00 PM	48.6	49	41.5	68.1
2:53:00 PM	49.9	54.9	42.9	71.6
2:54:00 PM	44.4	48.2	41.9	64.2
2:55:00 PM	45.6	47.3	43.8	65.5
2:56:00 PM	47.4	55.2	42.2	71.6
2:57:00 PM	53.5	59.8	44.7	75.5
2:58:00 PM	44.9	46.6	42.6	65.7
2:59:00 PM	46.1	47.7	44	66.4
3:00:00 PM	44.8	47.4	43.5	63.6
3:01:00 PM	47.2	50.3	42.6	66.6
3:02:00 PM	48	53.7	46.1	68.2
3:03:00 PM	47.4	48.4	46.3	67.3
3:04:00 PM	48.1	49.3	46.5	67.6
3:05:00 PM	48.4	49.8	47.2	68.8
3:06:00 PM	48.6	49.9	47.2	67.1
3:07:00 PM	49	50.2	47.7	68.6
3:08:00 PM	46.8	48.5	45.6	66.9
3:09:00 PM	47.7	49	45.8	66.3
3:10:00 PM	47.8	49	43.9	65.9
3:11:00 PM	50.5	57.6	45.1	71.8
3:12:00 PM	48.8	48.6	47.1	67.3
3:13:00 PM	46.9	48	45.9	66.7
3:14:00 PM	47.1	49	45.1	64.8
3:15:00 PM	54.2	60.7	46.7	76

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:16:00 PM	49.1	54.6	45.6	68.4
3:17:00 PM	48.9	51	47.1	67.1
3:18:00 PM	56.4	62.8	45.9	76.7
3:19:00 PM	48.8	46.6	42.5	64.6
3:20:00 PM	44.6	45.3	43.4	60.8
3:21:00 PM	57.7	64.3	43.5	78
3:22:00 PM	60	67.3	47.6	81.9
3:23:00 PM	44.2	45.4	42.7	61.5
3:24:00 PM	44.3	45.8	42.5	61.8
3:25:00 PM	47	48.3	45	64.1
3:26:00 PM	46.8	47.4	45.8	64.4
3:27:00 PM	53.9	59.8	46.5	76.2
3:28:00 PM	50	56.3	46	66.9
3:29:00 PM	48.3	48.1	45.2	63
3:30:00 PM	58.6	68.5	45.9	82.4
3:31:00 PM	56.1	65.8	43.8	81.4
3:32:00 PM	45.1	47.8	43.7	66.2
3:33:00 PM	45.8	48.4	42.7	63.1
3:34:00 PM	45.8	48.7	44	64.3
3:35:00 PM	47.8	50.2	46.5	66.7
3:36:00 PM	47.3	48	46.3	65.6
3:37:00 PM	48.5	50.3	47.1	66.3
3:38:00 PM	49.5	51.6	47.7	67.6
3:39:00 PM	50.1	53.5	48.6	67.8
3:40:00 PM	49.4	51.1	47.8	66.7
3:41:00 PM	49.8	51.9	49	66.5
3:42:00 PM	48.9	49.9	48	67.1
3:43:00 PM	48.7	49.7	47.5	66.9
3:44:00 PM	49.4	53.2	47.7	68.4
3:45:00 PM	50.3	52.4	49	67.8
3:46:00 PM	50.4	51.9	48.9	67.3
3:47:00 PM	50	57	48.1	74.4
3:48:00 PM	49.7	50.9	48.4	68
3:49:00 PM	50	51	49.1	66.7
3:50:00 PM	49.3	50.3	48.1	66.7
3:51:00 PM	49.2	51.6	47.8	65.7
3:52:00 PM	48.7	49.9	47.6	65

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:53:00 PM	48.1	50.3	46.6	65.6
3:54:00 PM	47.9	51.7	46.1	65.3
3:55:00 PM	54.8	67.7	42.9	85.7
3:56:00 PM	46.9	50.5	43.8	63.2
3:57:00 PM	49.4	54.7	45.9	68
3:58:00 PM	47.1	49.4	45.8	63.1
3:59:00 PM	46.5	49.7	45.1	64.1
4:00:00 PM	48.8	54.1	44.4	66.9
4:01:00 PM	50.6	60.9	44.4	78
4:02:00 PM	47.6	52.9	45.1	68
4:03:00 PM	48	50.5	44.6	73.5
4:04:00 PM	49	58	46.6	72.9
4:05:00 PM	47.5	51.1	45.6	64.1
4:06:00 PM	50.6	57.9	47.8	74.3
4:07:00 PM	49.8	58	46.4	73.2
4:08:00 PM	51.4	57.7	46.4	75.5
4:09:00 PM	53.3	68.7	45.8	88.2
4:10:00 PM	50.2	63.1	46.2	67.5
4:11:00 PM	49.1	54.7	46.2	69.3
4:12:00 PM	46.7	48	45.8	62.4
4:13:00 PM	47	48.1	46	62.9
4:14:00 PM	47.6	50.3	46.4	69
4:15:00 PM	47.9	49.4	46.9	63.5
4:16:00 PM	47.8	51.1	46.2	64.9
4:17:00 PM	49	54.9	45.8	69.4
4:18:00 PM	49	53.1	47.1	66.6
4:19:00 PM	49.5	54.8	47.5	69.0
4:20:00 PM	47.2	51.9	45.6	68.8
4:21:00 PM	53.5	64	45.1	81.5
4:22:00 PM	50.5	60.3	45.4	73.0
4:23:00 PM	48.4	48.1	45.5	62.7
4:24:00 PM	56	67.7	45.5	84.4
4:25:00 PM	55.2	68.1	43.8	85.0
4:26:00 PM	49.7	56.6	47.3	69.9
4:27:00 PM	54.7	61.5	47.7	76.8
4:28:00 PM	48.2	57.1	45	71.5
4:29:00 PM	47.3	52.4	45.8	65.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:30:00 PM	52.1	65.1	44.8	80.5
4:31:00 PM	51	63.5	46.2	80.5
4:32:00 PM	53.2	65.7	44.8	79.8
4:33:00 PM	58.5	66.7	45.7	84.6
4:34:00 PM	57.6	70.8	47	85.1
4:35:00 PM	50.5	57.8	45.5	73.9
4:36:00 PM	52	62.4	46.1	78.3
4:37:00 PM	73.8	87.9	44.7	108.3
4:38:00 PM	56.9	67.1	47.1	83.2
4:39:00 PM	48.9	56.2	45.2	71.7
4:40:00 PM	56.7	69.1	46.1	83.8
4:41:00 PM	56.5	69.1	47.4	84.9
4:42:00 PM	60.6	71.6	46.8	92.5
4:43:00 PM	49.3	54.8	45.8	68
4:44:00 PM	49	53.5	46.5	69.6
4:45:00 PM	50.6	58.2	47.2	73.1
4:46:00 PM	51.6	58.6	46.6	76.7
4:47:00 PM	49.1	53.5	47	70
4:48:00 PM	49.6	52.6	47.5	77.8
4:49:00 PM	47.4	50.1	45.1	73.9
4:50:00 PM	51.3	58.7	45.6	87.5
4:51:00 PM	55.6	61.3	49.7	90.1
4:52:00 PM	56.1	60.9	52.9	88.3
4:53:00 PM	58.9	63.9	56.6	90.7
4:54:00 PM	60.2	64.6	57.5	98.7
4:55:00 PM	60.8	73.8	54.3	96.9
4:56:00 PM	65.2	80.3	52.6	99.5
4:57:00 PM	70.1	83.3	54.1	102.3
4:58:00 PM	57.7	64.3	50.7	97.9
4:59:00 PM	61.6	71.4	55	96.7
5:00:00 PM	64.6	74.8	54.9	101.7
5:01:00 PM	58.2	68.9	50.7	87.4
5:02:00 PM	62.2	70.2	50	87.9
5:03:00 PM	64.5	73.5	51.5	94.9
5:04:00 PM	61.6	71.6	51.6	88.2
5:05:00 PM	61.9	69.9	52.6	88.4
5:06:00 PM	61.9	69.9	49.7	86.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:07:00 PM	61.4	68	49.8	83.6
5:08:00 PM	59.4	67.6	51.5	84.8
5:09:00 PM	58.3	66.4	47.5	81.7
5:10:00 PM	58.9	66.6	48.2	81.8
5:11:00 PM	62.7	69.6	50.1	84.3
5:12:00 PM	72.4	86.5	49.6	105.7
5:13:00 PM	62	72.3	46	89.3
5:14:00 PM	65.7	77	44.9	95.5
5:15:00 PM	68.6	79.7	46.6	98.4
5:16:00 PM	67.2	80	43.6	97
5:17:00 PM	67	76.1	45.5	91.9
5:18:00 PM	56.1	65.7	43.9	80.6
5:19:00 PM	60.6	71.6	46.1	85
5:20:00 PM	53.2	61.8	42.6	78.5
5:21:00 PM	59.5	67.5	42.8	85.2
5:22:00 PM	60.7	74.1	47.2	101.1
5:23:00 PM	55.6	67.6	46.1	83.4
5:24:00 PM	57.6	66.2	45.8	81
5:25:00 PM	53.3	63.6	44.5	80.8
5:26:00 PM	60.2	70	44	84.6
5:27:00 PM	59.8	70.8	47.6	85.8
5:28:00 PM	55.5	66.1	44.8	78.6
5:29:00 PM	74.9	88.8	44.2	115.3
5:30:00 PM	56.6	66.5	47.1	79.5
5:31:00 PM	57	70.8	44.6	85.1
5:32:00 PM	60.3	72.8	44.9	87
5:33:00 PM	55.1	65.5	45.7	84.8
5:34:00 PM	54.6	64.4	46.4	92.3
5:35:00 PM	55.7	67.2	48.8	85.9
5:36:00 PM	62.7	73.7	48.3	89.4
5:37:00 PM	60.7	73.7	49.2	95.2
5:38:00 PM	63.2	74.3	48.9	90.2
5:39:00 PM	53.9	60.8	48.9	88.3
5:40:00 PM	55.6	63.1	49.1	89.5
5:41:00 PM	56.9	64.7	50.8	85.4
5:42:00 PM	63.6	75.1	52.2	97.4
5:43:00 PM	56.9	66.3	49.2	87.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:44:00 PM	55.3	63.4	48.8	82.8
5:45:00 PM	52.1	57.1	47.1	80.9
5:46:00 PM	55.4	67.3	47.8	95.8
5:47:00 PM	56.1	62.2	49.1	89.3
5:48:00 PM	63.8	70	50.4	95.6
5:49:00 PM	57.3	56.7	46.1	77.7
5:50:00 PM	69.8	83.3	49.8	101
5:51:00 PM	75.3	88.6	50.2	108.6
5:52:00 PM	75.3	88.1	48.1	106.2
5:53:00 PM	75.2	88	50.6	104.9
5:54:00 PM	62.4	69.1	58.3	96.7
5:55:00 PM	64.3	67.6	61.7	97.1
5:56:00 PM	65.2	69.5	62.6	100.3
5:57:00 PM	69.8	80.7	62.4	101.2
5:58:00 PM	65.6	70	62.7	104.1
5:59:00 PM	75.7	87.8	60.7	107.2
6:00:00 PM	68.3	78.8	58.6	100.3
6:01:00 PM	71.8	85.4	62.9	111.1
6:02:00 PM	66	72.7	62.8	110.4
6:03:00 PM	65	68.8	62.2	105.2
6:04:00 PM	70.5	83.5	61.7	104.6
6:05:00 PM	66.6	75.4	60.9	104.3
6:06:00 PM	67.2	77.1	62.4	108.1
6:07:00 PM	67.8	72.6	64.7	108.3
6:08:00 PM	68.9	73.3	64.7	106.3
6:09:00 PM	71.1	78.8	65.6	105.8
6:10:00 PM	73.1	85.7	65.3	107.3
6:11:00 PM	67.5	76.1	61.4	103.1
6:12:00 PM	64.6	67.6	61.6	104.6
6:13:00 PM	68.7	79.8	59.4	98.5
6:14:00 PM	69.3	80.8	58.9	103
6:15:00 PM	74.5	86.7	60.5	104.2
6:16:00 PM	69.4	83	57	103.3
6:17:00 PM	68.7	70.1	60.3	109
6:18:00 PM	66.6	76.2	60.8	100
6:19:00 PM	63.3	68.2	60	100.6
6:20:00 PM	73.7	90.7	59.8	129.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:21:00 PM	66.9	77.6	59	103.6
6:22:00 PM	78.6	91	58	127.3
6:23:00 PM	61.9	71.3	55.9	98.1
6:24:00 PM	80.9	95.1	57.1	117
6:25:00 PM	64.1	73.2	56	94.2
6:26:00 PM	80.5	93.5	53.9	123.9
6:27:00 PM	64.2	72.7	57.8	94.8
6:28:00 PM	58.9	64	55.7	97.6
6:29:00 PM	60	64.4	56.8	99.5
6:30:00 PM	64.9	77.6	53.6	110.1
6:31:00 PM	69.9	85.5	53.5	122.9
6:32:00 PM	60.7	68.8	56.5	91.8
6:33:00 PM	74.4	89.9	56	120.4
6:34:00 PM	80.7	98.4	56.5	129.5
6:35:00 PM	61.9	75.1	53.9	115.1
6:36:00 PM	56.7	63.3	52	88.4
6:37:00 PM	54.2	61.4	51.3	86.7
6:38:00 PM	57	65	50.8	88.2
6:39:00 PM	58	67.5	50.1	85.1
6:40:00 PM	58.7	67.7	50.8	86
6:41:00 PM	55.5	61.8	52.5	83.6
6:42:00 PM	59.3	65.9	52.9	99.5
6:43:00 PM	55.7	61.3	53.3	92.2
6:44:00 PM	61.8	72.2	51.1	90.4
6:45:00 PM	56.3	63.8	52	87.4
6:46:00 PM	56	66.4	50.7	83.7
6:47:00 PM	60.3	73.8	51.8	114.1
6:48:00 PM	53	57.5	49.8	79.3
6:49:00 PM	53.5	60	49.4	78.4
6:50:00 PM	55.7	62.2	51	78.4
6:51:00 PM	55.1	62.9	49.2	94.9
6:52:00 PM	52.9	61.5	47.5	77.2
6:53:00 PM	58.8	64.9	47.9	83.5
6:54:00 PM	51	55.2	47.7	73.1
6:55:00 PM	54.2	63.2	48.2	77.8
6:56:00 PM	54.2	63.1	45.7	76.3
6:57:00 PM	59.3	69.9	45.6	84.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:58:00 PM	56.1	67	46.3	81.5
6:59:00 PM	52.1	59.5	46.1	76.8
7:00:00 PM	52	61.9	44.8	76.6
7:01:00 PM	52.6	64	45.2	88
7:02:00 PM	56.6	67.3	44.4	85.5
7:03:00 PM	55	64	47.9	80.9
7:04:00 PM	49.7	53.2	46.3	80.3
7:05:00 PM	48.6	53.1	45.5	75.2
7:06:00 PM	56	67.3	45.3	86.3
7:07:00 PM	54.5	64.8	47	81.3
7:08:00 PM	49.7	52.7	47.3	69.4
7:09:00 PM	48.9	53.8	45.5	68.5
7:10:00 PM	50.1	56.1	46.3	73
7:11:00 PM	48.7	55.1	43.4	70.9
7:12:00 PM	48.6	53.6	45.7	68.4
7:13:00 PM	50.1	57.4	46.1	73.6
7:14:00 PM	49.3	56.7	46.4	71.6
7:15:00 PM	51.2	56.6	47.1	70.8
7:16:00 PM	53.5	61.4	46.1	77.7
7:17:00 PM	52	59.8	45.3	76.4
7:18:00 PM	49.6	53.5	45.7	68.8
7:19:00 PM	54.2	65.8	45.5	80.6
7:20:00 PM	47.6	49.9	45.5	64.7
7:21:00 PM	48	55.2	47.5	71.1
7:22:00 PM	51.3	56.9	47.4	71.3
7:23:00 PM	56.2	70.4	44.6	85.7
7:24:00 PM	54.9	60	48.1	79.5
7:25:00 PM	51.3	56.1	46.8	70.1
7:26:00 PM	51.1	54.4	47.3	72.4
7:27:00 PM	55.1	60.5	48.9	79.9
7:28:00 PM	59.7	78.4	46.3	101.1
7:29:00 PM	65.7	77.2	48.5	94.3
7:30:00 PM	48.6	50.5	45.7	65.9
7:31:00 PM	55.9	65.9	45.1	82.5
7:32:00 PM	48.4	50.9	45.5	63.8
7:33:00 PM	46.3	50.6	43.3	65
7:34:00 PM	48.2	50.9	45	66.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:35:00 PM	50.2	55.9	45.3	70.9
7:36:00 PM	49.5	52	47.6	71.8
7:37:00 PM	50.8	60.9	44.6	75.9
7:38:00 PM	48.8	51.3	43.7	67
7:39:00 PM	50.2	55.4	45.4	74.5
7:40:00 PM	52	56.9	47	76.7
7:41:00 PM	56.1	65	49.3	82.7
7:42:00 PM	59.3	63.1	52.7	81.7
7:43:00 PM	51.4	58	47.6	85.9
7:44:00 PM	49.5	53.7	46.6	77.5
7:45:00 PM	53.5	62.3	48.8	87.0
7:46:00 PM	51.1	53.6	49.3	80.9
7:47:00 PM	50.5	55.8	47.6	81.3
7:48:00 PM	54.3	61.6	47.8	78.3
7:49:00 PM	50.6	53.1	48.4	80.7
7:50:00 PM	49.9	52.5	47.3	70.8
7:51:00 PM	48.5	51	46.7	76.7
7:52:00 PM	59.3	63.6	49	81.9
7:53:00 PM	50.6	53.5	47.5	71.2
7:54:00 PM	47.1	50.2	44.5	72
7:55:00 PM	47.6	50.9	44.9	82.3
7:56:00 PM	49.7	52.9	47.2	80.3
7:57:00 PM	48.6	51.3	46.8	74
7:58:00 PM	48.4	50.7	46.2	74.8
7:59:00 PM	50	53.2	47.7	79.4
8:00:00 PM	48.4	51	46	78.6
8:01:00 PM	48.8	52.8	46.7	83.3
8:02:00 PM	48	50.5	45.3	71.6
8:03:00 PM	47.2	49.4	44.6	74
8:04:00 PM	48.9	52.7	45.6	79.2
8:05:00 PM	47.3	49.6	44.1	74.9
8:06:00 PM	46.7	49.5	43.8	67.7
8:07:00 PM	48.4	52.3	44.4	70.5
8:08:00 PM	48.8	50.7	47	76.7
8:09:00 PM	49.4	54.1	45.3	75.6
8:10:00 PM	46.5	49.1	43.6	71.5
8:11:00 PM	47.4	51.5	44.5	82.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:12:00 PM	47.9	50.3	45.9	70.5
8:13:00 PM	49.4	52	45.1	69.9
8:14:00 PM	54.2	58.7	48.5	76.9
8:15:00 PM	53.5	57.4	47.2	77.2
8:16:00 PM	47.6	49.6	45.4	74.2
8:17:00 PM	47.5	50.6	44.4	75
8:18:00 PM	50	52.2	47.7	75.1
8:19:00 PM	48.5	54.2	45	92
8:20:00 PM	46.3	48.9	43.2	77.2
8:21:00 PM	46.4	49.1	42.6	73.1
8:22:00 PM	47.9	50.8	44.2	73.7
8:23:00 PM	59.1	63.2	47.7	80.4
8:24:00 PM	50.3	55.6	47.5	73.5
8:25:00 PM	47.5	50.5	43.2	83
8:26:00 PM	45.7	49.3	43	72.1
8:27:00 PM	47.5	50.7	43.3	70
8:28:00 PM	46.9	49.7	44.8	73.1
8:29:00 PM	47.4	56.2	43.9	84.1
8:30:00 PM	46.2	55.9	42.9	85.5
8:31:00 PM	48.5	53	44.1	73.2
8:32:00 PM	49.9	54.7	47.8	76.1
8:33:00 PM	60.8	65.3	46.2	81.8
8:34:00 PM	53.6	64	44.6	87
8:35:00 PM	46.8	49.7	43.1	77.1
8:36:00 PM	46.6	49	43.4	75.1
8:37:00 PM	47.9	50.9	44.8	74.6
8:38:00 PM	59.5	66.1	48.9	82.3
8:39:00 PM	60.3	64.2	46.4	92.6
8:40:00 PM	47.6	50.3	45.5	79.7
8:41:00 PM	47.9	51	45.4	71.4
8:42:00 PM	48.8	51.6	46.5	78.3
8:43:00 PM	50.6	56	46.2	77
8:44:00 PM	58.9	64.4	47.4	79.8
8:45:00 PM	57	61.3	47.3	80
8:46:00 PM	48.3	51.1	45.6	78.3
8:47:00 PM	48.6	50.9	45.4	79.5
8:48:00 PM	52.3	56.2	47.1	74.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:49:00 PM	61.6	64.9	55.2	81.9
8:50:00 PM	52.2	61.2	47.1	78.6
8:51:00 PM	52.3	61.7	48.7	79.6
8:52:00 PM	63.1	66.1	58.8	82.7
8:53:00 PM	59.8	65.8	50.8	83.7
8:54:00 PM	54.8	70.6	47	110.4
8:55:00 PM	54.5	63	47	80.8
8:56:00 PM	63.3	66.1	55.6	82.4
8:57:00 PM	54.3	57.6	50.6	76
8:58:00 PM	51	54.8	48.7	72.5
8:59:00 PM	63.7	66.3	54.3	84.1
9:00:00 PM	63	65.9	58.2	83.2
9:01:00 PM	62	64.1	56.9	80.7
9:02:00 PM	61.9	64.6	55.7	87.1
9:03:00 PM	63.1	65.1	60.4	82.9
9:04:00 PM	62.8	65.1	59.5	81.9
9:05:00 PM	60.5	63.2	56.1	79.7
9:06:00 PM	62.9	65.3	60.9	82.1
9:07:00 PM	64.3	66.9	61.7	96.1
9:08:00 PM	64.4	65.4	62.8	82.3
9:09:00 PM	64.2	65.8	60.8	83.5
9:10:00 PM	64.3	65.6	62	82.5
9:11:00 PM	64.4	65.9	62.9	82.9
9:12:00 PM	65.4	66.3	64.3	84.1
9:13:00 PM	64	66.1	60.8	83
9:14:00 PM	62.9	64.6	61.8	80.6
9:15:00 PM	64.3	66.1	62.1	82.8
9:16:00 PM	64.5	65.8	62.6	82.6
9:17:00 PM	65.5	66.7	63.4	83.4
9:18:00 PM	64.7	66.2	61.7	83.6
9:19:00 PM	65.5	66.6	63.2	84.6
9:20:00 PM	65.1	67.1	63.2	83.1
9:21:00 PM	64.7	67	62.7	83.7
9:22:00 PM	66.3	67.5	63.7	85.1
9:23:00 PM	66	67.2	64.5	80.1
9:24:00 PM	65.9	67.2	63.4	85
9:25:00 PM	64.6	68	62.3	85.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:26:00 PM	66	68	52.9	84.5
9:27:00 PM	66	67.4	53.1	83.5
9:28:00 PM	66.8	68.3	55.4	85.7
9:29:00 PM	67.4	68.1	56.2	86.1
9:30:00 PM	66.5	67.8	54.5	84.6
9:31:00 PM	67.7	68.7	55.7	86.4
9:32:00 PM	67.2	68.3	55.5	84.9
9:33:00 PM	67.4	68.7	54.8	85
9:34:00 PM	68.1	69.1	56.9	89.1
9:35:00 PM	68	69	56.9	86.3
9:36:00 PM	67.1	68.6	55.2	84.2
9:37:00 PM	68.2	69.1	57.2	85.7
9:38:00 PM	68.5	69.6	57.5	85.9
9:39:00 PM	68.2	69.3	57	86.7
9:40:00 PM	68.3	69	57.4	85.9
9:41:00 PM	68.1	68.9	57.1	86.7
9:42:00 PM	68.2	69.1	56.9	93.7
9:43:00 PM	68	68.8	56.7	91.6
9:44:00 PM	68.1	69.7	56.8	85.8
9:45:00 PM	68.1	68.8	57.4	86.4
9:46:00 PM	68.3	69	57.2	87.6
9:47:00 PM	68	69.1	56.8	87.5
9:48:00 PM	67.8	69	56.6	85.9
9:49:00 PM	67.5	68.7	55.7	85.4
9:50:00 PM	68.3	69.1	57.1	86.4
9:51:00 PM	67.8	68.7	55.9	86.3
9:52:00 PM	67.4	68.6	56	85.5
9:53:00 PM	67.2	68.2	55.7	85.5
9:54:00 PM	67.3	68.3	56.1	86.2
9:55:00 PM	67	68.2	55.9	85.9
9:56:00 PM	67.1	67.9	56.2	86
9:57:00 PM	66.9	68.1	55.7	83.6
9:58:00 PM	66.5	67.6	55.7	85.6
9:59:00 PM	66.2	67	55.1	83.6
10:00:00 PM	67.7	69.1	55.3	86.2
10:01:00 PM	67.6	69.2	55.3	87
10:02:00 PM	67.9	69	56	87.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:03:00 PM	66.7	69.1	54.8	87
10:04:00 PM	66.5	68.2	55.1	84.8
10:05:00 PM	67.3	68.5	55.9	85.1
10:06:00 PM	66.8	68.2	57.9	84.8
10:07:00 PM	67.8	69.1	55.9	85.9
10:08:00 PM	66.4	67.8	55.5	83.5
10:09:00 PM	68.2	69.4	56.8	86.7
10:10:00 PM	68.4	69.6	56.7	87.2
10:11:00 PM	68.5	69.6	57.4	87.2
10:12:00 PM	68.4	69.3	57.1	86.5
10:13:00 PM	68.4	69.2	57	86.2
10:14:00 PM	68.5	69.4	57.3	86.1
10:15:00 PM	68.4	69.2	57.1	86.4
10:16:00 PM	68.1	69.3	56.5	85.5
10:17:00 PM	68.2	69.1	56.4	86.9
10:18:00 PM	67.8	68.9	56.9	86.8
10:19:00 PM	67.6	68.7	56.1	86.3
10:20:00 PM	67.5	68.6	56.4	84.7
10:21:00 PM	67.1	68.7	55.7	84
10:22:00 PM	68.3	69.4	57.4	85.5
10:23:00 PM	68.1	69.2	56.8	85.3
10:24:00 PM	67.7	68.8	56.3	85
10:25:00 PM	67.5	68.7	55.8	85.6
10:26:00 PM	67.8	68.8	56.6	86.1
10:27:00 PM	67.8	68.9	56.5	85.7
10:28:00 PM	67.9	69.1	56.3	86.8
10:29:00 PM	67.3	68.6	57.6	85.5
10:30:00 PM	67	68.4	54.9	85.2
10:31:00 PM	66.4	67.3	55.2	86
10:32:00 PM	66.6	68.2	54.7	85.8
10:33:00 PM	66.6	67.9	55.4	84.4
10:34:00 PM	66.9	68	55.5	84.5
10:35:00 PM	65.6	67.2	54.2	82.9
10:36:00 PM	67	68.9	53.7	85.5
10:37:00 PM	67.3	69.1	55.8	86.6
10:38:00 PM	67.7	68.9	55.6	85.6
10:39:00 PM	67.6	68.9	55	86.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:40:00 PM	66.3	68.4	54	84.3
10:41:00 PM	68.6	70.1	56.2	87.9
10:42:00 PM	68.8	70.6	57.1	88.3
10:43:00 PM	68.1	69.7	55.4	86.6
10:44:00 PM	68.4	69.5	56.6	87.0
10:45:00 PM	68.4	69.7	56.8	87.5
10:46:00 PM	67.7	70	57.9	87.5
10:47:00 PM	67.1	69.8	53.3	88.1
10:48:00 PM	68.2	69.8	55.4	86.9
10:49:00 PM	68.1	69.5	55	87.4
10:50:00 PM	67.2	69.5	53.7	86.1
10:51:00 PM	67.3	69	54.4	86.7
10:52:00 PM	66.4	69.1	53.2	86.9
10:53:00 PM	66.2	68.3	53.7	86.4
10:54:00 PM	66.4	69	53.7	86.3
10:55:00 PM	67.1	68.9	54.4	86.1
10:56:00 PM	67.4	69	53.9	86.3
10:57:00 PM	67.6	69.3	57.9	87
10:58:00 PM	67.5	68.9	54.7	86
10:59:00 PM	67.8	69.3	55.5	86.5
11:00:00 PM	67.6	69	55.6	87.2
11:01:00 PM	67.4	69	54.7	85.4
11:02:00 PM	67.3	68.9	54.3	86.2
11:03:00 PM	67.4	69.4	57.4	87.1
11:04:00 PM	66.7	68.9	53.7	87
11:05:00 PM	67.2	69.3	53.1	87.1
11:06:00 PM	67	69	52.4	87.9
11:07:00 PM	65.6	67.6	52.6	85.8
11:08:00 PM	65.9	68.3	52	85.9
11:09:00 PM	65.4	68.4	51.8	87.1
11:10:00 PM	65.4	67.9	50.7	86.2
11:11:00 PM	65.7	68	52.6	85.8
11:12:00 PM	64.1	66.8	50.9	84.6
11:13:00 PM	63.2	66.9	59.3	84.6
11:14:00 PM	63.8	66.5	50.4	85.4
11:15:00 PM	63.2	66.4	50.4	85.1
11:16:00 PM	64.6	67.2	50.9	85.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:17:00 PM	64	67.6	59.7	86.3
11:18:00 PM	63.6	66.9	60.6	85
11:19:00 PM	64.4	67.6	60.9	85.7
11:20:00 PM	64.1	67.2	60.6	86.3
11:21:00 PM	64.9	67.8	61.3	86.4
11:22:00 PM	65	67.4	61.7	86.5
11:23:00 PM	65.8	68.7	61.1	85.3
11:24:00 PM	65.9	68.3	60.6	85.8
11:25:00 PM	64.5	68.4	59.9	86.3
11:26:00 PM	64.2	67.7	60.2	84.7
11:27:00 PM	62.9	67	58.7	83.8
11:28:00 PM	63.8	66.9	60	85.4
11:29:00 PM	62.5	66.1	59.2	84.8
11:30:00 PM	63	66.3	59.2	84.8
11:31:00 PM	63.1	66.4	58.1	84.3
11:32:00 PM	62.5	66.3	58.7	83.5
11:33:00 PM	62.2	66.1	58.5	83.6
11:34:00 PM	63	66.3	59.8	84.1
11:35:00 PM	63.3	67.6	58.4	85.5
11:36:00 PM	60.4	61.9	58.2	78.4
11:37:00 PM	62.3	66.3	59.7	83.1
11:38:00 PM	59.8	64.2	57	81.4
11:39:00 PM	61.2	63.8	59	82
11:40:00 PM	59.7	63.3	57.5	79.5
11:41:00 PM	61.8	66.2	57	83.3
11:42:00 PM	57.6	60.8	55.9	77.6
11:43:00 PM	59.5	60.8	56.3	76.6
11:44:00 PM	58.5	60.6	56.3	78.2
11:45:00 PM	61.4	66.3	56.9	83.7
11:46:00 PM	62.6	66.6	56.9	81.4
11:47:00 PM	59.3	61.8	56.9	77
11:48:00 PM	59.4	61.2	57	77.8
11:49:00 PM	59.6	61.3	57.7	77.6
11:50:00 PM	59.1	60.9	56.8	78.7
11:51:00 PM	60.3	61.8	57.6	80
11:52:00 PM	59.3	61.7	56.7	80
11:53:00 PM	59.6	62.3	57.4	79.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:54:00 PM	59.1	61.7	55.2	79.9
11:55:00 PM	59.8	62	57	79.8
11:56:00 PM	58.1	60.3	55.6	76.1
11:57:00 PM	59.4	62.2	55.3	79.6
11:58:00 PM	57.8	59.9	55.3	77
11:59:00 PM	57.7	59.8	55.9	76.6
8/ //2020 12:00:00 AM	58.7	60.6	56.4	78.1
12:01:00 AM	58.8	60.6	55.8	79
12:02:00 AM	58.3	60.5	56.6	77.9
12:03:00 AM	59.1	61.3	57	80.3
12:04:00 AM	58.5	61.2	55.8	77.4
12:05:00 AM	58.2	60	55.7	77.5
12:06:00 AM	57.9	59.5	55.5	76.2
12:07:00 AM	56.1	57.1	55.1	73.3
12:08:00 AM	57.4	60.4	55.4	77.6
12:09:00 AM	57.1	60.5	55	76.3
12:10:00 AM	58.2	61.3	55.5	78.8
12:11:00 AM	57.5	60.3	55	79.5
12:12:00 AM	57.3	60.8	54.9	79.6
12:13:00 AM	58.3	60.3	56.7	79.1
12:14:00 AM	57.2	60.4	54.7	78.3
12:15:00 AM	55.8	56.8	54.5	72.4
12:16:00 AM	57.3	61.3	54.6	80
12:17:00 AM	57.6	61.3	55.2	79.9
12:18:00 AM	57.3	60.1	54.6	79.7
12:19:00 AM	57.7	61.1	55.1	79.5
12:20:00 AM	57.6	59.9	55.3	76.3
12:21:00 AM	55.6	57.4	54.7	74.2
12:22:00 AM	55.6	56.6	54.6	72.4
12:23:00 AM	56.7	59.2	54.1	76.2
12:24:00 AM	55.5	56.6	54.5	72.1
12:25:00 AM	57	60.2	54.8	75.9
12:26:00 AM	55.1	56.2	53.6	73.1
12:27:00 AM	55.5	58.9	52.1	75.3
12:28:00 AM	55.9	58.7	53.6	77.8
12:29:00 AM	58.1	59.7	55.8	78.6
12:30:00 AM	57.4	60.7	54.2	78.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:31:00 AM	55.4	57	52.5	74.1
12:32:00 AM	57.9	60.4	54.7	78.9
12:33:00 AM	57.8	61.3	53.4	79.6
12:34:00 AM	56.7	61.6	54.3	79.1
12:35:00 AM	55	56.9	53.9	75
12:36:00 AM	58.4	61.8	52.5	79
12:37:00 AM	53.9	54.9	52.6	71.3
12:38:00 AM	55.5	60.7	53.5	78.2
12:39:00 AM	57.9	61.5	53.3	78.6
12:40:00 AM	53.7	55.4	50.2	71.8
12:41:00 AM	56.5	60.3	52.7	77
12:42:00 AM	57.1	60.4	53.3	77.5
12:43:00 AM	54	56.6	51.1	74.2
12:44:00 AM	53.9	54.8	52.9	71.2
12:45:00 AM	56.7	60.8	50.9	78.3
12:46:00 AM	54.6	57.9	51.7	75.9
12:47:00 AM	54.2	58.7	50.4	77.8
12:48:00 AM	55.6	59.1	51.8	75.4
12:49:00 AM	55.4	59.3	52.5	76.4
12:50:00 AM	53.3	54.7	50.8	71.9
12:51:00 AM	53.9	56.4	52.9	72.8
12:52:00 AM	57	60.1	51.3	77.4
12:53:00 AM	55.5	58.4	52.1	76.4
12:54:00 AM	53	55	50.4	70.6
12:55:00 AM	55.5	58.1	51.7	74.9
12:56:00 AM	55.4	58	53.4	75.4
12:57:00 AM	55.1	58.4	52.4	74.9
12:58:00 AM	55	58.5	52.2	78.3
12:59:00 AM	55.7	58.7	51.8	75.9
1:00:00 AM	53.1	57.4	50.4	75.6
1:01:00 AM	53.1	59.1	49.7	77.3
1:02:00 AM	56.5	60	54.5	77.8
1:03:00 AM	56.8	60.4	51.6	78.1
1:04:00 AM	56.7	59.7	52	79.9
1:05:00 AM	55.7	58.7	50.6	77.2
1:06:00 AM	54	56.9	51.6	74.7
1:07:00 AM	57.2	60.9	53.2	77.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:08:00 AM	52.1	57.2	49.6	76.9
1:09:00 AM	55.6	58.9	49.1	75.6
1:10:00 AM	54.6	60.4	50	78.4
1:11:00 AM	58	60.6	55.6	78.3
1:12:00 AM	55.7	60.1	50.6	78.9
1:13:00 AM	54.5	58.8	50.9	76
1:14:00 AM	56.2	60.3	50.5	78.2
1:15:00 AM	52.3	54.6	49.9	72.8
1:16:00 AM	55.6	59.4	51.4	78.3
1:17:00 AM	52.8	55.1	49.3	72
1:18:00 AM	55.7	60.5	50.7	78.7
1:19:00 AM	52.5	56.8	49.5	76
1:20:00 AM	56	58.2	53.6	76.7
1:21:00 AM	52.4	54.1	50.6	72.1
1:22:00 AM	56.2	59.3	51.2	77.7
1:23:00 AM	55	57.4	51.7	73.8
1:24:00 AM	54	56.3	51.1	74.3
1:25:00 AM	56.3	59.8	50.7	79.9
1:26:00 AM	56.3	60.3	50	78.6
1:27:00 AM	56.5	59.2	50.1	77.2
1:28:00 AM	55.3	59.7	48	77
1:29:00 AM	56.8	60	50.1	77.6
1:30:00 AM	56.1	59.5	51	77
1:31:00 AM	51.9	59.3	48.7	75.8
1:32:00 AM	58.6	60.7	53.9	80.4
1:33:00 AM	54.7	59.8	50.3	76.8
1:34:00 AM	48.9	52.2	47.6	69.6
1:35:00 AM	56.8	60.9	48.8	80.1
1:36:00 AM	54.7	60	48	77.2
1:37:00 AM	57.7	61.3	50.3	78.3
1:38:00 AM	51.3	53.8	48.1	72
1:39:00 AM	57	60.5	49.6	78.8
1:40:00 AM	53.7	57.8	48.7	75
1:41:00 AM	51.6	57.8	47.8	76
1:42:00 AM	56	59.7	49.3	78
1:43:00 AM	53.3	58.8	47.7	76
1:44:00 AM	56.1	60.3	47.9	79.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:45:00 AM	53	57.6	47.7	74.6
1:46:00 AM	51.2	56.1	48	72.1
1:47:00 AM	56.1	58.4	53.9	75.7
1:48:00 AM	50.8	56.7	47.7	72.9
1:49:00 AM	53.8	57.2	49.3	75.4
1:50:00 AM	51.4	56.8	48.7	73.4
1:51:00 AM	56.6	59.5	50.2	77.1
1:52:00 AM	50.7	57.6	48.2	73.3
1:53:00 AM	51.6	57	48.8	74.3
1:54:00 AM	55.6	58.2	50.8	75.4
1:55:00 AM	51.7	56.6	49.6	73.8
1:56:00 AM	59	63.3	51.6	82.6
1:57:00 AM	52.3	60.8	49.1	77.7
1:58:00 AM	54	58.3	49.8	75.1
1:59:00 AM	53.3	59	49.8	76.5
2:00:00 AM	57.8	57.8	49	74.8
2:01:00 AM	56.3	59.4	50	76.3
2:02:00 AM	50.2	51.1	48.9	68.7
2:03:00 AM	54.9	58.5	49.2	75.6
2:04:00 AM	56	59.3	51.1	76.1
2:05:00 AM	50.7	54.3	49	70
2:06:00 AM	53.6	58.9	48.2	76
2:07:00 AM	54.4	58.9	48.8	76.9
2:08:00 AM	55.8	59.6	48.1	76.4
2:09:00 AM	51.4	56.2	49.3	71.8
2:10:00 AM	55.8	59.4	50.1	76.2
2:11:00 AM	55.6	59	51.6	76.8
2:12:00 AM	52.6	57.8	48.8	74.3
2:13:00 AM	56.9	59.1	50.9	76.8
2:14:00 AM	48.7	51.8	47.8	67.2
2:15:00 AM	53.2	58.9	47.7	75
2:16:00 AM	55.2	59	49.4	77.4
2:17:00 AM	50.6	54.3	47.2	73.3
2:18:00 AM	55.7	59.1	49.8	76.1
2:19:00 AM	49.3	50.6	46.9	67.8
2:20:00 AM	56.1	61.2	47.3	78.8
2:21:00 AM	54.1	61	47.7	77.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:22:00 AM	48.5	49.4	47.6	64.4
2:23:00 AM	55.5	58.8	48.6	75
2:24:00 AM	49.1	50.3	47.8	66.4
2:25:00 AM	58.6	58.2	49.1	75.7
2:26:00 AM	54.1	57.9	50.8	75.4
2:27:00 AM	55.6	59	48.9	77
2:28:00 AM	50.5	54.7	47.9	70.2
2:29:00 AM	53.7	59.9	48.1	76.2
2:30:00 AM	55.9	59.7	49.6	75.4
2:31:00 AM	51	56.7	49	72.7
2:32:00 AM	51.9	56	50.2	69.5
2:33:00 AM	58.2	61.4	52.8	77.9
2:34:00 AM	55.1	57.9	52.6	73.4
2:35:00 AM	53.4	55.7	51	71.5
2:36:00 AM	53.3	57.5	49.2	74.2
2:37:00 AM	52.5	56.3	48.8	73.6
2:38:00 AM	54.1	58.1	49.1	75.9
2:39:00 AM	52.9	57	48.8	74
2:40:00 AM	55	58.3	48.9	76.1
2:41:00 AM	53.8	58	48.3	75.4
2:42:00 AM	56.4	58.9	48.2	77.8
2:43:00 AM	49.1	50.5	48.1	67.7
2:44:00 AM	53	57.6	49.2	77.2
2:45:00 AM	52.6	58	47.8	76.5
2:46:00 AM	49.2	51.4	47.9	69.7
2:47:00 AM	50.8	52.2	49	70.7
2:48:00 AM	55.3	58.7	49.5	76.3
2:49:00 AM	55.4	58.3	48.6	76.6
2:50:00 AM	53.3	56.8	48.6	73.8
2:51:00 AM	49.8	52.9	47.1	68.8
2:52:00 AM	49.9	51.4	47.2	68.7
2:53:00 AM	56.2	60	47.3	78.4
2:54:00 AM	52.6	56.3	49.9	72.4
2:55:00 AM	51.6	56.5	47.6	74.5
2:56:00 AM	51.5	55.9	48.5	72.8
2:57:00 AM	52.2	55.5	48.1	71
2:58:00 AM	49.4	54.5	47.9	71.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:59:00 AM	50.6	55.2	48.1	73.6
3:00:00 AM	52.6	56.4	48.7	74.5
3:01:00 AM	53.5	57	49.4	74.9
3:02:00 AM	55.2	57.5	52	74.6
3:03:00 AM	50.5	55.3	47.9	72.5
3:04:00 AM	54.7	57.7	50.5	75.1
3:05:00 AM	52.9	56.8	48.6	74.4
3:06:00 AM	51.4	56.6	48	74.4
3:07:00 AM	56.1	59	51.9	77.8
3:08:00 AM	53.6	58.2	49.6	76.4
3:09:00 AM	51.2	54.9	49.3	74.8
3:10:00 AM	55.2	57	51.8	75.3
3:11:00 AM	51.6	54.9	49.1	71.9
3:12:00 AM	52.2	55.4	50.5	72.8
3:13:00 AM	52.5	57	49.2	75.4
3:14:00 AM	54.3	58.5	49.6	76.6
3:15:00 AM	51.4	57.3	49.5	74.9
3:16:00 AM	53	58	49.1	74.9
3:17:00 AM	54.1	58	49.7	74.5
3:18:00 AM	55.5	59.4	51	76.4
3:19:00 AM	54	56.5	51.6	74.6
3:20:00 AM	55.4	59	51.4	75.5
3:21:00 AM	55.9	58.9	50.5	76.5
3:22:00 AM	51.5	54	50	70.2
3:23:00 AM	56	58.5	51.9	76
3:24:00 AM	53.4	56.6	50.4	73.9
3:25:00 AM	54.9	57.9	51.6	75.9
3:26:00 AM	55.3	58.2	50.7	75
3:27:00 AM	52.8	55.6	50.2	73.2
3:28:00 AM	53.5	56.1	49.9	73.6
3:29:00 AM	54.2	58.7	49.7	75.9
3:30:00 AM	53.9	59	49.6	76.4
3:31:00 AM	53.9	56.2	51.6	73.9
3:32:00 AM	56.3	58.7	52.1	75.6
3:33:00 AM	52.4	55.5	48.7	72.7
3:34:00 AM	52.5	55.5	49.9	73.6
3:35:00 AM	55.2	57.9	52.3	75.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:36:00 AM	52.1	55	49.5	71.3
3:37:00 AM	54.2	57.7	49.5	76
3:38:00 AM	53.7	57.9	50.3	75.4
3:39:00 AM	55.2	58	50	75.5
3:40:00 AM	52.7	57	50.2	72.5
3:41:00 AM	55.5	56.3	50.6	73
3:42:00 AM	53.5	56.5	50.9	75.1
3:43:00 AM	56.2	59.5	50.1	76.9
3:44:00 AM	53.2	56.3	50.6	73.6
3:45:00 AM	53	56.7	50.8	73.7
3:46:00 AM	56.8	60.5	54.1	81.5
3:47:00 AM	51.9	60.6	49	80.8
3:48:00 AM	49.6	50.1	48.8	64.7
3:49:00 AM	52.4	56.6	49.5	71.7
3:50:00 AM	54.7	57.8	50.5	76.4
3:51:00 AM	50.6	53.7	49.6	67
3:52:00 AM	50.3	54.1	49.6	67.5
3:53:00 AM	53.2	58.8	49.4	75
3:54:00 AM	53.8	58.2	50.6	75
3:55:00 AM	50.6	51.5	49.8	68.4
3:56:00 AM	50.2	51.8	48.6	68.5
3:57:00 AM	49.4	50.4	48.6	67.4
3:58:00 AM	50.1	52.7	48.9	69.6
3:59:00 AM	50.8	53.1	49.6	71.3
4:00:00 AM	49.9	51.8	49.2	70
4:01:00 AM	54.7	57.1	50.1	76
4:02:00 AM	49.9	50.5	49	65.7
4:03:00 AM	50.5	52.5	49.6	69.1
4:04:00 AM	50.4	51.4	49.2	67.3
4:05:00 AM	55.6	59.1	50.8	78.6
4:06:00 AM	51.1	56.7	47.6	74.3
4:07:00 AM	49.4	50.8	47.7	65.6
4:08:00 AM	49.7	52.6	48.1	70.9
4:09:00 AM	49.7	50.3	48.8	66.1
4:10:00 AM	49.3	50.1	48.7	64.7
4:11:00 AM	57.3	60.5	49.5	80.3
4:12:00 AM	55.3	59	50.3	79.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:13:00 AM	55	60.1	48.5	80.9
4:14:00 AM	58.7	61.5	51.2	80.8
4:15:00 AM	55.1	60.4	48.7	80.7
4:16:00 AM	58.9	61.4	53.2	80.5
4:17:00 AM	54	59.5	48.5	78.3
4:18:00 AM	58.7	60.8	52.5	80.3
4:19:00 AM	55.8	59.7	48.9	79.8
4:20:00 AM	57.3	60.7	50.2	78.9
4:21:00 AM	56.3	61	49.3	80.1
4:22:00 AM	50.1	51.7	48.8	67.2
4:23:00 AM	58.6	61.6	50.7	79.9
4:24:00 AM	55.7	61.1	49.1	79.7
4:25:00 AM	49.8	50.6	49	66.6
4:26:00 AM	54.8	60.7	48.1	81.7
4:27:00 AM	56.9	61.7	49.5	81.7
4:28:00 AM	50	50.6	49.2	66.3
4:29:00 AM	53.6	60.2	49.4	80.5
4:30:00 AM	59.1	62.2	50.4	81.5
4:31:00 AM	54.2	61.3	47.9	81.4
4:32:00 AM	53.8	61.2	48.1	80.6
4:33:00 AM	58	62.4	48.6	81.7
4:34:00 AM	49.7	50.5	48.5	66.6
4:35:00 AM	50.1	51	49.3	67.2
4:36:00 AM	49.6	50.9	48.4	66.4
4:37:00 AM	49.8	51.1	48.3	66.7
4:38:00 AM	51.5	53.5	50.1	70.5
4:39:00 AM	55.3	58.4	50.6	77.8
4:40:00 AM	51.9	57.7	48.8	77.5
4:41:00 AM	49.2	50.4	48	66.6
4:42:00 AM	49.7	51.5	48.6	66.3
4:43:00 AM	49.2	50	48.1	66.3
4:44:00 AM	48.7	49.8	47.6	65.9
4:45:00 AM	49.9	51.1	49	67.8
4:46:00 AM	50	52.2	48.9	65.8
4:47:00 AM	49.5	50.1	48.8	66.8
4:48:00 AM	49.8	53.7	48	71
4:49:00 AM	52.5	55.4	49.7	75.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:50:00 AM	49.6	50.8	48.7	67.8
4:51:00 AM	49.2	49.9	48.6	65.9
4:52:00 AM	49.8	51.4	48.6	71.7
4:53:00 AM	49.1	50	48	65.6
4:54:00 AM	50.4	51.4	49.4	78.0
4:55:00 AM	50.5	51.5	49.6	67.6
4:56:00 AM	50.6	52	49.8	69
4:57:00 AM	51.4	52.2	50.4	68.2
4:58:00 AM	51.5	52.4	50.9	68.5
4:59:00 AM	51.4	52.6	49.8	68.8
5:00:00 AM	51.8	53.1	50	78.3
5:01:00 AM	50.9	51.6	50.1	68
5:02:00 AM	50.3	50.8	49.5	67.4
5:03:00 AM	49.9	51	48.5	67.3
5:04:00 AM	54.6	59.7	50	79.1
5:05:00 AM	55.4	59.5	50.6	77.3
5:06:00 AM	51.7	52.4	50.7	69.2
5:07:00 AM	51.5	52.6	50.6	69
5:08:00 AM	51.8	53.2	50.6	68.8
5:09:00 AM	51.7	52.5	50.8	69.6
5:10:00 AM	51.2	52.1	50.5	69.1
5:11:00 AM	54.8	58.8	50.1	77.7
5:12:00 AM	52.4	58.5	49.4	77.6
5:13:00 AM	50.5	51.6	49	68.1
5:14:00 AM	50.6	51.9	48.8	69
5:15:00 AM	50.1	51	49	67.8
5:16:00 AM	50.2	51.5	48.7	67.7
5:17:00 AM	50.7	51.6	49.7	66.6
5:18:00 AM	50.4	52	48.3	68.2
5:19:00 AM	50.4	51.4	49.1	70
5:20:00 AM	51.3	53.4	49.9	69.2
5:21:00 AM	52.3	54.2	49.9	71.4
5:22:00 AM	52	53.7	51	70.1
5:23:00 AM	51.2	52.3	50.1	68.3
5:24:00 AM	51.5	52.6	50.7	69.2
5:25:00 AM	51.4	52.2	50.6	68.5
5:26:00 AM	51.1	52.2	50	68.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:27:00 AM	50.8	51.8	49.9	68.5
5:28:00 AM	50.7	52.1	49.6	67.8
5:29:00 AM	50.1	51.1	49.1	66.4
5:30:00 AM	53	58.3	49.6	77
5:31:00 AM	53.1	58.8	48.8	76.3
5:32:00 AM	51	54.2	48.9	70.8
5:33:00 AM	48.7	50.4	47.8	66.1
5:34:00 AM	49.9	50.9	48.7	66.2
5:35:00 AM	49	50.1	48.1	63.3
5:36:00 AM	48.4	49.5	47.7	63.1
5:37:00 AM	49.2	50.6	48.3	65
5:38:00 AM	49.7	50.5	49	67
5:39:00 AM	49.3	52.9	47.6	68.2
5:40:00 AM	49.7	52.6	48.2	66.7
5:41:00 AM	51.9	55.1	48.8	72.6
5:42:00 AM	53.9	57.1	49.9	75.7
5:43:00 AM	50.4	54.4	47.9	75.2
5:44:00 AM	50.3	51.9	49.3	67.8
5:45:00 AM	49.2	50.3	48.5	65.9
5:46:00 AM	48.8	49.7	48	62.8
5:47:00 AM	48.9	50.2	47.7	65.6
5:48:00 AM	51.4	54.7	48.1	73
5:49:00 AM	51.1	54.7	48.7	72.8
5:50:00 AM	49.7	52.3	47.9	69.9
5:51:00 AM	49.1	50.3	48.1	63.5
5:52:00 AM	48.4	50.3	47.8	65.5
5:53:00 AM	49.1	51.1	47.9	65.9
5:54:00 AM	48.8	51.4	47.7	64.3
5:55:00 AM	47.8	48.3	47.2	62.4
5:56:00 AM	48.7	50.1	47.9	63.4
5:57:00 AM	48.3	48.8	47.8	62.0
5:58:00 AM	48	48.8	47.6	67.1
5:59:00 AM	48.6	50.1	47.7	63.0
6:00:00 AM	49.8	51.6	48.9	65.9
6:01:00 AM	53.6	57.7	48.9	75.1
6:02:00 AM	51.5	57.1	48.5	75
6:03:00 AM	48.8	49.7	48.4	63.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:04:00 AM	48.7	50	47.7	64.4
6:05:00 AM	49.1	49.9	48.4	65.4
6:06:00 AM	48.8	49.7	47.7	66.3
6:07:00 AM	49.7	51.3	48.6	66.5
6:08:00 AM	48.5	49.5	47.3	65.9
6:09:00 AM	47.9	50.7	46.5	67.3
6:10:00 AM	47.4	48.9	46.7	63.1
6:11:00 AM	47.5	48.6	46.8	62.8
6:12:00 AM	47.8	49.4	47.1	64.1
6:13:00 AM	47.7	48.3	47.1	62.9
6:14:00 AM	48.2	48.8	47.7	62.2
6:15:00 AM	49.1	53.3	47.6	67
6:16:00 AM	49	52	47.7	64.8
6:17:00 AM	48.8	50.7	47.8	64.3
6:18:00 AM	47.6	48.7	47	62.8
6:19:00 AM	54	59.5	46.9	72.8
6:20:00 AM	51.8	58.8	47.4	71.1
6:21:00 AM	48.2	49.2	47.6	63.5
6:22:00 AM	47.7	48.2	47.1	62
6:23:00 AM	48.4	49.3	47.7	64.1
6:24:00 AM	49.6	51.1	48.3	64.8
6:25:00 AM	49.7	51.1	48.7	64.1
6:26:00 AM	48.8	50.4	47.6	64.6
6:27:00 AM	48.2	49.2	47.5	63.5
6:28:00 AM	48.5	49.5	47.9	72.7
6:29:00 AM	48.8	49.7	47.9	63.6
6:30:00 AM	48.9	49.7	48.1	64.0
6:31:00 AM	48.8	49.8	47.9	63.3
6:32:00 AM	48.3	49.5	47.7	62.9
6:33:00 AM	49.7	50	48.5	63.7
6:34:00 AM	49	50.8	48.1	66.0
6:35:00 AM	48.7	49.8	48.3	64.1
6:36:00 AM	48.8	51.1	47.9	64.1
6:37:00 AM	49.9	51.2	48.3	67.7
6:38:00 AM	48.5	49.5	47.9	63.2
6:39:00 AM	48.6	49.8	47.8	63
6:40:00 AM	49.8	51	48.9	65

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:41:00 AM	56.5	62.3	49.9	74.6
6:42:00 AM	50.4	52.5	48.8	67.3
6:43:00 AM	49	50	47.9	64.8
6:44:00 AM	48.8	50.2	48.2	64.1
6:45:00 AM	48.5	49.8	47.5	65
6:46:00 AM	48.7	49.7	47.5	64
6:47:00 AM	48.1	49	47.6	62.9
6:48:00 AM	47.9	48.5	47.2	62.7
6:49:00 AM	47.6	49.6	47	63.6
6:50:00 AM	47.5	49.8	46.9	70.1
6:51:00 AM	48.1	49.3	47.5	63.8
6:52:00 AM	48.3	49.6	47.4	64.3
6:53:00 AM	48.8	50.1	47.5	65.7
6:54:00 AM	48	48.7	47.4	62.9
6:55:00 AM	48.2	49.2	47.6	63.7
6:56:00 AM	48.1	49	47.4	62.5
6:57:00 AM	48.2	49.7	47.5	63.7
6:58:00 AM	48.8	50.2	48	64.2
6:59:00 AM	49.1	50.6	47.9	64.1
7:00:00 AM	48.2	49.7	47.5	63.5
7:01:00 AM	49.6	51.5	47.8	64.6
7:02:00 AM	48.4	49.3	47.6	62.9
7:03:00 AM	53.1	57.1	48.1	70.3
7:04:00 AM	48	49.1	46.8	63.7
7:05:00 AM	48.4	49.5	47.4	63.1
7:06:00 AM	48.4	49.5	47.2	63.8
7:07:00 AM	48.8	50.6	47.7	63.5
7:08:00 AM	52	53.4	50.2	66.4
7:09:00 AM	51.4	53.4	49.3	66.8
7:10:00 AM	48.6	49.5	47.8	63
7:11:00 AM	48.5	50.8	47.4	64.1
7:12:00 AM	49.4	50.4	48	64.1
7:13:00 AM	48.4	50	47.5	64.1
7:14:00 AM	48.5	50.1	47.3	72.3
7:15:00 AM	48.8	50.4	48	64.2
7:16:00 AM	48.5	49.4	47.8	62.7
7:17:00 AM	48.7	49.4	48.1	63.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:18:00 AM	49	50.4	48.2	63.4
7:19:00 AM	49.9	51	48	64.1
7:20:00 AM	50	51.6	47.9	65.4
7:21:00 AM	50.3	53.9	47.7	68.4
7:22:00 AM	50.2	51.3	48.8	68.4
7:23:00 AM	49	50.9	48.7	63.8
7:24:00 AM	49.4	50.4	48.7	64.4
7:25:00 AM	50.1	54.3	48	66.2
7:26:00 AM	52.9	58.4	49.3	69.8
7:27:00 AM	49.1	50.2	48.3	63.3
7:28:00 AM	48.8	49.8	48.1	64.7
7:29:00 AM	52.4	58.1	47.9	71
7:30:00 AM	50.6	57.3	47.5	68.8
7:31:00 AM	49.2	50	48.4	64.5
7:32:00 AM	48.7	50	47.4	63.1
7:33:00 AM	48.1	49.3	47.3	62
7:34:00 AM	48.7	50.7	47.3	64.3
7:35:00 AM	47.5	48.5	46.3	61.3
7:36:00 AM	59.8	68.3	47.4	80.9
7:37:00 AM	50.2	55.5	47.2	67.7
7:38:00 AM	49.7	52.1	48.3	65.2
7:39:00 AM	51.6	58	47.5	72.1
7:40:00 AM	47.9	50.2	47	67.9
7:41:00 AM	49	53.9	47	67.6
7:42:00 AM	47.9	49.1	47.2	62.5
7:43:00 AM	47.7	49.4	46.9	63
7:44:00 AM	48.5	50.5	46.8	65.3
7:45:00 AM	47.6	49.4	46.6	64.4
7:46:00 AM	46.9	47.7	46	62.6
7:47:00 AM	47.7	48.3	47.1	62.8
7:48:00 AM	47.7	48.9	46.9	62.7
7:49:00 AM	47.6	50.2	46.5	63.4
7:50:00 AM	48	50.8	46.8	64.1
7:51:00 AM	47.2	48.6	46.3	61.9
7:52:00 AM	46.7	47.3	46.2	61.5
7:53:00 AM	50.7	55.8	46.7	69.6
7:54:00 AM	50.1	55.6	46.3	69

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:55:00 AM	46.8	48.4	46.1	62.5
7:56:00 AM	46.6	47	46	61.4
7:57:00 AM	46.7	47.7	46	61.5
7:58:00 AM	46.9	47.9	46.3	62.1
7:59:00 AM	47.1	49.6	46.3	77.9
8:00:00 AM	46.6	47.1	46	63.8
8:01:00 AM	46.5	47.4	45.9	70.8
8:02:00 AM	49.8	54.6	46.6	64.8
8:03:00 AM	47.4	48.8	46.6	62.6
8:04:00 AM	47.2	47.9	46.3	63
8:05:00 AM	47.2	48.1	46.5	62.3
8:06:00 AM	46.5	48	45.8	61.8
8:07:00 AM	46.7	48.1	46.3	62.1
8:08:00 AM	46.6	47.2	46.1	61.9
8:09:00 AM	46.8	48.6	46.4	63.2
8:10:00 AM	47.3	49.1	46.6	62.4
8:11:00 AM	47.6	49.3	46.4	63.1
8:12:00 AM	47	47.5	46.4	62.2
8:13:00 AM	46.8	47.4	46.3	61.5
8:14:00 AM	47	47.4	46.4	60.9
8:15:00 AM	47.2	47.8	46.5	61.7
8:16:00 AM	47.4	47.9	46.8	61.5
8:17:00 AM	47.4	47.9	47	61.8
8:18:00 AM	47.5	48.1	46.9	61.6
8:19:00 AM	47.9	48.3	47.4	67.1
8:20:00 AM	47.9	48.4	47.1	62.6
8:21:00 AM	47.8	48.2	47.3	62.1
8:22:00 AM	47.8	48.5	47.3	64.4
8:23:00 AM	48	48.5	47.3	64.2
8:24:00 AM	48.7	48.8	47.6	63.9
8:25:00 AM	48.3	48.9	47.6	63.5
8:26:00 AM	48.1	48.6	47.7	64
8:27:00 AM	48.4	51.4	47.5	64.1
8:28:00 AM	53	59.3	46.9	72.2
8:29:00 AM	47.4	47.8	46.8	63.9
8:30:00 AM	47.3	48.1	46.5	64.8
8:31:00 AM	47.5	47.9	47.1	65.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:32:00 AM	47.6	48.9	47.1	64.4
8:33:00 AM	47.6	48.4	47	65
8:34:00 AM	47.2	47.8	46.6	65.2
8:35:00 AM	47.5	47.9	46.8	65.5
8:36:00 AM	47.7	48.3	47.2	65.2
8:37:00 AM	48.2	48.8	47.4	65.6
8:38:00 AM	47.2	48.1	46.4	64.3
8:39:00 AM	48.1	48.8	47.6	64.8
8:40:00 AM	47.5	48.5	46.4	64.7
8:41:00 AM	47.2	48.4	45.3	64.8
8:42:00 AM	48	48.6	47.3	66.1
8:43:00 AM	47.9	48.9	46.7	65.4
8:44:00 AM	48.3	49.2	46.8	66.8
8:45:00 AM	48.8	49.6	48	65.8
8:46:00 AM	50.2	50.7	49.6	66.3
8:47:00 AM	51.2	54.4	50.3	69
8:48:00 AM	54.1	58.8	50.1	71.6
8:49:00 AM	50.4	51.1	49.8	66.4
8:50:00 AM	50.9	51.4	50.1	67.9
8:51:00 AM	51.2	51.6	50.8	68.6
8:52:00 AM	51	51.4	50.4	67.4
8:53:00 AM	50.9	51.5	49.7	67.2
8:54:00 AM	50.5	51.5	49.6	66.8
8:55:00 AM	50.9	51.6	50.2	67.7
8:56:00 AM	50.7	50.9	49.7	68.6
8:57:00 AM	50.2	51.2	49.6	67.9
8:58:00 AM	51.4	52.1	50.6	69.8
8:59:00 AM	51	51.8	49.2	68.7
9:00:00 AM	51.2	53.7	49.1	67.2
9:01:00 AM	51.3	51.8	50.3	68.5
9:02:00 AM	51	51.9	50.3	70.2
9:03:00 AM	51.2	52.2	50.2	69
9:04:00 AM	51.6	52.8	50.4	69.5
9:05:00 AM	50.8	51.8	49.2	74.2
9:06:00 AM	50.9	52.5	49.5	69
9:07:00 AM	52.2	52.9	51.1	70.5
9:08:00 AM	51.9	52.9	50.8	69.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:09:00 AM	52.1	52.7	51.2	69.7
9:10:00 AM	51.9	52.7	50.8	71.4
9:11:00 AM	51.5	53.1	49.9	69.7
9:12:00 AM	52.5	54.3	50.4	70.6
9:13:00 AM	52	53.3	50	69.4
9:14:00 AM	51.4	52.7	50.4	67.1
9:15:00 AM	52.1	52.9	51.3	69.1
9:16:00 AM	51	52.4	49.3	69.1
9:17:00 AM	50.9	52.1	49.3	67.7
9:18:00 AM	51.5	52.1	50.4	71.6
9:19:00 AM	51.5	52.3	50.1	68.9
9:20:00 AM	51.7	52.4	50.8	68.3
9:21:00 AM	51.2	51.8	50.4	68.3
9:22:00 AM	51.7	52.6	50.9	71
9:23:00 AM	53	55.3	52.1	70.2
9:24:00 AM	56.4	60.5	52.3	74.3
9:25:00 AM	52.6	55.5	51.7	70.4
9:26:00 AM	52	53.3	51	68.2
9:27:00 AM	52.4	53.1	51.7	69.1
9:28:00 AM	52.2	52.8	51.1	69.7
9:29:00 AM	51.9	52.7	50.6	69
9:30:00 AM	51.5	52.8	49.9	69.3
9:31:00 AM	52.5	53.7	51.6	70.1
9:32:00 AM	52.7	53.4	52	69
9:33:00 AM	52	53.3	50.8	68.5
9:34:00 AM	51.6	52.3	51	69.5
9:35:00 AM	51.4	52.4	50.1	68.4
9:36:00 AM	52.1	52.5	51.4	70.4
9:37:00 AM	51.8	53.3	50.9	69.1
9:38:00 AM	51.7	52.5	50.8	69.5
9:39:00 AM	51.9	52.9	51.1	69.1
9:40:00 AM	52.3	53.2	51.4	69.8
9:41:00 AM	51.9	53.9	50	69

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Location M5: 24-hour Session Report

Meter No. 35598
8/6-7/2020

Information Panel

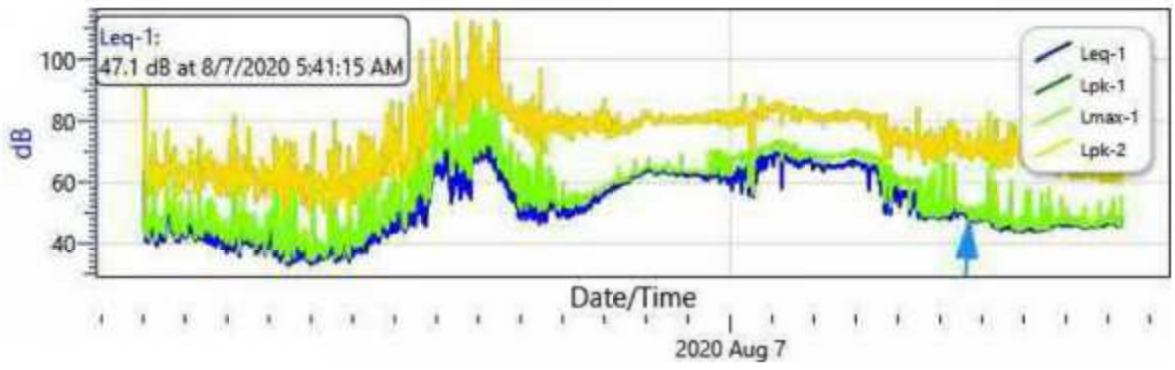
Name	S030_BGQ080006_07082020_114656
Start Time	8/6/2020 10:00:15 AM
Stop Time	8/7/2020 9:21:09 AM
Device Name	BGQ080006
Model Type	Sound Pro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	61.8 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	3 dB	Weighting	2	A
Response	2	SLOW			

Logged Data Chart

S030_BGQ080006_07082020_114656: Logged Data Chart



Logged Data Table

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8/6/2020 10:01:15 AM	63.9	79.2	71.7	111.1
10:02:15 AM	5.3	54.9	70.9	91.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:03:15 AM	40.8	42.9	40.2	68.8
10:04:15 AM	41	43.4	40.2	61.3
10:05:15 AM	41.5	45.1	40.7	61.7
10:06:15 AM	42.1	44.8	40.8	62.9
10:07:15 AM	40.5	41.8	39.6	56.2
10:08:15 AM	45.7	49.9	39.7	63.8
10:09:15 AM	44.2	49.8	39.4	63.2
10:10:15 AM	44.9	50	40	63.8
10:11:15 AM	42.3	45.5	39.5	58.8
10:12:15 AM	43.4	47.8	39.9	67.8
10:13:15 AM	47.8	55.7	41.7	69.6
10:14:15 AM	54.6	61.1	45.9	76.4
10:15:15 AM	48	51.1	40.1	68.7
10:16:15 AM	40.8	42.1	39.9	59.8
10:17:15 AM	40	41.3	38.8	59.5
10:18:15 AM	40.5	44.4	38.5	59.7
10:19:15 AM	39.3	42.1	38	56.5
10:20:15 AM	42	46.1	39.3	61.1
10:21:15 AM	44.2	48.9	41	66.2
10:22:15 AM	41.6	44.4	39.8	64.6
10:23:15 AM	42.8	45.4	41.1	65.6
10:24:15 AM	42	44.3	40.6	60.4
10:25:15 AM	41.8	44.1	40.7	58.7
10:26:15 AM	41.2	46.3	39.3	62.2
10:27:15 AM	40.7	46.6	37.7	61.6
10:28:15 AM	44.2	48.8	40.7	64
10:29:15 AM	42.2	47	39.5	62.7
10:30:15 AM	41	42.6	39.8	60.5
10:31:15 AM	42.5	45.6	40.3	64.1
10:32:15 AM	44.8	49.8	40.9	64.5
10:33:15 AM	49.6	58	42.8	71.4
10:34:15 AM	53.9	63.6	41.6	76.7
10:35:15 AM	46.7	50.6	42.4	67.4
10:36:15 AM	47.7	51.6	43	67.1
10:37:15 AM	48.1	53.9	42.6	67.4
10:38:15 AM	48	52.2	42.3	68.4
10:39:15 AM	46.2	52.1	41.5	67.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:40:15 AM	43.9	47.2	41.6	65
10:41:15 AM	43.5	46.3	41.5	63.6
10:42:15 AM	43.7	47.6	41.9	60.9
10:43:15 AM	42.8	44.1	41.6	58.7
10:44:15 AM	50.6	57.4	40.8	71.5
10:45:15 AM	47	55.6	37.9	67.1
10:46:15 AM	40.8	42.1	38.2	56.6
10:47:15 AM	40.9	43.1	39.5	58
10:48:15 AM	40.8	42	38.8	56
10:49:15 AM	40.9	42.5	39.5	56.3
10:50:15 AM	40.8	42.8	36.3	62.8
10:51:15 AM	40.8	44.1	37.1	58.2
10:52:15 AM	47	53.5	41.1	65.1
10:53:15 AM	46.9	53.9	41.9	66
10:54:15 AM	42.5	44.3	40.9	60.3
10:55:15 AM	43.9	47.8	42.1	61.7
10:56:15 AM	43	44.3	42.1	64.8
10:57:15 AM	43.1	44.2	42.2	60.9
10:58:15 AM	42.8	44.2	41.8	59.2
10:59:15 AM	42.1	43	41.3	63.7
11:00:15 AM	41.8	42.7	40.6	57.2
11:01:15 AM	42.7	44.4	41.7	61.5
11:02:15 AM	44.3	51.7	41.5	64.8
11:03:15 AM	42.8	48.3	40.2	62.5
11:04:15 AM	46.7	50.1	41.7	65
11:05:15 AM	43.9	46.8	40.4	61.2
11:06:15 AM	48.9	57.1	42.9	70.6
11:07:15 AM	46.2	49.9	43.5	70
11:08:15 AM	46.1	52.1	42.4	70.3
11:09:15 AM	48.9	53.4	42.9	67.5
11:10:15 AM	44.2	48.7	40.6	67.6
11:11:15 AM	42.3	46.7	39.4	67
11:12:15 AM	42	44.9	39.9	66.1
11:13:15 AM	41.7	46	39.9	67.3
11:14:15 AM	41	41.9	39.8	64.5
11:15:15 AM	42.1	43.2	41.4	56.7
11:16:15 AM	43.7	47.9	42.1	61.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:17:15 AM	43.2	45.9	42	60.6
11:18:15 AM	42.8	45.1	41.3	60.4
11:19:15 AM	41.8	43.4	41.1	57.6
11:20:15 AM	49.3	59.6	41.4	74.5
11:21:15 AM	42.1	43.4	41.3	58.2
11:22:15 AM	41.5	42.4	40.1	57.7
11:23:15 AM	41.2	42.1	39.2	57.8
11:24:15 AM	41.3	44.3	40.1	59.2
11:25:15 AM	41.7	45.3	40	60.9
11:26:15 AM	43.6	48.2	40.8	62
11:27:15 AM	42.5	45.3	40.5	61.3
11:28:15 AM	41.9	45.4	38.6	62.5
11:29:15 AM	40.8	41.8	38.5	68.5
11:30:15 AM	43.1	48.6	40	61.5
11:31:15 AM	44.3	51.8	39.9	65.3
11:32:15 AM	42.8	47.5	38.7	65.3
11:33:15 AM	40.1	43.6	38.2	62.3
11:34:15 AM	47.3	55	39.1	70.4
11:35:15 AM	49.9	53.9	42.6	68.3
11:36:15 AM	42.2	45.7	38.5	61.4
11:37:15 AM	44.7	53.9	37.4	67.4
11:38:15 AM	40.6	46.6	36.7	66.4
11:39:15 AM	39.8	43.8	35.9	62.9
11:40:15 AM	39.5	42.5	36.9	58.6
11:41:15 AM	45	52.8	38.1	67
11:42:15 AM	40.3	44.7	38.4	61.4
11:43:15 AM	39.1	43.1	36.6	60.7
11:44:15 AM	41.2	49.3	37	63.1
11:45:15 AM	40.4	43.6	37	56.7
11:46:15 AM	43.7	47	40.1	62.4
11:47:15 AM	43.8	47.8	40.6	63.1
11:48:15 AM	41.8	43.9	40	61.9
11:49:15 AM	41.3	43.2	38.8	56
11:50:15 AM	40.9	42	40	65.8
11:51:15 AM	40.6	41.1	39.1	58.1
11:52:15 AM	38.4	41.7	35.1	54.4
11:53:15 AM	39	44.5	36	58.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:54:15 AM	40	42	36.3	58.8
11:55:15 AM	41.6	43.7	39.3	64
11:56:15 AM	41.8	47.8	39.1	63.5
11:57:15 AM	39.9	47.1	35.2	64.8
11:58:15 AM	36.9	40	34.1	57.3
11:59:15 AM	37.9	40.3	36.4	55.4
12:00:15 PM	39.8	41.8	37.6	59.5
12:01:15 PM	41.8	44.3	38.9	66.5
12:02:15 PM	40	42.3	38.2	57.5
12:03:15 PM	38.1	41.9	36.1	61.5
12:04:15 PM	39.2	44.2	35.9	58.7
12:05:15 PM	38.3	49.7	35.9	74.3
12:06:15 PM	37.8	39.6	36.9	56.2
12:07:15 PM	38.6	43.5	36.7	66.2
12:08:15 PM	37.9	42	36.4	67.4
12:09:15 PM	37.4	40.4	34.7	63.4
12:10:15 PM	56.4	66	39.4	80.6
12:11:15 PM	54.8	67.5	40.4	81.7
12:12:15 PM	42.5	51.7	35.5	67.4
12:13:15 PM	41.5	52	36.5	71.9
12:14:15 PM	40.1	42.8	37.1	61.1
12:15:15 PM	38.8	42.1	36.2	56.5
12:16:15 PM	38.3	43.3	34.4	65
12:17:15 PM	35.7	37.5	33.5	58.4
12:18:15 PM	39	42.1	35.3	58.9
12:19:15 PM	44.2	49.8	38.4	64
12:20:15 PM	45.3	49.6	39.9	63.8
12:21:15 PM	39.8	44.8	38.2	62.2
12:22:15 PM	47.7	53.9	39.1	66.4
12:23:15 PM	49.7	56.6	40.4	68.9
12:24:15 PM	40.6	41.5	39.5	50
12:25:15 PM	40.3	42	38.5	61.2
12:26:15 PM	40.5	42	39.9	60.1
12:27:15 PM	40.2	41.9	39.3	62.6
12:28:15 PM	41	42.9	40	57.8
12:29:15 PM	42.1	46.9	39.9	60.9
12:30:15 PM	41.7	50	39.3	77.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:31:15 PM	39.5	42.3	36.1	64.7
12:32:15 PM	40.1	41.2	39.1	60.5
12:33:15 PM	39.1	42.3	36	60.4
12:34:15 PM	39.3	40.4	35.4	59.6
12:35:15 PM	40.1	43.9	37.4	60
12:36:15 PM	40	44.9	39.3	60.4
12:37:15 PM	39.5	41.2	38.8	60.9
12:38:15 PM	42.8	50.3	38.3	64.8
12:39:15 PM	40.2	47.7	35.9	63.8
12:40:15 PM	39.1	43.6	36.5	60
12:41:15 PM	36.5	38.3	35.2	53.8
12:42:15 PM	36.6	41.5	33	59
12:43:15 PM	39.2	41.9	37.5	59.7
12:44:15 PM	39.3	43.7	36.7	60.8
12:45:15 PM	37.7	40.4	34.6	56.4
12:46:15 PM	38.6	40.5	37.6	56.5
12:47:15 PM	39	41	37.9	59.5
12:48:15 PM	42.2	45	38.4	68.1
12:49:15 PM	41.3	45.2	38.8	67
12:50:15 PM	41.1	45.3	37.6	61.5
12:51:15 PM	39.1	45.5	35.6	64.6
12:52:15 PM	37.7	40.7	35	62.8
12:53:15 PM	36.6	38.9	34.9	57.3
12:54:15 PM	36.1	36.7	35.6	55.3
12:55:15 PM	42	49.3	35.5	65.1
12:56:15 PM	42.3	47.3	39.8	60.3
12:57:15 PM	39.3	40.9	37.7	62.8
12:58:15 PM	38.1	41.1	36.3	60
12:59:15 PM	40.7	45.2	36	63.5
1:00:15 PM	44.5	49.8	39.6	67.7
1:01:15 PM	49	50.6	48	63.8
1:02:15 PM	48.5	50.2	46.5	63.1
1:03:15 PM	43.5	46.8	39.3	59.3
1:04:15 PM	40.3	47	37	62.6
1:05:15 PM	37.8	41.5	34.2	57
1:06:15 PM	36.1	37.9	34.9	56.6
1:07:15 PM	43.2	57.6	33.3	74.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:08:15 PM	42.1	47.6	36	66.9
1:09:15 PM	35.8	38.3	33	60.3
1:10:15 PM	41.8	51.5	33.7	64.9
1:11:15 PM	48.5	57.3	37.8	73.8
1:12:15 PM	38	43.2	33.8	58
1:13:15 PM	47.7	54.3	33.9	71.7
1:14:15 PM	37	41.3	33.3	62.1
1:15:15 PM	34.1	36.5	32.9	61.5
1:16:15 PM	35	38.4	33.4	60.1
1:17:15 PM	34.9	36.8	33	55.1
1:18:15 PM	36.7	38.2	34.6	63
1:19:15 PM	37.4	38.2	34.8	59.7
1:20:15 PM	37.6	38.6	35.6	52.6
1:21:15 PM	36.3	40.3	33.4	63.2
1:22:15 PM	52.6	59.3	36.7	72.3
1:23:15 PM	48.5	54.4	33.8	67.6
1:24:15 PM	33.4	34.4	32.8	52.5
1:25:15 PM	45.3	51.2	33.8	73.4
1:26:15 PM	38.6	45.6	33.3	62.4
1:27:15 PM	33.6	35.1	32.5	54.1
1:28:15 PM	32.8	34.6	32.2	67
1:29:15 PM	44.6	59	33	72.9
1:30:15 PM	36.8	39.8	34.9	61.6
1:31:15 PM	34.3	39.9	32	55.2
1:32:15 PM	34.5	44.2	32.1	61.9
1:33:15 PM	33.8	38.5	32.4	63.1
1:34:15 PM	36.5	43.2	33.5	62.8
1:35:15 PM	34	35.3	32.8	57.8
1:36:15 PM	42.8	48.7	32.9	64.6
1:37:15 PM	51.5	58.9	34.7	72.8
1:38:15 PM	42.1	49.6	33.5	67.5
1:39:15 PM	35.2	40.6	33.8	58.4
1:40:15 PM	35.1	39.7	33.2	60.9
1:41:15 PM	34.4	39.2	33.2	60.9
1:42:15 PM	36.4	41.6	33.7	60
1:43:15 PM	38.1	42.1	33.7	57.3
1:44:15 PM	35.8	38.2	33.6	62.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:45:15 PM	35.9	37.8	32.4	53.9
1:46:15 PM	36.2	38.3	34.7	61.5
1:47:15 PM	35.1	37.6	33.1	53.1
1:48:15 PM	36.7	44	33.6	59.4
1:49:15 PM	37.7	45.2	34.9	61.7
1:50:15 PM	36.9	38.8	35.5	57
1:51:15 PM	38	39.1	36.5	58.4
1:52:15 PM	39	44.3	34.8	65.7
1:53:15 PM	37.1	41.6	33.4	62.5
1:54:15 PM	34.6	36.2	33.5	54.5
1:55:15 PM	34	34.9	33.2	52.1
1:56:15 PM	35.8	39.3	33.6	61
1:57:15 PM	34	36.1	32.6	62.4
1:58:15 PM	33.3	35.7	32.4	60.3
1:59:15 PM	33.3	37.2	32.4	58.8
2:00:15 PM	33.1	34.4	32.4	66
2:01:15 PM	33.5	37	32.5	58.5
2:02:15 PM	47	57.6	34	70.5
2:03:15 PM	47.3	56.9	35.2	76
2:04:15 PM	35.1	38.9	33.7	54.3
2:05:15 PM	33.8	35	33	53.3
2:06:15 PM	37	41.3	33.2	56.1
2:07:15 PM	36.9	42.1	33.5	58.8
2:08:15 PM	34.8	36.8	33.1	59.1
2:09:15 PM	34.7	40.1	33.5	57.7
2:10:15 PM	36	39.7	34.6	59.5
2:11:15 PM	35.1	37.7	33.8	61
2:12:15 PM	35.9	41	33.6	63.2
2:13:15 PM	35.8	39.3	34.4	61
2:14:15 PM	35.9	38.8	33.8	57.8
2:15:15 PM	35.6	37.6	34.4	56.7
2:16:15 PM	34.8	36.2	34	59.6
2:17:15 PM	34.9	39.3	34	60.9
2:18:15 PM	34.9	35.6	34.1	54.3
2:19:15 PM	34.9	35.4	34.3	55.4
2:20:15 PM	35.2	36	34.2	56.7
2:21:15 PM	35.2	36.1	34.3	52.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:22:15 PM	35.5	36.3	34.7	52.5
2:23:15 PM	36	38.7	35.2	55.4
2:24:15 PM	35.5	38.2	34.5	60.4
2:25:15 PM	39.2	48.5	33.5	63.5
2:26:15 PM	48.1	54.9	36.7	70.5
2:27:15 PM	37.6	42.9	35.3	56.1
2:28:15 PM	45	50	36	60.1
2:29:15 PM	36.5	39.6	35	54.6
2:30:15 PM	38.7	44.6	35	66.2
2:31:15 PM	36.9	43.8	32.8	70.3
2:32:15 PM	36.4	45.6	32.9	58.6
2:33:15 PM	56.4	66.3	34.6	79.8
2:34:15 PM	34	35.1	32.7	50.6
2:35:15 PM	33.9	36.4	32.8	57.9
2:36:15 PM	35.6	37.7	33.9	55.3
2:37:15 PM	38	42.1	34.2	56.8
2:38:15 PM	34.9	40	33	53.9
2:39:15 PM	36	46.8	33.1	72.7
2:40:15 PM	37.6	42.8	33.7	64.8
2:41:15 PM	34.6	36.4	33.4	56.2
2:42:15 PM	36.1	41.9	33.1	57
2:43:15 PM	35.4	39.5	33.4	55.4
2:44:15 PM	35.5	37.9	33.8	56.6
2:45:15 PM	41.3	45.2	37.8	57.7
2:46:15 PM	39.9	40.7	35.3	58.1
2:47:15 PM	38.9	41.7	35	62.3
2:48:15 PM	40.1	40.5	39.6	56.1
2:49:15 PM	40.2	43.8	39.3	58
2:50:15 PM	39.5	44.5	35.5	60.3
2:51:15 PM	35.4	36.9	33.8	52
2:52:15 PM	36.3	42.6	33.5	58.3
2:53:15 PM	48.2	54.6	34.9	71.5
2:54:15 PM	34	35.6	33.2	49.2
2:55:15 PM	41.7	49	33.7	64.1
2:56:15 PM	48	55.2	36.1	60.8
2:57:15 PM	39.4	46.3	34.1	59.2
2:58:15 PM	37	44.1	34	61.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:59:15 PM	35.6	40.6	33.9	62.4
3:00:15 PM	36.2	40.3	34	60.9
3:01:15 PM	37.5	41.4	34.7	57.1
3:02:15 PM	37.2	39.2	36.1	53.5
3:03:15 PM	38	40.6	36.4	64.4
3:04:15 PM	38.8	43.7	36.7	61.3
3:05:15 PM	37.1	40	36.2	56.9
3:06:15 PM	37.3	42.5	36.4	66.1
3:07:15 PM	37.8	39.3	36.3	55.9
3:08:15 PM	38.4	42.5	36.9	59.1
3:09:15 PM	38.2	40	36.8	57.9
3:10:15 PM	40	51.1	35.8	67.9
3:11:15 PM	53	61.2	37.9	76.2
3:12:15 PM	36.9	39.8	35.2	57.7
3:13:15 PM	36.9	39.4	35.3	54
3:14:15 PM	39.4	44.1	36.4	56.7
3:15:15 PM	48.6	56.2	38.2	73.3
3:16:15 PM	38.6	40.9	37.3	59.4
3:17:15 PM	50.8	59.9	37.8	74.9
3:18:15 PM	47.3	60.4	36.3	74.7
3:19:15 PM	37.3	42.1	35.8	60.9
3:20:15 PM	40.7	45.5	37.2	65.1
3:21:15 PM	54	60.1	39.8	74.9
3:22:15 PM	43.2	49.4	38.7	62.6
3:23:15 PM	40	43	38.4	61.5
3:24:15 PM	39.8	44	37.9	59.9
3:25:15 PM	41.8	45.1	39.2	61.3
3:26:15 PM	40.6	47.4	38.5	63
3:27:15 PM	49.7	55.6	41.7	70.2
3:28:15 PM	40.6	45.2	39.1	62.1
3:29:15 PM	41.3	44.2	39.4	60.3
3:30:15 PM	54.3	60	43.7	74.8
3:31:15 PM	43.6	49.7	40.2	62.8
3:32:15 PM	44.4	48.1	40	64.7
3:33:15 PM	42.5	48.4	39.9	64.3
3:34:15 PM	41.2	43.3	39.9	60.2
3:35:15 PM	41.3	46.2	39.2	68.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:36:15 PM	40.4	43	38.6	64.4
3:37:15 PM	41.1	42.7	39.6	58.4
3:38:15 PM	41.5	46.1	39.5	67.9
3:39:15 PM	43.2	45.1	41.1	60.6
3:40:15 PM	45.5	52.1	42.8	68.5
3:41:15 PM	46.7	54.3	42.9	69.5
3:42:15 PM	43.9	48.3	41.4	71.2
3:43:15 PM	43.7	51.6	41.4	69
3:44:15 PM	43.7	52	40.6	69.4
3:45:15 PM	44.2	48.9	42	74.5
3:46:15 PM	44.8	54.9	41.8	72.2
3:47:15 PM	42.8	46.1	39.7	62.3
3:48:15 PM	42.1	45	40.1	66.8
3:49:15 PM	45.3	57.6	41.3	82.1
3:50:15 PM	43.7	46.5	41.1	73.9
3:51:15 PM	47.7	55.7	42.5	71.9
3:52:15 PM	46.5	53.3	42.6	70.5
3:53:15 PM	49.3	59.9	41.5	76
3:54:15 PM	43.5	52.5	41.3	68.5
3:55:15 PM	53.6	67.5	40.3	86.5
3:56:15 PM	44.8	48	41	61.4
3:57:15 PM	44.8	49.4	42.2	63.5
3:58:15 PM	44.8	49	41.8	67.5
3:59:15 PM	43.8	47.4	42.3	61.1
4:00:15 PM	46.6	53.9	42.6	69.1
4:01:15 PM	50.2	59.9	42.6	77.5
4:02:15 PM	45.7	54.4	41.6	68.6
4:03:15 PM	47.3	56	42.3	70.9
4:04:15 PM	44.2	51.8	42.2	67.2
4:05:15 PM	46	51.5	43	65.5
4:06:15 PM	48.3	54.9	45.2	69
4:07:15 PM	47.2	55.2	43.6	69.7
4:08:15 PM	52.3	63.5	44.7	85.9
4:09:15 PM	49.7	61.7	43.9	81
4:10:15 PM	46.4	52.5	43.5	65.1
4:11:15 PM	45.1	46.3	43.6	60
4:12:15 PM	44.5	46.2	42.8	61.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:13:15 PM	44.8	48.2	43.6	61.4
4:14:15 PM	44	45	43.2	60.1
4:15:15 PM	44.8	45.4	43.8	60.8
4:16:15 PM	44.9	50.5	43.1	64.4
4:17:15 PM	45.7	52.4	43.7	67.9
4:18:15 PM	46.3	55.1	43.1	69.4
4:19:15 PM	46.1	51.3	43.8	67.1
4:20:15 PM	53.8	65.9	42.3	83.2
4:21:15 PM	46.5	53.8	42.2	67.5
4:22:15 PM	47.1	57.5	42.5	70.8
4:23:15 PM	46.4	50.5	43.2	63.0
4:24:15 PM	57.9	70.2	44.9	89
4:25:15 PM	48.1	56.1	42.9	71.6
4:26:15 PM	58.9	68.7	44.9	85.1
4:27:15 PM	50.3	60.4	43.9	75.3
4:28:15 PM	45.7	51	43.5	65.6
4:29:15 PM	47.3	57.1	44.1	69.7
4:30:15 PM	52.4	65.8	47.1	83.6
4:31:15 PM	50.6	62.4	44.5	77
4:32:15 PM	53.3	66.2	44.2	83.6
4:33:15 PM	55	65.7	47.5	81.1
4:34:15 PM	49.9	57	46	72.7
4:35:15 PM	50.3	59.2	46.2	73.2
4:36:15 PM	54.2	64.1	45.2	78.4
4:37:15 PM	71.8	85.5	43.9	107.7
4:38:15 PM	55.5	64.7	43.3	80.4
4:39:15 PM	47	55.9	41.7	72.0
4:40:15 PM	57.2	69.8	41.4	85.6
4:41:15 PM	55.3	69.3	42.6	84.8
4:42:15 PM	62.7	77.3	43.7	94.9
4:43:15 PM	45.8	52.8	42.3	66.1
4:44:15 PM	48.5	58.5	43.3	73.1
4:45:15 PM	50.3	58.1	43.4	72
4:46:15 PM	55.2	66.6	46.5	82.9
4:47:15 PM	52.3	55.9	47.3	73.4
4:48:15 PM	52.9	55	50.2	71.2
4:49:15 PM	55.1	58.1	51.8	79.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:50:15 PM	57.4	59.8	55.4	79.5
4:51:15 PM	59.1	60.5	57.1	81.2
4:52:15 PM	59.3	61.4	58	83.8
4:53:15 PM	61.7	67.5	58.1	83.7
4:54:15 PM	61.6	65.7	58.9	91.6
4:55:15 PM	68.9	83.1	58.6	101.5
4:56:15 PM	72.9	87.2	59.1	106.1
4:57:15 PM	62.5	66.8	59.4	83.1
4:58:15 PM	65.9	72.2	58.5	90.6
4:59:15 PM	63.8	67.1	59.1	88.7
5:00:15 PM	67.5	77.1	55.5	95.9
5:01:15 PM	62.9	73.8	52.9	93
5:02:15 PM	63.6	73.3	52.8	93
5:03:15 PM	65.6	74.9	50.4	92.1
5:04:15 PM	63.9	74.9	50.6	90.4
5:05:15 PM	65.1	72.1	49.7	86.2
5:06:15 PM	62.7	72.7	48.1	86.2
5:07:15 PM	61.1	68.4	48.5	85.5
5:08:15 PM	63.4	71.8	50.5	85.3
5:09:15 PM	62.2	71.8	48.7	84.1
5:10:15 PM	63.8	75	45.7	89.4
5:11:15 PM	74	87.6	49.9	104.8
5:12:15 PM	65.3	71.3	51.4	88.4
5:13:15 PM	63.6	73.6	47	89.8
5:14:15 PM	67.9	80.4	46.3	100.8
5:15:15 PM	73.7	84.4	49.9	102.6
5:16:15 PM	64.8	75.7	47.4	91.2
5:17:15 PM	68.8	79.9	44.8	98.2
5:18:15 PM	58.1	70.2	43.6	86
5:19:15 PM	61.8	73	44.4	86.5
5:20:15 PM	53.2	62.5	43.5	79.3
5:21:15 PM	60.2	69.5	46.1	82.3
5:22:15 PM	61.7	70.8	45.1	83.7
5:23:15 PM	56	66.2	45.9	84.2
5:24:15 PM	58.9	68	48.1	81.2
5:25:15 PM	59.8	68.3	49.2	85.1
5:26:15 PM	61.4	70.4	51.8	84.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:27:15 PM	61.3	71.3	54.4	84.8
5:28:15 PM	76.6	91.9	52.1	111.8
5:29:15 PM	69.4	82.1	53.5	101.7
5:30:15 PM	59.5	66.8	53	80.1
5:31:15 PM	62.6	72.4	53.9	84.9
5:32:15 PM	57.5	67.9	50.7	81
5:33:15 PM	54.6	65.2	48.2	82.1
5:34:15 PM	55.5	63.5	48.6	78.4
5:35:15 PM	58.8	70	51.7	84.4
5:36:15 PM	63.2	72.8	53.9	86.7
5:37:15 PM	63.5	76	50.2	93.1
5:38:15 PM	64.7	75.5	54.2	89.3
5:39:15 PM	57.6	61.5	54.3	70.8
5:40:15 PM	59.1	64.6	56.4	84.2
5:41:15 PM	62.5	66.4	57	85.6
5:42:15 PM	65	75.9	50.2	91.2
5:43:15 PM	59	64.6	57.1	82.3
5:44:15 PM	56.2	63.4	54.7	80.2
5:45:15 PM	57.7	61.5	53.6	83.5
5:46:15 PM	57.5	62.2	53.9	83.4
5:47:15 PM	66.9	79.2	54.5	101.6
5:48:15 PM	54.5	61.4	49.7	84.4
5:49:15 PM	65.1	76.1	49	92
5:50:15 PM	78.4	92.1	50.3	112.1
5:51:15 PM	66.2	77	51.5	93.5
5:52:15 PM	76.8	87.7	53.3	108.2
5:53:15 PM	76.5	89.8	54.1	105.5
5:54:15 PM	67.6	68.6	56.3	93.5
5:55:15 PM	67.6	68.6	66.4	89.7
5:56:15 PM	69.7	80.7	56.5	95.3
5:57:15 PM	71.7	83.2	56.1	100.5
5:58:15 PM	66.5	68.8	65.2	84.8
5:59:15 PM	76.3	88.2	65.4	107.4
6:00:15 PM	68.2	77.3	54.1	91.3
6:01:15 PM	76.3	90.7	65.2	110.3
6:02:15 PM	68.5	71.1	57	91.1
6:03:15 PM	69.3	71.9	67.4	89

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:04:15 PM	71	81	56.2	101.1
6:05:15 PM	67.3	72.9	53.5	89
6:06:15 PM	69.4	70.2	57.8	88.7
6:07:15 PM	69	69.7	58.1	91.9
6:08:15 PM	70.6	76	58.7	93.7
6:09:15 PM	70.8	77.8	58.7	96
6:10:15 PM	71.9	82	57.2	97.8
6:11:15 PM	68.3	73.9	56.3	88.6
6:12:15 PM	68.7	78.7	55.9	97.6
6:13:15 PM	70.9	79.6	55.5	95.9
6:14:15 PM	66.9	71.9	54.3	85.7
6:15:15 PM	74.6	85.2	54.1	105.3
6:16:15 PM	68.6	78.5	55.5	95.1
6:17:15 PM	68.8	73.7	54.7	92.9
6:18:15 PM	66.7	73.5	53.5	85.4
6:19:15 PM	66.1	72.9	53.7	88.7
6:20:15 PM	67.1	74.5	53.2	90.8
6:21:15 PM	64.8	68.5	52.2	86.8
6:22:15 PM	72.6	84.8	52.3	105.3
6:23:15 PM	76.6	88.6	51.6	112.6
6:24:15 PM	63.9	70.3	51.5	89.1
6:25:15 PM	65	69.7	50.7	85.6
6:26:15 PM	78.7	97.7	50.1	111.4
6:27:15 PM	63.1	69.2	59.1	85.6
6:28:15 PM	60.7	64.8	58.6	85.9
6:29:15 PM	60.9	65.9	57.6	82.5
6:30:15 PM	61.9	69.1	57.1	86.7
6:31:15 PM	65.3	75.1	58.6	92.4
6:32:15 PM	62.3	70.6	59.6	84.2
6:33:15 PM	61.3	64.2	59.4	85.1
6:34:15 PM	62.4	69.3	58.9	84.6
6:35:15 PM	60.3	67	58.7	83.2
6:36:15 PM	60.1	65	58.7	86.1
6:37:15 PM	60.6	65.6	57.6	87.2
6:38:15 PM	58.5	61.9	56.8	86.9
6:39:15 PM	61.6	68.6	55.4	85
6:40:15 PM	59.1	66.6	55.4	83

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Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:41:15 PM	58.4	67.3	53.9	86.5
6:42:15 PM	57.2	65.4	52.4	81.7
6:43:15 PM	55.2	60.7	51.4	82.9
6:44:15 PM	63.1	73.6	51.1	91.4
6:45:15 PM	54.5	58.0	51.2	80.8
6:46:15 PM	57.5	70.6	51.9	87.8
6:47:15 PM	59.1	71.8	51.8	85
6:48:15 PM	54	57.7	50.3	82.2
6:49:15 PM	56.6	63.9	50.5	81.4
6:50:15 PM	56.7	63.9	51.2	81.5
6:51:15 PM	54.1	62.4	49.4	79.1
6:52:15 PM	53.1	59.8	47.2	76.9
6:53:15 PM	55.5	62.6	48.2	80.8
6:54:15 PM	52.1	59.7	47.8	83
6:55:15 PM	56	64.9	47.8	81.2
6:56:15 PM	48.7	52.5	45.5	77.2
6:57:15 PM	59.3	69.9	46	84.8
6:58:15 PM	56.1	64.7	46.8	81.2
6:59:15 PM	52.5	60.5	46.4	76.4
7:00:15 PM	48.1	51.1	45	79.1
7:01:15 PM	52.8	62.3	47.2	79.3
7:02:15 PM	58	65.5	46	83.9
7:03:15 PM	49.4	55.5	46.3	80
7:04:15 PM	50.9	54.1	48.3	79.8
7:05:15 PM	49.7	54.1	46.8	84.7
7:06:15 PM	56.7	66.1	45.7	85.9
7:07:15 PM	47.9	51.8	45.6	78.4
7:08:15 PM	48.3	51.3	45.4	75.9
7:09:15 PM	48.8	56.1	45.3	74.6
7:10:15 PM	55.7	62.9	45.7	82.7
7:11:15 PM	52.4	61.7	45	79.1
7:12:15 PM	56.4	64.2	44.8	80.3
7:13:15 PM	49.6	57	45.5	77.4
7:14:15 PM	48.9	55.6	45.1	77.1
7:15:15 PM	49.6	53.4	45.6	73
7:16:15 PM	48.2	53.7	44.6	85.2
7:17:15 PM	51.4	57.6	45.5	88.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:18:15 PM	47.9	52.3	42.5	76.1
7:19:15 PM	52.9	63.9	47.8	79.6
7:20:15 PM	48.1	53.3	43.5	71.1
7:21:15 PM	51.6	55.2	47.8	74.7
7:22:15 PM	48.7	53.7	43.6	78.8
7:23:15 PM	56.6	69.4	44	84.7
7:24:15 PM	51.7	56.3	46.5	79.7
7:25:15 PM	48.2	52.1	44	77.1
7:26:15 PM	46.4	50.8	42.7	80.4
7:27:15 PM	47.5	51.7	44.2	77
7:28:15 PM	66.5	77.8	44.1	96.8
7:29:15 PM	49.4	55.9	45	77.6
7:30:15 PM	49.4	53.1	47.9	76.9
7:31:15 PM	56.3	65.2	47.8	80.3
7:32:15 PM	47.8	51.2	44.7	81.2
7:33:15 PM	47.9	53.7	43.7	70.1
7:34:15 PM	47.1	51.3	43.6	69.6
7:35:15 PM	50.8	57.1	46.2	75.1
7:36:15 PM	47.4	52.1	44.8	72.7
7:37:15 PM	51.1	59.6	45.1	81.4
7:38:15 PM	51.4	53.7	49	77.8
7:39:15 PM	54.7	58	51.4	79.9
7:40:15 PM	58	64.1	52.5	78.9
7:41:15 PM	55.3	65	49.7	83.2
7:42:15 PM	54	62.1	49	77.8
7:43:15 PM	51.3	54.9	49.4	81.3
7:44:15 PM	54.3	60.7	50.9	81.9
7:45:15 PM	51.8	53.8	50.3	81
7:46:15 PM	52.1	54.3	49.9	76.2
7:47:15 PM	57.8	62.1	49.7	80.6
7:48:15 PM	54.5	61.7	49.6	81.5
7:49:15 PM	51.6	54.4	47.9	81.4
7:50:15 PM	52.1	54.6	49.6	77.4
7:51:15 PM	49.6	51.5	47.1	80.6
7:52:15 PM	51.1	54.2	47.5	84.1
7:53:15 PM	49.1	52.6	46.1	81.8
7:54:15 PM	48.6	53.3	45.6	78.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:55:15 PM	49.1	53.1	46.3	78.7
7:56:15 PM	49.2	51.8	46.3	81.5
7:57:15 PM	49.7	53.9	46.3	75.8
7:58:15 PM	50.1	53.2	46	82.2
7:59:15 PM	50.9	55.1	45.9	79.6
8:00:15 PM	52.6	60	47.7	79.9
8:01:15 PM	49.9	53.4	46.1	81.8
8:02:15 PM	53.2	56.4	46.6	81.7
8:03:15 PM	49	52.9	45.9	78.1
8:04:15 PM	49.2	52.8	46.3	76.7
8:05:15 PM	48.5	52.1	45.7	79.2
8:06:15 PM	49.2	53.6	45.1	75.2
8:07:15 PM	48.6	52.8	45	74.7
8:08:15 PM	51.6	54.3	46.8	76.9
8:09:15 PM	50	53.7	46.2	75.7
8:10:15 PM	48.8	51.8	45.4	74.3
8:11:15 PM	50.2	56.3	46.4	81.8
8:12:15 PM	50.1	53.8	47	79.2
8:13:15 PM	50.5	53.1	47	78
8:14:15 PM	50.2	54.6	45.9	74
8:15:15 PM	49.4	52.3	46.5	78.3
8:16:15 PM	51.5	54.9	48.4	78.7
8:17:15 PM	50.3	53.4	47.6	79.9
8:18:15 PM	51	57	50.8	78.5
8:19:15 PM	52	57	47.5	78.9
8:20:15 PM	50.8	53.6	48.4	78.2
8:21:15 PM	50.2	53.9	47.6	79
8:22:15 PM	49.9	53	46.6	82.6
8:23:15 PM	51.3	54.6	45.7	77.4
8:24:15 PM	50.3	54.2	46.3	79.8
8:25:15 PM	52	54.5	49.2	80.9
8:26:15 PM	51.8	54.6	47.7	80.5
8:27:15 PM	50.4	55.7	45.9	77.7
8:28:15 PM	50.6	51.1	47.3	77.1
8:29:15 PM	50.1	52.7	46.2	80.3
8:30:15 PM	51.7	56.1	46	77.1
8:31:15 PM	52.2	56.2	47.2	77.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:32:15 PM	50.7	54.1	47	76.2
8:33:15 PM	50.9	54.2	48.3	78.6
8:34:15 PM	52.5	54.8	47.9	81.8
8:35:15 PM	52.6	55.3	48.4	75.5
8:36:15 PM	52	54.5	49.3	75.9
8:37:15 PM	52.5	55.7	49	80.1
8:38:15 PM	52.6	55.1	48.8	77.6
8:39:15 PM	51.6	55.9	47.7	80.6
8:40:15 PM	54.4	56.3	51.6	79.5
8:41:15 PM	52.9	56	50	78.2
8:42:15 PM	54.1	56.6	51.6	80.7
8:43:15 PM	54.1	57	51.1	79.6
8:44:15 PM	54.8	56.6	51.9	77.6
8:45:15 PM	54.8	56.9	51.1	78
8:46:15 PM	55.8	57.6	52.8	78.4
8:47:15 PM	53.7	56.5	51	82.9
8:48:15 PM	54	56.5	51.2	77.3
8:49:15 PM	55.1	57.2	52.6	81.9
8:50:15 PM	54.6	56.8	52.7	80.2
8:51:15 PM	53.6	56.8	51.9	81.2
8:52:15 PM	54.3	56.6	52.8	80.7
8:53:15 PM	54.8	56.3	53.6	76.3
8:54:15 PM	54.9	57.3	53.2	77.8
8:55:15 PM	55.9	57.5	53.3	83.9
8:56:15 PM	55.8	58.1	53.2	76.3
8:57:15 PM	55.6	58.1	53.6	76.2
8:58:15 PM	55.8	57.6	53.8	79.8
8:59:15 PM	56.7	58.1	54.8	87.2
9:00:15 PM	55.7	58.4	53.6	80
9:01:15 PM	57.5	59.5	55.1	82.2
9:02:15 PM	57.5	59.5	56	80.8
9:03:15 PM	57.3	59.2	55.6	83.2
9:04:15 PM	57	59.7	54.7	77.4
9:05:15 PM	57.4	59.1	55.9	75
9:06:15 PM	57.5	59.5	55.9	74.6
9:07:15 PM	57.5	59.1	56.3	81
9:08:15 PM	57.9	60	56.4	80.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:09:15 PM	57	59.7	54.8	74.6
9:10:15 PM	58.7	60.5	55.5	75.9
9:11:15 PM	58.4	60.1	56.9	76.8
9:12:15 PM	58.2	60.5	56.3	75.7
9:13:15 PM	58.9	60.7	57.4	75.7
9:14:15 PM	58	60.1	56.9	75.5
9:15:15 PM	59.3	60.5	58.3	76.5
9:16:15 PM	58.3	60	57	80.1
9:17:15 PM	58.1	60	56.8	82.6
9:18:15 PM	58.8	60.3	57.6	81
9:19:15 PM	60.6	65.5	57.4	80.9
9:20:15 PM	59.3	60.4	57.6	78.8
9:21:15 PM	58.9	60.2	57.5	76.2
9:22:15 PM	59.2	60.1	57.5	76.9
9:23:15 PM	59.6	60.6	58.4	76.4
9:24:15 PM	59.3	60.7	58.1	76.2
9:25:15 PM	59.9	61	58.9	78.1
9:26:15 PM	60	60.8	58.8	76.2
9:27:15 PM	60	61.2	59	76.2
9:28:15 PM	59.7	60.4	58.8	76.6
9:29:15 PM	60.3	61	59.6	76.7
9:30:15 PM	60.8	61.7	59.8	77.8
9:31:15 PM	61.1	62.7	59.7	77.7
9:32:15 PM	61.3	62.2	60.1	78.1
9:33:15 PM	60.4	61.4	59.6	76.1
9:34:15 PM	59.9	60.9	58.4	76.3
9:35:15 PM	60.8	62	60	77.1
9:36:15 PM	61.4	62.2	60	78.3
9:37:15 PM	61.3	62.2	60	78.6
9:38:15 PM	61.9	62.7	60.6	77.9
9:39:15 PM	61.3	62.5	60.3	78.4
9:40:15 PM	61.9	62.7	60.9	77.4
9:41:15 PM	62.3	63.1	61.1	78.2
9:42:15 PM	62.4	63.2	61.6	80.1
9:43:15 PM	63.7	67.5	60.9	80.7
9:44:15 PM	62.4	64	61.3	79.2
9:45:15 PM	62.1	63	61.1	78.1

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Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
9:45:15 PM	61.8	63	50.4	79.2
9:47:15 PM	62.1	62.7	51	78.6
9:48:15 PM	62.2	63.2	51	78.3
9:49:15 PM	62.1	63.1	51.3	78.9
9:50:15 PM	62.4	63.4	51.4	80
9:51:15 PM	62.6	63.5	51.9	78.8
9:52:15 PM	63.2	64.1	52.1	80.8
9:53:15 PM	63.2	64	52	81.1
9:54:15 PM	63.3	64.4	52.1	81.8
9:55:15 PM	63.4	64.3	52.4	81
9:56:15 PM	63.2	64.3	51.1	81.4
9:57:15 PM	63.3	64.6	51.7	81.5
9:58:15 PM	63.6	64.8	51.1	83.5
9:59:15 PM	63.6	65.1	51.6	81.3
10:00:15 PM	63.8	65.1	52	83.1
10:01:15 PM	63.8	64.9	52.4	82
10:02:15 PM	64.1	64.1	52.2	81.7
10:03:15 PM	64.4	65.4	52.9	81.6
10:04:15 PM	64	65.1	52.6	82
10:05:15 PM	64	65.3	52.7	82
10:06:15 PM	63.7	65.5	52.6	81.7
10:07:15 PM	64	64.8	53	80.5
10:08:15 PM	64	64.6	53	80
10:09:15 PM	64	64.5	53.3	81
10:10:15 PM	64.1	64.7	53.5	80
10:11:15 PM	63.8	64.8	51.5	79.7
10:12:15 PM	62.6	63.5	51.4	79
10:13:15 PM	63.3	64.3	51.4	80.7
10:14:15 PM	63.4	64.2	52.6	80.1
10:15:15 PM	63.4	64.1	52.7	79.8
10:16:15 PM	62.8	63.9	51.5	80.7
10:17:15 PM	63.1	63.8	51.8	80.7
10:18:15 PM	63.3	63.9	52	79.6
10:19:15 PM	63.7	64.3	52.8	80.4
10:20:15 PM	63.2	64.2	52	81.1
10:21:15 PM	63.2	64	52	80.1
10:22:15 PM	63.6	64.7	52.4	82.2

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Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
10:23:15 PM	64	64.8	52.7	81.1
10:24:15 PM	64.2	64.9	53.2	80.5
10:25:15 PM	63.7	64.8	52.7	80.4
10:26:15 PM	63.4	64.6	52.2	81.2
10:27:15 PM	63.6	64.6	52.6	81
10:28:15 PM	63.4	64.3	52.6	81.1
10:29:15 PM	63.1	64	51.8	81.4
10:30:15 PM	63.3	66.7	51.7	80.4
10:31:15 PM	62.6	63.3	51.8	79.5
10:32:15 PM	62.9	63.5	52.1	80.1
10:33:15 PM	62.9	63.9	52	79.9
10:34:15 PM	63.1	63.9	52.3	80.7
10:35:15 PM	63	63.8	51.7	80.1
10:36:15 PM	62.9	63.7	50.4	80.3
10:37:15 PM	63.1	64.3	51.2	80.7
10:38:15 PM	63.2	64.9	52	80.2
10:39:15 PM	63.4	64.1	52.8	81.1
10:40:15 PM	63.3	64.4	52	80.7
10:41:15 PM	62.9	64	51.6	81.2
10:42:15 PM	62.3	63.8	48.7	80.5
10:43:15 PM	62.3	63.6	50.3	80.8
10:44:15 PM	62.5	63.5	50.2	81.5
10:45:15 PM	63	64	51.7	80
10:46:15 PM	62.5	63.3	51.3	79.4
10:47:15 PM	62.9	63.6	51.9	79.6
10:48:15 PM	63.4	64.1	52.6	80.4
10:49:15 PM	64.1	68.1	52.5	81.4
10:50:15 PM	64.1	69.1	52	81.9
10:51:15 PM	62.8	63.8	51.6	79.4
10:52:15 PM	63.1	64	51.4	80
10:53:15 PM	63.1	64	51.9	79.2
10:54:15 PM	62.2	63.6	51.1	79.2
10:55:15 PM	62.9	63.7	51.3	80.5
10:56:15 PM	62.7	63.1	51.1	79.9
10:57:15 PM	62.5	63.5	51.1	80
10:58:15 PM	62	63.5	50.1	80.4
10:59:15 PM	62.6	63.6	51.1	80.6

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:00:15 PM	62.5	63.5	51.4	80.6
11:01:15 PM	62	63.2	50.2	81
11:02:15 PM	62.9	63.6	51.7	80.6
11:03:15 PM	63	63.7	52.2	79.7
11:04:15 PM	62.7	63.8	51.3	81.3
11:05:15 PM	62.7	63.6	50.8	80.3
11:06:15 PM	62.8	63.7	51.7	80.7
11:07:15 PM	62.5	63.6	59	80.2
11:08:15 PM	62.5	63.3	50.9	80.4
11:09:15 PM	62.8	63.6	51.3	81.5
11:10:15 PM	62.2	63.4	50.4	80.5
11:11:15 PM	62.6	63.6	51.2	80.4
11:12:15 PM	63	64	51.8	82.1
11:13:15 PM	63.3	64.2	52	80.7
11:14:15 PM	63	63.9	51.6	80.3
11:15:15 PM	62.3	63.3	50.8	80.6
11:16:15 PM	62.2	63.2	50.6	81.9
11:17:15 PM	62.1	63.1	50.3	80.2
11:18:15 PM	61.9	63.3	50	80.4
11:19:15 PM	62.3	63.7	50.6	80.6
11:20:15 PM	61.5	63.1	58.4	80.6
11:21:15 PM	61.3	63	58.7	79.8
11:22:15 PM	62	63	50.1	80.9
11:23:15 PM	61.6	63	59.6	80.2
11:24:15 PM	60.8	62.8	57.3	79.6
11:25:15 PM	61.9	63.1	58.9	81.6
11:26:15 PM	61.9	63	50.5	80.7
11:27:15 PM	62.3	63.2	50.7	80.5
11:28:15 PM	60.9	62.8	58.8	80
11:29:15 PM	61.9	63	50.4	80.1
11:30:15 PM	62.2	69.2	59	82.3
11:31:15 PM	63.9	70.5	58.7	82.9
11:32:15 PM	63.1	69.4	50.2	82.5
11:33:15 PM	62.9	69.7	50	81.9
11:34:15 PM	61.8	62.9	50.6	80.1
11:35:15 PM	63	69.8	54.9	82.5
11:36:15 PM	62.9	69.7	50	81.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
11:37:15 PM	62	63	60.5	80.3
11:38:15 PM	61.7	62.9	60.2	79.8
11:39:15 PM	62.9	69.7	60.6	82.6
11:40:15 PM	63	69.5	59.6	83.4
11:41:15 PM	63.5	70.5	58.9	83
11:42:15 PM	64.7	70.9	57.9	83.5
11:43:15 PM	62.6	68.6	60.3	82.3
11:44:15 PM	62.8	70	59.1	82.5
11:45:15 PM	59.9	62.8	56.3	80.3
11:46:15 PM	61.5	62.7	58.2	79
11:47:15 PM	62.4	69.8	57.3	82.7
11:48:15 PM	61.1	62.4	59	80.1
11:49:15 PM	63	69.6	59.5	81.7
11:50:15 PM	61.1	62.3	58.2	79.4
11:51:15 PM	63.4	69.5	58.9	82.3
11:52:15 PM	63.4	69.4	59.6	82.4
11:53:15 PM	62.9	69.5	57.4	82.8
11:54:15 PM	61.9	69	56.9	81
11:55:15 PM	62.1	67.1	55.8	80
11:56:15 PM	59.6	62.4	57.7	82
11:57:15 PM	60	65.2	56.8	77.6
11:58:15 PM	62.2	68.2	58.1	81.5
11:59:15 PM	62.5	68.1	56.9	81
8/7/2020 12:00:15 AM	60.1	62.5	56.1	80.8
12:01:15 AM	63.1	68.5	56.6	82.9
12:02:15 AM	57.5	62.5	55.8	79.7
12:03:15 AM	63.7	68.2	57.1	82.7
12:04:15 AM	61.7	68.1	55.7	79
12:05:15 AM	60.8	68	55.7	80.9
12:06:15 AM	63	68.4	54.8	81.2
12:07:15 AM	60.4	68.1	54.7	81.7
12:08:15 AM	60.2	67.7	54.5	78.9
12:09:15 AM	63.3	68.6	55	82.5
12:10:15 AM	61.7	68.8	55.5	84
12:11:15 AM	64.9	68.8	55.8	81.9
12:12:15 AM	63	68.4	55.4	79.8
12:13:15 AM	63.8	68.9	55.3	80.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:14:15 AM	63.4	68.4	54.8	81.8
12:15:15 AM	61.7	68.7	54.5	83.2
12:16:15 AM	56.6	64.7	55	79.1
12:17:15 AM	64.1	69.4	55.1	82.4
12:18:15 AM	63.8	69.7	54.9	81.4
12:19:15 AM	61.4	68.5	54.5	81.7
12:20:15 AM	62.6	68.7	55.2	88.6
12:21:15 AM	64.3	69.6	56.2	80.4
12:22:15 AM	61	69.6	54.3	80.9
12:23:15 AM	61.1	68.6	54.5	79.7
12:24:15 AM	65.8	70	55.7	80.8
12:25:15 AM	62.9	70.1	54.6	81
12:26:15 AM	56	58.8	54.6	73.2
12:27:15 AM	63	70.2	55.1	81.2
12:28:15 AM	61.8	70.1	54.4	81.3
12:29:15 AM	65	71	55	80.7
12:30:15 AM	66	72.2	54.1	83.3
12:31:15 AM	64.7	70.1	54.9	82.2
12:32:15 AM	55.2	56.4	54.1	70.5
12:33:15 AM	62.1	69.4	54.8	81
12:34:15 AM	63.9	69.2	55.1	80.8
12:35:15 AM	61.2	68.7	54	79.3
12:36:15 AM	59.8	68.7	54.2	80.2
12:37:15 AM	63.6	69.1	54.3	81
12:38:15 AM	67.4	70.5	56	83.1
12:39:15 AM	67.2	70.7	56.2	83.4
12:40:15 AM	63.2	69	54.8	81.8
12:41:15 AM	67.6	71.3	57.7	84.4
12:42:15 AM	68.4	70.6	60.4	83.5
12:43:15 AM	69.1	71.3	62.7	87.9
12:44:15 AM	67.5	70.6	57.8	83.8
12:45:15 AM	67.2	69.8	56.3	82.7
12:46:15 AM	64.3	69.9	55.8	80.6
12:47:15 AM	68.1	70.7	57.7	84.1
12:48:15 AM	68.4	70.4	60.4	83.4
12:49:15 AM	64.4	70.2	55.9	82.9
12:50:15 AM	66.5	70.9	57.2	82

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
12:51:15 AM	65.2	70	56.5	81.2
12:52:15 AM	66.2	70 8	54	82.3
12:53:15 AM	68.3	70 8	60.4	83.8
12:54:15 AM	68.3	72 4	58.9	85
12:55:15 AM	68.8	71	61.1	83.8
12:56:15 AM	68.6	71 6	61.1	83.9
12:57:15 AM	68.6	72 1	57.7	84.9
12:58:15 AM	68.5	72	60.4	84.4
12:59:15 AM	67.7	72	58.3	84.9
1:00:15 AM	67.5	70 5	55.5	84
1:01:15 AM	65.4	71 3	54.4	83.1
1:02:15 AM	69.5	72 6	53	84.6
1:03:15 AM	69.7	73 5	60.2	86.1
1:04:15 AM	70	73 2	62	85.8
1:05:15 AM	69.5	73 3	59.9	85.3
1:06:15 AM	69 3	71 7	61 8	85 2
1:07:15 AM	69.5	71 5	63.4	84.2
1:08:15 AM	68.8	72	60.3	83.9
1:09:15 AM	69.6	71 8	65.3	84.6
1:10:15 AM	69.5	73 2	63.1	85.3
1:11:15 AM	69.5	73 6	62.3	85.9
1:12:15 AM	69.1	71 8	59.3	83.8
1:13:15 AM	67.9	67 4	63.7	78.9
1:14:15 AM	68.2	71 7	57.2	83.4
1:15:15 AM	68.6	71 9	59.9	84.8
1:16:15 AM	69	73 6	59.7	85.2
1:17:15 AM	67.9	71 8	60.9	83.6
1:18:15 AM	68.2	71 7	61.1	83.9
1:19:15 AM	68.7	71 9	60.7	84.7
1:20:15 AM	69.5	72 7	62.8	84.2
1:21:15 AM	67.3	71 2	60.1	83.8
1:22:15 AM	67.8	71 3	61.7	83.5
1:23:15 AM	66.6	69 1	61	83
1:24:15 AM	66.7	70 6	59.7	82.5
1:25:15 AM	67.3	69 5	62.4	82.2
1:26:15 AM	67.8	70 3	61.8	82.4
1:27:15 AM	67.8	72	62.4	82.9

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
1:28:15 AM	67.3	72	58.8	84
1:29:15 AM	67.2	70 3	60.6	82.6
1:30:15 AM	65.8	68	59.9	80.7
1:31:15 AM	66.9	69 9	59.9	82.6
1:32:15 AM	67.1	70 4	60.9	84.5
1:33:15 AM	67.8	72 8	60.5	84.1
1:34:15 AM	67	70 7	59.8	83.2
1:35:15 AM	65.2	68 4	60	81.1
1:36:15 AM	65.5	67 6	60.8	80.7
1:37:15 AM	65	67 4	60.5	81
1:38:15 AM	64.9	67 2	60	79.8
1:39:15 AM	66.1	69 1	60.4	80.5
1:40:15 AM	66.9	69 5	62.5	82.1
1:41:15 AM	66.7	69 4	61.6	82.6
1:42:15 AM	66.6	68 8	61.9	81.5
1:43:15 AM	65 6	69 4	56 8	81.9
1:44:15 AM	67.2	69 4	59.6	82.9
1:45:15 AM	67.4	69 4	62.2	84
1:46:15 AM	67.6	70 3	59.8	82.8
1:47:15 AM	67.4	69 8	61.1	82.5
1:48:15 AM	66.8	69 3	60.5	82.2
1:49:15 AM	66.4	69	59.9	81.7
1:50:15 AM	67.1	69 4	62.3	81.5
1:51:15 AM	67.1	69 6	59.8	82.8
1:52:15 AM	67	69 1	61.4	82.4
1:53:15 AM	67.4	70 1	61	83.4
1:54:15 AM	68.1	70 3	61.9	82.3
1:55:15 AM	67.7	70 6	61.4	83.5
1:56:15 AM	67.4	70 1	62.5	82.1
1:57:15 AM	64.4	68 9	52.8	80.4
1:58:15 AM	64.3	68 9	52.2	82
1:59:15 AM	65.1	67 4	58.4	80.5
2:00:15 AM	65.4	68	61.2	82.3
2:01:15 AM	65.3	67 6	60.1	80.5
2:02:15 AM	66	69 5	60.3	81.9
2:03:15 AM	66.1	68 7	62	80.5
2:04:15 AM	65.8	68 7	60.9	80.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:05:15 AM	65.7	68.1	50.7	80.8
2:06:15 AM	65.9	68.7	52.6	80.2
2:07:15 AM	65.9	68.8	50.3	81.8
2:08:15 AM	65.8	68.9	50.5	81.5
2:09:15 AM	65.1	67.8	58.6	80.8
2:10:15 AM	64.7	67.4	59.8	81.3
2:11:15 AM	64.1	66.6	50.3	80.9
2:12:15 AM	64.2	67.5	50.1	79.7
2:13:15 AM	63.6	65.9	58.7	78.2
2:14:15 AM	65.5	68.5	51.6	80.6
2:15:15 AM	65.9	69.1	58.5	81.7
2:16:15 AM	65.2	68.7	58.6	81
2:17:15 AM	65.9	68.5	50	81.2
2:18:15 AM	65.2	69	50.7	81
2:19:15 AM	66.1	69.2	51	81.1
2:20:15 AM	65.5	68.7	50.8	82.5
2:21:15 AM	64.8	68.4	57.9	81
2:22:15 AM	65.3	68.3	50.9	80.8
2:23:15 AM	65.2	68	56.9	80.8
2:24:15 AM	65.5	69	47.7	82.3
2:25:15 AM	65.2	68.7	50.7	80.8
2:26:15 AM	64.8	68.8	59.2	80.4
2:27:15 AM	65.1	68.5	58.7	81.1
2:28:15 AM	64.8	68.3	58	80.4
2:29:15 AM	65.3	68.7	59.8	82.4
2:30:15 AM	64.7	68.6	57.5	81
2:31:15 AM	65.5	68.8	50.9	81.2
2:32:15 AM	65.5	69	55.7	81.8
2:33:15 AM	65.7	69.2	50.6	83.4
2:34:15 AM	65.6	68.8	59.8	81.2
2:35:15 AM	65.6	68.8	59.5	81.4
2:36:15 AM	66	68.7	50.5	81.5
2:37:15 AM	65	68.1	59.7	80.1
2:38:15 AM	65.4	69	59.7	81.8
2:39:15 AM	65.3	69.6	50.6	81.5
2:40:15 AM	64.8	69	58.8	82.5
2:41:15 AM	65.8	69.3	57.1	81.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
2:42:15 AM	65.1	68.3	50	80.8
2:43:15 AM	65.6	68.4	60.8	80.7
2:44:15 AM	66.1	69.5	60.2	82.2
2:45:15 AM	65.6	69.5	58.7	81.9
2:46:15 AM	65.8	69.1	59.7	81.7
2:47:15 AM	66.2	69.1	60.7	82.3
2:48:15 AM	66.6	69.1	61.3	81.7
2:49:15 AM	65.8	68.7	59.8	82.3
2:50:15 AM	66.1	68.8	59.6	81.4
2:51:15 AM	67.2	70.1	61.6	82.7
2:52:15 AM	66	68.9	59.5	81
2:53:15 AM	66.5	69.6	59.8	82.1
2:54:15 AM	65.8	68.8	57.6	81.4
2:55:15 AM	65.3	69	56	82
2:56:15 AM	67.4	70.8	60.2	82.9
2:57:15 AM	67	69.2	60.1	83.3
2:58:15 AM	66.5	71	59.8	82.7
2:59:15 AM	66.8	69.6	60.1	82.3
3:00:15 AM	66.3	69	59.2	81.2
3:01:15 AM	66	70.3	58.7	83.7
3:02:15 AM	66	68.6	62.9	81.2
3:03:15 AM	66.5	70.3	58.5	81.8
3:04:15 AM	66	69.7	58.6	82.3
3:05:15 AM	66.4	69.4	60	82.2
3:06:15 AM	65.9	68.9	59	81.7
3:07:15 AM	65.3	67.7	58.9	80.3
3:08:15 AM	64.6	68.7	55.7	81.2
3:09:15 AM	65.7	68.8	59.2	80.6
3:10:15 AM	65.9	68.4	60	80.8
3:11:15 AM	65.5	68.5	59.6	81.7
3:12:15 AM	65.9	70.1	60.9	83
3:13:15 AM	66.1	70.3	57.5	82.6
3:14:15 AM	64.6	68.4	54.3	80.4
3:15:15 AM	63.7	68.3	55.7	80.3
3:16:15 AM	64	67.9	53.7	80.8
3:17:15 AM	61.4	67.1	51.2	80.1
3:18:15 AM	57.5	65.7	51	77.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:19:15 AM	63.2	68.3	56.6	81.1
3:20:15 AM	65.5	69.4	59.4	81.9
3:21:15 AM	64.4	67.1	58.3	81
3:22:15 AM	65.1	68.3	58.8	81.6
3:23:15 AM	65	68.3	58.3	81.8
3:24:15 AM	64.6	68.7	57.3	82
3:25:15 AM	64	68.3	59	81.3
3:26:15 AM	65.7	68.9	57.5	81.9
3:27:15 AM	65.5	68.5	59.1	81.2
3:28:15 AM	64.5	68.8	58	81.6
3:29:15 AM	64.6	67.8	55.3	80.4
3:30:15 AM	63.2	66.2	53.5	78.3
3:31:15 AM	62.5	68.2	51	79.6
3:32:15 AM	63.5	67.9	53.2	80.1
3:33:15 AM	59.6	64.5	50.1	76.6
3:34:15 AM	62.5	67.7	51.5	81.2
3:35:15 AM	56.1	61.1	49.1	74.4
3:36:15 AM	59.5	64.9	49.2	76.8
3:37:15 AM	58.7	64.2	48.8	76.6
3:38:15 AM	60.3	68	48.6	80.9
3:39:15 AM	50.6	53.5	48.9	69.2
3:40:15 AM	50.2	54.1	48.5	71.4
3:41:15 AM	51.4	53.7	49.7	67.4
3:42:15 AM	50	54.9	48.5	68.1
3:43:15 AM	60	64.9	49.9	77.5
3:44:15 AM	59.6	66.1	50.8	76.8
3:45:15 AM	59.8	64.4	48.4	76.3
3:46:15 AM	56.6	60.6	48.8	73.2
3:47:15 AM	58.5	64.8	48.4	76.3
3:48:15 AM	51.5	57	47.3	71
3:49:15 AM	49.6	52.1	48.2	67.8
3:50:15 AM	59.1	65.3	48.5	77.5
3:51:15 AM	55	61	48.5	75.1
3:52:15 AM	55.5	59	49.1	73.2
3:53:15 AM	56.1	60.8	48.3	73.3
3:54:15 AM	55.9	62.6	48.5	75.4
3:55:15 AM	58.2	62.7	49.7	75.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
3:56:15 AM	58.7	60	48.6	72.4
3:57:15 AM	56.9	61.7	48.4	78.3
3:58:15 AM	57.7	61.5	48.5	73.5
3:59:15 AM	59	62.2	49.7	74.9
4:00:15 AM	56.1	61.9	48.5	74.5
4:01:15 AM	58.7	62.5	49.7	74.8
4:02:15 AM	52.1	58	47.6	73.3
4:03:15 AM	54.8	59.9	47.8	72.3
4:04:15 AM	54.7	59.5	48.1	74
4:05:15 AM	56.4	60.8	49.8	72.7
4:06:15 AM	56.2	60.5	48.6	72.1
4:07:15 AM	55.8	59.9	48.3	75.4
4:08:15 AM	57.3	61.3	49.9	77.5
4:09:15 AM	55.4	61.2	47.8	71.9
4:10:15 AM	56	60.6	48	72.7
4:11:15 AM	55.3	59.4	48.9	73
4:12:15 AM	56.8	60.1	48	72.6
4:13:15 AM	57.3	61.9	47.9	77.7
4:14:15 AM	56.2	60.9	48.4	73.2
4:15:15 AM	56.1	59.8	48	73.5
4:16:15 AM	49.5	51.7	47.6	67.7
4:17:15 AM	51	56.5	47.5	72.6
4:18:15 AM	52.5	59.6	47.7	75.7
4:19:15 AM	52.6	60.3	47.7	72.2
4:20:15 AM	55.9	60.6	46.3	71.5
4:21:15 AM	51.9	59.6	46.8	71.9
4:22:15 AM	54.1	60.7	46.6	73.4
4:23:15 AM	57.3	60.7	47.4	71.8
4:24:15 AM	57	61.8	48.9	73.5
4:25:15 AM	56.8	61.1	48.9	74.4
4:26:15 AM	56.7	61.3	48.8	74
4:27:15 AM	53.8	60.7	46.9	73
4:28:15 AM	48.3	51.4	46.5	84.2
4:29:15 AM	50.8	52.5	48.8	71.3
4:30:15 AM	49.7	50.7	49	72.5
4:31:15 AM	56.2	61.3	48	72.3
4:32:15 AM	52.7	61.1	48.1	73.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
4:33:15 AM	53.3	60.1	46.3	71.1
4:34:15 AM	49.1	51.4	46.1	68.2
4:35:15 AM	48.3	49.3	47.5	74.3
4:36:15 AM	50	52.7	48.6	68.7
4:37:15 AM	50.2	53.7	47.8	71.1
4:38:15 AM	47.9	49.7	47	66
4:39:15 AM	52	57.2	47.9	69.6
4:40:15 AM	51.7	57.5	48.1	71
4:41:15 AM	49.7	52.2	47.9	76.4
4:42:15 AM	48.5	49.2	47.9	69.4
4:43:15 AM	53.1	62.2	47.9	73
4:44:15 AM	50.4	56	47.4	69.1
4:45:15 AM	49.4	52.2	48.1	68.4
4:46:15 AM	48.8	49.4	48.4	68.4
4:47:15 AM	49.6	53	47.9	77.3
4:48:15 AM	54.7	60.5	49.5	74.7
4:49:15 AM	48.9	49.5	48.3	69.9
4:50:15 AM	48.8	49.4	48.3	67.1
4:51:15 AM	59.2	64.4	49	75.2
4:52:15 AM	56.1	64.7	48.8	75.6
4:53:15 AM	48.8	49.5	48.2	71.3
4:54:15 AM	48.8	49.2	48.4	69.2
4:55:15 AM	50.8	53.7	48.4	68.8
4:56:15 AM	49	52	47.8	71.5
4:57:15 AM	48	48.8	47.6	66.6
4:58:15 AM	49.5	52.2	47.6	74.3
4:59:15 AM	48.9	50.5	48.1	67.6
5:00:15 AM	48.4	49.2	47.9	66.9
5:01:15 AM	49.5	51.5	48	74.1
5:02:15 AM	58.1	66.8	47.1	77.9
5:03:15 AM	52.9	66.8	47.6	76.7
5:04:15 AM	56.1	66.3	48.1	77
5:05:15 AM	49.7	51.9	48.1	70.8
5:06:15 AM	48.5	49.1	47.9	72.9
5:07:15 AM	48.6	49.3	48.1	68.5
5:08:15 AM	49.9	52.2	48.3	69.7
5:09:15 AM	56.1	66.4	47.6	77.3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:10:15 AM	48.7	49.7	48	73.5
5:11:15 AM	49.7	51.7	48.1	71
5:12:15 AM	48.7	52.2	47.4	76.5
5:13:15 AM	47.7	49.8	47	79.6
5:14:15 AM	49.3	52.4	47.6	71.5
5:15:15 AM	51.1	53.5	47.5	70.6
5:16:15 AM	48.6	51.5	47.2	74.5
5:17:15 AM	48.7	51	47.5	79.7
5:18:15 AM	50.6	57.5	47.1	71.2
5:19:15 AM	56.5	65.2	47.1	75.9
5:20:15 AM	56.3	66.2	47.1	76.4
5:21:15 AM	51	52.8	49.3	72.6
5:22:15 AM	51.1	53.3	49.1	70.7
5:23:15 AM	50.8	52.7	47	77
5:24:15 AM	48.6	50.6	46.9	70.3
5:25:15 AM	50.8	53	47.6	70.4
5:26:15 AM	50	51	49.3	68.8
5:27:15 AM	50.1	51.2	49.4	76.8
5:28:15 AM	51.1	52.9	49.6	70.4
5:29:15 AM	50.2	51.3	49.5	70.2
5:30:15 AM	50.2	51.5	49	72.6
5:31:15 AM	50.6	52.9	49.1	69.7
5:32:15 AM	49.8	50.7	49.1	70.7
5:33:15 AM	49.9	51.1	48.6	71.1
5:34:15 AM	49.4	50.6	47.4	68.6
5:35:15 AM	50	51.3	48.8	71.9
5:36:15 AM	49.4	50.2	47.9	69.6
5:37:15 AM	49	50.2	46.9	71
5:38:15 AM	48.4	50.8	46.8	69.1
5:39:15 AM	50	51.8	46.9	68.9
5:40:15 AM	48.6	51.3	46.8	70.5
5:41:15 AM	47.1	47.6	46.8	68
5:42:15 AM	48.4	51.2	46.8	75.3
5:43:15 AM	48.3	51.5	46.9	68.2
5:44:15 AM	48.3	51.5	46.2	69.2
5:45:15 AM	48.3	51.2	45.9	67.6
5:46:15 AM	49.2	52.3	46.8	71.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
5:47:15 AM	47.2	48.1	46.8	70.1
5:48:15 AM	48.8	51.2	45.9	68.9
5:49:15 AM	47.6	51.2	46.9	71.4
5:50:15 AM	48.5	51.2	46.9	73.9
5:51:15 AM	48.6	51.4	47	71.5
5:52:15 AM	47	47.6	45.9	71.3
5:53:15 AM	48.7	51	47.1	71.2
5:54:15 AM	49	51.9	47.4	71.3
5:55:15 AM	49.4	52	48	69.4
5:56:15 AM	47.7	48.8	46.7	76
5:57:15 AM	47.7	48.5	47.2	71
5:58:15 AM	49	51.2	47.2	78.3
5:59:15 AM	48.9	52.3	46.9	72.4
6:00:15 AM	47.6	48.3	46	70.6
6:01:15 AM	47.7	48.1	47.2	68.2
6:02:15 AM	48.2	49.3	47.1	69.8
6:03:15 AM	49.5	52.6	47.6	72.3
6:04:15 AM	48	49	47.3	70.2
6:05:15 AM	48	48.5	46.8	70.3
6:06:15 AM	48.6	51.1	47.6	67.7
6:07:15 AM	49.1	52	47.2	71.6
6:08:15 AM	47.6	48.1	47	67.3
6:09:15 AM	47.6	48	47	69.2
6:10:15 AM	60.8	70.6	47.1	81.2
6:11:15 AM	65	72.3	47.3	83
6:12:15 AM	54.3	70.7	47.5	73.3
6:13:15 AM	48	50.7	46.5	68.2
6:14:15 AM	45.8	47.4	44.1	69.4
6:15:15 AM	45.5	47.3	44.4	71.1
6:16:15 AM	46.4	48.5	45.1	65.1
6:17:15 AM	46.8	49.7	44.6	70.8
6:18:15 AM	45.2	45.7	44.7	70.4
6:19:15 AM	55.6	60.4	45.1	72.7
6:20:15 AM	47.5	51.8	45.5	80.5
6:21:15 AM	46.4	48.2	45.1	73.1
6:22:15 AM	45.6	47.7	44.6	69.7
6:23:15 AM	44.7	45.1	44.3	65.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
6:24:15 AM	45.2	47.1	42.4	71.7
6:25:15 AM	46.2	49.1	42.7	66.9
6:26:15 AM	45.6	47.6	43.7	72.6
6:27:15 AM	44.3	45.7	43.5	64.8
6:28:15 AM	44.9	46.6	44.1	70.2
6:29:15 AM	46.7	48.1	44.5	67.7
6:30:15 AM	47.1	49.9	45.1	73.8
6:31:15 AM	45.9	50.2	44	68.1
6:32:15 AM	46	47.8	44.5	72.7
6:33:15 AM	44.8	46.1	42.2	66.7
6:34:15 AM	44.8	46.9	44.1	67.5
6:35:15 AM	45.3	47.5	43.7	65.7
6:36:15 AM	45.6	48	43.9	72.8
6:37:15 AM	44.8	46.8	43.9	69.1
6:38:15 AM	45.6	46.6	43.9	71.3
6:39:15 AM	46.4	48.1	44.5	70.4
6:40:15 AM	47.2	49.8	45.1	65
6:41:15 AM	55.8	61.2	47.5	73.8
6:42:15 AM	46.4	48.2	44.7	74.5
6:43:15 AM	44.9	46.5	44.1	72.5
6:44:15 AM	44.5	45.2	44	71.5
6:45:15 AM	44.2	44.9	43.8	69
6:46:15 AM	44.1	46.1	43.7	78.6
6:47:15 AM	44.1	44.8	43.8	75.4
6:48:15 AM	45.3	46.6	44.2	72.5
6:49:15 AM	46.2	47.7	44.1	71.1
6:50:15 AM	44.2	44.7	43.8	70.9
6:51:15 AM	44.5	45	43.9	69.5
6:52:15 AM	44.1	44.8	43.7	70.1
6:53:15 AM	44.5	45.1	43.9	71.6
6:54:15 AM	44.1	44.9	43.7	67.3
6:55:15 AM	44.4	49.2	43.7	74.7
6:56:15 AM	44.1	44.8	43.7	71.7
6:57:15 AM	44.2	44.6	43.8	66.5
6:58:15 AM	45	46.3	44	65.5
6:59:15 AM	43.9	44.8	43.5	74.2
7:00:15 AM	44.4	45.5	43.7	78.7

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:01:15 AM	44.6	45.5	42.2	69.9
7:02:15 AM	46.2	51.4	42.6	73.9
7:03:15 AM	53	57.1	45.7	69.7
7:04:15 AM	46.4	49.1	42.2	70.1
7:05:15 AM	44.6	45.6	44	72.6
7:06:15 AM	44.8	45.8	42.5	75.8
7:07:15 AM	45.7	48.5	42.6	71.1
7:08:15 AM	54.9	57.9	48.5	73.7
7:09:15 AM	46.8	51.4	42.4	69.7
7:10:15 AM	44.4	45.8	43.8	75.8
7:11:15 AM	46.1	50.5	42.1	77.3
7:12:15 AM	44.2	45.8	43.7	74.6
7:13:15 AM	44.5	45.6	43.8	71.3
7:14:15 AM	44.1	45.4	43.7	75.6
7:15:15 AM	45	47.3	43.9	68.9
7:16:15 AM	45.3	47.9	43.8	70
7:17:15 AM	44.3	44.8	43.9	68.6
7:18:15 AM	44.2	45.3	43.8	73.8
7:19:15 AM	44	44.5	43.6	64.9
7:20:15 AM	44.2	45	43.8	71.7
7:21:15 AM	44.7	45.9	44	67.7
7:22:15 AM	45.8	48.1	42.3	71.6
7:23:15 AM	44.4	45	43.9	65.5
7:24:15 AM	44.2	44.8	43.7	64.1
7:25:15 AM	51	56.4	42.6	76.7
7:26:15 AM	45.2	49.5	42.1	70.8
7:27:15 AM	44.4	45	44	74.6
7:28:15 AM	44.7	45.4	42.1	69.7
7:29:15 AM	48.7	52.3	42.7	76.5
7:30:15 AM	45.7	47.8	42.1	66
7:31:15 AM	45.4	48.5	42.1	73.8
7:32:15 AM	44.6	45.4	42.3	73.5
7:33:15 AM	44.4	44.7	42.1	70.6
7:34:15 AM	44.5	45	42.2	72.1
7:35:15 AM	45	46.2	42.5	70.7
7:36:15 AM	52.2	58.3	45.1	71
7:37:15 AM	46.1	48.5	45.2	83.4

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
7:38:15 AM	49.3	52.9	45	68.3
7:39:15 AM	47	51.3	45.4	68.5
7:40:15 AM	45.8	46.7	45.1	65
7:41:15 AM	45.4	46.3	44.8	71
7:42:15 AM	46.7	47.7	45.5	65.8
7:43:15 AM	46	46.8	44.9	64
7:44:15 AM	46.1	46.5	45.5	72.2
7:45:15 AM	46.3	47.9	44.8	69.4
7:46:15 AM	46.4	47.5	45.4	70.6
7:47:15 AM	46.3	46.8	45.6	72.5
7:48:15 AM	46	46.6	45.3	65.9
7:49:15 AM	46	46.5	45.3	62
7:50:15 AM	46.2	46.7	45.7	63.7
7:51:15 AM	47	48.9	44.8	68.4
7:52:15 AM	46.3	49	44.9	75.6
7:53:15 AM	51.1	55.4	45.2	72.5
7:54:15 AM	47.4	51.2	45.3	74.2
7:55:15 AM	45.7	46.8	44.8	67.4
7:56:15 AM	46.4	46.9	45.4	65.4
7:57:15 AM	45.8	46.8	44.6	64.8
7:58:15 AM	46.3	47.3	45.2	64.9
7:59:15 AM	46.7	47.1	46.4	67.1
8:00:15 AM	46.4	47.1	45.3	72.8
8:01:15 AM	46.2	48.5	45	77.4
8:02:15 AM	48.6	51.8	46.6	64.4
8:03:15 AM	46.5	47.4	44.9	63.8
8:04:15 AM	45.6	46.6	44.4	66.1
8:05:15 AM	46.3	46.8	45.4	66.5
8:06:15 AM	46	46.9	45.3	62.9
8:07:15 AM	47	48.9	45.6	72.2
8:08:15 AM	46	46.7	44.8	61.3
8:09:15 AM	45.9	46.9	44.9	71.8
8:10:15 AM	46.7	48	45.3	65.7
8:11:15 AM	48.6	47.7	45.8	70.4
8:12:15 AM	46.2	46.8	45.4	72.3
8:13:15 AM	45.9	46.4	45.3	61.7
8:14:15 AM	46.1	48.5	45.5	79.5

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:15:15 AM	46	46.4	45.4	63.8
8:16:15 AM	46.4	47.7	45.4	63
8:17:15 AM	46.1	47.3	45.3	64.3
8:18:15 AM	45.9	47.2	45.1	64.2
8:19:15 AM	45.8	46.3	45	69.4
8:20:15 AM	46.1	46.6	45.3	61.4
8:21:15 AM	46.8	49.4	45.5	65.7
8:22:15 AM	46.2	48.7	45.3	67.2
8:23:15 AM	46.2	47.2	45	61.5
8:24:15 AM	44.9	45.6	42.4	65.4
8:25:15 AM	45.1	47	44.6	62.3
8:26:15 AM	45.2	45.6	44.7	61.7
8:27:15 AM	47.9	52.3	44.7	66.1
8:28:15 AM	45	47.3	44.5	64.9
8:29:15 AM	44.9	45.2	44.4	67.5
8:30:15 AM	45	47.4	44.2	62
8:31:15 AM	45.8	47.6	44.4	63.9
8:32:15 AM	45.5	46.1	42.4	72.4
8:33:15 AM	45.9	46.6	45.1	63.7
8:34:15 AM	45.4	46.1	44.4	68.8
8:35:15 AM	45.4	46	42.9	67.2
8:36:15 AM	45.6	46.1	45.2	64.2
8:37:15 AM	45.5	46	45	65.9
8:38:15 AM	45.5	46	45.1	69.3
8:39:15 AM	46	46.4	45.6	61.4
8:40:15 AM	45.6	46	45.3	65.5
8:41:15 AM	46.1	47	45.4	64.1
8:42:15 AM	46	47.7	44.8	64.7
8:43:15 AM	45.5	45.9	45.1	65
8:44:15 AM	45.3	46.1	44.6	60
8:45:15 AM	45.4	45.7	45	63.1
8:46:15 AM	45.8	47.9	44.9	72.5
8:47:15 AM	47.4	49.9	46.3	67.8
8:48:15 AM	49	53.8	45.3	66.3
8:49:15 AM	45.8	46.5	45.1	60.5
8:50:15 AM	46.6	47.4	46	61.3
8:51:15 AM	47.3	48.8	46.4	66.8

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

Date/Time	Leq-1	Lmax-1	Lmin-1	Lpk-1
8:52:15 AM	45.8	46.6	45	60.3
8:53:15 AM	45.6	46.5	45.1	63.9
8:54:15 AM	45.7	47.8	45	66
8:55:15 AM	46.4	48.3	45.2	60.8
8:56:15 AM	46.1	47.9	45	68.6
8:57:15 AM	46.5	48.7	45.4	64.7
8:58:15 AM	46.2	47.2	45.8	60.8
8:59:15 AM	46.5	48.8	45.9	62.9
9:00:15 AM	48.9	50	47.3	65.7
9:01:15 AM	47	47.6	46.5	62.3
9:02:15 AM	48.2	50.5	46.6	66.4
9:03:15 AM	48.2	50	46.2	62.2
9:04:15 AM	47.8	51.6	46.3	63.9
9:05:15 AM	46.3	46.6	46	60.3
9:06:15 AM	46.2	46.4	45.9	60.3
9:07:15 AM	48	55	45.7	65.7
9:08:15 AM	46.7	52.1	44.6	67.8
9:09:15 AM	46.1	47.6	44.8	64.4
9:10:15 AM	46.2	47.8	45	66.8
9:11:15 AM	45.8	48.9	44.9	63.3
9:12:15 AM	46.1	48.4	45	62.4
9:13:15 AM	45.5	46	45.2	59.9
9:14:15 AM	45.8	46.7	45.7	60
9:15:15 AM	46.5	48.2	45.6	61.7
9:16:15 AM	46.5	48.8	45.6	63
9:17:15 AM	45.8	46.1	45.3	60
9:18:15 AM	45.9	47.5	45.3	61.3
9:19:15 AM	48.6	55.5	45.5	69.9
9:20:15 AM	48.3	54.8	44.9	75.2

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-1 Noise Study (2485 : Zoning Map Amendment

EXPLANATION

SUBJECT SITE BOUNDARY

PARCEL BOUNDARY

RIGHT OF WAY

Note:
Map elements were graphically estimated from Google Earth aerial imagery, Chatham and Effingham County tax maps, and on-site observations. Parcel boundaries are approximate. Not intended for construction purposes.

0 300' 600'

1" = 600'

ADJACENT PARCEL
Owner: SFG CH GITC 2C, LLC
PIN: 04660008A08
±75.43 acres

ADJACENT PARCEL
Owner: SFG CH Chatham Tract, LLC
PIN: 70906 01039
±81.16 acres

ADJACENT PARCEL
Owner: Exley Thomas L Sr. & Thomas L Jr.
PIN: 70906 01028
±45.31 acres

ADJACENT PARCEL
Owner: Exley Thomas L Sr. & Thomas L Jr.
PIN: 70906 01029
±68.71 acres

ADJACENT PARCEL
Owner: Exley Thomas L Sr. & Thomas L Jr.
PIN: 70906 01030
±9.92 acres

245 GA. POWER RIGHT OF WAY

ADJACENT PARCEL
Owner: BEP Rice Hope, LLC
PIN: 70906 04074
±6.16 acres

ADJACENT PARCEL
Owner: BEP RH Tract 2, LLC
PIN: 70906 04028
±1.75 acres

ADJACENT PARCEL
Owner: J Rice Hope, LLC
PIN: 70906 04029
±1.55 acres

ADJACENT PARCEL
Owner: T and T Exley Properties, LLC
PIN: 04660008A00
±438.96 acres

SUBJECT PARCEL
Owner: GW Investments, LLC
PIN: 70906 01001B
±108.05 acres

SUBJECT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
PIN: 70976 02041
±126.27 acres

SUBJECT PARCEL
Owner: Wiggin Gary
Portion of PIN: 70975 01025
Portion of ±58.04 acres

ADJACENT PARCEL
Owner: PWJB, LLC
PIN: 70906 04030
±1.29 acres

ADJACENT PARCEL
Owner: Riya Properties, LLC
PIN: 70906 04031
±1.05 acres

SUBJECT PARCEL
Owner: Jeffers Lynn Sr.
PIN: 70975 01026Z
±9.26 acres

SUBJECT PARCEL
Owner: Jeffers Lynn Sr.
PIN: 70975 01026Y
±5.05 acres

GEORGIA HIGHWAY 21

ADJACENT PARCEL
Owner: Dolawk, LLC
PIN: 70906 04032
±0.97 acres

SUBJECT PARCEL
Owner: Steele Fred Jr.
PIN: 70975 01016
±24.39 acres

SUBJECT PARCEL
Owner: Jeffers Lynn Sr.
PIN: 70975 01017A
±0.94 acres

ADJACENT PARCEL
Owner: Royal Ronald A
PIN: 70975 01024
±48.48 acres

ADJACENT PARCEL
Owner: Rice Hope - CJ, LLC
PIN: 70906 04067
±3.23 acres

JEFFERS ROAD

ADJACENT PARCEL
Owner: Steele Fred Jr.
PIN: 70975 01012
±6.58 acres

ADJACENT PARCEL
Owner: Wiggin Gary
Portion of PIN: 70975 01025
Portion of ±58.04 acres

ADJACENT PARCEL
Owner: Jones James
PIN: 70975 01013
±7.64 acres

SUBJECT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
PIN: 70976 02043
±140.25 acres

SUBJECT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
Portion of PIN: 70976 02043
Portion of ±140.25 acres

SUBJECT PARCEL
Owner: Steele Glenn A & Steele Anthony
PIN: 70975 01015
±12.27 acres

ADJACENT PARCEL
Owner: Holmes & Hicks Claretha & Dorles ETAL
PIN: 70975 01014
±20.10 acres

NJF SEABOARD COASTLINE RAILROAD - 300' R/W

SUBJECT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
PIN: 70976 02044
±71.74 acres

GEORGIA HIGHWAY 21

SAUSSY ROAD

Project Mngr:	LRM
Drawn By:	JDG
Checked By:	LRM
Approved By:	WSA

Project No.	ES217065
Scale:	AS SHOWN
File Name:	ES217065.dwg
Date:	June 10, 2021

Terracon
Consulting Engineers & Scientists
2201 Rowland Avenue Savannah, Georgia 31404
Phone (912) 629 4000 Fax. (912) 629 4001

NORTHERN SITE DIAGRAM

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Figur 2A

EXPLANATION

SUBJECT SITE BOUNDARY

PARCEL BOUNDARY

Note:
Map elements were graphically estimated from Google Earth aerial imagery, Chatham and Effingham County tax maps, and on-site observations. Parcel boundaries are approximate. Not intended for construction purposes.

0 300' 600'

1" = 600'

SUBJECT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
PIN: 70976 02044
±71.74 acres

SUBJECT PARCEL
Owner: Steele Glenn A & Steele Anthony
PIN: 70976 02017
±2.28 acres

ADJACENT PARCEL
Owner: Vernedoe Sam L Jr. ETAL
PIN: 70976 02040
±7.47 acres

SUBJECT PARCEL
Owner: Vernedoe Sam L Jr. ETAL
PIN: 70976 02042
±31.33 acres

ADJACENT PARCEL
Owner: Vernedoe Sam L Jr. ETAL
Portion of PIN: 70976 02036
Portion of ±76.26 acres

ADJACENT PARCEL
Owner: Vernedoe Sam L Jr. ETAL
PIN: 70976 02035
±48.06 acres

SUBJECT PARCEL
Owner: Vernedoe Sam L Jr. ETAL
Portion of PIN: 70976 02036
Portion of ±76.26 acres

ADJACENT PARCEL
Owner: Hargrove John Henry ETAL
PIN: 70975 01002
±5.38 acres

ADJACENT PARCEL
Owner: Richards Brenda Ann
PIN: 70975 01002A
±3.56 acres

SUBJECT PARCEL
Owner: Vernedoe Sam L Jr. ETAL
PIN: 70976 02039
±66.00 acres

ADJACENT PARCEL
Owner: Jackson Raddie ETAL
PIN: 70976 02010
±13.05 acres

ADJACENT PARCEL
Owner: Reynolds Everlina Jones & Clifford
PIN: 70975 01002B
±6.98 acres

ADJACENT PARCEL
Owner: Edward B Deal Properties No. 2, LLC
PIN: 70976 02009
±7.47 acres

ADJACENT PARCEL
Owner: Capallo David V ETAL
PIN: 70976 01016
±335.56 acres

ADJACENT PARCEL
Owner: Steele Willie
PIN: 70976 02007
±29.90 acres

SUBJECT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
PIN: 70976 02037
±48.94 acres

ADJACENT PARCEL
Owner: Varnedoe Sam L Jr. ETAL
PIN: 70976 02038
±25.34 acres

ADJACENT PARCEL
Owner: Anderson & Sparkman M C & Char
PIN: 70975 01001
±242.27 acres

ADJACENT PARCEL
Owner: Thomas Ruth W
PIN: 70976 02014
±6.49 acres

ADJACENT PARCEL
Owner: Jackson Matthew Jerome Sr.
PIN: 70976 02014A
±8.68 acres

NIF SEABOARD COASTLINE RAILROAD - 300' R/W

SAUSSY ROAD

GEORGIA HIGHWAY 21

BERRIEN ROAD

GEORGIA STATE ROUTE 30

Project Mngr:	LRM
Drawn By:	JDG
Checked By:	LRM
Approved By:	WSA

Project No.	ES217065
Scale:	AS SHOWN
File Name:	ES217065.dwg
Date:	June 10, 2021

Terracon
Consulting Engineers & Scientists
2201 Rowland Avenue Savannah, Georgia 31404
Phone (912) 629 4000 Fax. (912) 629 4001

SOUTHERN SITE DIAGRAM

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Figur 2B

EXPLANATION

- SUBJECT SITE BOUNDARY
- PARCEL BOUNDARY
- RIGHT OF WAY
- 50' VEGETATED BUFFER
- 100' BUFFER - 15' HIGH BERM WITH PLANTINGS
- SOUND LEVEL MEASUREMENT LOCATION
- 52.54 dB(A) — 24-HOUR AVERAGE LEQ IN dB(A)

Note:
Map elements were graphically estimated from Google Earth aerial imagery, Chatham and Effingham County tax maps, the "Plans of Varnedoe-Wiggins Tract at GA HWY 21 - Port Wentworth, GA" Site Plan provided by Kern & Co., LLC dated 5/26/2021, and on-site observations. Parcel boundaries are approximate. Not intended for construction purposes.

dB(A) - A-weighted sound level in decibels.

0 300' 600'
1" = 600'

M5 (2020)
50.28 dB(A)

M4 (2020)
52.54 dB(A)

245' GA. POWER RIGHT OF WAY

M1
68.12 dB(A)

611,000 SF
1,300' x
470'

376,000 SF
800' x 470'

376,000 SF
800' x 470'

486,000 SF
1,350' x
360'

GEORGIA HIGHWAY 21

EFFINGHAM COUNTY LINE

CHATHAM COUNTY LINE

100' BUFFER - 15' HIGH BERM WITH PLANTINGS

M2
54.87 dB(A)

JEFFERS ROAD

1,240,000 SF
2,000' x 620'

470,000 SF
1,000' x
470'

470,000 SF
1,000' x 470'

N/F SEABOARD COASTLINE RAILROAD - 300' R/W

1,426,000 SF
2,300' x 620'

455,000 SF
1,300' x 350'

100' BUFFER - 15' HIGH BERM WITH PLANTINGS

SAUSSY ROAD

GEORGIA HIGHWAY 21

Project Mngr:	LRM	Project No.	ES217065	Terracon Consulting Engineers & Scientists	NORTHERN EXISTING SOUND LEVELS
Drawn By:	JDG	Scale:	AS SHOWN	2201 Rowland Avenue Savannah, Georgia 31404	Varnedoe-Wiggins Tract - Phases I & II
Checked By:	LRM	File Name:	ES217065.dwg	Phone (912) 629 4000 Fax. (912) 629 4001	Georgia Highway 21
Approved By:	WSA	Date:	June 10, 2021		Port Wentworth, Chatham County, Georgia

Figur 3

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021 (2485 : Zoning Map Amendment
E 2021- DIA Exhibit B-2 Noise Study Exhibits

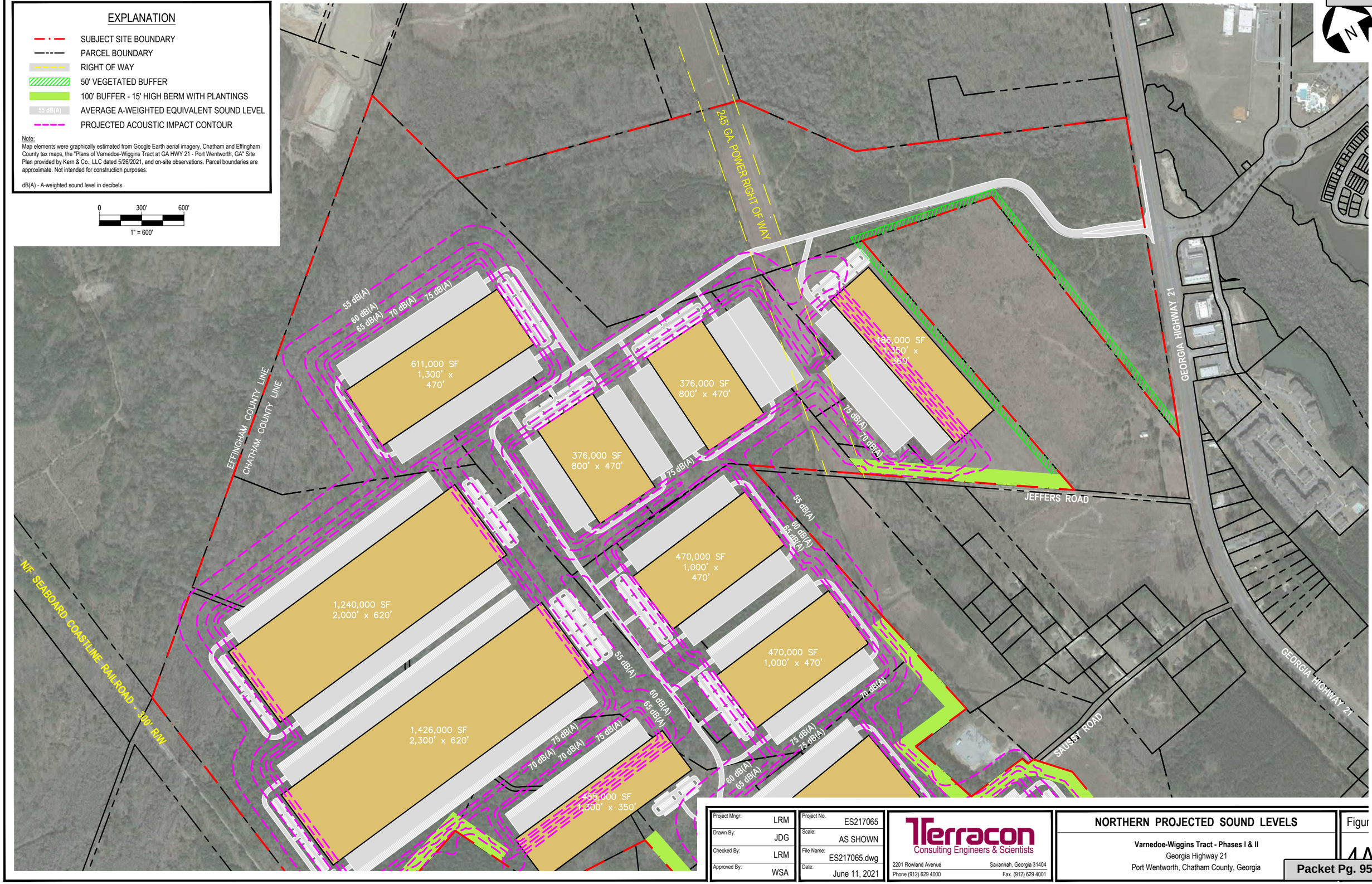
EXPLANATION

- SUBJECT SITE BOUNDARY
- PARCEL BOUNDARY
- RIGHT OF WAY
- 50' VEGETATED BUFFER
- 100' BUFFER - 15' HIGH BERM WITH PLANTINGS
- 55 dB(A) AVERAGE A-WEIGHTED EQUIVALENT SOUND LEVEL
- PROJECTED ACOUSTIC IMPACT CONTOUR

Note:
Map elements were graphically estimated from Google Earth aerial imagery, Chatham and Effingham County tax maps, the "Plans of Varnedoe-Wiggins Tract at GA HWY 21 - Port Wentworth, GA" Site Plan provided by Kern & Co., LLC dated 5/26/2021, and on-site observations. Parcel boundaries are approximate. Not intended for construction purposes.

dB(A) - A-weighted sound level in decibels.

0 300' 600'
1" = 600'



Project Mngr:	LRM
Drawn By:	JDG
Checked By:	LRM
Approved By:	WSA

Project No.	ES217065
Scale:	AS SHOWN
File Name:	ES217065.dwg
Date:	June 11, 2021

Terracon
Consulting Engineers & Scientists
2201 Rowland Avenue Savannah, Georgia 31404
Phone (912) 629 4000 Fax. (912) 629 4001

NORTHERN PROJECTED SOUND LEVELS

Varnedoe-Wiggins Tract - Phases I & II
Georgia Highway 21
Port Wentworth, Chatham County, Georgia

Figur

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-2 Noise Study Exhibits (2485 : Zoning Map Amendment

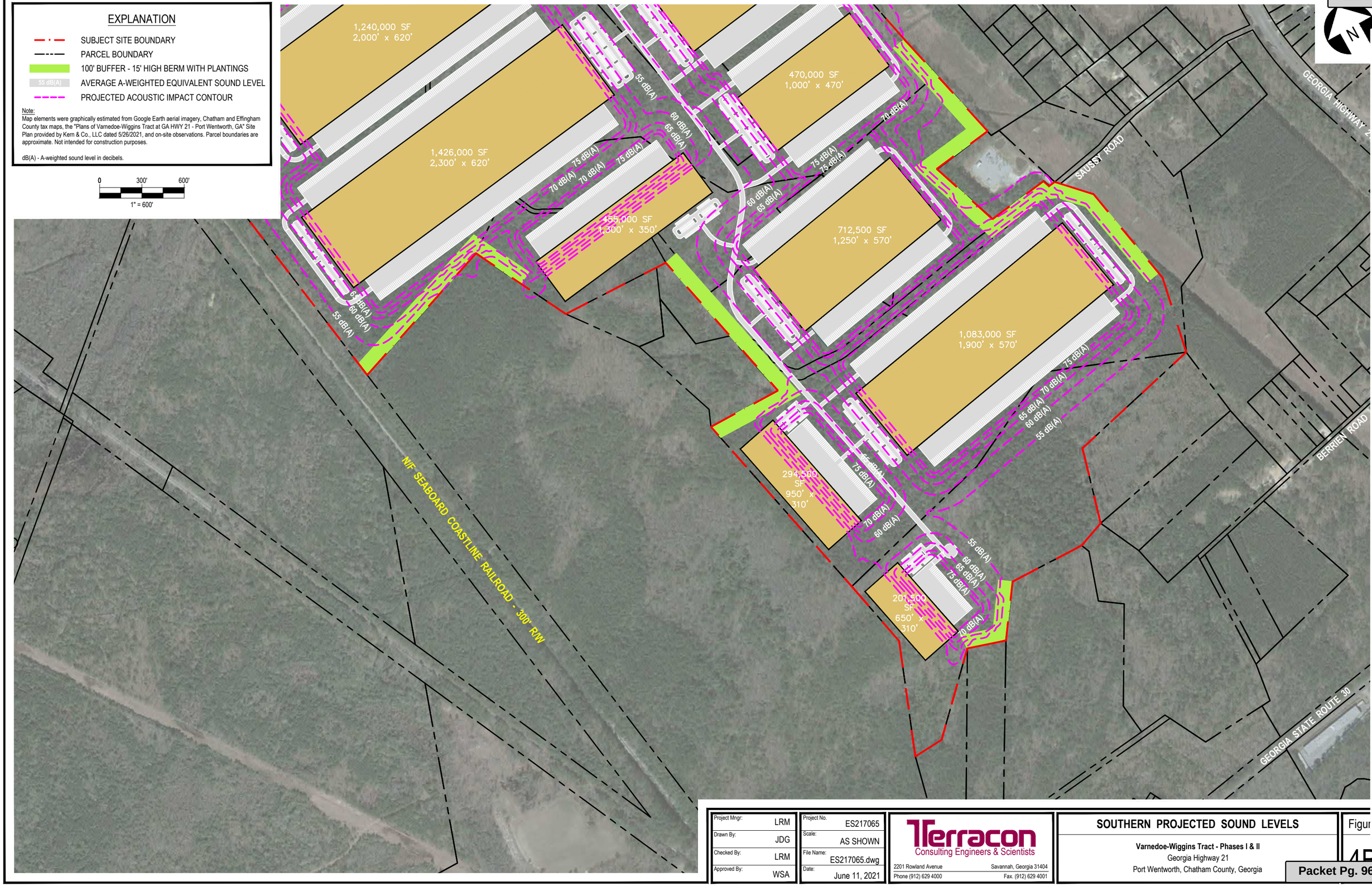
EXPLANATION

- SUBJECT SITE BOUNDARY
- PARCEL BOUNDARY
- 100' BUFFER - 15' HIGH BERM WITH PLANTINGS
- 55 dB(A) AVERAGE A-WEIGHTED EQUIVALENT SOUND LEVEL
- PROJECTED ACOUSTIC IMPACT CONTOUR

Note:
Map elements were graphically estimated from Google Earth aerial imagery, Chatham and Effingham County tax maps, the "Plans of Varnedoe-Wiggins Tract at GA HWY 21 - Port Wentworth, GA" Site Plan provided by Kern & Co., LLC dated 5/26/2021, and on-site observations. Parcel boundaries are approximate. Not intended for construction purposes.

dB(A) - A-weighted sound level in decibels.

0 300' 600'
1" = 600'



Project Mngr:	LRM	Project No.	ES217065	Terracon Consulting Engineers & Scientists	SOUTHERN PROJECTED SOUND LEVELS
Drawn By:	JDG	Scale:	AS SHOWN	2201 Rowland Avenue, Savannah, Georgia 31404	Varnedoe-Wiggins Tract - Phases I & II
Checked By:	LRM	File Name:	ES217065.dwg	Phone (912) 629 4000, Fax. (912) 629 4001	Georgia Highway 21
Approved By:	WSA	Date:	June 11, 2021		Port Wentworth, Chatham County, Georgia

Figur 4B

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit B-2 Noise Study Exhibits (2485 : Zoning Map Amendment

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT
100 W OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3604

August 21, 2019

Regulatory Division
SAS-2018-00940

Mr. Comer Meadows
Mr. Samuel Varnedoe
Post Office Box 2379
Tybee Island, Georgia 31328

Dear Mr. Meadows and Mr. Varnedoe:

I refer to a letter dated October 12, 2018, submitted on your behalf by Mr. Brandon Wall of Sligh Environmental Consultants, Incorporated, requesting a delineation of aquatic resources for your 654.26 acre site located of Highway 21, in Chatham County, Georgia (Latitude 32.2085, Longitude -81.2147). This project has been assigned number SAS-2018-00940 and it is important that you refer to this number in all communication concerning this matter.

The enclosed survey entitled "Sam L. Varnedoe, JR., ET. AL", sheets 1-11, dated August 13, 2019, and signed by registered land surveyor James M. Anderson identifies the delineation limits of all aquatic resources within the review area. The wetlands were delineated in accordance with criteria contained in the 1987 "Corps of Engineers Wetland Delineation Manual," as amended by the most recent regional supplements to the manual. This delineation will remain valid for a period of 5-years unless new information warrants revision prior to that date.

If you intend to sell property that is part of a project that requires Department of the Army Authorization, it may be subject to the Interstate Land Sales Full Disclosure Act. The Property Report required by Housing and Urban Development Regulation must state whether, or not a permit for the development has been applied for, issued or denied by the U.S. Army Corps of Engineers (Part 320.3(h) of Title 33 of the Code of Federal Regulations).

This communication does not convey any property rights, either in real estate or material, or any exclusive privileges. It does not authorize any injury to property, invasion of rights, or any infringement of federal, state or local laws, or regulations. It does not obviate your requirement to obtain state or local assent required by law for the development of this property. If the information you have submitted, and on which the U.S. Army Corps of Engineers has based its determination is later found to be in error, this decision may be revoked.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment

Thank you in advance for completing our on-line Customer Survey Form located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey. We value your comments and appreciate your taking the time to complete a survey each time you have interaction with our office.

If you have any questions, please call me at (912) 652-5022.

Sincerely,

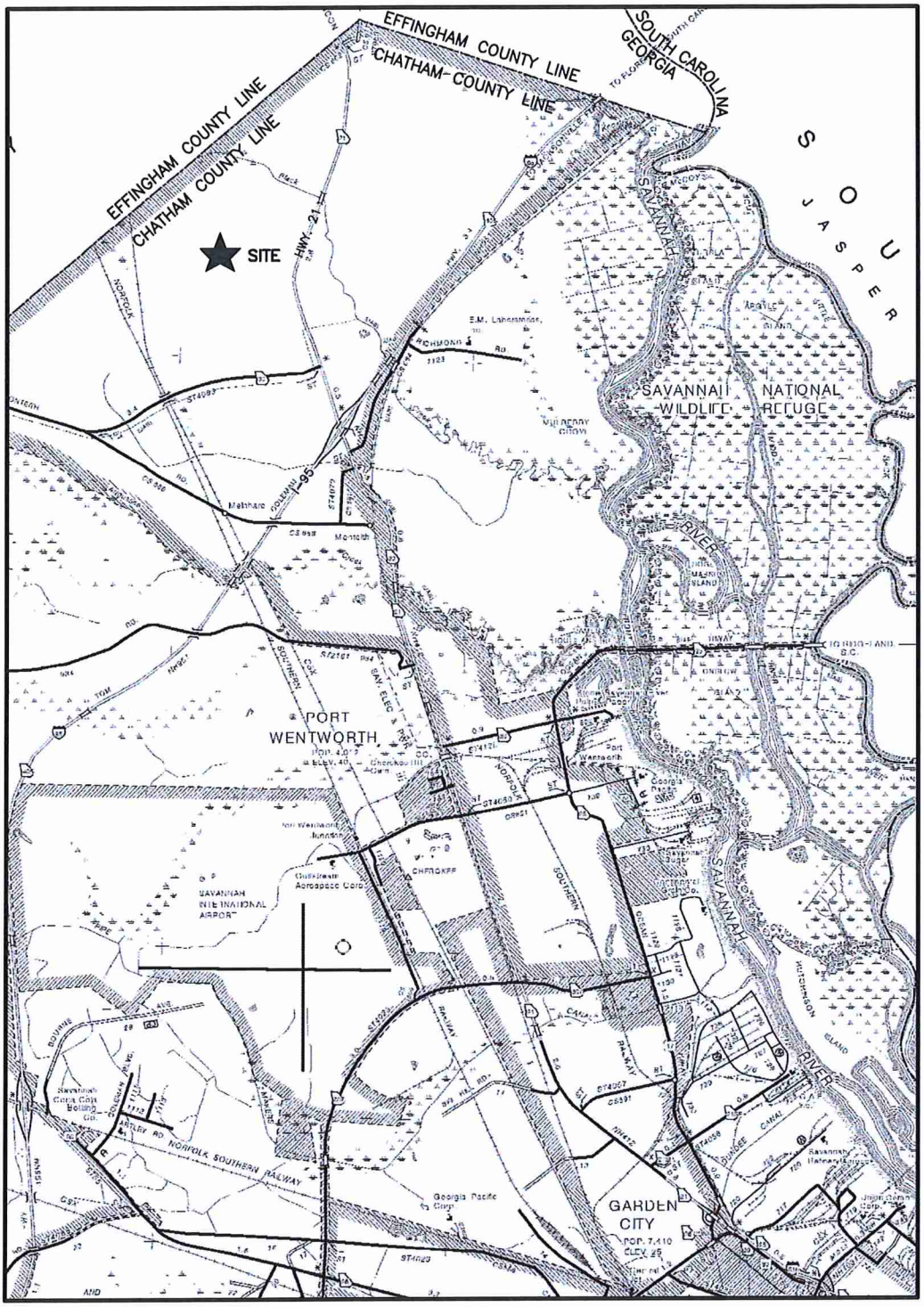
J Scott Guinn

Scott Guinn
Regulatory Specialist, Coastal Branch

Enclosures

Copy Furnished: Mr. Brandon Wall, Sligh Environmental Consultants, Incorporated.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



VICINITY MAP

GEORGIA REGISTERED NO. 2113 8-13-19 LAND SURVEYOR JAMES M. ANDERSON

WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

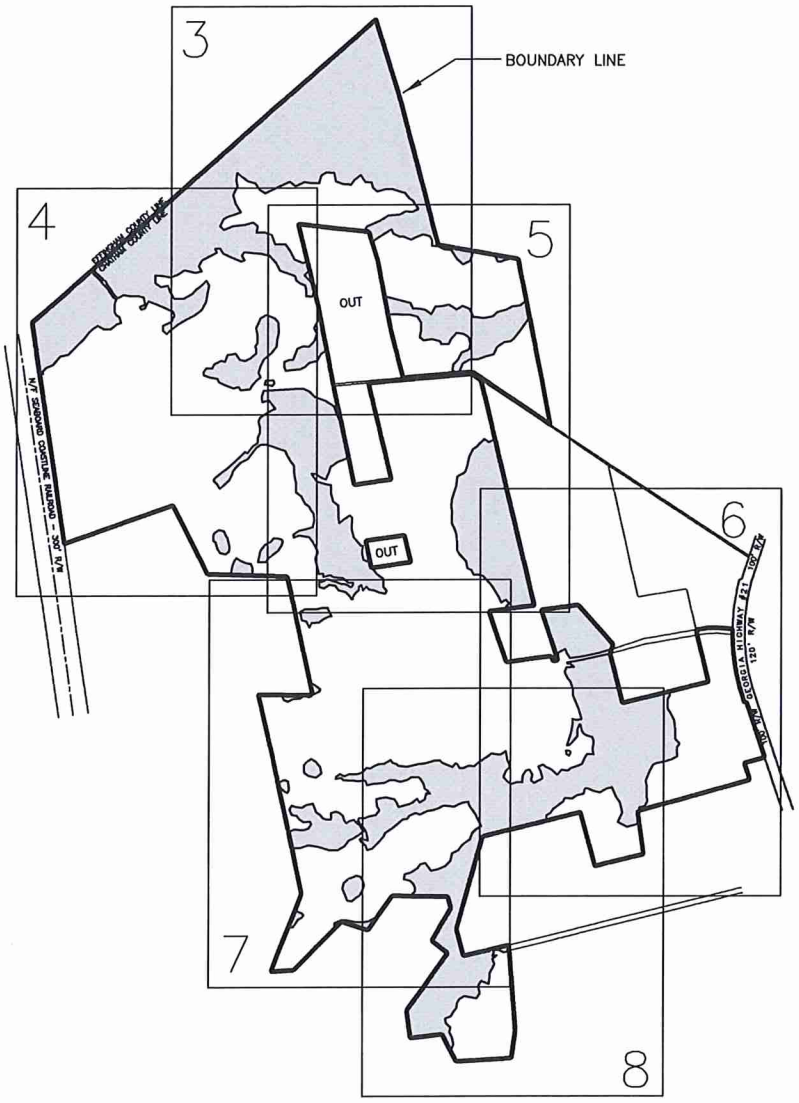
LOCATION: 8TH. G.M.D. CHATHAM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON–GA. R.L.S. 2113
SCALE: N/A
JN18111.DWG
SHEET 1

"I HEREBY CERTIFY THAT THE WETLANDS AS SHOWN ON THIS SURVEY WERE LOCATED USING GPS EQUIPMENT AT SUB-METER ACCURACY. THE PURPOSE OF THIS SURVEY IS FOR THE LOCATION OF WETLANDS ONLY AND NOT BOUNDARY ESTABLISHMENT OR PROPERTY CONVEYANCE."

Juan M. Anderson

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764–2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



TOTAL BOUNDARY ACREAGE

BOUNDARY TRACT = 654.262 AC.

BOUNDARY

WETLANDS	=	225.893 AC.
UPLANDS	=	428.369 AC.
TOTAL	=	654.262 AC.

WETLANDS ACREAGE

WETLAND AREA "A"	=	87.109 AC.
WETLAND AREA "B"	=	4.873 AC.
WETLAND AREA "C"	=	24.297 AC.
WETLAND AREA "D"	=	1.839 AC.
WETLAND AREA "E"	=	17.762 AC.
WETLAND AREA "F"	=	9.377 AC.
WETLAND AREA "G"	=	0.096 AC.
WETLAND AREA "H"	=	0.216 AC.
WETLAND AREA "J"	=	0.630 AC.
WETLAND AREA "K"	=	0.626 AC.
WETLAND AREA "M"	=	0.810 AC.
WETLAND AREA "N"	=	0.522 AC.
WETLAND AREA "P"	=	0.198 AC.
WETLAND AREA "Q"	=	0.880 AC.
WETLAND AREA "R"	=	69.327 AC.
WETLAND AREA "S"	=	5.588 AC.
WETLAND AREA "U"	=	0.037 AC.
WETLAND AREA "V"	=	0.251 AC.
WETLAND AREA "W"	=	0.151 AC.
WETLAND AREA "X"	=	0.149 AC.
WETLAND AREA "Y"	=	0.433 AC.
WETLAND AREA "Z"	=	0.722 AC.
TOTAL WETLAND AREA	=	225.893 AC.

UPLANDS ACREAGE

UPLAND AREA "A"	=	18.342 AC.
UPLAND AREA "B"	=	300.646 AC.
UPLAND AREA "C"	=	0.101 AC.
UPLAND AREA "D"	=	19.322 AC.
UPLAND AREA "E"	=	29.840 AC.
UPLAND AREA "F"	=	10.994 AC.
UPLAND AREA "G"	=	25.361 AC.
UPLAND AREA "H"	=	0.078 AC.
UPLAND AREA "J"	=	8.354 AC.
UPLAND AREA "K"	=	15.331 AC.
TOTAL UPLAND AREA	=	428.369 AC.

GRID NORTH—GA. EAST ZONE

1200 0 1200 2400 3600

GRAPHIC SCALE — FEET

WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

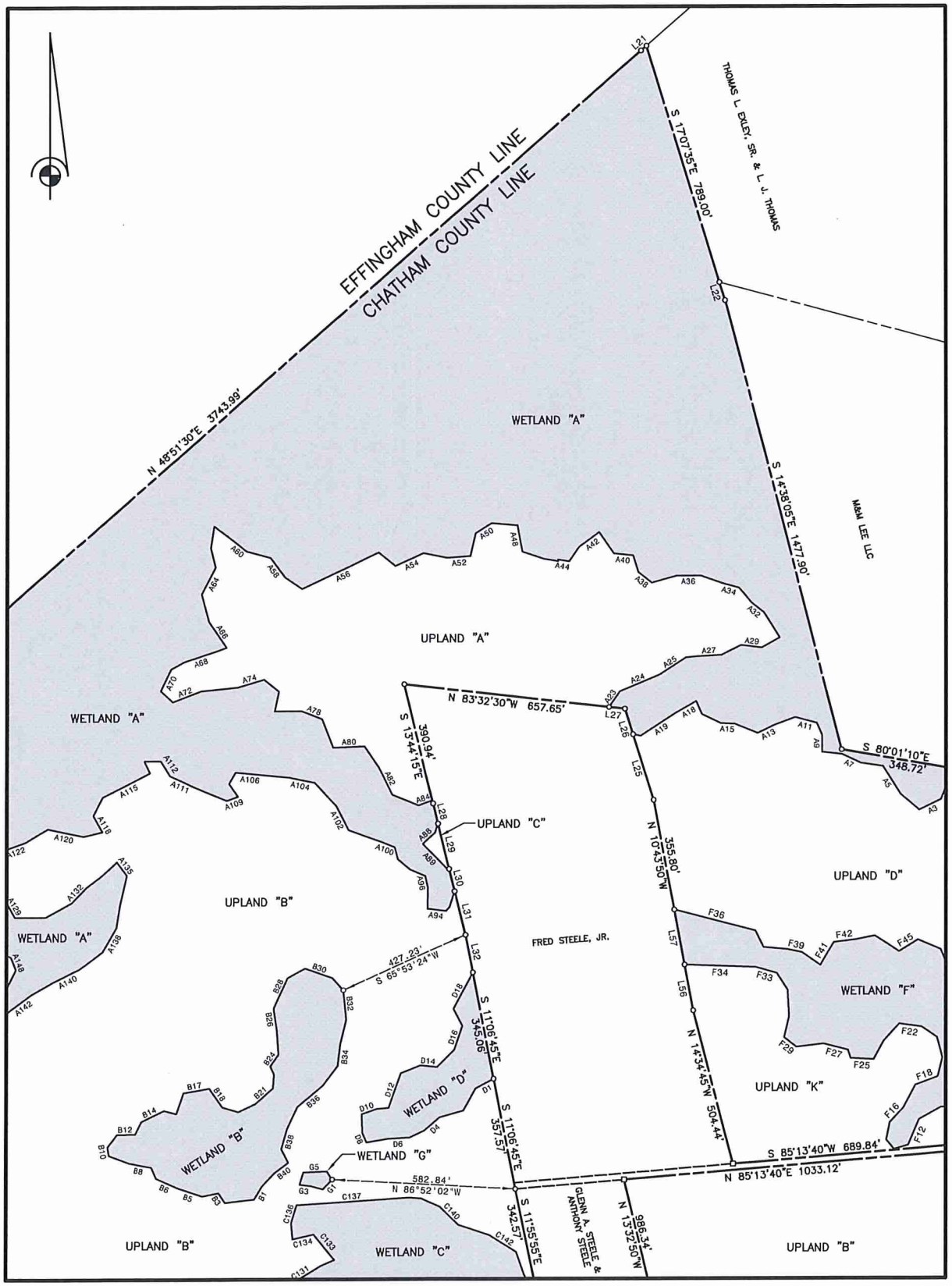
LOCATION: 8TH. G.M.D. CHATHAM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON—GA. R.L.S. 2113
SCALE: 1" = 1200'
JN18111.DWG
SHEET 2

GEORGIA REGISTERED NO. 2113 8-13-19 LAND SURVEYOR JAMES M. ANDERSON

"I HEREBY CERTIFY THAT THE WETLANDS AS SHOWN ON THIS SURVEY WERE LOCATED USING GPS EQUIPMENT AT SUB-METER ACCURACY. THE PURPOSE OF THIS SURVEY IS FOR THE LOCATION OF WETLANDS ONLY AND NOT BOUNDARY ESTABLISHMENT OR PROPERTY CONVEYANCE."

James M. Anderson

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



300 0 300 600 900

GRAPHIC SCALE – FEET

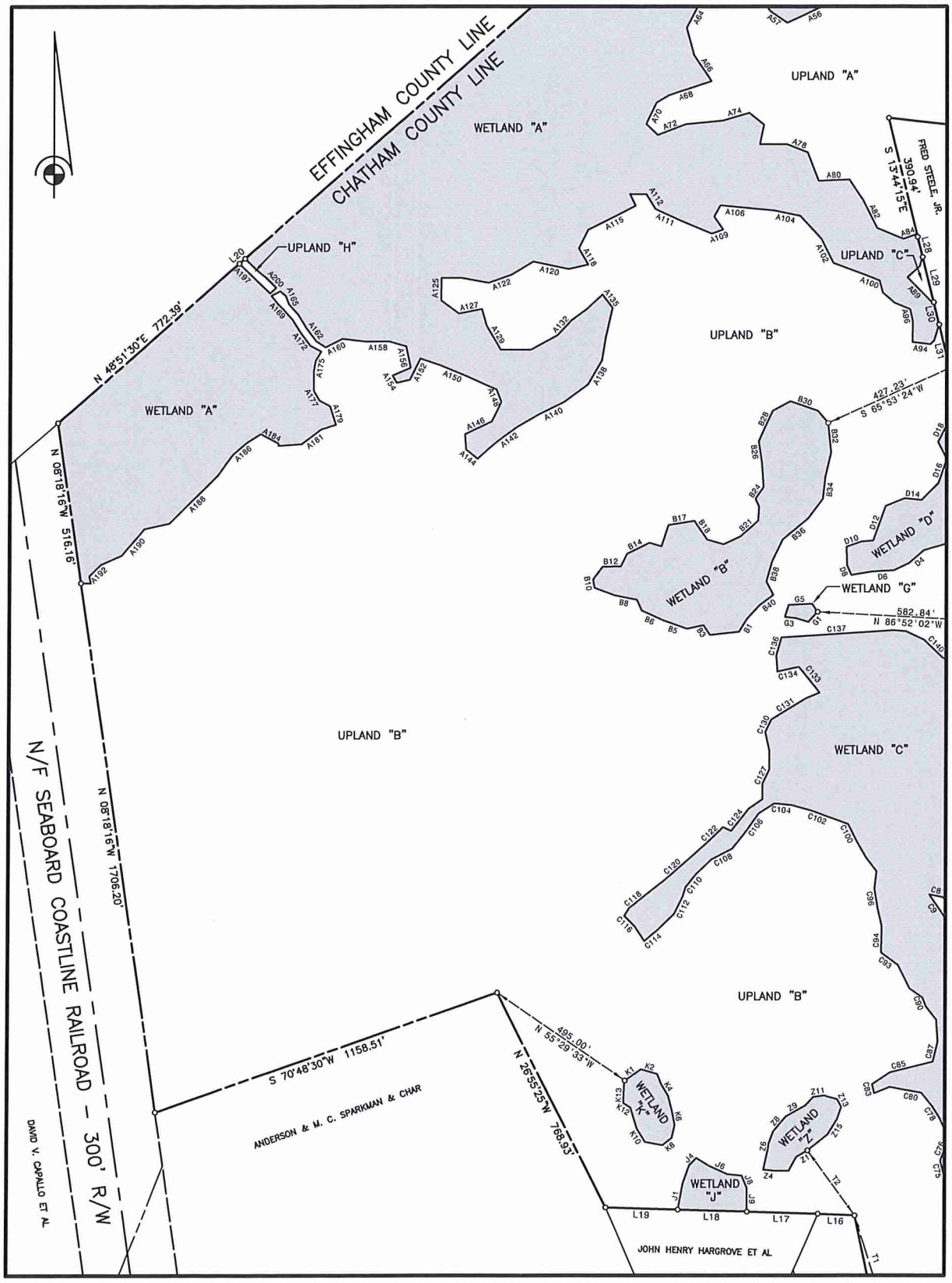
WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATAHM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON–GA. R.L.S. 2113
SCALE: 1" = 300'
JN18111.CRD & JN18111.DWG
SHEET 3

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764–2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



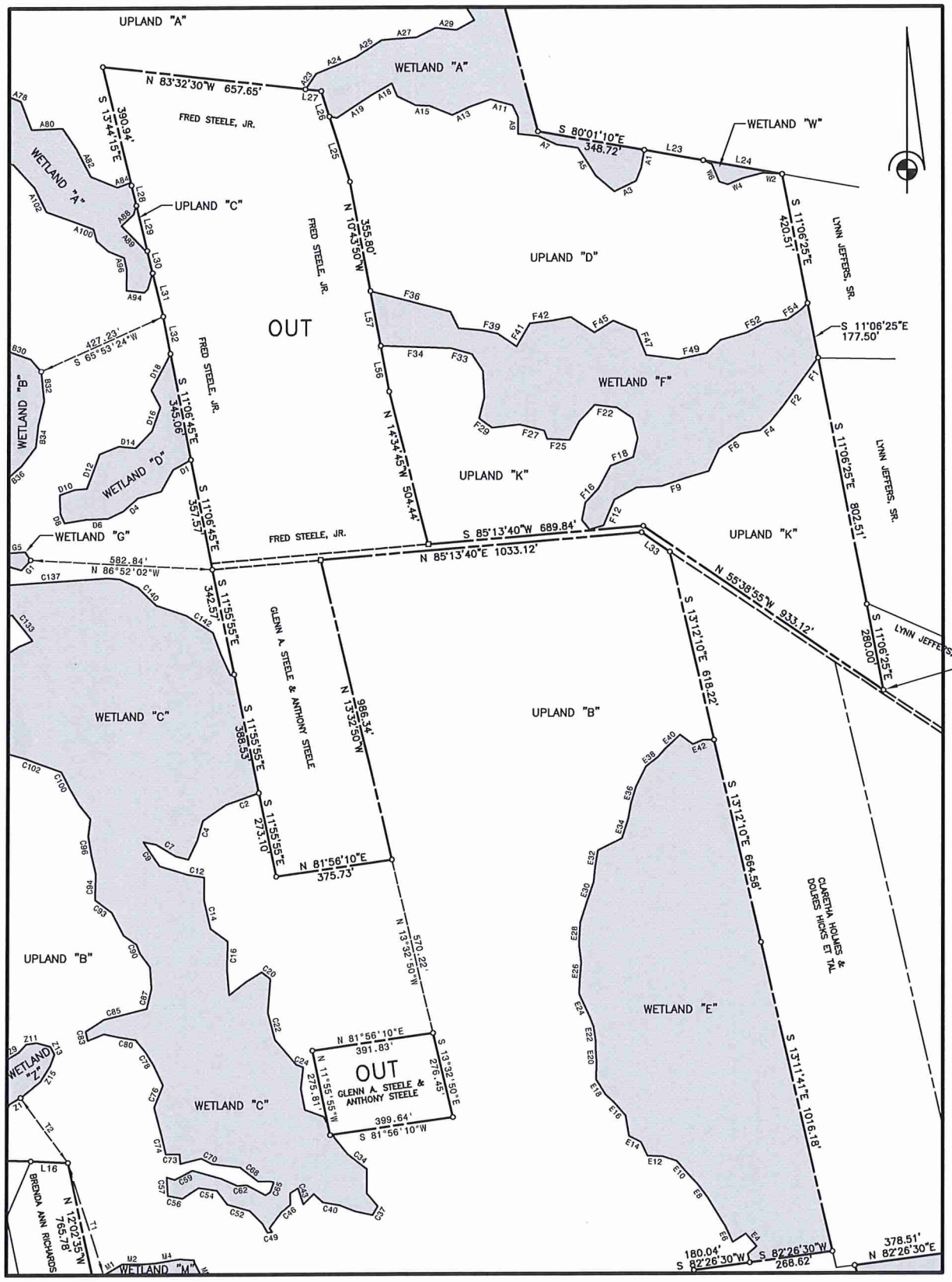
WETLANDS MAP FOR:

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SCALE: 1" = 300'
JN18111.CRD & JN18111.DWG
SHEET 4

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300 0 300 600 900

GRAPHIC SCALE – FEET

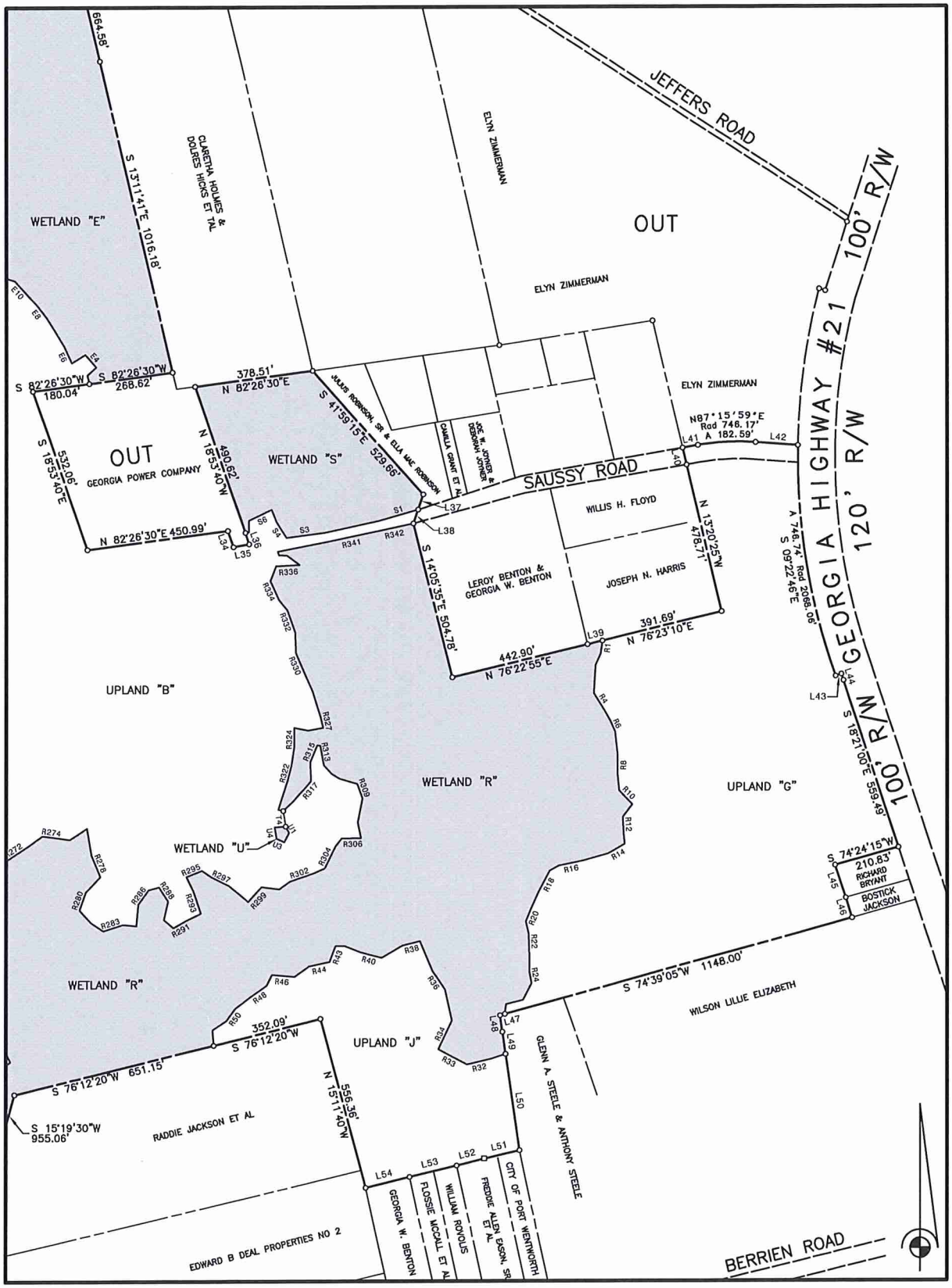
WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

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CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON–GA. R.L.S. 2113
SCALE: 1" = 300'
JN18111.CRD & JN18111.DWG
SHEET 5

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764–2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



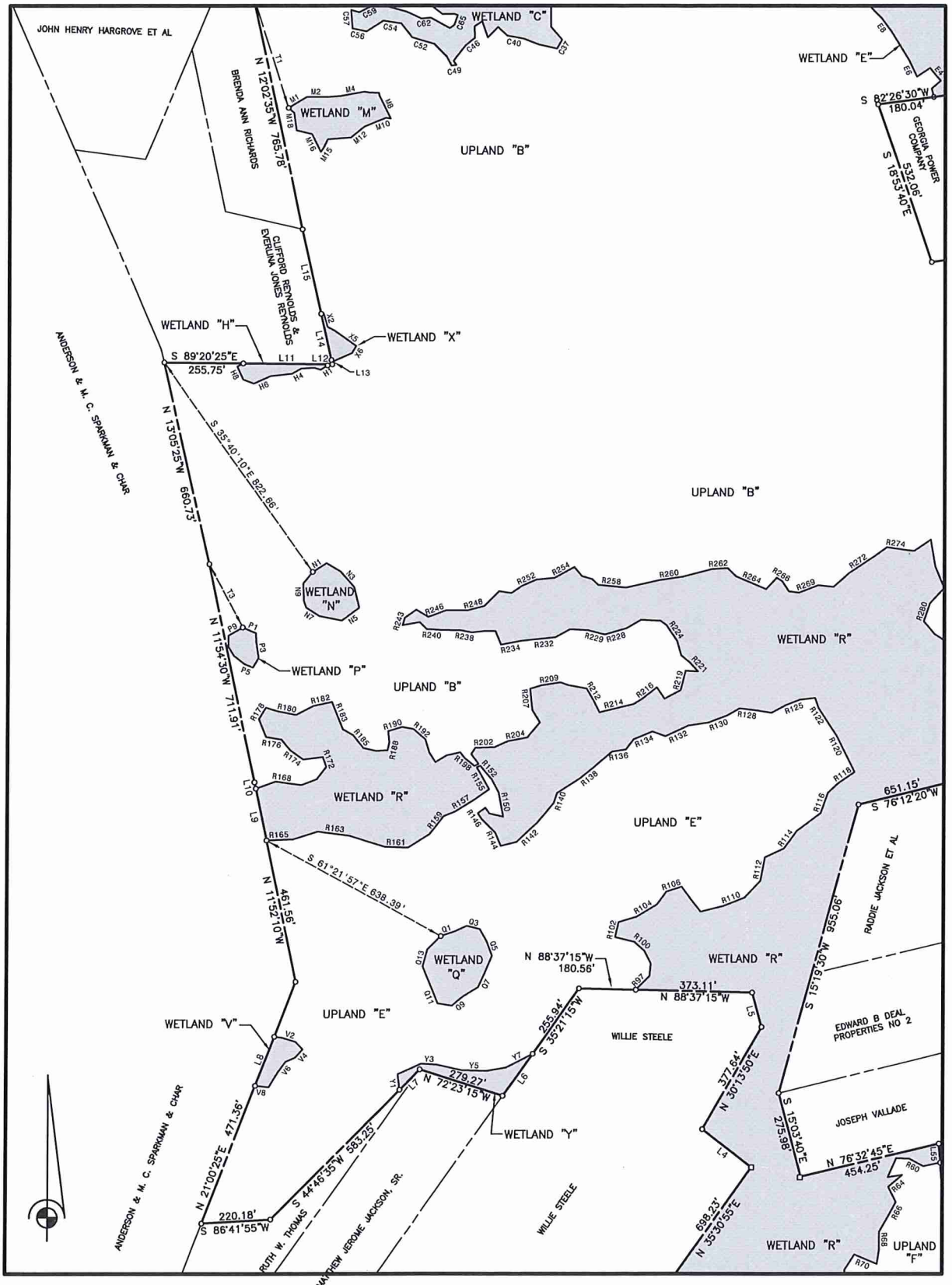
WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATAHM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON–GA. R.L.S. 2113
SCALE: 1" = 300'
JN18111.CRD & JN18111.DWG
SHEET 6

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764–2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



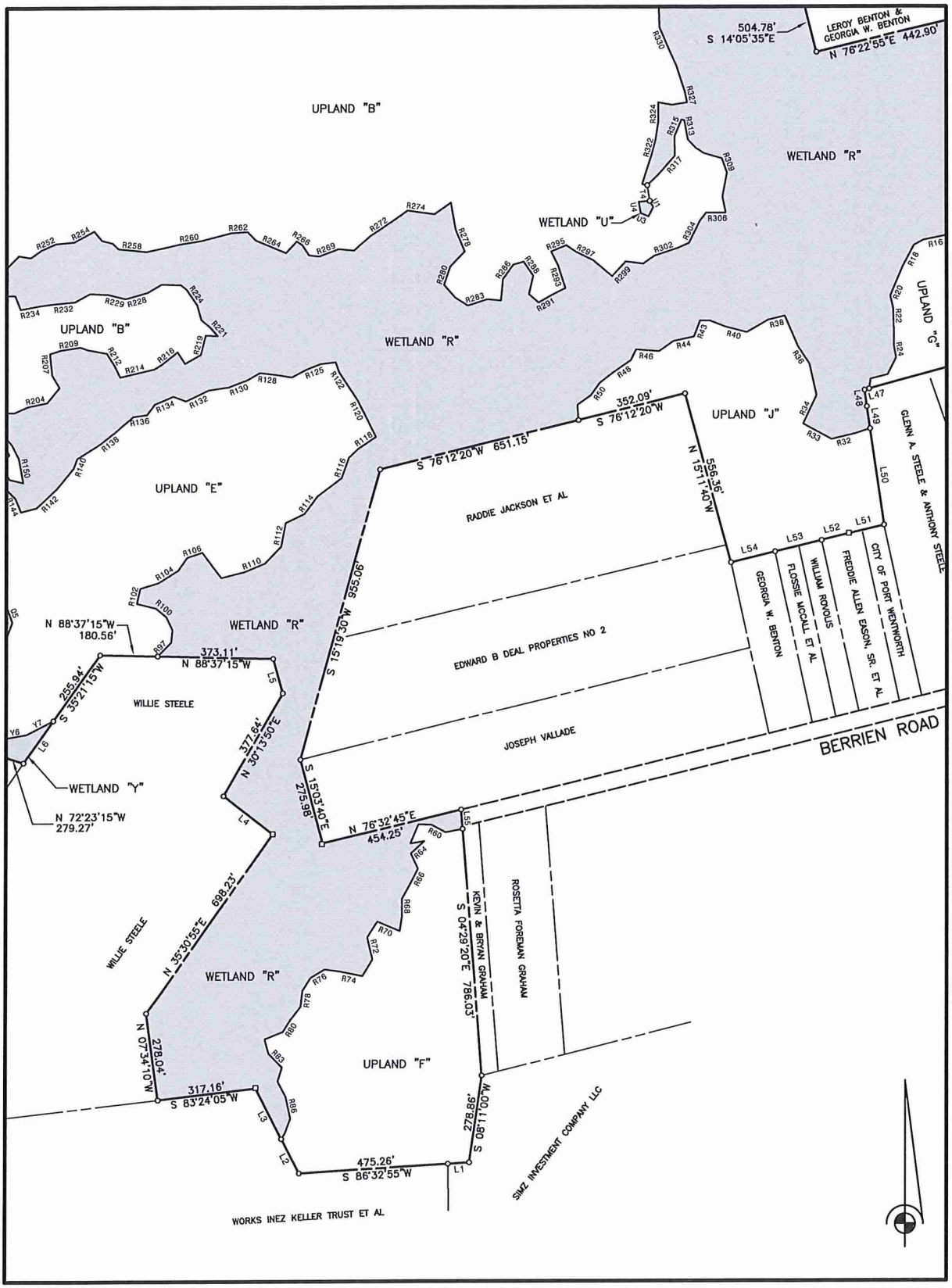
WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATAHM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON–GA. R.L.S. 2113
SCALE: 1" = 300'
JN18111.CRD & JN18111.DWG
SHEET 7

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764–2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



300 0 300 600 900

GRAPHIC SCALE – FEET

WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATAHM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON–GA. R.L.S. 2113
SCALE: 1" = 300'
JN18111.CRD & JN18111.DWG
SHEET 8

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764–2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment

WETLAND AREA "A"

COURSE	BEARING	DISTANCE
A1	S 09°55'14" W	57.78'
A2	S 21°50'46" W	44.84'
A3	S 64°22'22" W	77.31'
A4	N 50°12'25" W	78.37'
A5	N 32°26'00" W	105.66'
A6	N 81°23'13" W	69.90'
A7	N 65°09'32" W	65.56'
A8	N 83°28'52" W	64.05'
A9	N 00°43'06" W	54.63'
A10	N 24°45'20" W	41.26'
A11	N 75°09'44" W	72.08'
A12	S 70°33'44" W	72.23'
A13	S 63°21'53" W	58.70'
A14	N 67°45'36" W	79.12'
A15	N 87°05'12" W	45.17'
A16	N 64°13'54" W	66.03'
A17	N 23°38'57" W	44.86'
A18	S 60°56'12" W	74.29'
A19	S 57°02'20" W	135.08'
A20	N 79°01'22" W	24.28'
A21	N 17°32'50" W	85.60'
A22	N 83°32'30" W	51.10'
A23	N 34°41'40" E	60.86'
A24	N 67°32'17" E	138.18'
A25	N 56°53'32" E	99.05'
A26	N 84°45'56" E	35.76'
A27	N 86°26'54" E	79.10'
A28	N 63°22'38" E	68.82'
A29	S 83°44'00" E	66.11'
A30	N 61°34'32" E	65.58'
A31	N 32°29'19" W	95.72'
A32	N 50°49'46" W	49.54'
A33	N 40°58'29" W	61.87'
A34	N 74°10'07" W	53.72'
A35	N 70°45'46" W	74.78'
A36	S 89°31'47" W	77.74'
A37	S 74°31'31" W	80.71'
A38	N 51°56'43" W	54.34'
A39	N 17°39'09" W	56.21'
A40	N 84°14'19" W	61.50'
A41	N 35°09'59" W	82.42'
A42	S 53°56'00" W	78.82'
A43	S 35°01'12" W	56.57'
A44	N 80°16'14" W	35.75'
A45	S 04°21'21" E	4.71'
A46	N 80°50'22" W	45.54'
A47	N 71°41'25" W	73.87'
A48	N 10°43'10" W	85.36'
A49	N 85°35'14" W	82.08'
A50	S 58°13'07" W	59.87'
A51	S 13°18'07" W	74.87'
A52	S 85°36'18" W	72.05'
A53	N 78°05'39" W	76.95'
A54	S 65°33'33" W	99.34'
A55	N 52°21'20" W	70.16'
A56	S 64°38'38" W	268.05'
A57	N 55°55'13" W	65.97'
A58	N 36°27'11" W	77.59'
A59	N 74°55'47" W	80.24'
A60	N 51°17'34" W	46.50'
A61	N 53°19'22" W	84.49'
A62	S 08°40'26" W	70.67'
A63	S 14°15'21" E	62.55'
A64	S 27°45'07" W	96.40'
A65	S 15°12'44" E	91.00'
A66	S 33°47'02" E	99.68'
A67	S 70°26'38" W	39.77'
A68	S 72°08'06" W	104.61'
A69	S 59°46'32" W	45.68'
A70	S 25°49'49" W	76.28'
A71	S 46°35'25" E	51.78'
A72	N 69°16'49" E	96.90'
A73	N 84°00'01" E	119.62'
A74	N 73°56'00" E	87.79'
A75	S 51°12'11" E	61.23'
A76	S 12°10'28" W	63.79'
A77	S 89°44'53" E	87.31'
A78	S 68°19'38" E	68.85'
A79	S 20°59'22" E	97.55'
A80	N 87°45'52" E	99.78'
A81	S 34°02'31" E	79.24'
A82	S 26°51'52" E	99.62'
A83	S 67°48'22" E	90.59'
A84	N 70°41'29" E	45.07'
A85	S 24°32'08" E	9.42'
A86	S 13°44'15" E	66.37'
A87	S 17°24'35" W	30.32'
A88	S 47°28'03" W	52.71'
A89	S 44°28'33" E	110.36'
A90	S 81°27'23" E	5.90'
A91	S 13°44'15" E	73.15'
A92	S 17°12'03" W	53.42'
A93	S 45°19'39" W	16.33'
A94	N 83°06'49" W	57.78'
A95	N 01°14'29" E	65.22'
A96	N 12°28'44" W	40.29'
A97	N 67°49'45" W	54.39'
A98	N 49°39'08" W	50.40'
A99	N 15°12'15" W	40.07'
A100	N 68°56'38" W	52.02'
A101	N 69°59'35" W	106.36'
A102	N 26°32'44" W	85.70'
A103	N 42°58'21" W	101.19'
A104	N 78°04'35" W	82.45'
A105	N 84°36'29" W	74.48'
A106	N 84°11'48" W	98.33'
A107	S 31°00'15" W	41.76'
A108	S 35°24'01" E	50.97'
A109	S 70°40'39" W	39.55'
A110	N 67°24'35" W	114.86'
A111	N 65°07'31" W	81.95'
A112	N 32°37'37" W	55.85'
A113	N 89°43'41" W	52.24'
A114	S 25°49'57" E	41.34'
A115	S 63°02'07" W	169.02'
A116	S 26°55'46" W	66.15'
A117	S 29°21'56" E	27.66'
A118	S 29°38'11" E	31.94'
A119	S 77°06'36" W	63.40'
A120	N 77°48'36" W	114.17'
A121	S 58°56'16" W	81.78'
A122	S 70°40'15" W	78.16'
A123	N 79°46'28" W	92.27'
A124	S 89°18'58" W	61.48'
A125	S 01°10'37" W	71.07'
A126	S 53°41'35" E	71.50'
A127	N 79°01'18" E	75.96'
A128	S 16°10'48" E	54.72'
A129	S 30°37'29" E	89.94'
A130	N 89°47'15" E	97.83'

WETLAND AREA "A"

COURSE	BEARING	DISTANCE
A131	N 61°08'34" E	94.91'
A132	N 42°47'34" E	66.13'
A133	N 53°47'04" E	59.78'
A134	N 47°07'36" E	67.46'
A135	S 36°17'43" E	53.09'
A136	S 12°35'34" W	97.24'
A137	S 08°41'07" W	72.96'
A138	S 30°02'32" W	88.98'
A139	S 53°28'21" W	94.21'
A140	S 63°43'50" W	90.49'
A141	S 60°02'08" W	78.74'
A142	S 54°03'23" W	85.35'
A143	S 48°54'25" W	77.57'
A144	N 51°55'21" W	47.68'
A145	N 04°17'55" W	48.27'
A146	N 64°49'58" E	95.47'
A147	N 26°48'23" E	69.96'
A148	N 21°54'11" W	42.94'
A149	N 66°06'54" W	98.89'
A150	N 67°52'59" W	100.39'
A151	N 70°54'20" W	67.15'
A152	S 27°04'34" W	75.93'
A153	S 76°29'39" W	41.38'
A154	N 30°30'17" W	27.19'
A155	N 66°49'19" E	61.61'
A156	N 12°04'39" W	70.06'
A157	N 73°20'39" W	52.63'
A158	S 89°57'03" W	74.57'
A159	N 82°51'43" W	78.26'
A160	S 63°26'17" W	60.42'
A161	N 57°29'51" W	38.41'
A162	N 37°18'54" W	53.16'
A163	N 31°24'38" W	49.02'
A164	N 41°44'33" W	44.78'
A165	N 21°24'58" W	27.85'
A166	N 49°25'17" W	24.05'
A167	S 63°09'53" W	31.97'
A168	S 39°34'41" E	32.66'
A169	S 45°28'29" E	25.59'
A170	S 41°44'33" E	44.78'
A171	S 30°54'40" E	44.62'
A172	S 37°10'24" E	55.69'
A173	S 62°38'13" E	40.31'
A174	S 31°30'18" W	34.76'
A175	S 10°04'03" W	35.58'
A176	S 00°00'35" E	59.71'
A177	S 30°25'38" E	37.32'
A178	S 62°02'15" E	38.84'
A179	S 17°33'55" E	61.26'
A180	S 71°40'45" W	49.21'
A181	S 53°48'27" W	79.25'
A182	S 86°02'14" W	73.41'
A183	N 10°31'22" W	7.52'
A184	N 61°33'53" W	63.17'
A185	S 57°51'38" W	54.87'
A186	S 49°03'50" W	53.47'
A187	S 35°38'56" W	83.00'
A188	S 45°53'14" W	220.22'
A189	S 77°31'47" W	83.28'
A190	S 40°26'24" W	110.94'
A191	S 66°41'35" W	73.26'
A192	S 45°21'42" W	51.43'
A193	S 11°19'05" E	23.92'
A194	N 88°53'47" W	31.23'
A195	N 08°18'16" W	516.16'
A196	N 48°51'30" E	772.39'
A197	S 46°00'42" E	49.90'
A198	S 46°00'42" E	86.33'
A199	N 47°53'16" E	25.93'
A200	N 45°21'00" W	48.19'
A201	N 49°17'22" W	41.98'
A202	N 46°00'42" W	47.85'
A203	N 48°51'30" E	3743.99'
A204	N 48°54'00" E	23.19'
A205	S 17°07'35" E	789.00'
A206	S 17°35'50" E	60.06'
A207	S 14°38'05" E	1477.90'
A208	S 80°01'10" E	348.72'

WETLAND AREA "B"

COURSE	BEARING	DISTANCE
B1	S 30°36'27" W	48.85'
B2	S 84°01'20" W	94.24'
B3	N 33°56'07" W	37.13'
B4	S 78°19'36" W	53.11'
B5	N 71°27'02" W	80.49'
B6	N 65°33'35" W	77.51'
B7	N 23°59'41" W	38.17'
B8	N 78°58'20" W	73.32'
B9	N 69°16'48" W	67.83'
B10	N 10°08'18" W	26.91'
B11	N 36°48'48" E	50.32'
B12	N 88°57'25" E	58.50'
B13	N 26°09'24" E	45.25'
B14	N 64°07'14" E	79.52'
B15	S 74°37'15" E	40.28'
B16	N 18°31'11" E	70.46'
B17	N 80°26'41" E	84.85'
B18	S 34°30'05" E	72.54'
B19	S 74°01'47" E	54.86'
B20	N 84°41'33" E	59.30'
B21	N 48°53'23" E	75.01'
B22	N 04°20'06" E	45.09'
B23	N 25°46'02" W	28.23'
B24	N 35°43'42" E	46.07'
B25	N 04°18'31" W	77.24'
B26	N 08°27'54" W	69.14'
B27	N 23°45'49" E	42.91'
B28	N 24°54'02" E	64.23'
B29	N 61°18'37" E	63.44'
B30	S 70°39'13" E	91.99'
B31	S 41°02'57" E	51.38'
B32	S 05°37'19" E	95.01'
B33	S 13°05'13" W	78.81'
B34	S 06°29'44" W	70.57'
B35	S 37°04'53" W	77.72'
B36	S 49°44'43" W	104.73'
B37	S 25°44'24" W	77.86'
B38	S 15°53'16" W	66.43'
B39	S 27°17'09" E	48.66'
B40	S 53°02'08" W	54.60'
B41	S 43°53'45" W	59.23'

WETLAND AREA "C"

COURSE	BEARING	DISTANCE
C1	S 56°36'13" W	0.70'
C2	S 70°32'12" W	111.12'
C3	S 55°52'40" W	89.88'
C4	S 15°38'40" W	65.15'
C5	S 24°44'12" W	67.55'
C6	N 75°40'10" W	41.71'
C7	N 59°08'27" W	74.74'
C8	N 78°42'35" W	41.56'
C9	S 34°17'10" E	93.67'
C10	S 72°14'10" E	15.74'
C11	S 73°07'30" E	79.60'
C12	S 80°48'54" E	52.37'
C13	S 00°20'34" E	76.07'
C14	S 13°12'19" E	90.68'
C15	S 53°39'31" E	69.31'
C16	S 01°30'33" W	88.20'
C17	S 05°05'25" E	83.20'
C18	N 51°48'59" E	68.72'
C19	N 59°13'37" E	58.10'
C20	S 53°38'13" E	35.20'
C21	S 04°06'10" W	108.32'
C22	S 14°39'00" E	89.70'
C23	S 40°48'28" E	105.43'
C24	S 69°42'51" E	23.65'
C25	S 06°02'17" W	69.86'
C26	S 51°03'15" W	0.47'
C27	S 11°27'12" E	67.19'
C28	S 69°36'33" E	64.30'
C29	S 26°35'57" E	29.75'
C30	S 11°55'55" E	33.03'
C31	N 81°56'10" E	8.82'
C32	S 26°35'57" E	11.91'
C33	S 38°59'43" E	86.71'
C34	S 52°05'44" E	77.76'
C35	S 00°06'48" E	77.95'
C36	S 41°19'17" E	55.11'
C37	S 30°34'12" W	33.49'
C38	N 77°02'00" W	59.38'
C39	N 68°27'48" W	51.90'
C40	N 79°47'52" W	53.68'
C41	N 47°14'15" W	39.59'
C42	S 45°28'24" W	46.81'
C43	N 18°30'22" W	54.13'
C44	S 57°26'53" W	29.73'
C45	S 02°28'26" E	36.95'
C46	S 51°43'35" W	37.82'
C47	S 36°59'56" W	63.69'
C48	S 36°42'32" E	15.15'
C49	S 79°20'39" W	15.65'
C50	N 28°20'45" W	32.88'
C51	N 44°59'10" W	58.81'
C52	N 73°57'07" W	74.34'
C53	N 37°56'45" W	56.37'
C54	N 80°52'49" W	58.64'
C55	S 57°09'12" W	83.19'
C56	N 78°07'21" W	46.88'
C57	N 04°05'28" W	59.11'
C58	S 73°09'08" E	27.25'
C59	N 62°57'25" E	64.15'
C60	S 73°53'14" E	96.12'
C61	S 66°15'27" E	56.78'
C62	N 84°14'57" E	29.01'
C63	S 61°51'58" E	69.98'
C64	N 55°48'16" E	18.20'
C65	N 19°36'42" E	33.01'
C66	N 75°09'00" W	10.55'
C67	N 89°01'26" W	40.50'
C68	N 52°23'41" W	73.23'
C69	N 83°04'13" W	90.03'
C70	N 63°50'56" W	39.44'
C71	S 76°27'21" W	69.46'
C72	N 04°13'38" W	30.20'
C73	N 88°43'57" W	43.76'
C74	N 13°51'27" W	63.07'
C75	N 14°26'40" W	90.49'
C76	N 21°21'48" E	75.98'
C77	N 25°26'21" W	73.03'
C78	N 32°17'48" W	45.02'
C79	N 38°13'32" W	52.70'
C80	N 80°24'29" W	56.85'
C81	N 78°34'33" W	46.23'
C82	S 68°24'27" W	54.63'
C83	N 13°27'55" W	29.65'
C84	N 56°45'02" E	68.95'
C85	N 75°59'40" E	71.93'
C86	N 76°17'36" E	68.72'
C87	N 13°27'21" E	65.66'
C88	N 03°57'52" W	70.18'
C89	N 36°53'32" W	53.51'
C90	N 21°27'29" W	30.97'
C91	N 55°12'12" W	50.48'
C92	N 27°09'45" W	83.28'
C93	N 53°29'19" W	67.83'
C94	N 01°26'32" E	83.04'
C95	N 13°07'10" W	58.55'
C96	N 09°11'13" W	63.71'
C97	N 06°17'55" E	56.00'
C98	N 37°12'10" W	56.58'
C99	N 30°10'39" W	60.27'
C100	N 26°50'37" W	60.09'
C101	N 70°10'38" W	68.30'
C102	N 69°53'32" W	55.07'
C103	N 73°47'05" W	67.20'
C104	N 84°49'50" W	54.79'
C105	S 57°59'40" W	58.86'
C106	S 36°04'43" W	78.43'
C107	S 38°07'47" W	62.69'
C108	S 62°46'57" W	76.03'
C109	S 45°38'47" W	68.51'
C110	S 39°05'48" W	51.43'
C111	S 17°10'17" W	32.97'
C112	S 26°15'43" W	61.46'
C113	S 46°48'01" W	76.03'
C114	S 50°20'39" W	52.35'
C115	N 33°40'20" W	55.99'
C116	N 45°10'04" W	47.81'
C117	N 32°50'46" E	29.70'
C118	N 51°41'02" E	62.20'
C119	N 51°43'44" E	81.58'
C120	N 49°03'37" E	101.46'

WETLAND AREA "C"

COURSE	BEARING	DISTANCE
C121	N 48°30'56" E	67.05'
C122	N 46°42'20" E	85.17'
C123	S 64°13'24" E	27.95'
C124	N 38°25'01" E	89.84'
C125	N 55°12'34" E	53.74'
C126	N 00°39'56" W	49.07'
C127	N 25°52'37" E	51.12'
C128	N 00°58'36" W	62.19'
C129	N 12°05'41" W	58.07'
C130	N 24°38'28" E	44.57'
C131	N 56°08'44" E	128.05'
C132	N 67°12'30" E	47.43'
C133	N 38°53'53" W	105.45'
C134	S 77°02'02" W	68.37'
C135	N 05°03'21" W	52.00'
C136	N 16°45'30" E	59.88'
C137	N 86°17'32" E	359.70'
C138	S 84°45'05" E	39.66'
C139	S 65°29'27" E	63.90'
C140	S 45°34'46" E	81.93'
C141	S 71°17'58" E	104.08'
C142	S 57°19'27" E	100.46'
C143	S 19°45'05" E	74.21'
C144	S 25°00'02" E	74.06'
C145	N 73°47'02" E	11.92'
C146	S 11°55'55" E	388.53'

WETLAND AREA "D"

COURSE	BEARING	DISTANCE
D1	S 61°32'07" W	65.38'
D2	S 28°43'29" W	79.79'
D3	S 74°07'20" W	77.83'
D4	S 48°58'31" W	62.54'
D5	S 64°24'16" W	53.70'
D6	S 87°15'24" W	71.02'
D7	S 80°19'33" W	67.97'
D8	N 23°37'12" W	33.47'
D9	N 02°30'17" W	59.61'
D10	N 70°48'32" E	51.52'
D11	N 85°17'00" E	37.75'
D12	N 19°51'20" E	116.91'
D13	N 68°50'30" E	67.03'
D14	S 84°20'54" E	53.42'
D15	N 44°27'55" E	76.39'
D16	N 19°05'40" E	80.71'
D17	N 27°44'08" W	61.29'
D18	N 27°37'43" E	120.43'
D19	N 27°37'43" E	10.41'
D20	S 11°06'45" E	345.06'

WETLAND AREA "E"

COURSE	BEARING	DISTANCE
E1	S 82°26'30" W	288.62'
E2	N 14°14'53" W	27.91'
E3	N 49°22'08" E	38.29'
E4	N 41°00'41" W	53.52'
E5	S 57°42'28" W	49.83'
E6	N 25°39'16" W	57.99'
E7	N 31°30'55" W	107.78'
E8	N 36°08'42" W	52.29'
E9	N 43°55'04" W	33.17'
E10	N 41°38'10" W	67.16'
E11	N 71°53'07" W	46.00'
E12	N 87°10'20" W	48.99'
E13	N 26°21'50" W	48.67'
E14	N 64°06'52" W	42.88'
E15	N 09°30'18" W	67.73'
E16	N 41°51'50" W	58.13'
E17	N 46°59'59" W	34.99'
E18	N 32°45'14" W	56.32'
E19	N 02°01'26" E	54.87'
E20	N 04°00'08" W	34.37'
E21	N 01°18'16" W	35.80'
E22	N 08°40'00" W	42.56'
E23	N 21°14'41" W	31.34'
E24	N 24°39'34" W	85.33'
E25	N 02°34'28" E	40.65'
E26	N 04°17'58" E	60.68'
E27	N 07°40'55" W	56.69'
E28	N 03°32'35" E	70.94'
E29	N 17°48'23" E	68.18'
E30	N 18°56'55" E	68.47'
E31	N 05°50'36" E	48.09'
E32	N 08°48'20" E	53.44'
E33	N 63°14'05" E	86.48'
E34	N 17°55'02" E	65.63'
E35	N 10°12'58" E	50.90'
E36	N 16°27'10" E	55.13'
E37	N 26°34'33" E	71.49'
E38	N 52°16'16" E	50.26'
E39	N 41°10'04" E	33.55'
E40	N 47°05'28" E	66.08'
E41	S 52°53'54" E	50.65'
E42	N 66°30'31" E	33.83'
E43	N 88°53'24" E	36.02'
E44	S 13°12'10" E	664.58'
E45	S 13°11'41" E	1016.18'

GEORGIA REGISTERED
NO. 2113
8-13-19
LAND SURVEYOR
JAMES M. ANDERSON

"I HEREBY CERTIFY THAT THE WETLANDS AS SHOWN ON THIS SURVEY WERE LOCATED USING GPS EQUIPMENT AT SUB-METER ACCURACY. THE PURPOSE OF THIS SURVEY IS FOR THE LOCATION OF WETLANDS ONLY AND NOT BOUNDARY ESTABLISHMENT OR PROPERTY CONVEYANCE."

WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATHAM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON-GA. R.L.S. 2113
JN18111.CRD & JN18111.DWG
SHEET 9

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764-2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment

WETLAND AREA "F"

COURSE	BEARING	DISTANCE
F1	S 36°19'24" W	107.64'
F2	S 36°19'24" W	87.59'
F3	S 39°11'49" W	60.00'
F4	S 49°57'53" W	43.17'
F5	S 80°46'39" W	64.41'
F6	S 55°01'29" W	83.57'
F7	S 25°42'24" W	79.44'
F8	S 73°31'49" W	75.68'
F9	S 71°24'05" W	80.29'
F10	S 86°28'08" W	82.27'
F11	S 61°23'33" W	79.81'
F12	S 23°19'11" W	89.13'
F13	S 73°19'55" W	47.31'
F14	N 39°46'06" W	38.94'
F15	N 11°07'59" E	56.90'
F16	N 43°21'01" E	62.71'
F17	N 28°27'17" E	82.97'
F18	N 69°31'06" E	76.23'
F19	N 13°47'15" E	62.44'
F20	N 14°59'13" W	66.57'
F21	N 55°49'22" W	59.82'
F22	N 82°37'39" W	72.09'
F23	S 42°48'56" W	73.43'
F24	S 27°43'36" W	66.43'
F25	N 86°50'13" W	73.09'
F26	N 19°47'50" W	27.44'
F27	N 75°24'18" W	80.73'
F28	S 83°08'13" W	87.54'
F29	N 53°15'15" W	50.63'
F30	N 13°45'12" E	69.05'
F31	N 03°22'48" W	84.33'
F32	N 32°55'38" W	64.04'
F33	N 74°12'17" W	68.75'
F34	N 87°57'06" W	227.97'
F35	N 10°43'50" W	178.70'
F36	S 75°33'39" E	288.07'
F37	S 25°13'42" E	58.52'
F38	S 84°43'49" E	78.31'
F39	S 77°32'50" E	46.62'
F40	S 55°57'18" E	72.35'
F41	N 30°32'05" E	84.44'
F42	N 82°52'15" E	72.15'
F43	N 79°10'24" E	60.49'
F44	S 56°54'54" E	91.42'
F45	N 58°17'53" E	71.28'
F46	S 67°10'53" E	79.16'
F47	S 22°46'59" E	85.49'
F48	S 82°21'38" E	104.97'
F49	N 77°47'37" E	90.73'
F50	N 47°01'21" E	61.91'
F51	N 74°34'27" E	87.21'
F52	N 62°09'47" E	65.06'
F53	N 80°50'35" E	75.37'
F54	N 54°57'11" E	50.46'
F55	N 45°17'03" E	31.57'
F56	S 11°06'25" E	177.50'

WETLAND AREA "G"

COURSE	BEARING	DISTANCE
G1	S 43°04'19" W	43.72'
G2	N 73°40'19" W	39.76'
G3	N 83°09'02" W	35.24'
G4	N 16°42'40" E	40.71'
G5	N 87°21'22" E	73.84'
G6	S 34°09'04" E	31.23'

WETLAND AREA "H"

COURSE	BEARING	DISTANCE
H1	S 57°22'24" W	32.30'
H2	N 71°54'18" W	20.84'
H3	S 86°45'51" W	41.08'
H4	S 61°33'39" W	35.61'
H5	S 83°42'16" W	68.32'
H6	S 65°46'51" W	58.39'
H7	N 67°58'10" W	35.89'
H8	N 25°55'20" W	45.52'
H9	N 61°43'47" E	22.00'
H10	S 89°20'25" E	274.32'

WETLAND AREA "J"

COURSE	BEARING	DISTANCE
J1	N 10°39'27" E	79.07'
J2	N 10°39'27" E	7.35'
J3	N 19°29'05" E	60.99'
J4	N 45°39'28" E	32.10'
J5	S 58°34'37" E	46.41'
J6	S 65°54'55" E	65.90'
J7	S 83°38'09" E	45.04'
J8	S 22°48'48" E	41.82'
J9	S 00°51'08" E	72.75'
J10	S 00°51'08" E	4.16'
J11	N 88°16'20" W	221.26'

WETLAND AREA "K"

COURSE	BEARING	DISTANCE
K1	N 55°11'39" E	62.83'
K2	S 73°54'20" E	55.03'
K3	S 21°08'52" E	34.28'
K4	S 31°04'17" E	43.51'
K5	S 14°55'58" E	50.93'
K6	S 11°23'28" E	44.71'
K7	S 13°07'26" W	42.89'
K8	S 51°46'13" W	37.27'
K9	N 79°11'35" W	57.63'
K10	N 32°31'34" W	49.72'
K11	N 16°55'09" W	71.06'
K12	N 58°00'07" W	26.46'
K13	N 01°38'34" E	57.52'
K14	N 10°14'52" E	14.51'

WETLAND AREA "M"

COURSE	BEARING	DISTANCE
M1	N 58°54'18" E	68.10'
M2	S 89°53'41" E	65.23'
M3	N 86°22'23" E	43.95'
M4	N 80°03'47" E	77.40'
M5	S 83°14'30" E	14.30'
M6	S 87°02'02" E	31.06'
M7	S 15°41'31" E	10.27'
M8	S 26°41'26" E	81.02'
M9	N 83°04'44" W	15.27'
M10	S 69°53'57" W	25.77'
M11	S 66°42'21" W	49.29'
M12	S 51°00'58" W	54.49'
M13	S 85°48'10" W	75.58'
M14	S 25°18'17" W	29.40'
M15	S 33°48'44" W	16.25'
M16	N 26°15'37" W	63.41'
M17	N 76°00'34" W	50.90'
M18	N 08°18'54" W	56.32'
M19	N 49°17'12" W	24.36'

WETLAND AREA "N"

COURSE	BEARING	DISTANCE
N1	N 57°32'24" E	52.12'
N2	S 59°17'38" E	52.08'
N3	S 41°41'50" E	66.72'
N4	S 13°36'00" E	67.77'
N5	S 53°43'50" W	69.31'
N6	N 78°45'33" W	72.51'
N7	N 57°08'05" W	50.50'
N8	N 18°56'56" W	21.75'
N9	N 02°16'05" W	56.48'
N10	N 38°52'48" E	47.19'

WETLAND AREA "P"

COURSE	BEARING	DISTANCE
P1	S 66°38'37" E	45.30'
P2	S 02°36'27" E	29.78'
P3	S 08°35'52" E	50.79'
P4	S 30°12'27" W	35.41'
P5	N 67°50'40" W	29.31'
P6	N 51°16'13" W	42.98'
P7	N 31°49'24" W	34.54'
P8	N 00°08'54" E	34.85'
P9	N 60°12'25" E	53.11'

WETLAND AREA "Q"

COURSE	BEARING	DISTANCE
Q1	N 72°02'58" E	50.23'
Q2	N 64°45'19" E	39.52'
Q3	S 76°07'59" E	42.86'
Q4	S 29°14'14" E	43.85'
Q5	S 20°19'32" E	49.48'
Q6	S 22°07'31" W	64.14'
Q7	S 25°13'26" W	45.68'
Q8	S 58°16'07" W	56.29'
Q9	S 50°43'41" W	45.98'
Q10	N 81°48'24" W	46.84'
Q11	N 21°27'24" W	53.20'
Q12	N 22°42'43" W	74.36'
Q13	N 14°55'02" E	56.48'
Q14	N 45°26'10" E	60.83'

WETLAND AREA "R"

COURSE	BEARING	DISTANCE
R1	S 07°15'46" W	41.79'
R2	S 24°29'50" W	40.08'
R3	S 03°21'27" W	89.30'
R4	S 31°42'22" E	68.22'
R5	S 28°07'55" E	36.24'
R6	S 24°51'56" E	35.89'
R7	S 06°35'20" E	77.08'
R8	S 01°12'30" W	55.11'
R9	S 06°00'28" E	54.76'
R10	S 43°03'42" E	61.52'
R11	S 36°21'32" W	50.73'
R12	S 03°20'03" E	55.45'
R13	S 05°09'09" E	30.04'
R14	S 60°52'00" W	61.53'
R15	S 74°32'00" W	83.18'
R16	S 78°10'10" W	77.94'
R17	S 61°48'41" W	33.63'
R18	S 27°25'33" W	75.69'
R19	S 23°59'03" W	58.45'
R20	S 22°14'09" W	43.79'
R21	S 12°32'56" E	38.88'
R22	S 02°31'00" E	60.58'
R23	S 00°02'09" W	59.14'
R24	S 10°19'51" E	39.56'
R25	S 26°49'57" W	59.52'
R26	S 76°10'21" W	56.11'
R27	S 07°44'41" W	31.71'
R28	S 74°39'05" W	15.84'
R29	S 08°17'00" E	52.77'
R30	S 08°17'00" E	71.00'
R31	S 72°14'36" W	48.76'
R32	S 76°30'19" W	79.54'
R33	N 61°40'58" W	103.45'
R34	N 25°30'26" E	100.27'
R35	N 12°36'27" W	101.74'
R36	N 33°43'27" W	69.12'
R37	N 22°49'39" W	103.87'
R38	S 76°17'41" W	56.04'
R39	S 59°58'00" W	77.65'
R40	N 75°23'58" W	69.03'
R41	N 68°32'35" W	54.66'
R42	S 89°40'39" W	30.21'
R43	S 20°36'20" W	53.99'
R44	S 78°00'38" W	68.04'
R45	S 54°40'36" W	55.96'
R46	N 85°28'19" W	73.87'
R47	S 25°43'42" W	38.03'
R48	S 55°27'47" W	71.86'
R49	S 52°11'59" W	51.08'
R50	S 35°47'17" W	49.13'
R51	S 56°17'04" W	52.11'
R52	S 03°52'24" E	38.09'
R53	S 03°52'24" E	10.85'
R54	S 76°12'20" W	651.15'
R55	S 15°19'30" W	955.06'
R56	S 15°03'40" E	275.98'
R57	N 76°32'45" E	454.25'
R58	S 04°29'20" E	61.42'
R59	S 78°54'18" W	55.90'
R60	N 62°30'03" W	51.74'
R61	N 88°09'46" W	41.05'
R62	S 23°26'46" W	65.81'
R63	N 80°45'55" E	45.66'
R64	S 48°25'43" W	58.75'
R65	S 26°02'35" E	53.89'
R66	S 27°18'19" W	49.22'
R67	S 29°40'15" W	60.65'
R68	S 01°03'27" E	54.72'
R69	S 08°08'41" W	47.22'
R70	N 67°34'49" W	78.14'
R71	S 32°06'09" W	59.33'
R72	S 13°13'10" E	71.34'
R73	S 30°41'35" W	61.70'
R74	N 78°19'33" W	71.00'
R75	N 81°11'39" W	50.08'
R76	S 58°24'21" W	52.89'
R77	S 32°22'45" W	48.24'
R78	S 06°03'43" W	49.83'
R79	S 37°49'58" W	52.60'
R80	S 32°08'51" W	46.47'
R81	S 67°53'32" W	62.15'
R82	S 15°10'14" E	46.60'
R83	S 44°15'57" E	61.65'
R84	S 16°49'54" W	46.15'
R85	S 27°11'42" E	55.64'
R86	S 12°46'41" E	70.89'
R87	S 21°50'09" W	51.50'
R88	S 31°50'28" W	19.56'
R89	N 27°21'15" W	180.76'
R90	S 83°24'05" W	317.16'
R91	N 07°34'10" W	278.04'
R92	N 35°30'55" E	698.23'
R93	N 52°30'05" W	200.29'
R94	N 30°13'56" E	377.84'
R95	N 15°39'25" W	113.85'
R96	N 88°37'15" W	373.11'
R97	N 44°36'03" E	61.22'
R98	N 06°00'35" E	40.32'
R99	N 26°20'46" W	45.63'
R100	N 49°11'06" W	42.99'
R101	N 75°47'25" W	62.25'
R102	N 13°04'51" E	48.85'
R103	N 72°39'46" E	59.18'
R104	N 58°27'01" E	75.95'
R105	N 36°11'28" E	49.98'
R106	N 72°08'38" E	50.77'
R107	S 37°35'35" E	62.03'
R108	S 37°42'51" E	38.72'
R109	N 76°01'23" E	76.31'
R110	N 68°24'28" E	71.90'
R111	N 43°47'13" E	74.52'
R112	N 10°36'21" E	76.36'
R113	N 65°00'47" E	66.36'
R114	N 36°48'37" E	70.43'
R115	N 53°15'10" E	95.37'
R116	N 19°46'57" E	68.52'
R117	N 45°46'20" E	44.12'
R118	N 56°15'19" E	64.70'
R119	N 27°01'12" W	62.42'
R120	N 26°22'54" W	68.17'

WETLAND AREA "R"

COURSE	BEARING	DISTANCE
R121	N 33°26'45" W	61.90'
R122	N 32°51'33" W	43.97'
R123	N 19°43'08" W	33.67'
R124	S 83°10'34" W	48.01'
R125	S 69°08'46" W	48.17'
R126	S 62°18'37" W	53.37'
R127	N 80°56'41" W	43.92'
R128	N 82°52'27" W	59.00'
R129	S 60°42'18" W	47.19'
R130	S 69°19'05" W	63.36'
R131	S 81°39'15" W	65.53'
R132	S 64°55'46" W	81.23'
R133	N 69°10'07" W	43.99'
R134	S 66°53'05" W	64.01'
R135	S 37°12'06" W	41.44'
R136	S 81°19'16" W	44.12'
R137	S 49°02'26" W	78.51'
R138	S 51°24'12" W	53.83'
R139	S 57°25'09" W	88.67'
R140	S 19°12'43" W	32.67'
R141	S 39°58'40" W	84.26'
R142	S 46°55'21" W	88.74'
R143	S 75°31'21" W	51.07'
R144	N 22°41'45" W	46.08'
R145	N 44°58'27" W	62.41'
R146	N 34°09'16" W	21.32'
R147	N 53°53'05" E	29.87'
R148	S 35°23'11" E	22.01'
R149	S 76°28'51" E	45.26'
R150	N 10°28'30" W	78.31'
R151	N 28°17'09" W	48.27'
R152	N 39°50'43" W	56.66'
R153	S 64°27'11" W	12.71'
R154	S 31°41'15" E	22.97'
R155	S 29°18'23" E	57.45'
R156	S 54°33'52" W	59.92'
R157	S 58°07'19" W	69.40'
R158	S 68°23'35" W	39.96'
R159	S 38°30'03" W	74.48'
R160	S 58°54'05" W	82.30'
R161	N 87°39'16" W	74.79'
R162	N 72°28'33" W	116.75'
R163	N 82°19'36" W	103.22'
R164	S 72°17'04" W	81.98'
R165	S 87°59'23" W	85.16'
R166	N 11°52'10" W	168.99'
R167	N 69°49'25" E	66.58'
R168	S 81°36'17" E	43.70'
R169	S 82°20'06" E	40.13'
R170	N 69°11'17" E	51.82'
R171	N 37°22'58" E	50.76'
R172	N 19°37'59" W	32.98'
R173	S 82°22'19" W	63.20'
R174	N 54°39'30" W	51.79'
R175	N 40°01'42" W	44.57'
R176	N 81°13'38" W	49.37'
R177	N 21°37'54" W	62.17'
R178	N 31°36'16" E	43.10'
R179	S 73°04'21" E	40.41'
R180	S 78°29'30" E	58.75'
R181	N 62°09'13" E	62.75'
R182	N 77°47'53" E	60.24'
R183	S 21°49'24" E	94.81'
R184	S 60°15'30" E	39.15'
R185	S 39°08'18" E	51.80'
R186	S 76°21'06" E	42.17'
R187	N 85°31'06" E	35.88'
R188	N 12°22'58" E	25.89'
R189	N 05°36'37" W	35.15'
R190	N 73°05'19" E	47.57'
R191	S 78°04'26" E	36.78'
R192	S 49°57'26" E	51.13'
R193	S 17°31'36" E	43.79'
R194	S 31°37'33" E	35.72'
R195	N 60°02'55" E	42.76'
R196	N 77°01'45" E	44.59'
R197	S 38°38'55" E	23.69'
R198	S 51°19'06" E	39.80'
R199	N 62°50'27" E	14.27'
R200	N 37°15'30" W	38.86'
R201	N 32°42'41" E	24.20'
R202	N 87°40'11" E	61.29'
R203	N 66°26'58" E	46.11'
R204	N 78°42'12" E	62.86'
R205	N 39°27'35" E	62.07'
R206	N 31°26'46" W	46.56'
R207	N 05°41'16" W	68.07'
R208	N 72°07'36" E	37.10'
R209	N 81°19'30" E	62.64'
R210	S 70°41'34" E	26.78'
R211	S 79°45'31" E	60.67'
R212	S 30°31'28" E	44.09'
R213	S 26°19'22" E	42.39'
R214	N 76°23'17" E	110.35'
R215	N 58°07'05" E	28.96'
R216	N 52°13'38" E	62.48'
R217	S 34°34'12" E	43.77'
R218	N 61°38'51" E	58.26'
R219	N 14°31'46" E	63.55'
R220	S 87°11'55" E	39.28'
R221	N 42°46'43" W	38.36'
R222	N 50°35'46" W	36.17'
R223	N 16°01'48" W	48.66'
R224	N 34°28'12" W	59.75'
R225	N 52°10'53" W	23.94'
R226	N 87°32'46" W	62.39'
R227	S 59°01'41" W	52.04'
R228	S 74°08'22" W	71.76'
R229	N 76°22'32" W	55.04'
R230	N 86°23'57" W	57.83'

GEORGIA REGISTERED
NO. 2113
8-13-19
LAND SURVEYOR
JAMES M. ANDERSON

"I HEREBY CERTIFY THAT THE WETLANDS AS SHOWN ON THIS SURVEY WERE LOCATED USING GPS EQUIPMENT AT SUB-METER ACCURACY. THE PURPOSE OF THIS SURVEY IS FOR THE LOCATION OF WETLANDS ONLY AND NOT BOUNDARY ESTABLISHMENT OR PROPERTY CONVEYANCE."

WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATHAM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON-GA. R.L.S. 2113
JN18111.CRD & JN18111.DWG
SHEET 10

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764-2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment

WETLAND AREA "R"

COURSE	BEARING	DISTANCE
R231	S 61°46'32" W	54.87'
R232	S 84°29'29" W	68.88'
R233	S 82°42'15" W	43.84'
R234	S 79°07'33" W	62.16'
R235	N 22°32'14" W	47.22'
R236	N 88°35'26" W	31.42'
R237	S 83°34'49" W	43.56'
R238	N 80°12'11" W	34.72'
R239	N 88°11'50" W	70.44'
R240	N 86°59'55" W	40.24'
R241	N 47°40'36" W	33.25'
R242	S 79°48'46" W	55.78'
R243	N 18°07'44" E	24.99'
R244	N 55°19'11" E	44.79'
R245	S 59°26'13" E	45.48'
R246	N 69°13'58" E	62.33'
R247	S 88°48'59" E	67.24'
R248	N 74°28'52" E	56.11'
R249	N 45°15'57" E	66.78'
R250	S 80°30'58" E	38.13'
R251	N 55°38'23" E	41.52'
R252	N 66°18'42" E	50.32'
R253	N 84°41'59" E	59.01'
R254	N 61°30'04" E	72.21'
R255	S 39°53'18" E	38.30'
R256	S 74°58'10" E	34.95'
R257	S 45°42'42" E	26.59'
R258	S 84°13'14" E	88.01'
R259	N 77°21'04" E	108.35'
R260	N 81°26'55" E	75.53'
R261	N 75°14'12" E	96.22'
R262	N 86°58'00" E	52.00'
R263	S 45°24'24" E	37.75'
R264	S 67°23'44" E	104.54'
R265	N 42°48'55" E	49.84'
R266	S 58°09'18" E	21.40'
R267	S 33°08'32" E	38.78'
R268	S 82°47'53" E	32.86'
R269	N 69°14'14" E	66.25'
R270	S 84°10'04" E	48.91'
R271	N 48°39'19" E	66.04'
R272	N 56°20'09" E	99.26'
R273	N 54°12'44" E	47.43'
R274	S 81°58'34" E	59.08'
R275	S 82°09'29" E	28.18'
R276	N 56°07'35" E	64.98'
R277	S 09°55'52" E	86.80'
R278	S 22°40'45" E	74.67'
R279	S 43°32'15" W	67.05'
R280	S 19°08'19" W	60.71'
R281	S 41°18'17" E	54.30'
R282	S 57°37'32" E	46.92'
R283	N 72°34'20" E	65.90'
R284	S 84°29'49" E	42.62'
R285	N 05°21'54" E	68.87'
R286	N 35°12'53" E	55.70'
R287	N 75°00'33" E	34.72'
R288	S 34°15'16" E	53.44'
R289	S 13°18'14" W	60.88'
R290	S 49°59'43" E	39.89'
R291	N 60°34'36" E	45.08'
R292	N 63°48'07" E	51.73'
R293	N 17°52'57" W	76.44'
R294	N 26°32'52" W	49.18'
R295	N 67°49'48" E	52.39'
R296	S 55°19'08" E	36.80'
R297	S 63°52'41" E	62.33'
R298	S 49°51'21" E	79.16'
R299	N 42°39'23" E	64.24'
R300	S 82°35'27" E	56.57'
R301	N 54°57'31" E	42.89'
R302	N 71°31'00" E	81.40'
R303	N 85°37'02" E	37.48'
R304	N 26°28'21" E	79.01'
R305	N 37°40'40" E	30.90'
R306	N 88°49'07" E	62.62'
R307	N 11°24'46" W	50.56'
R308	N 10°46'33" E	78.00'
R309	N 19°34'46" W	48.69'
R310	N 74°03'47" W	60.24'
R311	N 56°57'50" W	30.11'
R312	N 42°41'38" W	36.65'
R313	N 10°21'53" W	61.95'
R314	N 76°35'38" W	9.55'
R315	S 23°11'01" W	58.47'
R316	S 01°54'39" E	60.64'
R317	S 41°27'58" W	37.82'
R318	S 41°09'38" W	45.24'
R319	S 46°46'49" W	46.48'
R320	N 76°45'07" W	17.24'
R321	N 18°18'14" E	97.52'
R322	N 14°38'23" E	49.07'
R323	N 08°57'00" E	56.36'
R324	N 00°14'12" E	64.13'
R325	S 79°12'22" E	45.17'
R326	N 79°55'25" E	48.62'
R327	N 11°46'08" W	35.12'
R328	N 18°19'52" W	86.07'
R329	N 24°33'22" W	53.44'
R330	N 22°53'14" W	79.80'
R331	N 01°46'03" W	65.72'
R332	N 19°49'30" W	75.56'
R333	N 40°46'59" W	41.93'
R334	N 24°27'28" W	66.54'
R335	N 21°34'03" E	50.10'
R336	N 86°40'13" E	78.42'
R337	N 53°49'51" W	50.12'
R338	N 87°08'00" W	26.09'
R339	N 20°56'12" W	12.05'
R340	N 79°04'28" E	160.02'
R341	N 78°09'43" E	176.43'
R342	N 78°09'22" E	107.88'
R343	S 14°05'35" E	504.78'
R344	N 76°22'55" E	442.90'
R345	N 76°23'10" E	49.53'

WETLAND AREA "S"

COURSE	BEARING	DISTANCE
S1	S 73°58'04" W	131.74'
S2	S 78°09'33" W	175.73'
S3	S 82°30'39" W	123.67'
S4	N 33°39'10" W	60.05'
S5	N 21°33'12" W	42.56'
S6	S 64°34'34" W	79.91'
S7	S 00°57'39" W	37.27'
S8	S 82°24'12" W	11.38'
S9	N 18°53'40" W	490.62'
S10	N 82°26'30" E	378.51'
S11	S 41°59'15" E	529.66'
S12	S 18°50'40" W	50.95'

WETLAND AREA "U"

COURSE	BEARING	DISTANCE
U1	S 29°26'17" E	22.84'
U2	S 27°30'10" W	33.23'
U3	N 67°21'50" W	27.58'
U4	N 09°28'16" W	36.23'
U5	N 85°08'56" E	35.66'

WETLAND AREA "V"

COURSE	BEARING	DISTANCE
V1	S 83°21'07" E	22.43'
V2	S 73°33'06" E	47.93'
V3	S 43°21'36" E	33.16'
V4	S 42°36'47" W	35.59'
V5	S 85°38'57" W	34.19'
V6	S 36°09'06" W	39.80'
V7	S 30°58'44" W	57.33'
V8	N 83°04'51" W	43.26'
V9	N 21°00'25" E	167.81'

WETLAND AREA "W"

COURSE	BEARING	DISTANCE
W1	N 86°43'20" W	6.69'
W2	N 88°39'48" W	55.38'
W3	S 75°38'36" W	66.83'
W4	S 67°47'57" W	52.60'
W5	N 71°27'17" W	28.41'
W6	N 23°26'27" W	60.97'
W7	N 65°26'34" W	30.29'
W8	S 80°01'10" E	258.05'

WETLAND AREA "X"

COURSE	BEARING	DISTANCE
X1	N 79°49'37" E	7.71'
X2	S 16°27'34" E	44.84'
X3	S 63°29'43" E	27.14'
X4	S 54°30'08" E	47.74'
X5	S 54°21'43" E	36.27'
X6	S 30°57'32" W	25.94'
X7	S 66°23'17" W	58.69'
X8	S 57°22'24" W	13.17'
X9	N 12°35'20" W	159.30'

WETLAND AREA "Y"

COURSE	BEARING	DISTANCE
Y1	N 07°04'41" W	50.31'
Y2	N 65°59'27" E	82.50'
Y3	S 86°30'25" E	50.82'
Y4	S 77°22'48" E	82.70'
Y5	S 88°42'03" E	77.54'
Y6	N 80°39'08" E	62.74'
Y7	N 82°51'08" E	98.70'
Y8	S 35°21'15" W	164.57'
Y9	N 72°23'15" W	279.27'
Y10	S 44°46'35" W	91.80'

WETLAND AREA "Z"

COURSE	BEARING	DISTANCE
Z1	S 59°54'44" W	40.69'
Z2	S 28°08'29" W	50.92'
Z3	N 89°49'05" W	39.98'
Z4	N 84°59'33" W	40.05'
Z5	N 12°23'58" E	67.30'
Z6	N 07°12'18" E	17.93'
Z7	N 20°32'27" E	41.73'
Z8	N 39°34'24" E	62.07'
Z9	N 59°55'21" E	69.80'
Z10	N 43°24'22" E	37.52'
Z11	N 82°06'25" E	34.09'
Z12	S 74°50'23" E	45.32'
Z13	S 27°04'04" E	28.19'
Z14	S 19°27'53" W	40.03'
Z15	S 31°30'59" W	58.31'
Z16	S 51°30'40" W	82.39'

TIE LINES

COURSE	BEARING	DISTANCE
T1	N 17°30'25" W	378.35'
T2	N 36°22'31" W	258.11'
T3	S 28°07'09" E	228.61'
T4	N 08°47'15" W	50.07'

BOUNDARY LINES

COURSE	BEARING	DISTANCE
L1	S 86°26'30" W	67.76'
L2	N 27°21'15" W	122.94'
L3	N 27°21'15" W	180.76'
L4	N 52°30'05" W	200.29'
L5	N 15°39'25" W	113.85'
L6	S 35°21'15" W	164.57'
L7	S 44°46'35" W	91.80'
L8	N 21°00'25" E	167.81'
L9	N 11°52'10" W	188.99'
L10	N 11°52'10" W	20.70'
L11	S 89°20'25" E	274.32'
L12	S 89°20'25" E	9.86'
L13	N 12°35'20" W	5.76'
L14	N 12°35'20" W	159.30'
L15	N 12°35'20" W	276.19'
L16	N 87°26'00" W	119.52'
L17	N 88°16'20" W	225.37'
L18	N 88°16'20" W	221.26'
L19	N 88°16'20" W	231.85'
L20	N 48°51'30" E	24.09'
L21	N 48°54'00" E	23.19'
L22	S 17°35'50" E	60.08'
L23	S 80°01'10" E	191.31'
L24	S 80°01'10" E	258.05'
L25	N 17°32'50" W	218.78'
L26	N 17°32'50" W	85.60'
L27	N 83°32'30" W	51.10'
L28	S 13°44'15" E	66.37'
L29	S 13°44'15" E	148.46'
L30	S 13°44'15" E	73.15'
L31	S 13°44'15" E	143.11'
L32	S 11°06'45" E	121.53'
L33	S 55°38'55" E	109.89'
L34	S 18°53'40" E	54.38'
L35	N 79°52'46" E	50.59'
L36	N 18°53'40" W	38.44'
L37	S 18°50'40" W	50.95'
L38	S 18°50'40" W	46.07'
L39	N 76°23'10" E	49.53'
L40	N 13°22'10" W	55.29'
L41	N 80°14'44" E	49.33'
L42	S 85°43'25" E	134.34'
L43	N 71°47'30" E	19.91'
L44	S 18°08'30" E	21.05'
L45	S 18°30'15" E	109.24'
L46	S 17°54'25" E	66.75'
L47	S 74°39'05" W	15.84'
L48	S 08°17'00" E	52.77'
L49	S 08°17'00" E	71.00'
L50	S 08°17'00" E	309.23'
L51	S 76°51'23" W	116.44'
L52	S 76°02'32" W	89.43'
L53	S 76°30'10" W	153.36'
L54	S 76°05'25" W	143.50'
L55	S 04°29'20" E	61.42'
L56	N 10°43'50" W	148.35'
L57	N 10°43'50" W	178.70'

NOTES:

1. WETLAND DELINEATION FLAGGED BY SLIGH ENVIRONMENTAL CONSULTANTS, INC. DATED JUNE 11, 2018
2. BOUNDARY INFORMATION WAS COMPILED FROM A PLAT OF THIS PROPERTY BY PAUL WILDER RLS #1559 DATED MARCH 22, 1983 AND RECORDED IN PLAT CABINET B PAGES 48A AND 48B OF THE CLERK OF SUPERIOR COURT OF EFFINGHAM COUNTY, AND PLATS OF ADJACENT PROPERTIES RECORDED IN P.B. 50 PAGE 379 AND P.B. 41 PAGE 70 OF THE CLERK OF SUPERIOR COURT OF CHATHAM COUNTY.
3. A PORTION OF THIS PROPERTY MAY BE CONSIDERED WETLANDS UNDER THE JURISDICTION OF THE CORPS OF ENGINEERS. OWNERS MAY BE SUBJECT TO PENALTY BY LAW FOR DISTURBANCE OF THESE WETLAND AREAS WITHOUT PROPER AUTHORIZATION.
4. LINES F34, F36, & F37 WERE DETERMINED BY AVAILABLE LIDAR INFORMATION AT REQUEST OF USACE AFTER SITE VISIT.

GEORGIA REGISTERED NO. 2113 8-13-19 LAND SURVEYOR JAMES M. ANDERSON

"I HEREBY CERTIFY THAT THE WETLANDS AS SHOWN ON THIS SURVEY WERE LOCATED USING GPS EQUIPMENT AT SUB-METER ACCURACY. THE PURPOSE OF THIS SURVEY IS FOR THE LOCATION OF WETLANDS ONLY AND NOT BOUNDARY ESTABLISHMENT OR PROPERTY CONVEYANCE."

James M. Anderson

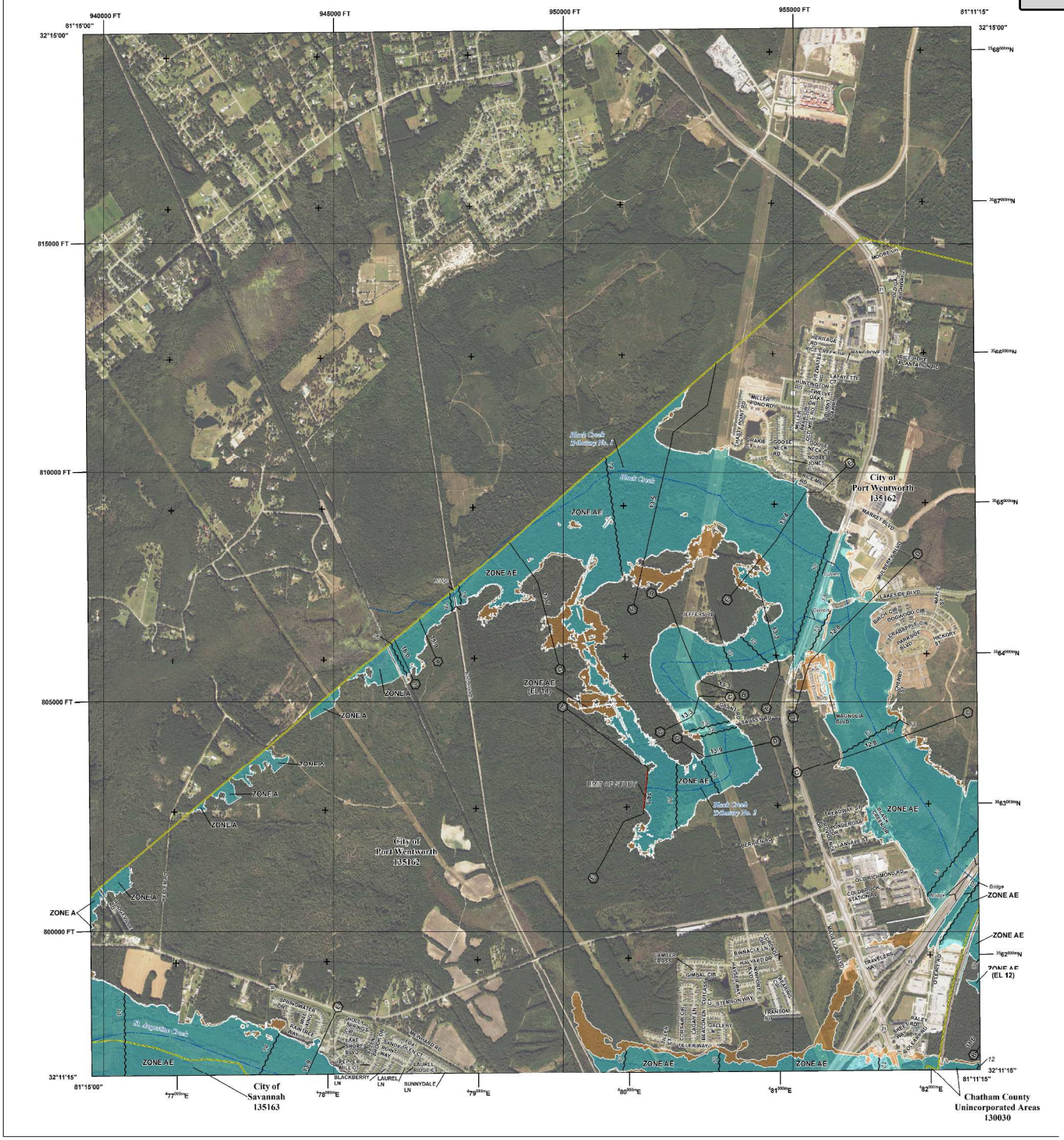
WETLANDS MAP FOR:

SAM L. VARNEDOE, JR., ET. AL.

LOCATION: 8TH. G.M.D. CHATHAM CO., GA.
CITY OF PORT WENTWORTH
DRAWN: OCTOBER 4, 2018
BY: JAMES M. ANDERSON-GA. R.L.S. 2113
JN18111.CRD & JN18111.DWG
SHEET 11

JAMES M. ANDERSON & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS
P.O. BOX 894 104 OAK STREET
STATESBORO, GA. 30459
PHONE: (912) 764-2002

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit C - Wetland Delineation (2485 : Zoning Map Amendment



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTP://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2 % Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*

OTHER AREAS
- NO SCREEN: Areas of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike, or Floodwall
- Non-accredited Levee, Dike or Floodwall
- (E) 18.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevations (BFE)
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)

OTHER FEATURES
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital orthophotography provided by the NAIP. This imagery was flown in 2015 and was produced at 1 meter resolution.

SCALE

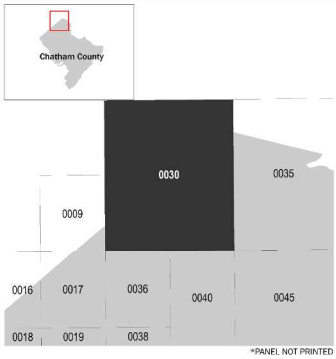
Map Projection: NAD 1983 StatePlane Georgia East FIPS 1001 Feet; Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 1,000 feet 1:12,000

0 1,000 2,000 4,000 Feet

0 250 500 1,000 Meters

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CHATHAM COUNTY, GEORGIA and Incorporated Areas

PANEL 030 OF 455

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHATHAM COUNTY	130030	0030	G
PORT WENTWORTH, CITY OF	135162	0030	G
SAVANNAH, CITY OF	135163	0030	G

VERSION NUMBER 2.3.2.1

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DIA Exhibit D - FEMA Map (2485 : Zoning Map Amendment VARNEDOE-

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

DEVELOPMENT OF REGIONAL IMPACT REPORT

Prepared for
City of Port Wentworth, Georgia
DRI #3308
SPH-21 Industrial Park Phase II
May 18, 2021

Prepared by:
Coastal Regional Commission
1181 Coastal Dr. SW
Darien, GA

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Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

1. APPLICATION INFORMATION

1.1 Jurisdiction

City of Port Wentworth, Georgia
DRI # 3308
SPH-21 Industrial Park Phase II

1.2 Applicant

SPH-21, LLC
404-358-1178
chris@crossgateconsulting.com

2. PROJECT DESCRIPTION

2.1 Summary

This DRI is the second phase of development of the SPH-21 Industrial Park, Port Wentworth, GA. DRI 3270 covered the first phase of development. The second phase of the industrial park will comprise approximately 5,629,500 square feet of warehouses with associated infrastructure improvements. This represents approximately 68% of the overall project.

The developer is different from the current property owner. The current property owners are: Anthony Steele, Glenn Steele, Donnelly Marks - attorney in fact for Samuel Varnedoe Jr., Comer Varne

According to the DRI submittal, the estimated value at build out is $430,000,000. According to the DRI submittal the estimated annual local tax revenue for the project is $6,127,500.

3. PARCEL DATA

3.1 Size of Property

The project size is approximately 5,629,500 square feet.

3.2 General Location

The property is located in the Southeast Georgia region, referred to as the Coastal Region, consisting of ten counties and thirty-five communities. Pooler is in the northern part of the coastal region.

The DRI project is located along GA Highway 21.

The subject property is located in Port Wentworth, within Chatham County.

According to the United States Census Bureau, the 2019 population of Pooler was estimated to be 25,694.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

4. LAND USE INFORMATION

4.1 Site Map

The site plan for use of the property is attached.

4.2 Built Features

The applicant indicates that the development will not displace any existing uses.

4.3 Future Development Map Designation (Character Area)

According to the Character Areas Map from the City of Port Wentworth Comprehensive Plan, the project site is designated as Suburban and Rural Neighborhood. The Port Wentworth comprehensive plan has the following description for the Suburban character area: "These areas include where typical types of suburban residential subdivision development have occurred or will occur in the future. Development within these areas in encouraged to include neo-traditional, conservation subdivision, or cluster development patterns." The following description is for the Rural Residential character area: "The area is rural, undeveloped land with little development pressure for suburban growth. Development patterns include low pedestrian orientation and access, very large lots, open space, and high degree of building separation."

4.4 Zoning District

The property is currently zoned Residential Agriculture. The Residential Agriculture zoning designation is defined in the Port Wentworth Code of Ordinances as follows: "The purpose of this district is to protect those more rural areas within Port Wentworth for future urban development and to protect certain rural highway roadside areas against strip development which can lead to traffic congestion, traffic hazards, and roadside blight."

5. CONSISTENCY AND COMPATIBILITY ANALYSIS

5.1 Consistency with the Comprehensive Plan

The Port Wentworth Comprehensive Plan was adopted in 2016. The Character Areas map designates this area as Suburban and Rural Residential. The proposed DRI site is designated as Residential-Agriculture.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

6. CONSISTENCY WITH REGIONAL PLAN OF COASTAL GEORGIA

6.1 Regional Development Map and Defining Narrative

The Regional Development Map illustrates the desired future land use patterns from the regions' Areas Requiring Special Attention and the regions' Projected Development Patterns using the following categories:

a. Conservation
b. Rural
c. Developed
d. Developing

The Regional Future Development Map designates the area as belonging to the Areas of Rapid Development and Areas of Significant Natural Resources designations.

6.2 Guiding Principles of the Regional Plan

Guiding Principles identify those overarching values which are to be utilized and evaluated for all decisions within the region. This section provides the analysis of the consistency between the proposed DRI and the Guiding Principles in the Regional Plan.

6.3 Guiding Principles for Water and Wastewater

Seven guiding principles are identified in the Regional Plan for water and wastewater:

1. Require the use of green building strategies to minimize water demand.
2. Promote the use of a standardized protocol to forecast water needs to meet reasonable future water needs throughout region.
3. Promote use of purple pipe and grey water techniques and use of surface water in addition to groundwater where appropriate.
4. Promote water conservation through use of a tiered rate system.
5. Promote the use of the best available technology, dependent on soil type, for wastewater treatment.
6. Large areas of Coastal Georgia are beyond the reach of urban wastewater infrastructure, or centralized wastewater treatment facilities. To ensure sustainable communities, require proper siting, design, construction, use, and maintenance of decentralized wastewater treatment, or ISTS (Individual Sewage Treatment Systems).
7. Pursue regional coordination in provision of water and wastewater facilities.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

6.4 Guiding Principles for Stormwater Management

Five guiding principles are identified in the Regional Plan for Stormwater Management:

1. Encourage development practices and sitings that do not significantly impact wetlands and habitat areas or allow for the preservation and conservation of wetlands and habitat areas through appropriate land use practices.
2. Promote the use of coast-specific quality growth principles and programs, such as the Green Growth Guidelines, Earthcraft Coastal Communities and the Coastal Supplement to the Georgia Stormwater Management Manual, to guide site planning and development.
3. Minimize impervious coverage wherever possible. The level of impervious cover in a development, rather than population density, is the best predictor of whether development will affect the quality of water resource.
4. Develop stormwater programs across the region.
5. Pursue State-level funding for regional water quality monitoring activities due to the statewide importance of coastal waters and estuaries.

6.5 Guiding Principles for Transportation

Seven guiding principles are identified in the Regional Plan for Transportation:

1. Provide the forum and the support to coordinate regional multi-modal transportation, including rail, airports, and public transportation, and also the planning and development of street connectivity and transit-oriented developments.
2. Promote the establishment of regional transportation compact(s) to provide a forum for local governments and MPO's to communicate and discuss transportation issues and decisions in the Coastal Region. These compacts do not replace the existing federal and State processes mandated in law, but provide a forum to communicate issues, ideas and discussions.
3. Promote coordination among agencies and jurisdictions in development of a region-wide, multi-modal transportation network, including transit, where applicable.
4. Encourage the coordination of transportation network improvements and land use planning.
5. Promote coordinated public infrastructure and school location planning with land use planning.
6. Maintain a human scale environment with context sensitive design practices.
7. Work to establish dedicated revenue source(s) for transportation improvements.

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

6.6 Guiding Principles for Historic and Cultural Resources

Eleven guiding principles are identified in the Regional Plan for Historic and Cultural Resources:

1. Encourage local governments to examine proposed development areas prior to development approval and require mitigation to significant resources.
2. Encourage development practices and sitings that do not significantly impact cultural and historical areas.
3. Maintain viewsheds of significant cultural and historic assets.
4. Maintain a range of landscapes and environments that provide diversity of habitats, species, resources and opportunities for recreation, commerce, community enjoyment and cultural practices.
5. Designate culturally and/or archaeological and/or historically significant resource management areas for potential acquisition and/or protection.
6. Educate residents and visitors regarding the statewide importance of this region's cultural and historic resources.
7. Encourage utilization and cooperation of museums, universities, foundations, non-government organizations, professional associations, and private firms to advise and monitor management.
8. Promote the establishment of partnerships for the development and utilization of incentives to restore, remediate or reuse cultural resources as appropriate.
9. Compile the traditional lore and knowledge of local people and integrate their understandings and practices into planning and development.
10. Encourage coordination among agencies and jurisdictions in developing and funding heritage conservation land uses and ensuring public access to publicly held and supported conservation areas.
11. Promote designation of Main Street and Better Home Town Communities.

6.7 Guiding Principles for Natural Resources

Twenty guiding principles are identified in the Regional Plan for Natural Resources:

1. Promote the protection, restoration, enhancement and management of natural resources.
2. Continue the traditional use of land and water (such as farming, forestry, fishing, etc.) as feasible, provided that any significant impacts on resources can be prevented or effectively mitigated.
3. Protect and enhance Coastal Georgia's water resources, including surface water, groundwater, and wetlands and ground water recharge areas.
4. Protect and enhance water quality, quantity and flow regimes.
5. Commit to investing in the protection of natural resources before any restoration and/or remediation is needed.
6. Encourage the restoration and protection of wetlands to provide flooding, storm and habitat protection.

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7. Maintain viewsheds of significant natural resources.
8. Enhance access to natural resources for recreation, public education, and tourist attractions as appropriate within the protection mission.
9. Encourage utilization of universities, foundations, and non-government organizations to advise, monitor, and enhance management.
10. Promote the establishment of partnerships and funding mechanisms for the development and utilization of incentives to restore, rehabilitate, protect or reuse natural resources as appropriate.
11. Encourage development practices and sitings that do not significantly impact environmentally sensitive areas.
12. Promote low impact design practices that protect natural resources.
13. Promote to local governments a program of monitoring installation and impacts of individual and community docks along the coast.
14. Promote the monitoring of cumulative impacts of waterfront development along the coast.
15. Maintain a range of landscapes and environments that provide diversity of habitats, species, resources and opportunities for recreation, commerce, community enjoyment and cultural practices.
16. Encourage the development and use of a method to place a value on ecosystem services.
17. Promote the identification of innovative funding sources and development of ecosystem services markets (e.g. carbon, storm buffers, traditional land and water uses).
18. Promote the Adopt-a-Wetland program in areas that can be used as reference sites and that are within projected development areas.
19. Encourage coordination among agencies and jurisdictions in developing and funding conservation land uses and ensuring public access to publicly held and supported conservation areas.
20. Encourage coordination among agencies in studying the impacts of climate change and sea level rising.

6.8 Guiding Principles for Regional Growth Management

Twenty-three guiding principles are identified in the Regional Plan for Growth Management:

1. Encourage development that enhances the desired character of each of the region's cities and towns.
2. Avoid establishment of new land uses which may be incompatible with existing adjacent land uses.
3. Protect our military installations from land use changes that jeopardize their mission through creation or implementation of Joint Land Use Studies (JLUS).
4. Promote growth in those areas that can be efficiently served by infrastructure, such as water, wastewater and transportation.
5. Encourage infill development as an alternative to expansion.
6. Focus new development in compact nodes that can be served by public or community infrastructure providers.

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7. Maintain and enhance the scenic character of our rural highways and county roads.
8. Encourage clustered developments, particularly in areas that are suitable and proposed for development, that maximize open spaces, protect natural, cultural and historic resources, preserve wildlife habitat, and include green, low impact development strategies.
9. Encourage local governments to allow green, low impact developments as an alternative to traditional development standards and develop incentives encouraging their use.
10. Limit development in sensitive areas located near marshes and waterways, to low impact development that maintains our coastal character, while recognizing and protecting the sensitive environment.
11. Strongly encourage that new developments have minimal impacts on vital wetlands, coastal hammocks, marshes, and waterways.
12. Discourage lot-by-lot water and wastewater treatment systems for multiple lot developments.
13. Promote green building techniques to maximize energy efficiency and water conservation and minimize post construction impacts on the environment.
14. Encourage the development of a "transfer of development rights" (TDR) program.
15. Encourage development and compliance with minimum uniform land use and development standards for all local governments to adopt within the region.
16. Encourage coordination among agencies and jurisdictions in land use planning, regulation, review and permitting.
17. Promote affordable housing options.
18. Encourage the placement of new schools near existing infrastructure.
19. Partner with state, federal, non-governmental organizations and local governments to provide guidance on critical natural areas, land conservation efforts, and land use practices within each jurisdiction. Provide assistance in all outreach efforts forthcoming from this initiative.
20. Pursue opportunities for continuing education as it relates to regional issues.
21. Encourage enactment of impact fees to defray costs of new development.
22. Consider planning and/or managing a catastrophic event.
23. Promote reduction, reuse and recycle practices.

6.9 Guiding Principles on Business and Industry

Fourteen guiding principles are identified in the Regional Plan for Business and Industry.

1. Promote strategic distributions of business and industry across the region consistent with natural, cultural, historic and industrial resource strategies and encourage partnerships and collaboration between economic development agencies.

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2. Investigate ways to share costs and benefits across jurisdictional lines for both regional marketing and project support.
3. Incorporate community plans for the strategic use of land for manufacturing, distribution, etc., while recognizing and respecting natural resources and the unique differences between communities.
4. Coordinate with the Georgia Ports Authority (GPA) to identify their needs and identify mechanisms for the economic development industry to strengthen the GPA and its presence in logistics, distribution, and workforce development.
5. Leverage and incorporate the region's military installations (Fort Stewart Army Base, Hunter Army Airfield and Kings Bay Naval Base) and the Federal Law Enforcement Training Center to recruit economic development projects.
6. Incorporate Herty Advanced Materials Development Center's experience and position as a development center for the commercialization of materials and create incentives to retain a portion of pilot plant opportunities as new Georgia industries and to assist development authorities in increasing recruitment win rates.
7. Promote the historic nature, natural beauty and successful past and present performance of Coastal Georgia as a location site for film and clean high-tech industry and as a recruitment tool for opportunities.
8. Incorporate the Center of Innovation's (COI) statewide logistics plan into a regional strategy to assist in the recruitment of companies and leverage as support for industry.
9. Coordinate federal, State and local economic development funding programs and initiatives that affect the coast.
10. Enhance workforce development by collaborating with business, industry, and planning of educational entities that provide necessary workforce skills.
11. Increase existing industry retention and expansion rates.
12. Promote downtown revitalization efforts to enhance job creation and location of business and offices within downtown areas.
13. Incorporate current and future needs for housing, infrastructure, and natural resource protection into economic development initiatives.
14. Encourage international economic developments that support strategic industry sectors.
15. Enhance economic development and tourism opportunities by increasing cross functional communication.

6.10 Guiding Principles for Agricultural Lands

Ten guiding principles are identified in the Regional Plan for Agricultural Lands.

1. Strongly discourage the conversion of prime farmland to urban uses as it represents a loss to the region's landscape.
2. Wise use and protection of basic soil and water resources helps to achieve practical water quality goals and maintain viable agriculture.
3. Viable agriculture is the backbone of a functioning network of agriculture, open space, and natural areas and a range of strategies should be used to ensure the value of agricultural land.

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4. Promote learning about culinary traditions and culture.
5. Encourage agricultural biodiversity.
6. Promote local food traditions and provide opportunity for education of where food comes and how our food choices affect the rest of the world.
7. Promote connecting producers of foods with consumers through events and farmers markets.
8. Promote biodiversity through educational events and public outreach, promoting consumption of seasonal and local foods.
9. Promote community gardens within urban settings.
10. Encourage regional tasting events of local foods, music, talks, forums, workshops, and exhibitions in favor of local agricultural products.

6.11 Guiding Principles for Communities for a Lifetime - Livable Communities

Twelve guiding principles are identified in the Regional Plan for Communities for a Lifetime/Livable Communities:

1. The CRC promotes the concept of Lifelong Communities – places where people of all ages and abilities have access to the public landscape and services which enable them to live healthy and independent lives.
2. For a Lifelong Community to be truly successful it must be a complete community. Complete communities include the direct characteristics that at a minimum meet the needs of the user population, but also provided for a greater civic good by including elements that are beneficial to the environment, sensitive to a broad population and embrace economic\financially feasible regimes.
3. The region will encourage and promote the underlying issues that must be included in a Lifelong Community. The seven (7) basic tenets of a Lifelong Community are:
    a. Connectivity – the physical connection of streets, pedestrian networks and public spaces that promote ease of access, a direct coexistence with the existing urban fabric and barrier free mobility for all.
    b. Pedestrian access and transit – focuses on the access to public or privately supported methods of mass transit-oriented forms of mobility and focuses on pedestrian forms of mobility as a primary or equal method of transportation when compared to conventional vehicular modes.
    c. Neighborhood retail and services – proximity to vital and relevant supporting uses and services are necessary for a successful Lifelong Community. Mixture of uses, walkable streets and services oriented to a range of population needs is the context of this issue.
    d. Social interaction – social interaction with the full range of the population is a proven requirement of lifelong communities. Pedestrian accessible streets and dwellings, a full stratum of dwelling types, community programming elements and careful placement of improvements are key components in creating a socially vibrant community.

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e. Dwelling types – a range of dwelling types within a walkable range is crucial to meet the social, economic and physical goals of a lifelong community. Creative architectural and planning solutions, a strong but flexible regulatory framework and policies that promote efficient and sustainable methods of construction are among the crucial requirements of this issue.
f. Healthy living – accessibility to fitness, education, cultural and health maintenance programming elements are vital to a successful lifelong community and are the primary concerns of this issue.
g. Environmental and Sustainable Solutions – the creation of a complete community includes provisions for the appropriate preservation of natural and cultural resources. Promotion of sustainable construction techniques, preservation of natural and cultural resources, innovative methods of power generation and integrated food production are among some of primary components related to successfully executing this issue.

4. The region will determine its "aging readiness" to provide programs, policies and services that address the needs of older adults.
5. The region will determine its "aging readiness" to ensure that communities are "livable" for persons of all ages.
6. The region will harness the talent and experience of older adults
7. To determine "age readiness," local comprehensive plans should review:
   a. Demographics;
   b. Quantity, quality, and type of existing housing stock;
   c. Land use patterns; and
   d. Quantity, quality, and type of recreational needs.
8. Comprehensive plans will promote development patterns and design features to meet the needs of seniors.
9. Comprehensive plans and ordinances will promote Universal Design/Accessible Building Standards for buildings as well as recreational areas.
10. Comprehensive plans will include goals and objectives that specifically address the aging population.
11. Consider seniors and the elderly when reviewing site plans for new construction and/or renovations.
12. The region will ensure comprehensive plans permit basic services within walking distance recognizing it is a great convenience for all residents but an absolute necessity for an aging population.

6.12 Guiding Principles for Coastal Vulnerability and Resilience

Three guiding principles are identified in the Regional Plan for Coastal Vulnerability and Resilience.

1. The region believes that a community's resilience is measured by its sustained ability to prepare for, respond to, and fully bounce back from crises.
2. The regions strength is in our community's resilience and in understanding the region's vulnerabilities, and in taking positive collective actions to

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limit the impact of a disruptive crisis, and recovering rapidly from disasters.

3. The region believes in collaborating with a wide range of community resilience experts, community leaders and private sector partners to work together to increase collective capacities to respond to adversity with increased resources, competence, and connectedness to one another.

7. REGIONAL RESOURCE PLAN AND RIR

7.1 The Regional Resource Plan

The Regional Resource Plan (RIR) identifies Cultural and Historic and Natural Resources of regional importance. The Regional Resource Plan provides recommended best development practices, protective measures and policies for local governments to use within one mile of a regionally important resource. The proposed site is within RIR area related to wetlands.

7.2 Area Requiring Special Attention

The ARSA identifies areas requiring special attention, including:

Areas where rapid development or change of land uses are likely to occur, especially where the pace of development has and/or may outpace the availability of community facilities and services, including transportation.

The project site includes locations designated as wetlands and floodplains. According to the developer, "wetland/floodplain impacts to be minimized. Any required mitigation to meet local, state and federal regulations to be provided."

7.3 Natural Resources

Green Infrastructure

The U.S. Environmental Protection Agency defines Green Infrastructure as management approaches and technologies that utilize enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse. This management approach attempts to keep stormwater onsite. It incorporates vegetation and natural resources as much as possible in development and redevelopment.

Green Infrastructure has a number of benefits, including reduced runoff, groundwater recharge, higher air quality, better aesthetics, reduces costs, lowers impacts on climate change, and provides environmental benefits that surpass improved water quality.

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Coastal Georgia's Green Infrastructure network is defined as a natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. A potential impact as a result of premature or poorly planned conversion of land to other uses is the failure to adequately protect and conserve natural resources such as wetlands, flood plains, native vegetation, lakes, streams, rivers, natural groundwater aquifer recharge areas, and other significant natural systems. The river corridors, floodplains and tributary streams are considered to be critical green infrastructure components, as they supply key social, economic and environmental benefits for local communities and provide important habitats for wildlife.

Green infrastructure planning provides an alternative to what is common practice in many communities: conserving land on a piecemeal basis without the benefit of a large framework plan that allows a comprehensive approach to land conservation. Areas of protected open space should follow natural features for recreation and conservation purposes, including greenways that link ecological, cultural and recreational amenities.

Green Infrastructure shall be considered first in the planning process and in reviewing comprehensive plans, zoning, development review processes and performance standards.

Principles for green infrastructure include identifying what is to be protected in advance of development; providing for linkage between natural areas; and designing a system that operates at different functional scales, across political jurisdictions, and through diverse landscapes. Additional principles include sound scientific and land use planning practices, providing funding upfront as a primary public investment (for example, through a dedicated tax or other funding mechanism), emphasizing the benefits to people and nature, and using the green infrastructure as the planning framework for conservation and development. The concept of green infrastructure planning is based on a strategic approach to ensuring environmental assets of natural and cultural value are integrated with land development, growth management and built infrastructure planning at the earliest stage.

Greenspace or greenway land needs to be set aside for pedestrian, equestrian, and bicycle connections between schools, churches, recreation areas, city centers, residential neighborhoods, and commercial areas. Open-space, parks, trails, greenways, and natural undeveloped land are not individual but an integrated and organized system. Green infrastructure is as an interconnected system. Key physical, natural, ecological, landscape, historical, access and recreational assets contribute to the functionality of the green infrastructure network. The green infrastructure network weaves together a network of recreational and nature areas. Properly planned greenways provide efficient pedestrian linkages that can serve as alternative transportation to and from work, to services and other daily destinations. Greenway linkages serve as outdoor recreation for biking, walking, and jogging. Green infrastructure encourages the creation of transportation

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corridors and connections, which can foster ecotourism, tourism and outdoor recreation.

7.4 Wetlands

The applicant indicates the proposed development will impact wetlands.

8. COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY CEDS)

8.1 Population and Employment Trends

County	2000	2015	2020	2025	2030
Chatham	232,048	275,057	286,869	297,352	307,472

Source: U.S. Census; Georgia Coast 2030: Population Projections for the 10-County Region

The county's population is expected to grow from its 2000 level of 232,048 to 307,472 by 2030, according to the US Census and the Governor's Office of Planning and Budget. The Coastal Region's population in 2030 is projected to be 962,956, which is an increase from the 2000 level of 558,350.

Chatham County, is a growing county in the region and had a 2019 population estimate of 289,430 according to the US Census. The Census population of Chatham County in 2000 was 232,048.

The Coastal Georgia region supported 312,400 jobs in 2000, and is expected to support 435,050 jobs in 2030. Chatham County is located in the Savannah, Georgia Metroplitan Statistical Area (MSA). The Savannah MSA unemployment rate in September 2020 was 6.7 percent.

9. CRC Resources

9.1 Coastal Stormwater Supplement

The CRC applauds Chatham County for adopting the CSS Ordinance and/or ensuring the Coastal Stormwater Supplement (CSS) is implemented for stormwater management.

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9.2 Regional Design Guidelines

The CRC recommends that the Chatham County ensure that new development creates an environment that contributes to the region's character. Regional Design Guidelines for the development are appropriate to implement quality growth.

Character Region Area for this area is *Tidewater Hearth* and may utilize the Character Key for *Industrial Areas*.

For technical assistance contact Cole Mullis, Regional Planner at cmullis@crc.ga.gov

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SITE PLAN
PROVIDED BY THE APPLICANT

DRI #3308

SPH-21 Industrial Park Phase II

Attachment: VARNEDOE-WIGGINS HWY 21 PH II ZMA PI1 JUNE 2021- DRI CRC Final Report 5.18.21 (2485 : Zoning Map Amendment

PROJECT SUMMARY:

PHASE I -
2,629,000 SF
362.15 AC

PHASE II -
5,629,500 SF
404.69 AC

TOTAL -
8,258,500 SF
766.84 AC



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500 0 250 500 1000 2000

(IN FEET)
1 inch = 500 ft.

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☐ RELEASED FOR CONSTRUCTION
DATE: _____ BY: _____

Kern & Co., LLC
Consulting Engineers • Land Surveyors • Land Planners
Architects • Landscape Architects • Environmental Scientist
7 Mall Court (31406) P.O. Box 13179 (31416) Savannah, Georgia (912) 354-4626
319 Walnut Street Suite A Statesboro, Georgia 30458 Phone: (912) 225-5373

STAMP:

STAMP:

ORIGINAL RELEASED FOR CONSTRUCTION DATE:

NO	DATE	REVISION

PLANS OF VARNEDOE-WIGGINS TRACT AT GA HWY 21 - PORT WENTWORTH, GA

DRAWING TITLE:
SITE PLAN

SCALE:	1" = 500'
PROJECT NO:	200230.000
DATE:	4/26/21
DRAWN BY:	CRZ
CHECKED BY:	CRZ

SHEET NO:
C1

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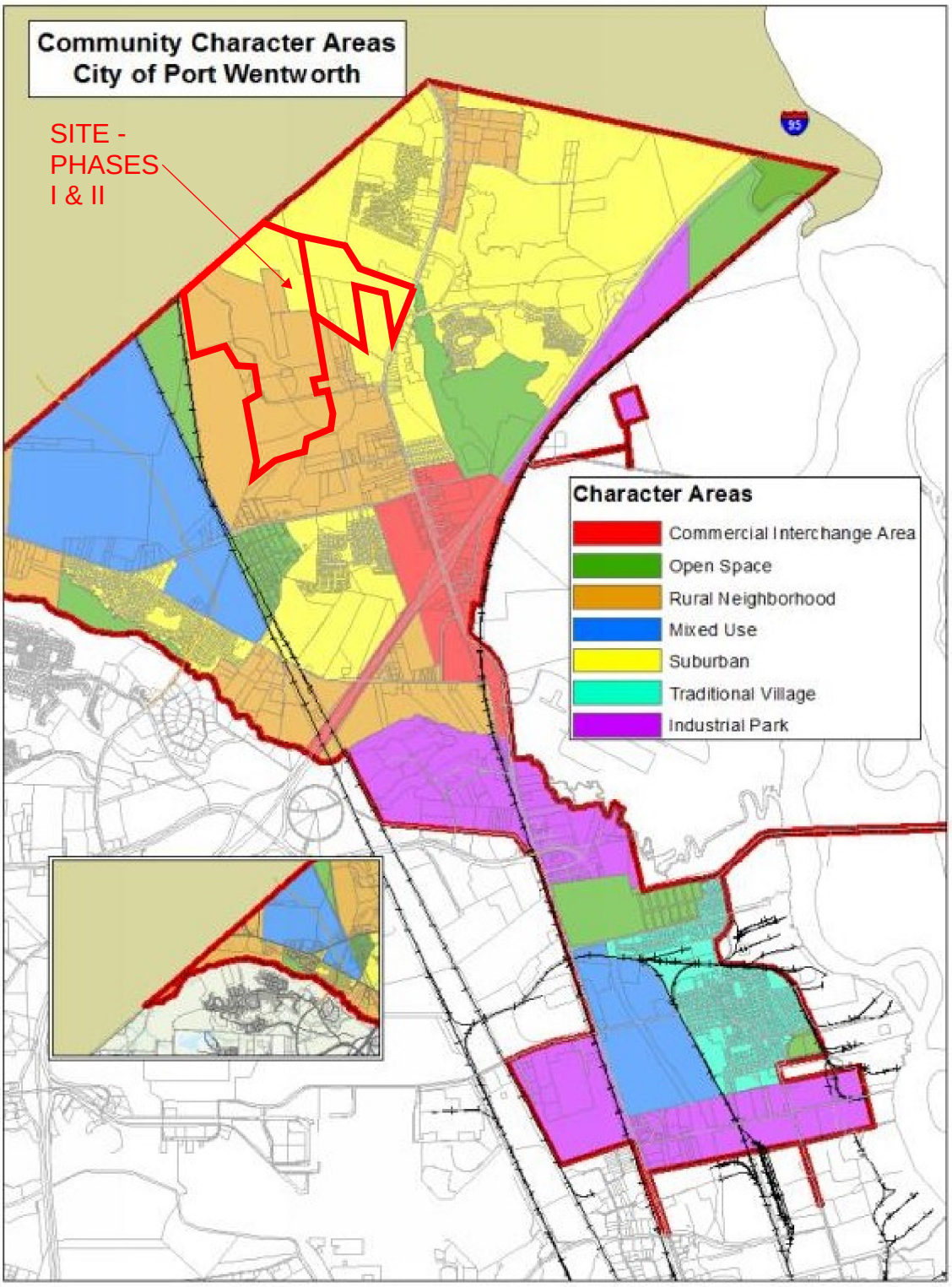
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PORT WENTWORTH
CHARACTER AREAS MAP
DRI #3308

SPH-21 Industrial Park Phase II

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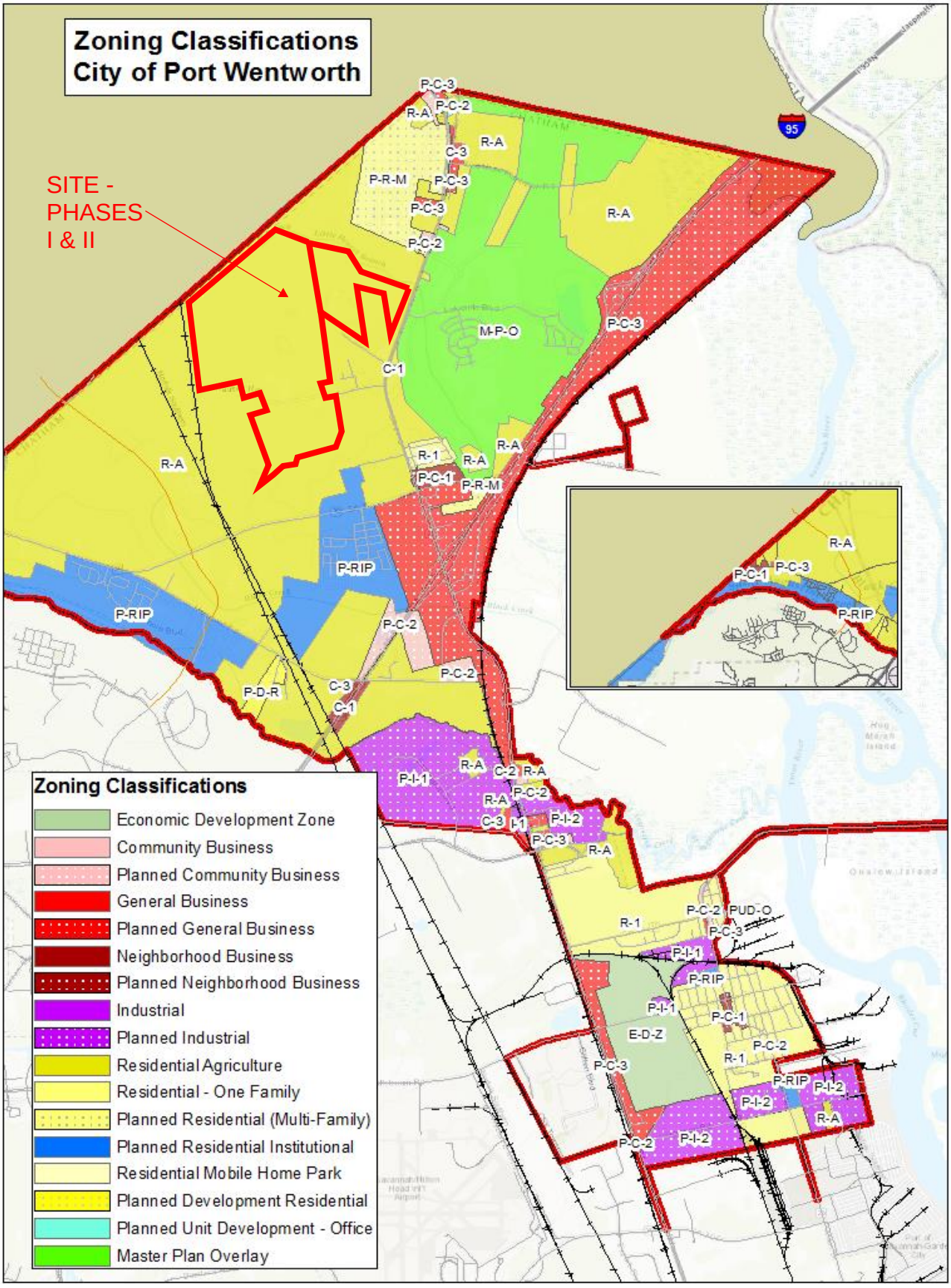
PORT WENTWORTH ZONING MAP

DRI #3308

SPH-21 Industrial

Park Phase II

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PUBLIC COMMENTS

DRI #3308

SPH-21

Industrial Park

Phase II

Cole Mullis

From: Cornelia Reed <CReed@Savannahga.Gov>
Sent: Tuesday, May 18, 2021 1:06 PM
To: Cole Mullis
Cc: Bridget Lidy; James Laplander
Subject: City of Savannah Comments Regarding Review Requested for DRI #3308

Hello. The City of Savannah has reviewed this DRI project and has the following comments and concerns. The POC for this concern is also identified below and requests the following information is disclosed if City of Savannah services will be utilized:

COMMENTS/CONCERNS & DIRECT POC

We are doing our investigation for City of Savannah Water and Sewer. This project is in the City of Port Wentworth but they (Coastal Regional Commission - **DRI #3308**) need to send more information about this regarding:

- Who is supplying water & sewer
- Who is supplying electric service
- Address

We have not heard of a request for the City of Savannah to supply the I & D water to Port Wentworth or sewer service regarding DRI #3308.

Jim Laplander, PE
Director Water and Sewer Planning and Engineering Division
Water Resources Department
702 Stiles Avenue, Savannah, GA 31415
jlaplander@savannahga.gov
Office: 912.651.6573, Fax 912.650-7839, Mobile: (912) 658-6973

This concludes comments for the City of Savannah regarding this DRI project. Thank you

With best regard

Cornelia M. Reed, M.A.
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