COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
COLUMBIA COUNTY PROJECT NUMBER **2024-3**
Parnell Hills Residential Subdivision Paving and Drainage

NOTICE TO CONTRACTORS

Notice is hereby given that sealed bids will be received in the Columbia County Manager's office until **3:00 P.M**. on **May 6**, **2024**, for Columbia County Project No. **2024-03** This office is located on the second floor of the Courthouse Annex at 135 Hernando Avenue, Room 203, Lake City, Florida 32055.

This project consists of the construction of Paving the Parnell Hills subdivision, drainage improvements, and all associated earthwork and stabilization.

Scope of work includes clearing and grubbing, grading, stabilizing, limerock base, asphaltic concrete, driveway improvements, culverts, grassing, erosion control, and incidental items.

The Bid Forms and Construction specifications may be obtained from the County's web site at http://www.columbiacountyfla.com/PurchasingBids.asp. Deadline for questions regarding specifications and/or bid documents must be received before **3:00 P.M.** on **May 2, 2024.**

The successful bidder will be required to furnish a 5% bid bond with bid submittal, and if selected, furnish the County Manager with a performance bond, and proof liability insurance prior to commencing work.

The Columbia County Commission reserves the right to reject any or all bids and to add to the contract or delete from the contract to stay within their funding capabilities.

General Requirements

I. General.

This project consists of the construction of Paving the Parnell Hills subdivision, drainage improvements, and all associated earthwork and stabilization.

II. Contract Time

The contract time shall be 280 calendar days from the date of contract execution. The contractor will be required to return executed contract to Erica Jones, Columbia County Purchasing Officer and Chad Williams, Columbia County Engineer, within 14 days of Board approval. Time can be extended by mutual agreement of both parties. Liquidated damages shall be $2,592 per day Per FDOT Specifications. No work is allowed on Saturdays, Sundays, and/or County designated holidays.

Underground utility lines will require adjustment. Contractor will coordinate with utility company. Once clearing and grubbing is complete, contractor may experience a delay up to 2 weeks for utility relocates.

Contractor shall provide a construction schedule with the bid package detailing time frames/lines showing how the project will be constructed. The schedule will be taken into consideration in the bid review process and bids submitted without the schedule could be reason for a bid to not receive full consideration.

III. Construction and Materials

All construction methods and materials shall conform to the requirements of the latest edition of the Florida Department of Transportation Design Standards and Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

IV. Maintenance of Traffic

Contractor shall provide Maintenance of Traffic and it shall conform to the requirements of the latest edition of the Florida Department of Transportation Design Standards.

Flagging will be required and only one traffic lane may be closed between the hours of 8:30 A.M. to 4:30 P.M.

All construction signage shall be provided by the contractor.

V. Compensation

Payment shall be made on a monthly basis on work completed with 5% retainage.

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
COLUMBIA COUNTY PROJECT NUMBER **2024-3**
Parnell Hills Residential Subdivision Paving and Drainage

Pay Item No.	Pay Item Description	Quantity	Units	Unit Price	Total Cost
1	Mobilization	1	LS		
2	Maintenance of Traffic	1	LS		
3	Clearing and Grubbing	1	LS		
4	Earthwork (Excavation)	7,130	CY		
5	Earthwork (Excavation and Hauling)	800	CY		
6	Earthwork (Embankment)	6,330	CY		
7	Earthwork (Unsuitable Removal)	2,000	CY		
8	15" HDPE Flared End Section	195	EA		
9	24" Mitered End Section	9	EA		
10	30" Mitered End Section	1	EA		
11	36" Mitered End Section	1	EA		
12	Type C Ditch Bottom Inlet	16	EA		
13	Type D Ditch Bottom Inlet	3	EA		
14	Type E Ditch Bottom Inlet	2	EA		
15	15" HDPE Culvert	2,774	LF		
16	18" RCP Culvert	82	LF		
17	24" RCP Culvert	495	LF		
18	30" RCP Culvert	40	LF		
19	36" RCP Culvert	42	LF		
20	48" RCP Culvert	182	LF		
21	3'x5' Concrete Box Culvert	80	LF		
22	Type B Stabilization (LBR 40)	42,000	SY		
23	Optional Base Group 4 (LBR 100(Min))	42,000	SY		
24	Structural Asphalt Concrete 1.5" (Traffic C) (Sp-12.5)	3,500	TN		
25	Signage And Striping	1	LS		
26	Riprap	500	TN		
27	Concrete Endwalls	4	EA		
28	Remove and Replace Hogwire Fence	6,126	LF		
29	Sod	56020	SY		
30	Silt Fence	33687	LF		
31	Turbidity Barrier	199	LF		
32	Driveway Turnouts	3600	SY		
	GRAND TOTAL				

ALL ITEMS MAY BE INCREASED, DECREASED, OR OMITTED AS DIRECTED BY THE ENGINEER.

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO BOTH THE REQUIREMENTS OF THE LATEST FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE LATEST FDOT DESIGN STANDARDS.

ALL INCIDENTAL WORK INCLUDED IN THESE ITEMS

ALL UNIT PRICE AND TOTAL SPACES MUST BE FILLED IN TO CORRELATE WITH EACH ITEM

Contractors shall be in compliance with chapter 489, Florida statutes, licensure requirements.

Florida construction industries licensing board certification.

Company Name

Contractor Signature

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
COLUMBIA COUNTY PROJECT NUMBER **2024-3**
Parnell Hills Residential Subdivision Paving and Drainage

Gentlemen:

The undersigned, as bidder, hereby declares that he has examined the contract documents and informed himself fully in regard to all conditions pertaining to the work to be done; that he has examined the specifications for the work and other contract documents relative thereto; and that he has satisfied himself relative to the work to be performed.

The bidder agrees, if this bid is accepted, to contract with the Columbia County Board of County Commissioners to furnish everything necessary to complete the work covered by this bid and other contract documents for the Columbia County Board of County Commissioners. The Contractor assumes full responsibility for all quantities used in his/her bid. The contractor shall coordinate his construction with all proposed utilities on the site.

ADDENDA	
NUMBER	DATE SENT

BID TOTAL FOR Parnell Hills

_____

Contractor Signature

Florida construction industries licensing board certification.

_____ _____
(name of holder) (certificate no.)

In witness whereof, the bidder has hereunto set his signature and affixed his seal this_____day of_____ , A.D. 20 _____

_____
(seal)

By: _____

Title: _____

Type or print name of firm: _____

Address: _____

Contact person:_____ Telephone No.: _____

Fax no.: _____

SECTION I. GENERAL INSTRUCTIONS

These instructions will bind bidders and conditions herein set forth, except as specifically qualified in special bid and contract terms issued with any individual bid.

1. The following criteria are used in determining low responsible bidder:

   A. The ability, capacity and skill of bidder to perform required service.
   B. Whether the bidder can perform service promptly or within specified time.
   C. The determined character, integrity, reputation, judgment, experience and efficiency of bidder.
   D. The performance of previous contracts with Columbia County or entities similar to Columbia County.
   E. The suitability of equipment or material for County use.
   F. The ability of bidder to provide future maintenance.

2. Payment Terms are net thirty (30) unless otherwise specified. Favorable terms, discounts, may be offered and will be considered in determining low bids if they are deemed by Purchasing Department to be advantageous to the County.

3. All bids should be tabulated, totaled and checked for accuracy. Where applicable, the provided unit price will prevail in case of discrepancies or other errors.

4. All requested information shall be included in the envelope. All desired information must be included for your bid to receive full consideration.

5. If anything on the bid request is not clear, you should contact the Purchasing Officer immediately.

6. A bidders list is available at the Purchasing Office.

7. Quote all prices F.O.B. our warehouse or as specified in bid documents.

8. Each proposal shall be clearly marked on the outside of the envelope including Fed Ex, UPS or other delivery service envelopes, as a sealed bid. The name of the item being bid shall be shown on the outside in full.

9. The County shall not be liable for any bid opened prematurely if that bid was not sealed in a properly marked envelope.

10. If only one (1) bid is received, the bid may be rejected and re-advertised or accepted if determined to be in the counties best interest.

11. Bids received late will not be accepted. It is the bidder's sole responsibility to ensure proposals are timely delivered and received before the deadline.

12. Telephone and facsimile bids will not be accepted under any circumstances. Should a timely delivered bid be misplaced by the County but later found before ranking occurs, the

bid will be considered. A bidder may request a receipt showing the day and time a bid envelope is delivered to the appropriate office of the County.

13. Bids requiring bid bonds will not be accepted if bond is not enclosed. Cash or certified check will be accepted in lieu of bond except on construction projects with a project budget exceeding $40,000.

14. Upon request of the Purchasing Office or County Manager, a bidder must provide proof that the bidder has the requisite organization, capital, plant, stock, ability, and experience to perform the contract contemplated by the Request for Proposals/Qualifications or Invitation to Bid.

15. Any alterations, erasures, additions, or omissions of required information or any changes to specifications or bidding schedule are done at the risk of the bidder. Any bid will be rejected that has a substantial variation, that is; a variation that affects price, quantity, and quality or delivery date (when delivery is required by a specific time).

16. When requested, samples will be furnished to the County free of expense, properly marked for identification and accompanied by a list where there is more than one (1) sample. The County reserves the right to mutilate or destroy any sample submitted whenever it may be to the best interest of the County to do so for the purpose of testing.

17. The County will reject any material, supplies or equipment that did not meet the specifications, even though the bidder lists the trade names or names of such material on the bid or price quotation form.

18. The unauthorized use of patented articles is done entirely at the risk of the successful bidder.

19. The ESTIMATED QUANTITY given in the specifications or advertisements is for the purpose of bidding only. The County may purchase more or less than the estimated quantity and the vendor must not assume that such estimated quantity is part of the contract.

20. Only the latest model equipment as evidenced by the manufacture's current published literature will be considered. Obsolete models of equipment not in production will not be acceptable. The equipment shall be composed of new parts and materials. Any unit containing used parts or having seen any service other than the necessary tests will be rejected. In addition to the equipment specifically called for in the specification, all equipment catalogued by the manufacturer as standard or required by the State of Florida shall be furnished with the equipment. Where required by the State of Florida Motor Vehicle Code, vehicles shall be inspected and bear the latest inspection sticker of the Florida Department of Revenue.

21. The successful bidder on motor vehicle equipment shall be required to furnish with delivery of vehicle, certificate of origin and any other appropriate documentation as required by the Florida Motor Vehicle Department.

22. Prospective bidders are required to examine the location of the proposed work or delivery

and determine, in their own way, the difficulties, which are likely to be encountered in the prosecution of the same.

23. All materials, equipment and supplies shall be subject to rigid inspection, under the immediate supervision of the Purchasing Department, its designee and /or the department to which they are delivered. If defective material, equipment, or supplies are discovered, the contractor, upon being instructed by the Purchasing Department or designee, shall remove, or make good such material, equipment, or supplies without extra compensation. It is expressly understood and agreed that the inspection of materials by the County will in no way lessen the responsibility of the Contractor release him from his obligation to perform and deliver to the County sound and satisfactory materials, equipment, or supplies. The Contractor agrees to pay the costs of all tests upon defective material, equipment, or supplies or allow the costs to be deducted from any monies due him from the County.

24. Unless otherwise specified by the Purchasing Department all materials, supplies, or equipment quoted herein must be delivered within thirty (30) days from the day of notification or exceptions noted on bid sheets.

25. A contract will not be awarded to any corporation, firm, or individual who is, from any cause, in arrears to the County or who has failed in former contracts with the County to perform work satisfactorily, either to the character of the work, the fulfillment or guarantee, or the time consumed in completing the work.

26. Reasonable grounds for supposing that any bidder is interested in more than one proposal for the same item will be considered sufficient cause for rejection of all proposals in which he is interested.

27. Submitting a proposal when the bidder intends to sublet the contract may be a cause for rejection of bids or cancellation of the contract by the County Manager.

28. Unless otherwise specified, the County reserves the right to award each items separately or on a lump sum basis whichever is in the best interest of the County.

29. The County reserves the right to reject any quotations or specifications and the right to waive minor discrepancies as to all bidders equally, when such rejection or waiver is deemed to be in the best interest of the County. For unit priced items, the County may elect to purchase part, all, or none of the materials, supplies, or equipment specified in a bid.

30. The bidder or the bidder's authorized representative or agent must sign the bid in the space provided. Unsigned bids will be rejected. Signature must be "wet" signatures in ink. Typewritten or printed signatures will not be accepted.

31. Any bidder may withdraw his/her bid at any time before the time set for the opening of the bids.

32. It is mutually understood and agreed that if at any time the Purchasing Department or designee shall be of the opinion that the contract or any part thereof is unnecessarily delayed or that the rate of progress or delivery is unsatisfactory, or that the contractor is

willfully violating any of the conditions or covenants of the agreement, or executing the same in bad faith, the Purchasing Department or his/her designee shall have the power to notify the contractor of the nature of the complaint. Notification shall constitute delivery of notice, or letter to address given in the proposal. If after three (3) working days of notification the conditions are not corrected to the satisfaction of the Purchasing Officer, he shall have the power to take whatever action necessary to complete the work or delivery and the expense shall be deducted from any paid by the County out of such monies as may become due to the said contractor. In case such expense shall exceed the last said sum, then and in that event, the bondsman or the contractor, his/her executors, administrators, successors, or assigns, shall pay the amounts of such excess to the County on notice made by the Purchasing Department or his/her designee of the excess due.

33. If the bidder proposes to furnish any item of foreign make or product, he shall write "foreign" together with the name of the originating country opposite such item on a proposal.

34. Any complaint from bidders relative to the invitation to bid or attached specifications shall be made prior to the time of opening bids; otherwise, the bidder waives any such complaint.

35. Contracts may be cancelled by the County with or without cause on thirty- (30) days advance written notice.

36. All contractors submitting bids for road projects in excess of $250,000 must be pre-qualified with the Florida Department of Transportation and shall provide proof of such qualification.

37. Any bidder affected adversely by an intended decision with respect to the award of any bid, shall file with the Purchasing Department for Columbia County, a written notice of intent to file a protest not later than seventy-two (72) hours (excluding Saturdays, Sundays and legal holidays), after the posting of the bid tabulation. Protest procedures may be obtained in the Purchasing Department.

38. A person or affiliate who has been placed on the convicted vendor's list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to Columbia County, may not submit a bid on a contract with Columbia County for the construction or repair of a public building or public work, may not submit bids on leases of real property to Columbia County, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with Columbia County, and may not transact business with Columbia County for a period of 36 months from the date of being placed on the convicted vendor list.

39. Vendor/Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system, in accordance with the terms governing use of the system, to confirm the employment eligibility of;

    A. All persons employed by the Vendor/Contractor during the term of the Contract to perform employment duties within Florida; and
    B. All persons, including subcontractors, assigned by the Vendor/Contractor to

perform work pursuant to the contract with the County.

40. Contractor shall register on line at https://www.columbiacountyfla.com/PurchasingBids.asp for this specific project. All addendums are delivered via email through this website, and it is the contractor's responsibility to ensure all addendums are used in the bid submittal.

COLUMBIA COUNTY
PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE

BIDDING AND CONSTRUCTION
CONTRACT DOCUMENTS AND
TECHNICAL SPECIFICATIONS

Owner:

COLUMBIA COUNTY
135 NE Hernando Avenue
Lake City, Florida 32055

Engineer:

JONES EDMUNDS & ASSOCIATES, INC.
13545 Progress Boulevard, Suite 100
Alachua, Florida 32641

Jones Edmunds Project No.: 03780-002-01

February 2024

COLUMBIA COUNTY
PARNELL HILLS RESIDENTIAL SUBDIVISION PAVING AND DRAINAGE
TECHNICAL SPECIFICATIONS

Brian A. Thomas, PE, Florida Professional Engineer No. PE85414
This item has been digitally signed and sealed by Brian A. Thomas on the date indicated here. Printed copies of this document are not considered signed and sealed. The signature must be verified on any electronic copies. The above-named Professional Engineer shall be responsible for the following Divisions in accordance with Rule 61G15-23.004, FAC:
All Divisions
Jones Edmunds & Associates, Inc.

TABLE OF CONTENTS

OWNER-PROVIDED
BIDDING AND CONTRACTING DOCUMENTS

COLUMBIA COUNTY CONSTRUCTION AGREEMENT
COMMUNITY DEVELOPMENT BLOCK GRANT CONTRACTOR REQUIREMENTS

DIVISION 0—ENGINEER-PROVIDED
BIDDING AND CONTRACTING REQUIREMENTS

00100 ADVERTISEMENT FOR BID
00200 INSTRUCTIONS TO BIDDERS
00410 BID FORM
00430 BID BOND
00431 TABULATION OF SUBCONTRACTORS AND SUPPLIERS
00440 FLORIDA TRENCH SAFETY ACT CERTIFICATION
00450 CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION
00451 SWORN STATEMENT UNDER SECTION 287.133(3)(A), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES
00452 BIDDER'S STATEMENT OF DISPUTES, LITIGATION, ARBITRATION, AND SURETY COMPLETION, LAST THREE (3) YEARS
00453 NONCOLLUSION AFFIDAVIT
00454 DRUG-FREE WORKPLACE CERTIFICATE
00614 PUBLIC WORK COVER PAGE
00625 CERTIFICATE OF SUBSTANTIAL COMPLETION
00700 STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT
00800 SUPPLEMENTARY CONDITIONS
00932 REQUEST FOR INFORMATION
00936 SHOP DRAWING/SUBMITTAL LOG AND CONTROL SHEET
00937 SHOP DRAWING/SUBMITTAL CONTROL FORM
00938 NOTICE OF NONCOMPLIANCE
00939 CERTIFICATE OF GUARANTEE
00940 WORK CHANGE DIRECTIVE
00941 CHANGE ORDER
00942 CONSTRUCTION FIELD ORDER
00943 CONTRACTOR'S RELEASE
00944 SURETY'S RELEASE FOR FINAL PAYMENT
00945 PROPOSED CONTRACT MODIFICATION

DIVISION 1—GENERAL REQUIREMENTS

01000 PROJECT REQUIREMENTS
01100 SUMMARY OF WORK
01200 MEASUREMENT AND PAYMENT
01290 SCHEDULE OF VALUES
01310 CONSTRUCTION COORDINATION
01320 PROGRESS SCHEDULE
01325 CONSTRUCTION PHOTOS AND VIDEOS
01330 SUBMITTALS AND ACCEPTANCE
01350 ENVIRONMENTAL PROTECTION PROCEDURES
01355 SPECIAL PROVISIONS
01400 QUALITY REQUIREMENTS
01450 TESTING AND TESTING LABORATORY SERVICES
01500 TEMPORARY FACILITIES AND CONTROLS
01650 DELIVERY, STORAGE, AND HANDLING
01720 FIELD ENGINEERING
01730 CUTTING, CORING, AND PATCHING
01735 CONTROL OF WORK
01740 FINAL CLEANING
01745 MISCELLANEOUS WORK AND CLEANUP
01770 PROJECT CLOSEOUT
01780 WARRANTIES AND BONDS
01785 RECORD DOCUMENTS

DIVISION 2—SITE CONSTRUCTION

02220 DEMOLITION AND MODIFICATIONS
02230 SITE PREPARATION
02240 DEWATERING
02300 EARTHWORK FOR STRUCTURES
02305 EARTHWORK FOR UTILITIES
02315 CONTROLLED DENSITY FILL
02370 EROSION AND SEDIMENTATION CONTROL
02375 TURF REINFORCEMENT MAT
02531 CONNECTIONS TO AND WORK ON THE EXISTING SYSTEM
02532 MAINTENANCE OF FLOW IN EXISTING SEWERS AND DRAINS
02600 STORMWATER FACILITIES
02630 STORM DRAINAGE
02635 REINFORCED CONCRETE DRAINPIPE
02700 PAVING
02820 CHAIN-LINK FENCES AND GATES
02900 LANDSCAPE WORK
02920 SEEDING AND SODDING

APPENDIX

REPORT OF A ROADWAY SOIL SURVEY – GSE ENGINEERING & CONSULTING, INC., APRIL 2022

ADDENDUM REPORT OF SPT BORINGS FOR DRAINAGE STRUCTURES – GSE ENGINEERING & CONSULTING, INC., JUNE 14, 2022

OWNER-PROVIDED
BIDDING AND CONTRACTING DOCUMENTS

CONSTRUCTION AGREEMENT

COLUMBIA COUNTY, a political subdivision of the State of Florida, by and through its Board of County Commissioners, situated at 135 NE Hernando Avenue, Suite 203, Lake City, Florida 32056-1529 (the "County"), hereby contracts with _____ (the "Contractor") of _____ (address) a contractor licensed to perform all work in the State of Florida in connection with the County's Project No._____ (the "Project"), as said work is set forth in the Plans and Specifications and other Contract Documents hereafter specified (the "Work"). The designated Engineer for the Project and the Work, as referenced in this Agreement, shall be _____ _____ _____.

The County and the Contractor, for the consideration herein set forth, agree as follows:

Section 1. Contract Documents

The Contract Documents consist of this Agreement, the Exhibits described in Section 4 hereof, the Legal Advertisement, the Instructions to Bidders, the Proposal and any duly executed and issued addenda, Change Orders, Work Directive Changes, Field Orders, Work Authorizations and amendments relating thereto. All of the foregoing Contract Documents are incorporated by reference and made a part of this Agreement (all of said documents including the Agreement sometimes being referred to herein as the "Contract Documents" and sometimes as the "Agreement"). A copy of the Contract Documents shall be maintained by Contractor at the Project site at all times during the performance of the Work.

Section 2. Scope of Work

The Contractor agrees to furnish and pay for all management, supervision, financing, labor, materials, tools, fuel, supplies, utilities, equipment and services of every kind and type necessary to diligently, timely, and fully perform and complete in a good and workmanlike manner the Work required by this Agreement.

Section 3. Contract Amount

In consideration of the faithful performance by the Contractor of the covenants in this Agreement to the full satisfaction and acceptance of the County, the County agrees to pay, or cause to be paid, to Contractor the following amount (herein "Contract Amount"), in accordance with the terms of this Agreement: $_____ (_____ _____).

[INSERT SCHEDULE OF UNIT PRICES AS APPLICABLE]

Section 4. Exhibits Incorporated

The following documents are expressly agreed to be incorporated by reference and made a part of this Agreement:

A. Legal Advertisement
B. Invitation to Bid
C. Bid Proposal with required forms
D. Performance Bond
E. Public Payment Bond
F. Insurance Requirements, including certificates of insurance
G. Form of Release and Affidavit
H. Change Order Form
I. Notice of Award
J. Notice to Proceed Form
K. Application for Payment Form
L. Special Conditions, if any
M. Project Plans
N. _____
O. _____
P. _____

Section 5. Bonds

A. The Contractor shall provide Performance and Payment Bonds, in the form prescribed in the Exhibits to the Agreement, in the amount of 100% of the Contract Amount, the costs of which are to be paid by Contractor. The Performance and Payment Bonds shall be underwritten by a surety authorized to do business in the State of Florida and otherwise acceptable to the County; provided, however, the surety shall be rated as "A-" or better as to general policy holders rating and Class V or higher rating as to financial size category and the amount required shall not exceed 5% of the reported policy holders surplus, all as reported in the most current Best Key Rating Guide, published by A.M. Best Company, Inc. of 75 Fulton Street, New York, New York 10038.

B. If the surety for any bond furnished by Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by the Contract Documents, the Contractor shall, within five (5) calendar days thereafter, substitute another bond and surety, both of which shall be subject to the County's approval.

Section 6. Contract Time and Liquidated Damages

A. Time is of the essence in the performance of the Work under this Agreement. The "Commencement Date" shall be established in the Notice to Proceed to be issued by the County. The Contractor shall commence the Work within five (5) calendar days from the Commencement Date. No Work shall be performed at the Project site prior to the Commencement Date. Any Work performed by the Contractor prior to the Commencement Date shall be at the sole risk of the Contractor. The Work shall be substantially completed within _____ calendar days from the

Commencement Date. The date of substantial completion of the Work (or designated portions thereof) is the date certified by the Engineer when construction is sufficiently complete, in accordance with the Contract Documents, so the County can occupy or utilize the Work (or designated portions thereof) for the use for which it is intended. The Work shall be fully completed and ready for final acceptance by the County within _____ calendar days from the Commencement Date (herein "Contract Time").

B. The County and the Contractor recognize that, since time is of the essence for this Agreement, the County will suffer financial loss if the Work is not substantially completed within the time specified above, as said time may be adjusted as provided for herein. Should the Contractor fail to substantially complete the Work within the time period noted above, the County shall be entitled to assess, as liquidated damages, but not as a penalty, _____[1]for each calendar day thereafter until substantial completion is achieved. The Project shall be deemed to be substantially completed on the date the Engineer issues a Substantial Completion Certificate pursuant to the terms hereof. The Contractor hereby expressly waives and relinquishes any right which it may have to seek to characterize the above noted liquidated damages as a penalty, which the parties agree represents a fair and reasonable estimate of the County's actual damages at the time of contracting if the Contractor fails to substantially complete the Work in a timely manner.

C. When any period of time is referenced by days herein, it shall be computed to exclude the first day 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 shall be omitted from the computation, and the last day shall become the next succeeding day which is not a Saturday, Sunday or legal holiday.

Section 7. Intent of Contract Documents and Contractor Representations

A. It is the intent of the Contract Documents to describe a functionally complete project (or portion thereof) to be constructed in accordance with the Contract Documents. Any work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words which have a well known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association or to the laws or regulations of any governmental authority having jurisdiction over the Project, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, law or regulation in effect at the time the Work is performed, except as may be otherwise specifically stated herein.

1 The Liquidated Damages have been valued based upon the Florida Department of Transportation's Standard Specifications for Road and Bridge Construction, published **July 2017**.

B. If before or during the performance of the Work, Contractor discovers a conflict, error or discrepancy in the Contract Documents, Contractor immediately shall report same to Engineer in writing and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from the Engineer. Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to Contractor with the Contract Documents before commencing any portion of the Work.

C. Drawings are intended to show general arrangements, design and extent of Work and are not intended to serve as shop drawings. Specifications are separated into divisions for convenience of reference only and shall not be interpreted as establishing divisions for the Work, trades, subcontracts, or extent of any part of the Work. In the event of a discrepancy between or among the drawings, specifications or other Contract Document provisions, Contractor shall be required to comply with the provision which is the more restrictive or stringent requirement upon the Contractor, as determined by the Engineer.

D. In order to induce Owner to enter into this Agreement Contractor makes the following representations:

D.1 Contractor has examined and carefully studied the Contract Documents (including those listed in Section 4) and the other related data identified in the Project Documents including "technical data."

D.2 Contractor has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance or furnishing of the Work.

D.3 Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

D.4 Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor and safety precautions, and

programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

D.5 Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work as indicated in the Contract Documents.

D.6. Contractor has correlated the information known to Contractor, information and observation obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

D.7. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Section 8. Investigation and Utilities

A. Contractor shall have the sole responsibility of satisfying itself concerning the nature and location of the Work and the general and local conditions, and particularly, but without limitation, with respect to the following: those affecting transportation, access, disposal, handling and storage of materials; availability and quality of labor; water and electric power; availability and condition of roads; work area; living facilities; climatic conditions and seasons; physical conditions at the work-site and the project area as a whole; topography and ground surface conditions; nature and quantity of the surface materials to be encountered; subsurface conditions; equipment and facilities needed preliminary to and during performance of the Work; and all other costs associated with such performance. The failure of Contractor to acquaint itself with any applicable conditions shall not relieve Contractor from any of its responsibilities to perform under the Contract Documents, nor shall it be considered the basis for any claim for additional time or compensation.

B. Contractor shall locate all existing roadways, railways, drainage facilities and utility services above, upon, or under the Project site, said roadways, railways, drainage facilities and utilities being referred to in this Sub-Section 8.B. as the "Utilities". Contractor shall contact the owners of all Utilities to determine the necessity for relocating or temporarily interrupting any Utilities during the construction of the Project. Contractor shall schedule and coordinate its Work around any such relocation or temporary service interruption. Contractor shall be responsible for properly shoring, supporting and protecting all Utilities at all times during the course of the Work.

Section 9. Schedule

A. The Contractor, within ten (10) calendar days after receipt of a Notice of Award, shall prepare and submit to the County and Engineer, for their review and approval, a progress schedule for the Project (herein "Progress Schedule"). The Progress Schedule shall relate to all Work required by the Contract Documents and shall: show the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the Project within the Contract Time; show the order and interdependence of activities and the sequence for accomplishing the Work and describe all activities in sufficient detail so that the Engineer can readily identify the work and measure the progress on of each activity; show each activity with a beginning work date, a duration, and a monetary value; include activities for procurement fabrication, and delivery of materials, plant, and equipment, and review time for shop drawings and submittals; include milestone activities when milestones are required by the Contract Documents; and in a Project with more than one phase, adequately identify each phase and its completion date, and not allow activities to span more than one phase. The Contractor shall also submit a working plan with the Progress Schedule, consisting of a concise written description of the construction plan.

B. The Engineer will return inadequate schedules to the Contractor for corrections and Contractor shall resubmit a corrected schedule within five (5) calendar days from the date of the Engineer’s return transmittal. The Engineer will use the accepted Project Schedule as the baseline against which to measure the progress. However, by acceptance of the Project Schedule, the Engineer does not endorse or otherwise certify the validity or accuracy of the activity durations or sequencing of activities.

B. The Progress Schedule shall be updated by the Contractor if there is a significant change in the planned order or duration of an activity or upon the request of the Engineer, which shall not be requested more than [INSERT TIMES] a month. All updates to the Progress Schedule shall be subject to the County's and Engineer's review and approval. The Engineer's review and approval of submitted the Progress Schedule and any required or requested updates shall be a condition precedent to the County's obligation to pay the Contractor.

Section 10. Progress Payments

A. Prior to submitting its first Application for Payment, Contractor shall submit to the County and the Engineer, for their review and approval, a schedule of values based upon the Contract Price, listing the major elements of the Work and the dollar value for each element. After its approval by the County and Engineer, this schedule of values shall be used as the basis for the Contractor's monthly Applications for Payment. This schedule shall be updated and submitted each month to the Engineer along with a completed and notarized copy of the Application for Payment form.

B. Prior to submitting its first Application for Payment, Contractor shall submit to the Engineer a complete list of all its proposed subcontractors and materialmen. The first Application for Payment shall be submitted no earlier than thirty (30) days after the Commencement Date.

C. If payment is requested on the basis of materials and equipment not incorporated into the Project, but delivered and suitably stored at the site or at another location agreed to by the County in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that the County has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances, together with evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the County's interest therein, all of which shall be subject to the County's satisfaction.

D. Contractor shall submit its monthly Application for Payment to the Engineer on or before the 25th day of each month for work performed during the previous month. Invoices received after the 25th day of each month shall be considered for payment as part of the next month's application. Within ten (10) calendar days after receipt of each Application for Payment, the Engineer shall either:

D.1 indicate his approval of the requested payment;

D.2 indicate his approval of only a portion of the requested payment, stating in writing his reasons therefore; or

D.3 return the Application for Payment to the Contractor indicating, in writing, the reason for refusing to approve payment.

In the event of a total denial and return of the Application for Payment by the Engineer, the Contractor may make the necessary corrections and resubmit the Application for Payment. The County shall, within thirty (30) calendar days after County approval of an Application for Payment, pay the Contractor the amounts so approved. Provided, however, in no event shall the County be obligated to pay any amount greater than that portion of the Application for Payment approved by the Engineer.

E. The County shall retain five percent (5%) of the gross amount of each monthly payment request or five percent (5%) of the portion thereof approved by the Engineer for payment, whichever is less. Such sums shall be accumulated and released to Contractor with final payment.

F. Monthly payments to Contractor shall in no way imply approval or acceptance of Contractor's work.

G. Each Application for Payment shall be accompanied by a Release and Affidavit, in the form attached to this Agreement, showing that all materials, labor, equipment and other bills associated with that portion of the Work for which payment is being requested have been paid in full. The County shall not be required to make payment until and unless these affidavits are furnished by the Contractor.

H. The County reserves the right to issue joint checks to Contractor and its material suppliers, subcontractors, labor unions, equipment suppliers, etc., if, in the County's sole judgment, it is necessary to do so to ensure payment to the above named parties or if above named parties have filed a notice of nonpayment, lien or intent to lien, stop notice, etc.

Section 11. Payments Withheld

A. The Engineer or the County may decline to approve any Application for Payment, or portions thereof, because of subsequently discovered evidence or subsequent inspections. The Engineer or the County may nullify the whole or any part of any approval for payment previously issued and the County may withhold any payments otherwise due Contractor under this Agreement or any other agreement between the County and Contractor, to such extent as may be necessary in the County's opinion to protect it from loss because of:

A.1 Defective Work not remedied;

A.2 Third party claims filed or reasonable evidence indicating probable filing of such claims;

A.3 Failure of Contractor to make payment properly to subcontractors or for labor, materials or equipment;

A.4 Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Amount;

A.5 Reasonable indication that the Work will not be completed within the Contract Time;

A.6 Unsatisfactory prosecution of the Work by the Contractor;

A.7 Failure to provide accurate and current "As-Builts"; or

A.8 Any other material breach of the Contract Documents.

B. If these conditions in Subsection 11.A are not remedied or removed, the County may, after three (3) days written notice, rectify the same at Contractor's expense. The County also may offset against any sums due Contractor the amount of any liquidated or unliquidated obligations of Contractor to the County, whether relating to or arising out of this Agreement or any other agreement between Contractor and the County.

Section 12. Final Payment

A. The County shall make final payment to Contractor within thirty (30) calendar days after the Work is finally inspected and accepted by both the County and the Engineer in accordance with Section 25.B. herein, provided that Contractor first, and as an explicit condition precedent to the accrual of Contractor's right to final payment, shall have furnished the County with a properly executed and notarized copy of the Release and Affidavit, as well as, a duly executed copy of the Surety's consent to final payment and such other documentation that may be required by the Contract Documents and the County.

B. Contractor's acceptance of final payment shall constitute a full waiver of any and all claims by Contractor against the County arising out of this Agreement or otherwise relating to the Project, except those previously made in writing and identified by parties as unsettled at the time of the final Application for Payment. Neither the acceptance of the Work nor payment by the County shall be deemed to be a waiver of the County's right to enforce any obligations of Contractor hereunder or to the recovery of damages for defective Work not discovered by the Engineer or the County at the time of final inspection.

Section 13. Submittals and Substitutions

A. Contractor shall carefully examine the Contract Documents for all requirements for approval of materials to be submitted such as a schedule of values, safety manual, shop drawings, data, test results, schedules and samples. Contractor shall submit all such materials at its own expense and in such form as required by the Contract Documents in sufficient time to prevent any delay in the delivery of such materials and the installation thereof.

B. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other suppliers may be accepted by the County if sufficient information is submitted by Contractor to allow the County to determine that the material or equipment proposed is equivalent or better than to that named. Requests for review of substitute items of material and equipment will not be accepted by the County from anyone other than Contractor and all such requests must be submitted by Contractor to Engineer within thirty (30) calendar days after Notice of Award is received by Contractor.

C. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make application to the Engineer for acceptance thereof, certifying that the proposed substitute shall perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application shall state that the evaluation and acceptance of the proposed substitute will not prejudice Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the County for the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in

connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service shall be indicated. The application also shall contain an itemized estimate of all costs that will result, directly or indirectly, from acceptance of such substitute, including costs for redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the Engineer in evaluating the proposed substitute. The Engineer may require Contractor to furnish at Contractor's expense additional data about the proposed substitute.

D. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Engineer, if Contractor submits sufficient information to allow the Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedures for submission to and review by the Engineer shall be the same as those provided herein for substitute materials and equipment.

E. The Engineer shall be allowed a reasonable time within which to evaluate each proposed substitute. The Engineer shall be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Engineer's prior written acceptance which shall be evidenced by either a Change Order or an approved Shop Drawing. The County may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

Section 14. Daily Reports, As-Builts and Meetings

A. Unless waived in writing by the County, Contractor shall complete, maintain, and submit to Engineer on a _____ basis a daily log of the Contractor's work in a format approved by the Engineer. The daily log shall document all activities of Contractor at the Project site including, but not limited to, the following:

A.1. Weather conditions showing the high and low temperatures during work hours, the amount of precipitation received on the Project site, and any other weather conditions which adversely affect the Work;

A.2. Any Conditions which adversely affect the Work;

A.3. The hours of operation by Contractor's and subcontractor's personnel;

A.4. The number of Contractor's and subcontractor's personnel present and working at the Project site, by subcontract and trade;

A5. All equipment present at the Project site, description of equipment use and designation of time equipment was used (specifically indicating any down time);

A.6. Description of Work being performed at the Project site;

A.7. Any unusual or special occurrences at the Project site;

A.8. Materials received at the Project site;

A.9. A list of all visitors to the Project site; and

A.10. Any problems that might impact either the cost or quality of the Work or the time of performance.

The daily log shall not constitute nor take the place of any notice required to be given by Contractor to the County or Engineer pursuant to the Contract Documents.

B. Contractor shall maintain in a safe place at the Project site one record copy of the Contract Documents, including, but not limited to, all drawings, specifications, addenda, amendments, Change Orders, Work Directive Changes and Field Orders, as well as all written interpretations and clarifications issued by the Engineer, in good order and annotated to show all changes made during construction. The annotated drawings shall be continuously updated by the Contractor throughout the prosecution of the Work to accurately reflect all field changes that are made to adapt the Work to field conditions, changes resulting from Change Orders, Work Directive Changes and Field Orders, and all concealed and buried installations of piping, conduit and utility services. All buried and concealed items, both inside and outside the Project site, shall be accurately located on the annotated drawings as to depth and in relationship to not less than two (2) permanent features (e.g. interior or exterior wall faces). The annotated drawings shall be clean and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color. The "As-Built" record documents, together with all approved samples and a counterpart of all approved shop drawings shall be available to Engineer for reference. Current and accurate "As-Built" record documents shall be submitted with each Application for Payment. Failure to provide current and accurate "As-Built" record drawings shall be reason for rejecting the Application for Payment. Upon completion of the Work and as a condition precedent to Contractor's entitlement to final payment, these "As-Built" record documents, samples and shop drawings shall be delivered to Engineer by Contractor for the County.

C. Contractor shall keep all records and supporting documentation which concern or relate to the Work hereunder for a minimum of five (5) years from the date of termination of this Agreement or the date the Project is completed, whichever is later. The County, or any duly authorized agents or representatives of the County, shall have the right to audit, inspect and copy all such records and documentation as often as they deem necessary during the period of this Agreement

and during the five (5) year period noted above; provided, however, such activity shall be conducted only during normal business hours.

D. In addition to other requirements provided herein, Contractor shall:

D.1. Keep and maintain public records that ordinarily and necessarily would be required by the County in order to perform the Work.

D.2. Provide the public with access to public records on the same terms and conditions that the County would provide the records and at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

D.3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

D.4. Meet all requirements for retaining public records and transfer, at no cost, to the County all public records in possession of the Contractor upon termination of the Contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County.

D.5. If the Contractor does not comply with a public records request, the County may terminate this Contract in accordance with Section 23 hereof.

Section 15. Independent Contractor

Contractor is an independent contractor and shall, at its sole cost and expenses and without increase in the contract price, comply with all laws, rules, ordinances, and regulations of all governing bodies having jurisdiction over the Work. Contractor shall be responsible for securing timely inspections and approvals of its work from all such authorities and as required by the Contract Documents. Contractor shall obtain and pay for all necessary permits and licenses, including business licenses; pay all fees, manufacturer's taxes, sales taxes, use taxes, processing taxes, and all federal and state taxes, insurance and contributions for social security and unemployment or disability insurance, which are measured by wages, salaries, or other remunerations paid to Contractor's employees, whether levied under existing or subsequently enacted laws, rules, or regulations. Contractor shall maintain proof that it has complied with all aspects of the foregoing provision and shall make such proof available for review by the County at County's request.

Section 16. Contractor Performance, Extensions, and No Damages for Delay of Work

A. Contractor shall diligently pursue the completion of the Work and coordinate the Work being done on the Project by its subcontractors and materialmen, as well as coordinating its Work with all work of others at the Project Site, so that its Work or the work of others shall not be delayed or impaired by any act or omission by Contractor. Contractor shall be solely responsible for

all construction means, methods, techniques, sequences, and procedures, as well as coordination of all portions of the Work under the Contract Documents.

B. Should Contractor be obstructed or delayed in the prosecution of or completion of the Work as a result of unforeseeable causes beyond the control of Contractor, and not due to its fault or neglect, including but not restricted to acts of God or of the public enemy, acts of government, fires, floods, epidemics, quarantine regulation, strikes or lockouts, Contractor shall notify the County in writing within forty-eight (48) hours after the commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which Contractor may have had to request a time extension.

C. No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the Work from any cause whatever, including those for which the County may be responsible, in whole or in part, shall relieve Contractor of his duty to perform or give rise to any right to damages or additional compensation from the County. Contractor expressly acknowledges and agrees that it shall receive no damages for delay. Contractor's sole remedy, if any, against the County will be the right to seek an extension to the Contract Time; provided, however, the granting of any such time extension shall not be a condition precedent to the aforementioned "No Damage For Delay" provision. This paragraph shall expressly apply to claims for early completion, as well as to claims based on late completion.

Section 17. Changes in the Work

A. The County shall have the right at any time during the progress of the Work to increase or decrease the Work. Promptly after being notified of a change, Contractor shall submit an itemized estimate of any cost or time increases or savings it foresees as a result of the change. Except in an emergency endangering life or property, or as expressly set forth herein, no addition or changes to the Work shall be made except upon written order of the County, and the County shall not be liable to the Contractor for any increased compensation without such written order. No officer, employee or agent of the County is authorized to direct any extra or changed work orally.

B. A Change Order, in the form attached to this Agreement, shall be issued and executed promptly after an agreement is reached between Contractor and the County concerning the requested changes. Contractor shall promptly perform changes authorized by duly executed Change Orders. The Contract Amount and Contract Time shall be adjusted in the Change Order in the manner as the County and Contractor shall mutually agree.

C. If the County and Contractor are unable to agree on a Change Order for the requested change, Contractor shall, nevertheless, promptly perform the change as directed by the County in a written Work Directive Change. In that event, the Contract Amount and Contract Time shall be adjusted as directed by the County. If Contractor disagrees with the County's adjustment determination, Contractor must make a claim pursuant to Section 18 of this Agreement or else be deemed to have waived any claim on this matter it might otherwise have had.

D. In the event a requested change results in an increase to the Contract Amount, the amount of the increase shall be limited to the Contractor's reasonable direct labor and material costs and reasonable actual equipment costs as a result of the change (including allowance for labor burden costs) plus a maximum ten percent (10%) markup for all overhead and profit. In the event such change Work is performed by a Subcontractor, a maximum ten percent (10%) markup for all overhead and profit for all Subcontractors' and sub-subcontractors' direct labor and material costs and actual equipment costs shall be permitted, with a maximum five percent (5%) markup thereon by the Contractor for all of its overhead and profit, for a total maximum markup of fifteen percent (15%). All compensation due Contractor and any Subcontractor or sub-subcontractor for field and home office overhead is included in the markups noted above.

E. The County shall have the right to conduct an audit of Contractor's books and records to verify the accuracy of the Contractor's claim with respect to Contractor's costs associated with any Change Order.

F. The Engineer shall have authority to order minor changes in the Work not involving an adjustment to the Contract Amount or an extension to the Contract Time exceeding his/her authority and not inconsistent with the intent of the Contract Documents. Minor changes approved by the Engineer, whether changes to Work and or Contract Time, cumulatively may not exceed ten percent (10%) of the Work and or Original Contract Time. Such changes may be effected by Field Order or by other written order. Such changes shall be binding on the Contractor.

Section 18. Claims and Disputes

A. A Claim is a demand or assertion by one of the parties seeking an adjustment or interpretation of the terms of the Contract Documents, payment of money, extension of time or other relief with respect to the terms of the Contract Documents. The term "Claim" also includes other disputes and matters in question between the County and Contractor arising out of or relating to the Contract Documents. The responsibility to substantiate a Claim shall rest with the party making the Claim.

B. Claims by the Contractor shall be made in writing to the Engineer within forty-eight (48) hours after the first day of the event giving rise to such Claim or else the Contractor shall be deemed to have waived the Claim. Written supporting data shall be submitted to the Engineer within fifteen (15) calendar days after the occurrence of the event, unless the County grants additional time in writing, or else the Contractor shall be deemed to have waived the Claim. All claims shall be priced in accordance with the provisions of Subsection 17.D. Engineer will render a formal decision on the claim in writing within fifteen (15) calendar days after receipt of the Contractor’s Claim. Engineer’s written decision will be final and binding upon Contractor and unless Contractor submits a written notice to the County and Engineer requesting non-binding voluntary mediation within fifteen (15) calendar days of the date of such decisions, then Contractor forever waives and relinquishes any rights to bring any future legal actions or court claims with respect to such Claim.

Non-binding Mediation shall be completed within sixty (60) days from the date of Contractor's timely submission of a written notice requesting non-binding voluntary mediation.

C. The Contractor shall proceed diligently with its performance as directed by the County, regardless of any pending Claim, action, suit or administrative proceeding, unless otherwise agreed to by the County in writing. The County shall continue to make payments in accordance with the Contract Documents during the pendency of any Claim.

Section 19. Indemnification and Insurance

A. To the fullest extent permitted by law, Contractor and its surety covenant and agree to indemnify and hold County harmless of and from any and all claims, losses, demands, causes of action and the like, including but not limited to, attorneys' fees and court costs which may be asserted against County by anyone other than Contractor, resulting from, arising out of, or occurring in connection with the failure of Contractor or supplier of Contractor to perform all work required within the scope of this agreement in strict accordance with the contract documents.

B. To the full extent permitted by law, Contractor hereby agrees to defend and indemnify, protect and hold harmless County, its agents, employees, servants and sureties (individually the "Indemnified Party" and collectively the "Indemnified Parties") of and from any loss or damage and to reimburse the Indemnified Parties for any and all expenses, including legal fees, expert witness fees and other litigation costs to which the Indemnified Parties may be put because of:

B.1. the liability for claims and liens for labor performed or materials used or furnished through or under Contractor for the project for which Contractor is liable due to any failure of Contractor to adhere to the terms of this agreement or any of the contract documents;

B.2. liability to County resulting from Contractor's failure to comply with applicable licensing requirements;

B.3. any personal injury, loss, damage or death to any person or persons (including employees, officers or agents of County, Contractor and lower tier subcontractors) and any property damage arising out of, result from, or in connection with the performance or non performance of work required in this contract or by reason of any act, omission, fault or negligence whether active or passive of Contractor whether on the project or proceeding to or from the site, including, without limitation, any personal injury, loss, damage, death or property damage caused (or alleged to be caused) by any negligent or grossly negligent act, error or omission of any person or entity, including any Indemnified Party whether such Indemnified Party's or the person's or

entity's negligence be joint or concurrent however, Contractor shall not be required to indemnify an Indemnified Party for that party's sole negligence; or

B.4. liability imposed upon County directly or indirectly by Contractor's failure or the failure of any of its employees to comply with any law, ordinance, rule, regulation or requirement, including, but not limited to, any Occupational Safety and Health Administration violations and any penalties, including enhancements, resulting in whole or in part by subcontractor's acts or omissions as well as the Immigration Reform and Control Act of 1986 and all rules and regulations adopted pursuant thereto.

C. To the fullest extent permitted by law, in addition to the express duty to indemnify County when there is any causal connection between Contractor's work and any injury, loss, damage, death or property damage, Contractor expressly undertakes a duty to defend County as a separate duty, independent of and broader than the duty to indemnify. The duty to defend agreed to by Contractor hereby expressly include all costs of litigation, attorney's fees, settlement costs and reasonable expenses in connection with the litigation, whether or not the claims made for loss, injury, damage or property damage are valid or groundless and regardless of whether the defense of County is maintained by the County or assumed by Contractor as long as the claims made could be causally connected to Contractor as reasonable determined by County (claims).

D. The County and Contractor agree the first $100.00 of the Contract Amount paid by the County to Contractor shall be given as separate consideration for this indemnification and duty to defend, and any other indemnification of the County by Contractor provided for within the Contract Documents, the sufficiency of such separate consideration being acknowledged by Contractor by Contractor's execution of the Agreement. The Contractor's obligation under this provision shall not be limited in any way by the agreed upon contract price as shown in this contract or the Contractor's limit of, or lack of, sufficient insurance protection.

E. Contractor shall obtain and carry, at all times during its performance under the Contract Documents, insurance of the types and in the amounts set forth in the Insurance Requirements attached to this Agreement. All insurance policies shall be from responsible companies duly authorized to do business in the State of Florida and/or responsible risk retention group insurance companies which are registered with the State of Florida. Within fifteen (15) calendar days after Notice of Award is received by Contractor, Contractor shall provide the County with properly executed Certificates of Insurance to evidence Contractor's compliance with the insurance requirements of the Contract Documents. Said Certificates of Insurance shall be on forms approved by the County. The Certificates of Insurance shall be personally, manually signed by the authorized representatives of the insurance company/companies shown on the Certificates of Insurance, with proof that they are authorized representatives thereof. In addition, certified, true and exact copies of all insurance polices required hereunder shall be provided to the County, on a timely basis, when requested by the County.

F. The Certificates of Insurance and required insurance policies shall contain provisions that thirty (30) days prior written notice by registered or certified mail shall be given the County of any cancellation, intent not to renew, or reduction in the policies or coverages, except in the application of the aggregate limits provisions. In the event of a reduction in the aggregate limit of any policy, Contractor shall immediately take steps to have the aggregate limit reinstated to the full extent permitted under such policy.

G. All insurance coverages of the Contractor shall be primary to any insurance or self insurance program carried by the County applicable to this Project. The acceptance by the County of any Certificate of Insurance does not constitute approval or agreement by the County that the insurance requirements have been satisfied or that the insurance policy shown on the Certificate of Insurance is in compliance with the requirements of the Contract Documents. No work shall commence at the Project site unless and until the required Certificates of Insurance are received by the County.

H. Contractor shall require each of its subcontractors to procure and maintain, until the completion of the subcontractor's work, insurance of the types and to the limits specified in the Insurance Requirements attached to this Agreement, unless such insurance requirements for the subcontractor is expressly waived in writing by the County. All liability insurance policies, other than professional liability, worker's compensation, employer's liability and business auto liability policies, obtained by Contractor to meet the requirements of the Contract Documents shall name the County and Engineer as additional insureds and shall contain severability of interest provisions. If any insurance provided pursuant to the Contract Documents expires prior to the completion of the Work, renewal Certificates of Insurance and, if requested by the County, certified, true copies of the renewal policies, shall be furnished by Contractor within thirty (30) days prior to the date of expiration.

I. Should at any time the Contractor not maintain the insurance coverages required herein, the County may terminate the Agreement or at its sole discretion shall be authorized to purchase such coverages and charge the Contractor for such coverages purchased. The County shall be under no obligation to purchase such insurance, nor shall it be responsible for the coverages purchased or the insurance company or companies used. The decision of the County to purchase such insurance coverages shall in no way be construed to be a waiver of any of its rights under the Contract Documents.

J. Contractor shall submit to Engineer a copy of all accident reports arising out of any injuries to its employees or those of any firm or individual to whom it may have subcontracted a portion of the Work, or any personal injuries or property damages arising or alleged to have arisen on account of any work by Contractor under the Contract Documents.

Section 20. Compliance with Laws

Contractor agrees to comply, at its own expense, with all federal, state and local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the Project, including but not

limited to those dealing with taxation, worker's compensation, equal employment and safety. If Contractor observes that the Contract Documents are at variance therewith, it shall promptly notify the County and Engineer in writing.

Section 21. Cleanup and Protections

A. Contractor agrees to keep the Project site clean at all times of debris, rubbish and waste materials arising out of the Work. At the completion of the Work, Contractor shall remove all debris, rubbish and waste materials from and about the Project site, as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the Project site clean and ready for occupancy by the County.

B. Any existing surface or subsurface improvements, including, but not limited to, pavements, curbs, sidewalks, pipes, utilities, footings, structures, trees and shrubbery, not indicated in the Contract Documents to be removed or altered, shall be protected by Contractor from damage during the prosecution of the Work. Any such improvements so damaged shall be restored by Contractor to the condition equal to that existing at the time of Contractor's commencement of the Work.

Section 22. Assignment

Contractor shall not assign this Agreement or any part thereof, without the prior consent in writing of the County. If Contractor does, with approval, assign this Agreement or any part thereof, it shall require that its assignee be bound to it and to assume toward Contractor all of the obligations and responsibilities that Contractor has assumed toward the County.

Section 23. Permits, Licenses and Taxes

A. Pursuant to Section 218.80, F.S., the County will pay for all County permits and fees, including license fees, permit fees, impact fees or inspection fees applicable to the work. Contractor is not responsible for paying for permits issued by the County wherein the work is to be performed, but is responsible for acquiring all permits. The County may require the Contractor to deliver internal budget transfer documents to applicable County agencies when the Contractor is acquiring permits.

B. All permits, fees and licenses necessary for the prosecution of the Work which are not issued by the County shall be acquired and paid for by the Contractor.

C. Contractor shall pay any and all sales, use, or other taxes, assessments and other similar charges when due, as required by any local, state of federal law, as it pertains to the services provided herein. Contractor further agrees that it shall protect, reimburse, and indemnify the County from and assume all liability for its tax obligations under the terms of this Agreement.

Section 24. Termination for Default

A. Contractor shall be considered in material default of the Agreement and such default shall be considered cause for the County to terminate the Agreement, in whole or in part, as further set forth in this Section, if Contractor: (1) fails to begin the Work under the Contract Documents within the time specified herein; or (2) fails to properly and timely perform the Work as directed by the County or the Engineer or as provided for in the approved Progress Schedule; or (3) performs the Work unsuitably or neglects or refuses to remove materials or to correct or replace such Work as may be rejected as unacceptable or unsuitable; or (4) discontinues the prosecution of the Work; or (5) fails to resume Work which has been suspended within a reasonable time after being notified to do so; or (6) becomes insolvent or is declared bankrupt, or commits any act of bankruptcy; or (7) allows any final judgment to stand against it unsatisfied for more than ten (10) days; or (8) makes an assignment for the benefit of creditors; or (9) fails to obey any applicable codes, laws, ordinances, rules or regulations with respect to the Work; or (10) materially breaches any other provision of the Contract Documents.

B. The County shall notify Contractor in writing of Contractor's default(s). If the County determines that Contractor has not remedied and cured the default(s) within seven (7) calendar days following receipt by Contractor of said written notice, then the County, at its option, without releasing or waiving its rights and remedies against the Contractor's sureties and without prejudice to any other right or remedy it may be entitled to hereunder or by law, may terminate Contractor's right to proceed under the Agreement, in whole or in part, and take possession of all or any portion of the Work and any materials, tools, equipment, and appliances of Contractor, take assignments of any of Contractor's subcontracts and purchase orders, and complete all or any portion of Contractor's Work by whatever means, method or agency which the County, in its sole discretion, may choose.

C. If the County deems any of the foregoing remedies necessary, Contractor agrees that it shall not be entitled to receive any further payments hereunder until after the Project is completed. All monies expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other overhead and other direct and indirect expenses (including Engineer and attorneys' fees) or damages incurred by the County incident to such completion, shall be deducted from the Contract Amount, and if such expenditures exceed the unpaid balance of the Contract Amount, Contractor agrees to pay promptly to the County on demand the full amount of such excess, including costs of collection, attorney's fees (including appeals) and interest thereon at the maximum legal rate of interest until paid. If the unpaid balance of the Contract Amount exceeds all such costs, expenditures and damages incurred by the County to complete the Work, such excess shall be paid to the Contractor. The amount to be paid to the Contractor or the County, as the case may be, shall be approved by the Engineer, upon application, and this obligation for payment shall survive termination of the Agreement.

D. The liability of Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained, and obligations assumed by the County in good faith under the belief that such payments or assumptions were necessary or required, in completing the Work and providing labor, materials, equipment, supplies, and other

items therefore or re-letting the Work, and in settlement, discharge or compromise of any claims, demands, suits, and judgments pertaining to or arising out of the Work hereunder.

E. If, after notice of termination of Contractor's right to proceed pursuant to this Section, it is determined for any reason that Contractor was not in default, or that its default was excusable, or that the County is not entitled to the remedies against Contractor provided herein, then Contractor's remedies against the County shall be the same as and limited to those afforded Contractor under Section 24 below.

Section 24. Termination for Convenience and Right of Suspension

A. The County shall have the right to terminate this Agreement without cause upon seven (7) calendar days written notice to Contractor. In the event of such termination for convenience, Contractor's recovery against the County shall be limited to that portion of the Contract Amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred, but Contractor shall not be entitled to any other or further recovery against the County, including, but not limited to, damages or any anticipated profit on portions of the Work not performed.

B. The County shall have the right to suspend all or any portions of the Work upon giving Contractor not less than two (2) calendar days' prior written notice of such suspension. If all or any portion of the Work is so suspended, Contractor's sole and exclusive remedy shall be to seek an extension of time to its schedule in accordance with the procedures set forth in the Contract Documents. In no event shall the Contractor be entitled to any additional compensation or damages. Provided, however, if the ordered suspension exceeds six (6) months, the Contractor shall have the right to terminate the Agreement with respect to that portion of the Work which is subject to the ordered suspension.

Section 25. Completion

A. When the entire Work (or any portion thereof designated in writing by the County) is ready for its intended use, Contractor shall notify the Engineer in writing that the entire Work (or such designated portion) is substantially complete and request that Engineer issue a Certificate of Substantial Completion (or Certificate of Partial Substantial Completion). Within a reasonable time thereafter, the Contractor and Engineer shall make an inspection of the Work (or designated portion thereof) to determine the status of completion. If the Engineer does not consider the Work (or designated portion) substantially complete, Engineer shall notify Contractor in writing giving the reasons therefor. If the Engineer considers the Work (or designated portion) substantially complete, Engineer shall prepare and deliver to Contractor a Certificate of Substantial Completion (or Certificate of Partial Substantial Completion) which shall fix the date of Substantial Completion for the entire Work (or designated portion thereof) and include a tentative punchlist of items to be completed or corrected by Contractor before final payment. The County shall have the right to exclude Contractor from the Work and Project site (or designated portion thereof) after the date of

Substantial Completion, but the County shall allow Contractor reasonable access to complete or correct items on the tentative punchlist.

B. Upon receipt of written certification by Contractor that the Work is completed in accordance with the Contract Documents and is ready for final inspection and acceptance and upon receipt of a final Application for Payment, Engineer will make such inspection and, if he finds the Work acceptable and fully performed under the Contract Documents, he shall promptly issue a final Certificate for Payment, recommending that, on the basis of his observations and inspections, and the Contractor's certification that the Work has been completed in accordance with the terms and conditions of the Contract Documents, that the entire balance found to be due Contractor is due and payable. Neither the final payment nor the retainage shall become due and payable until Contractor submits: (1) the Release and Affidavit in the form attached, (2) consent of surety to final payment, and (3) if required by the County, other data establishing payment or satisfaction of all obligations, such as receipts, releases and waivers of liens, arising out of the Contract Documents, to the extent and in such form as may be designated by the County. The County reserves the right to inspect the Work and make an independent determination as to the Work's acceptability, even though the Engineer may have issued his recommendations. Unless and until the County is completely satisfied, neither the final payment nor the retainage shall become due and payable.

Section 26. Warranty

Contractor shall obtain and assign to the County all express warranties given to Contractor or any subcontractors by any materialmen supplying materials, equipment or fixtures to be incorporated into the Project. Contractor warrants to the County that any materials and equipment furnished under the Contract Documents shall be new unless otherwise specified, and that all Work shall be of good quality, free from all defects and in conformance with the Contract Documents. Contractor further warrants to the County that all materials and equipment furnished under the Contract Documents shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturers, fabricators, suppliers or processors except as otherwise provided for in the Contract Documents. If, within one (1) year after final completion, any Work is found to be defective or not in conformance with the Contract Documents, Contractor shall correct it promptly after receipt of written notice from the County. Contractor shall also be responsible for and pay for replacement or repair of adjacent materials or Work which may be damaged as a result of such replacement or repair. These warranties are in addition to those implied warranties to which the County is entitled as a matter of law.

Section 27. Tests and Inspections.

A. The County, Engineer, their respective representatives, agents and employees, and governmental agencies with jurisdiction over the Project shall have access at all times to the Work, whether the Work is being performed on or off of the Project site, for their observation, inspection and testing. Contractor shall provide proper, safe conditions for such access. Contractor shall provide Engineer with timely notice of readiness of the Work for all required inspections, tests or approvals.

B. If the Contract Documents or any codes, laws, ordinances, rules or regulations of any public authority having jurisdiction over the Project requires any portion of the Work to be specifically inspected, tested or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval. All inspections, tests or approvals shall be performed in a manner and by organizations acceptable to the Engineer and the County.

C. If any Work that is to be inspected, tested or approved is covered without written concurrence from the Engineer, such work must, if requested by Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness to respond to such notice. If any Work is covered contrary to written directions from Engineer, such Work must, if requested by Engineer, be uncovered for Engineer's observation and be replaced at Contractor's sole expense.

D. The County shall charge to Contractor and may deduct from any payments due Contractor all engineering and inspection expenses incurred by the County in connection with any overtime work. Such overtime work consisting of any work during the construction period beyond the regular eight (8) hour day and for any work performed on Saturday, Sunday or holidays.

E. Neither observations nor other actions by the Engineer nor inspections, tests or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

Section 28. Defective Work

A. Work not conforming to the requirements of the Contract Documents shall be deemed defective Work. If required by the County or Engineer, Contractor shall, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or if the defective Work has been rejected by the County or Engineer, remove it from the site and replace it with conforming Work. Contractor shall bear all direct, indirect and consequential costs of such correction or removal (including, but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby, and shall hold the County harmless for same.

B. If any portion of the Work is defective, or Contractor fails to supply sufficient skilled workers with suitable materials or equipment, or fails to finish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the County or Engineer may order Contractor to stop the Work, or any portion thereof, until the cause for such stop in the work has been eliminated; however, this right of the County or Engineer to stop the Work shall not give rise to any duty on the part of the County or Engineer to exercise this right for the benefit of Contractor or any other party.

C. If Contractor fails, within a reasonable time after the written notice from the County or Engineer, to correct defective Work or to remove and replace rejected defective Work as required by Engineer or the County, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any of the provisions of the Contract Documents, the County may, after seven (7) days written notice to Contractor, correct and remedy any such deficiency.

Section 29. Supervision and Superintendents

Contractor shall plan, organize, supervise, schedule, monitor, direct and control 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. Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents. Contractor shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without prior written notice to the County and Engineer except under extraordinary circumstances. The superintendent shall be Contractor's representative at the Project site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

Section 30. Protection of Work

Contractor shall fully protect the Work from loss or damage and shall bear the cost of any such loss or damage until final payment has been made. If Contractor or any one for whom Contractor is legally liable is responsible for any loss or damage to the Work, or other work or materials of the County or the County's separate contractors, Contractor shall be charged with the same, and any monies necessary to replace such loss or damage shall be deducted from any amounts due Contractor.

Section 31. Emergencies

In the event of an emergency affecting the safety or protection of persons or the Work or property at the Project site or adjacent thereto, Contractor, without special instruction or authorization from the County or Engineer is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Engineer written notice within forty-eight (48) hours after the occurrence of the emergency, if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the Engineer determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Change Order shall be issued to document the consequences of the changes or variations. If Contractor fails to provide the forty-eight (48) hour written notice noted above, the Contractor shall be deemed to have waived any right it otherwise may have had to seek an adjustment to the Contract Amount or an extension to the Contract Time.

Section 32. Use of Premises

Contractor shall confine all construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other lands and areas permitted by law, rights of way, permits and easements, and shall not unreasonably encumber the Project site with construction equipment or other material or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or any land or areas contiguous thereto, resulting from the performance of the Work.

Section 33. Safety

A. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

A.1. All employees on the Work and other persons and/or organizations who may be affected thereby;

A.2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site; and

A.3. Other property on Project site or adjacent thereto, including trees, shrubs, walks, pavements, roadways, structures, utilities and any underground structures or improvements not designated for removal, relocation or replacement in the Contract Documents.

B. Contractor shall comply with all applicable codes, laws, ordinances, rules and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of underground structures and improvements and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation or replacement of their property. Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as the Work is completed and final acceptance of same by the County has occurred.

C. Contractor shall designate a responsible representative at the Project site whose duty shall be the prevention of accidents. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to the County.

Section 34. Project Meetings

Prior to the commencement of Work, the Contractor shall attend a preconstruction conference with the Engineer and others as appropriate to discuss the Progress Schedule, procedures for handling shop drawings and other submittals, and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work. During the prosecution of the Work, the Contractor shall attend any and all meetings convened by the Engineer or the County with respect to the Project, when directed to do so by the County or Engineer. Contractor shall have its subcontractors and suppliers attend all such meetings (including the preconstruction conference) as may be directed by the County or Engineer.

Section 35. Notices

A. All notices required or made pursuant to this Agreement by the Contractor to the County or Engineer shall be in writing and delivered by hand or by United States Postal Service Department, first class mail, postage pre-paid, return receipt requested, or by Federal Express, addressed to the following:

County

David Kraus, Columbia County Administrator
135 NE Hernando Avenue, Suite 203
Lake City, Florida 32056-1529

and

Engineer

_____
_____
_____
_____

With courtesy copies also provided to:

Joel F. Foreman, County Attorney
Columbia County, Florida
207 S. Marion Avenue
Lake City, Florida 32025

Kevin Kirby, Public Works Director
Columbia County, Florida
Post Office Box 969
Lake City, Florida 32056-0969

Chad Williams, County Engineer
Columbia County Engineering Department
Post Office Box 1529
Lake City, Florida 32056

B. All notices required or made pursuant to this Agreement by the County to Contractor shall be made in writing and shall be delivered by hand or by United States Postal Service Department, first class mail, postage pre-paid, return receipt requested, or by Federal Express, addressed to the following:

Corporate Name of Contractor: _____

Address (including city, state and zip): _____

_____

Name of person with their title to whose

Attention the notice should be sent: _____

Telephone and Fax numbers: _____

C. Either party may change its above noted address by giving written notice to the other party in accordance with the requirements of this Section.

Section 36. Modification

No modification or change to the Agreement shall be valid or binding upon the parties unless in writing and executed by the party or parties intended to be bound by it.

Section 37. Successors and Assigns

Subject to other provisions hereof, the Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the parties to the Agreement.

Section 38. Governing Law

The Agreement shall be interpreted under and its performance governed by the laws of the State of Florida.

Section 39. Venue

The state courts in and for Columbia County, Florida shall be the proper and sole venue for any legal action on any and all claims, disputes or other matters in controversy arising out of or relating to this Agreement, whether stated as contractual, tort, equitable, statutory or any other claims or causes of action.

Section 40. No Waiver

The failure of the County to enforce at any time or for any period of time any one or more of the provisions of the Agreement shall not be construed to be and shall not be a waiver of any such provision or provisions or of its right thereafter to enforce each and every such provision.

Section 41. Remedies Cumulative

No right or remedy in this Agreement is intended to be exclusive of any other right or remedy, but every such right or remedy shall be cumulative and shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

Section 42. Entire Agreement

Each of the parties hereto agrees and represents that the Agreement comprises the full and entire agreement between the parties affecting the Work contemplated, and no other agreement or understanding of any nature concerning the same has been entered into or will be recognized, and that all negotiations, acts, work performed, or payments made prior to the execution hereof shall be deemed merged in, integrated and superseded by the Agreement.

Section 43. Severability

Should any provision of the Agreement be determined by a court to be unenforceable, such a determination shall not affect the validity or enforceability of any other section or part thereof.

Section 44. Third Party Beneficiaries

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary under this Agreement, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.

Section 45. Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (INSERT TELEPHONE NUMBER, E-MAIL ADDRESS, AND MAILING ADDRESS).

Contractor must comply with the public records laws, Florida Statute chapter 119, specifically Contractor must:

A. Keep and maintain public records required by the County to perform the service.
B. Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable

time at a cost that does not exceed the cost provided in chapter 119 Florida Statutes or as otherwise provided by law.

C. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.

D. Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the contractor or keep and maintain public records required by the County to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all applicable requirements for retaining the public records. All records stored electronically must be provided to the public agency, upon the request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) indicated below.

CONTRACTOR: _____
(Company Name)

ATTEST:

By:_____ (Signature) _____ (Printed)
Its: _____ (Title)
Date: _____

Witness:

Its:_____
President/Corporate Secretary/Witness Date:_____
[Corporate Seal]

_____
2nd Witness (if not incorporated)

OWNER: Board of County Commissioners of Columbia County, Florida

(SEAL) By:_____
Chairman

Clerk: _____ Date:_____

_____
Approved as to Form and Content:

_____
County Attorney

EXHIBIT A
LEGAL ADVERTISEMENT

EXHIBIT B
INVITATION TO BID

EXHIBIT C
BID PROPOSAL WITH REQUIRED FORMS

EXHIBIT D
PERFORMANCE BOND

BOND NO._____

KNOW ALL MEN BY THESE PRESENTS: That _____ _____, as Principal, whose principal business address is _____ and phone number is _____, and _____, as Surety, whose principal address is_____ _____ and phone number is: _____ are held and firmly bound to Columbia County, Florida (the "COUNTY"), as Obligee in the sum of:_____ _____ ($_____) for the payment whereof we bond ourselves, our heirs, executors, personal representatives, successors and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract dated as of the _____ day of _____, 20____, with Obligee for _____ _____ _____ _____ COLUMBIA COUNTY Project No.:_____ in accordance with drawings and specifications, which contract is incorporated by reference and made a part hereof, and is referred to as the Contract.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the Contract at the times and in the manner prescribed in the Contract; and

2. Pays Obligee any and all losses, damages, costs and attorneys' fees, including appellate proceedings, that Obligee sustains because of any default by Principal under the Contract, including, but not limited to, all delay damages, whether liquidated or actual, incurred by Obligee; and

3. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract, then this bond is void; otherwise it remains in full force.

Any changes in or under the Contract and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Contract or other work to be performed hereunder, or the specifications referred to therein shall in anywise affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to work or to the specifications.

This bond is intended to comply with provisions of Section 255.05, Florida Statutes, and all terms and conditions of said statute are incorporated herein by reference thereto, specifically including but not limited to the notice and time limitation provisions of said section. In the event of any conflict, ambiguity or discrepancy between Section 255.05, Florida Statutes, and this Bond, Florida Statutes shall control. No right of action shall accrue on this Bond to or, for the use of any person or entity other than the COUNTY and those persons or corporations provided for by said statute, their heirs, executors, administrators, successors or assigns.

It is further agreed and understood that if the COUNTY is required to initiate legal proceedings to recover on this Bond, the COUNTY may also recover its costs relating there to, including a reasonable amount for its attorney's fees and legal assistant's fees before trial, at trial, on appeal and in bankruptcy.

IN WITNESS WHEREOF, the above parties have executed this instrument this _____ day of _____, 20____, the name of each party being affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed, sealed and delivered
in the presence of:

PRINCIPAL: _____
(Company Name of Contractor)

By:_____(Officers Signature)
_____ (Officers Name Printed)

Witnesses as to Principal Name:_____ (Signature)
Its:_____ (Title)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____day of _____, 20 _____, by _____(officer's name), as _____ (title) of _____ (company name), a(n)_____ (state) corporation, on behalf of the corporation. He/she is personally known to me OR has produced _____ as identification and did (did not) take an oath.

My Commission Expires: _____

Signature of Notary :_____
(Legibly Printed) _____

(AFFIX OFFICIAL SEAL) Notary Public, State of_____

Commission No. _____

ATTEST: SURETY:

_____
(Printed Company Name)
_____

_____

(Business Address)

_____ _____
(Surety Authorized Signature) (Printed Name)

Witness as to Surety _____(Signature)
_____(Printed Name)

OR

_____ _____
As Attorney in Fact (Signature) (Printed Name)

(Attach Power of Attorney)

Witnessed by: _____ _____
(Signature) (Printed Name)

_____ _____
(Business Address) (Telephone Number)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____day of _____, 20____, by_____ (officer's name), as_____ (title) of _____ Surety, on behalf of Surety. He/She is personally known to me OR has produced _____ as identification and who did (did not) take an oath.

My Commission Expires: _____

Signature of Notary :_____
(Legibly Printed) _____

(AFFIX OFFICIAL SEAL) Notary Public, State of_____

Commission No. _____

EXHIBIT E
PUBLIC PAYMENT BOND

BOND No. _____

KNOW ALL MEN BY THESE PRESENTS: That_____
_____, as Principal, whose principal business address is:
_____
and phone number and fax numbers are: _____
and _____, as Surety, whose principal address is:
_____
_____
and phone number and fax numbers are: _____ are held and firmly bound to COLUMBIA COUNTY, FLORIDA (the "COUNTY") as Obligee in the sum of_____
_____ ($_____)
for the payment whereof we bind ourselves, our heirs, executors, personal representatives, successors and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract dated as of the ____ day of _____, 20___, with Obligee for _____
in accordance with drawings and specifications, which contract is incorporated by reference and made a part hereof, and this referred to as the Contract.

THE CONDITION OF THIS BOND is that if Principal promptly makes payment to all claimants as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, materials or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the Contract, then is bond is void; otherwise it remains in full force.

Any changes in or under the Contract and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

The provisions of this bond are subject to the time limitations of Section 255.05(2). In no event will the Surety be liable in the aggregate to claimants for more than the penal sum of this Payment Bond, regardless of the number of suits that may be filed by claimants.

IN WITNESS WHEREOF, the above parties have executed this instrument this _____ day of _____, 20___, the name of each party being affixed and these presents duly signed by its under-signed representative, pursuant to authority of its governing body.
Signed, sealed and delivered in the presence of:

PRINCIPAL: _____
(Company Name of Contractor)

By:_____ (Officer's Signature)
_____ (Officer's Name Printed)

Witnesses as to Principal Name:_____ (Signature)
Its:_____ (Title)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ___day of _____, 20_____,

by_____ (officer's name), as

_____ (title) of _____, a

_____corporation, on behalf of the corporation. He/she is personally known to me OR has

produced_____ as identification and did (did not) take an oath.

My Commission Expires: _____
Signature of Notary: _____
(Legibly Printed) _____
(AFFIX OFFICIAL SEAL) Notary Public, State of _____
Commission No.:_____

ATTEST: SURETY:

_____
(Printed Company Name)
_____
_____
(Business Address)

_____ _____
(Surety Authorized Signature) (Printed Name)

Witness as to Surety: _____ (Signature)

_____(Printed Name)

OR

_____ _____

As Attorney in Fact (Signature) (Printed Name)

(Attach Power of Attorney)

Witnessed by: _____ _____

(Signature) (Printed Name)

_____

_____

(Business Address)

_____

(Telephone Number)

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____day of _____, 20 __, by_____ (officer's name), as_____ (title) of_____ Surety, on behalf of Surety. He/She is personally known to me OR has produced _____ as identification and who did (did not) take an oath.

My Commission Expires: _____

Signature of Notary: _____

(Legibly Printed) _____

(AFFIX OFFICIAL SEAL)

Notary Public, State of _____

Commission No:_____

EXHIBIT F
INSURANCE REQUIREMENTS
CERTIFICATES OF INSURANCE

(1) The Contractor shall obtain and maintain such insurance as will protect it from: (1) claims under worker's compensation laws, disability benefit laws, or other similar employee benefit laws; (2) claims for damages because of bodily injury, occupational sickness or disease or death of his employees including claims insured by usual personal injury liability coverage; (3) claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees including claims insured by usual personal injury liability coverage; and (4) from claims for injury to or destruction of tangible property including loss of use resulting there from -- any or all of which claims may arise out of, or result from, the services, work and operations carried out pursuant to and under the requirements of the Contract Documents, whether such services, work and operations be by the Contractor, its employees, or by subcontractor(s), or anyone employed by or under the supervision of any of them, or for whose acts any of them may be legally liable.

(2) This insurance shall be obtained and written for not less than the limits of liability specified hereinafter, or as required by law, whichever is greater.

(3) The Contractor shall require, and shall be responsible for assuring throughout the time the Agreement is in effect, that any and all of its subcontractors obtain and maintain until the completion of that subcontractor's work, such of the insurance coverages described herein as are required by law to be provided on behalf of their employees and others.

(4) The Contractor shall obtain, have and maintain during the entire period of the Agreement insurance policies, which contain the following information and provisions:

(A) The name and type of policy and coverages provided;
(B) The amount or limit applicable to each coverage provided;
(C) The date of expiration of coverage;
(D) The designation of the COUNTY as an additional insured and a certificate holder. (This requirement may be excepted for Worke''s Compensation and professional liability Insurance.);
(E) The following clause must appear on the Certificate of Insurance:

Should any material change occur in any of the above described policies or should any of said policies be canceled before the expiration date thereof, the issuing company will mail at least thirty (30) days written notice to the COUNTY.

(5) If the initial, or any subsequently issued Certificate of Insurance expires prior to the completion of the Work or termination of the Agreement, the Contractor shall furnish to the COUNTY, in triplicate, renewal or replacement Certificate(s) of Insurance not later than thirty (30) calendar days prior to the date of their expiration. Failure of the Contractor to provide the COUNTY

with such renewal certificate(s) shall be considered justification for the COUNTY to terminate the Agreement.

(6) Contractor shall include the COUNTY, the COUNTY's agents, officers and employees in the Contractor's General Liability and Automobile Liability policies as additional insureds.

(7) If the COUNTY has any objection to the coverage afforded by other provisions of the insurance required to be purchased and maintained by Contractor in accordance with the requirements of the Contract Documents on the basis of its not complying with the Contract Documents, the COUNTY shall notify Contractor in writing thereof within thirty (30) days of the delivery of such certificates to the COUNTY. Contractor shall provide to the COUNTY such additional information with respect to its insurance as may be requested.

(8) The Contractor shall obtain and maintain the following insurance coverages as provided hereinbefore, and in the type, amounts and in conformance with the following minimum requirements:

WORKER'S COMPENSATION **[REVISE AS NEEDED TO MEET COUNTY'S REQUIREMENTS]**

State: Statutory
Applicable Federal:
(e.g. Longshoremen's) Statutory
Employer's Liability: $1,000,000.00

COMPREHENSIVE GENERAL LIABILITY

Bodily Injury: $1,000,000.00 Each Occurrence
Property Damage: $1,000,000.00 Each Occurrence

Comprehensive General Liability Insurance shall include:

Contractual Liability, Explosion, Collapse and Underground Coverages and Products and Completed Operations Coverages.

COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily Injury: $1,000,000.00 Each Occurrence
Property Damage: $1,000,000.00 Each Occurrence

Comprehensive Automobile Liability shall include coverage for any owned auto, non-owned autos and hired autos.

EXHIBIT G
RELEASE AND AFFIDAVIT

COUNTY OF_____

STATE OF FLORIDA

Before me, the undersigned authority, personally appeared _____ _____, who after being duly sworn, deposes and says:

(1) In accordance with the Contract Documents and in consideration of $_____ paid, _____ ("Contractor") releases and waives for itself and its subcontractors, materialmen, successors and assigns, all claims demands, damages, costs and expenses, whether in contract or in tort, against Columbia County, Florida (the "COUNTY"), its Board of County Commissioners, employees and agents relating in any way to the performance of the Agreement between Contractor and the COUNTY, dated _____, ____, for the period from _____ to _____.

(2) Contractor certifies for itself and its subcontractors, materialmen, successors and assigns, that all charges for labor, materials, supplies, lands, licenses and other expenses for which the COUNTY might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid.

(3) Contractor agrees to indemnify, defend and save harmless the COUNTY, its Board of County Commissioners, employees and agents from all demands or suits, actions, claims of liens or other charges filed or asserted against the COUNTY arising out of the performance by Contractor of the Work covered by this Release and Affidavit.

(4) This Release and Affidavit is given in connection with Contractor's [monthly/final] Application for Payment No._____.

CONTRACTOR:

_____

By: _____ (signature of the executive officer)

Its:_____ (title of the executive officer)

Date:_____

Witnesses

_____ _____

[Corporate Seal]

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, _____, by _____, as _____ of _____, a _____ corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ _____ as identification and did (did not) take an oath.

My Commission Expires: _____
(Signature of Notary)

Name:_____
(Legibly Printed)

(AFFIX OFFICIAL SEAL) Notary Public, State of_____

Commission No.:_____

EXHIBIT H
CHANGE ORDER FORM

CHANGE ORDER NO. _____ COLUMBIA COUNTY PROJECT NO. _____

TO: _____
_____
_____

DATE: _____

PROJECT NAME: _____

Columbia County Project No._____

Under our AGREEMENT dated_____.

****

You hereby are authorized and directed to make the following change(s) in accordance with terms and conditions of the Agreement:

_____
_____

FOR THE ADDITIVE or DEDUCTIVE Sum of:
_____($_____).

Original Agreement Amount $_____

Sum of Previous Changes $_____

This Change Order ADD/DEDUCT $_____

Present Agreement Amount $_____

The time for completion shall be (increased/decreased) by _____ calendar days due to this Change Order. Accordingly, the Contract Time is now _____ (_____) calendar days and the final completion date is _____. Your acceptance of this Change Order shall constitute a modification to our Agreement and will be performed subject to all the same terms and conditions as contained in our Agreement indicated above, as fully as if the same were repeated in this acceptance. The adjustment, if any, to the Agreement shall constitute a full and final settlement of any and all claims arising out of or related to the change set forth herein, including claims for impact and delay costs.

Accepted:_____ , 20____ .

COLUMBIA COUNTY, FLORIDA CONTRACTOR

By:_____ By:_____
Chair President

ENGINEER: By:_____

EXHIBIT I
NOTICE OF AWARD

(This Page is Intentionally Left Blank)

INSERT THE NOTICE OF AWARD BEHIND THIS COVER PAGE

EXHIBIT J

NOTICE TO PROCEED

(This Page is Intentionally Left Blank)

INSERT THE NOTICE TO PROCEED BEHIND THIS COVER PAGE

EXHIBIT K

APPLICATION FOR PAYMENT

(This Page is Intentionally Left Blank)

INSERT THE APPLICATION FOR PAYMENT BEHIND THIS COVER PAGE

COLUMBIA COUNTY
COMMUNITY DEVELOPMENT BLOCK GRANT

FUNDED BY THE FLORIDA DEPARTMENTOF COMMERCE (FLORIDACOMMERCE)

Grant Construction Contract Requirements

CDBG No. IR044

CDBG MITIGATION GRANT

Labor, Wage, Sign, MBE/WBE Goals and Other Grant-Specific Requirements

For more information contact:

J. Corbett Alday, COO
Guardian CRM, Inc
corbett.alday@guardiancrm.com
Cell (813) 943-2627

15000 Citrus Country Drive, Suite 331
Dade City, Florida 33523
www.guardiancrm.com

OVERVIEW OF CONTRACTOR REQUIREMENTS

A) DAVIS BACON AND OTHER WAGE/LABOR REQUIREMENTS

- **Certified Payrolls** – sample provided – required with pay request – must cover pay period – "**no activity" reports are required** when no work occurs
- **Labor Interviews** – Conducted randomly by Guardian for **all employees & sub employees – contractor must notice Guardian in writing 72 hours before subs on site**
- **Authorization to Make Deductions** – use form provided for prime and subs
- **Subcontractors – Payroll and Authorizations Apply – Prime Responsible**
- **When Classification is Not Covered** - Additional Classifications – Use Form Provided – **Discuss w/ Guardian First**
- Refer to Wage Determination – Before Payroll
- Call When in Doubt
- Notice to Employees w/ **Wage Decision Must be Posted in Visible Place**

B) MBE/WBE HIRING EFFORTS AND DOCUMENTATION

- Refer to Supplemental Conditions and MBE/WBE Goals
- Must Show Evidence of Solicitation of Minority/Women Owned Subcontractors and Suppliers Forms of Evidence:
  - **Subcontractor and vender list with MBE/WBE Firms**
  - Ad and or emails and or letters return/receipt soliciting MBE Firms
  - Similar documentation with approval – call us

C) PAY ESTIMATES/REQUESTS

- Review by Owner/Engineer & Administrator Before Approval
- Payrolls and Authorizations Matching Period Required Before Approval

D) CHANGE ORDERS

- All Parties Must Approve

E) DISCLOSURE OF SUBCONTRACTORS REQUIRED

- List Showing Services Provided, Contact Name, Address, Phone, Fax, and Contract Amount for Each
- Provide a copy to Guardian and when there are changes.

F) CDBG SUPPLEMENTAL CONDITIONS

- Termination for Convenience
- Federal Acts and Laws Affecting the Work
- Binding these Requirements to the Agreement

G) ADDITIONAL SPECIFIC REQUIREMENTS FOR CONTRACTOR/SUBCONTRACTOR

- WMBE Solicitations
- Section 3 Solicitations
- E-Verify

H) CDBG SIGN REQUIREMENTS (OPTION TO POST WAGE DECISIONS, NOTICES HERE)

I) SECTION 3 REQUIREMENTS

- Complete report even if all negative (no Section 3 Beneficiaries)
- The Prime can be a Section 3 business if local with local employees
- Section 3 LMI Beneficiaries live/conduct business in service area – local lower income **employees or local subs with 30% of employees local can be Section 3 it is important to consult w/Guardian and report**

Table of Contents

Subcontracting Requirements	**4**
Labor Standards Overview	**6**
Common Questions Regarding Davis Bacon	**10**
Notice to Employees	**15**
Wage Decision (Davis Bacon Requirement)	**17**
Form Required to add an Additional Classification to the Wage Decision	**25**
Authorization to Make Deductions (form)	**27**
Certificate from Contractor Appointing Officer or Employee to Supervise Payment of Employees (form)	**30**
Sample Payroll Form	**32**
Section 3 Information, Questions and Forms	**36**
Debarment Certification	**43**
CDBG Supplemental Conditions	**46**
List of WMBE Certified Firms	**67**
CDBG Sign Requirements	**69**

Subcontracting Requirements

Specific Requirements for Subcontractors

(A) The Owner is responsible for ensuring that the contractor(s) cause(s) appropriate provisions to be inserted in all subcontracts to bind subcontractors to all CDBG contract requirements.

(B) Each subcontractor must agree to comply with all applicable Federal, State, and local requirements in addition to those set forth in this section.

(C) Work performed by any contractor listed as debarred, ineligible, suspended or indebted to the United States from contractual dealings with Federal government departments will be ineligible for reimbursement wholly or partially from CDBG.

(D) All subcontracts in excess of $10,000 shall include, or incorporate by reference, the equal opportunity clause of Executive Order 11246 (see page 46).

(E) All subcontracts must contain a nondiscrimination clause.

(F) Each subcontract must contain a requirement for compliance with the Davis-Bacon and related acts (see page 46).

(G) Each subcontractor must submit weekly payroll records and a weekly statement of compliance. These documents should be submitted to the prime contractor. The subcontractor can satisfy this requirement by submitting a properly executed Department of Labor Form WH–347.

(H) Each subcontract with every subcontractor must contain a clause committing the subcontractor to employment of local labor to the maximum extent possible.

Labor Standards Overview

A. OVERVIEW

1. The Davis-Bacon Act (DBA) applies to all construction contracts over $2,000, unless the programs authorizing legislation contains exceptions.

    a. The DBA requires that all workers or mechanics working on covered projects be paid minimum hourly wages and fringe benefits according to the wage decision(s) applicable to that contract.

    b. Work done by a local government's own employees (force account) is not subject to DBA.

    c. If **any** portion of a contract requires DBA, then all work performed under that contract is subject to DBA.

    d. In the CDBG program, only rehabilitation of residential property containing less than 8 units is exempt from DBA.

2. Additionally, contractors must comply with the Contract Work Hours and Safety Standards Act (CWHSSA) and the Copeland (Anti-Kickback).

    a. The CWHSSA requires that, for any project in which the prime contract exceeds $100,000, workers be paid one and one-half times their normal hourly rate for any hours worked in excess of 40 hours weekly, based on a workweek of seven consecutive days.

    b. The Copeland Act prohibits any person from inducing a worker, on a federally funded project, to give up any part of the compensation to which the worker is entitled.

B. WAGE DECISIONS

1. Under DBA, construction work is categorized as Residential, Building, Heavy, Water and Sewer, or Highway work. Each construction contract to which DBA applies must contain the wage decision for the appropriate category (or categories) based on the work required by the contract.

2. A separate wage decision for a category is not required if the value of work (as bid) in that category does not exceed 20% of the total "as bid" construction cost. (Note that the actual bid cost, not the estimated cost, determines whether a separate wage decision is used.)

3. If more than one wage decision is used, the payrolls must reflect which wage decision is applicable unless all workers are paid at least the highest hourly rate possible under either wage decision.

C. LOCAL GOVERNMENT MONITORING DURING CONSTRUCTION

1. During project construction, the local government or its representative will monitor compliance with the DBA, CWHSSA, and Copeland Act by reviewing payrolls of the contractor and all subcontractors.

2. The DBA applies to laborers and mechanics working on any project when the prime contract exceeds $2,000.

    a. The DBA does not apply to supervisory staff, provided at least 80% of their time during the work week is spent performing supervisory tasks. Otherwise, they are subject to the DBA during that workweek.

b. “Self-employed owners” are not exempt from the DBA and must submit a payroll report reflecting the hours worked on the project, the type of work being performed, and that they are the owner. Hourly rates do not need to be reported if this information is not known, but the amount of the subcontract should be indicated.

c. “Supply” contracts are also not subject to the DBA. (A supply contract furnishes only equipment, materials or supplies which involves no or only “incidental” construction at the project site. Construction is “incidental” if it does not exceed 13% of the contract or subcontract price and there is documentation to support this.

3. During project construction, the local government or its representative will also conduct interviews with the contractor’s and subcontractors’ workers to verify the accuracy of the payrolls.

a. Interviews must cover a representative sample (between 15% and 20%) of each classification used by the contractor/subcontractor.

b. On-site interviews will be conducted whenever possible, but mail interviews may be conducted if on-site interviews cannot be performed.

c. Any discrepancies between the interviews and payrolls must be resolved in a timely manner which, to the extent possible, shields the identity of the worker(s) involved.

4. If a contractor/subcontractor is required to pay a cumulative total of more than $100 in back wages during the contract period, the local government is required to submit an enforcement report to FLORIDACOMMERCE.

a. Any corrective actions by a contractor must be documented in the project files. For back wages over $10, there must be a copy of the front of the wage restitution check and a signed acknowledgment from the worker that the check was received, including the amount received.

b. If there are overtime violations, the local government must assess liquidated damages of $10 per day per worker who should have received overtime but did not.

D. FLORIDACOMMERCE MONITORING

1. The FLORIDACOMMERCE will typically monitor when construction is between 60-80% complete.

2. During monitoring, special attention is given to the following areas:

a. payrolls, particularly from subcontractors, are being submitted and reviewed in a timely manner;

b. all classifications are included in the wage decision or have been conformed/added with FLORIDACOMMERCE/DOL approval;

c. any helper/trainee/apprentice classifications are in accordance with regulations for these titles;

d. signed authorizations are on file for any worker with “other” deductions;

e. interviews have been conducted with workers of the prime contractor and any subcontractors;

f. if more than one decision was used, the payrolls distinguish which wage decision is being used for each worker; and

g. the wage decision is posted in a conspicuous location at the project site.

E. TYPICAL LABOR STANDARDS MONITORING PROBLEMS

1. Inappropriate use of “apprentice”, “trainee”, and “helper” classifications.

2. Use of a classification which is not in the wage decision or is vague (“operator”).

3. Failure to obtain subcontractor payrolls.

4. Lack of signed authorizations for workers with “other” deductions.

5. Lack of interviews, including not covering enough classifications or not interviewing subcontractors.

6. “Salaried” workers covered by DBA not treated as an hourly worker for regular and overtime purposes.

7. Using one wage decision when two are required based on value of work in each category.

8. If two wage decisions are used, and workers are not paid the higher hourly rate possible for that classification, payrolls fail to reflect which wage decision(s) is applicable to which worker.

9. Whenever owner works on site, it must be reflected in a payroll time sheet. Title must also reflect working title, such as electrician, plumber, etc.

Common Questions Regarding Davis-Bacon

Common Questions Regarding Davis Bacon

The wage determination applicable to my project does not contain a class of workers which is needed to complete construction. Can a worker classification and wage rate be added to an existing wage determination? After contract award, a contractor shall submit to the owner, the addition of any needed classification of laborers or mechanics not listed in the wage determination, together with the proposed wage rates and fringe benefits conformable to the wage determination. Such an action requires the concurrence of the employees or their representative and the owner, and the Wage and Hour Division of the U.S. Department of Labor (USDOL) must approve of the action. An additional classification action is not valid unless the USDOL Department had approved it. If a dispute exists, the matter must be referred to the Wage and Hour Division for resolution, together with the view of all interested parties and the recommendation of the owner.

The owner shall require that any class of laborers or mechanics which is not listed in the wage determination, and which is to be employed under the contract be classified in conformance with the wage determination. The owner will approve the classification and the proposed wage rate and fringe benefits only when the following criteria have been met:

- The work to be performed by the classification requested is not performed by any classification in the wage determination; and
- The classification is utilized in the area by the construction industry; and
- The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
- There is evidence of agreement on the classification and proposed wage rate among the parties involved; and
- The request does not involve wage rates for apprentices or trainees.

If the officer believes that these criteria are not met, the classification or wage rate may not be approved but shall be referred to the Wage and Hour Division for resolution of dispute.

All conformance notices submitted to USDOL will be responded to in writing within 30 days of receipt. These responses either approve or deny the request or inform the submitting agency that additional time will be required. Failure to receive a response does not constitute approval. If a response is not received, the Wage and Hour Division must be contacted directly. Every conformance request is analyzed to verify that the criteria for approval are complied with.

How do workers on a construction site know that a project is covered by the Davis-Bacon Act? How do they know the prevailing wage to which they are entitled? The wage determination (including any additional classifications and wage rates conformed) and a Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen. The WH-1321 poster may be obtained at no charge from offices of the Wage and Hour Division.

Once construction has begun, are the workers' wage rates affected when the wage determination for the area in which the project is located is changed? As a general rule, the wage determination incorporated into a bid solicitation and related contract award establishes the minimum wage rates and fringe benefits which must be paid for the entire term of the contract.

Is it possible for more than one wage schedule to apply to contract specifications? Construction projects are generally classified as either Building, Heavy, Highway or Residential for purposes of issuing wage determinations. Wage schedules for one or more of these construction categories may have application to construction items contained in a proposed construction project. Guidelines for the selection of proper wage schedules are set forth in All Agency Memoranda Nos. 130 (March 17, 1978) and 131 (July 14, 1978). Any questions regarding the application of these guidelines to a particular project, or any disputes regarding the application of the wage schedules issued for the various construction categories are to be referred to the Wage and Hour Division, together with relevant information, including a complete description of the project and area practice.

As the owner, what is my obligation when the wage determinations applicable to a construction project contain multiple wage schedules? It is the responsibility of the owner to advise contractors which schedule shall be applied to the various construction items in the bid specifications. Because of the complexities in the application of multiple schedules (see Question 4 above), the owner should consult with the Wage and Hour Division to resolve any questions.

Can apprentices, trainees, and/or helpers work on project covered by the Davis-Bacon or related Acts and what wage rates must they be paid? A person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or a person in the first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been properly certified to be eligible for probationary employment as an apprentice may work on such projects.

Trainees employed must be persons registered in construction occupation under a program which has been approved in advance by the U.S. Department of Labor, Employment and Training Administration, as meeting its standards for on-the-job training programs and which have been so certified by that Administration. Note that information on wage rates paid to apprentices and trainees is not solicited nor do the wage determinations issued include apprenticed classifications. Similarly, their addition through the additional classification procedure (conformance) is neither necessary nor appropriate. On projects funded by the Federal Aid Highway Act, apprentices and trainees certified by the Secretary of Transportation are not covered by Davis-Bacon labor standards.

The proper wage rates to be paid to apprentices and trainees are those specified by the particular programs in which they are enrolled, expressed as a percentage of the journeyman rate on the wage determination. In the event employees reported as apprentices or trainees on a covered project have not been properly registered within the meaning of the Regulations and the contract stipulations, or are utilized at the job site in excess of the ratio to journeymen permitted under the approved program, they must be paid the applicable wage rates for laborers and mechanics employed on the project performing the kind or classification of work they actually performed, regardless of work classifications which may be listed on the submitted payrolls and regardless of their level of skill.

Under existing regulations, helper classifications are not listed in wage determinations or approved as an additional classification unless certain criteria are present: 1) the use of helpers is an established prevailing practice; 2) the duties of the helper are clearly defined and distinct from the duties of the journeyman classification; 3) their duties are distinct from the duties of the laborers, and 4) the “helper” is not synonymous with “trainee” in an informal training program. Helpers can only be employed on a Davis-Bacon project at wage rates less than those specified for a given craft classification if the applicable wage determination lists a prevailing wage for a particular helper classification or if the particular helper classification has been approved as an additional classification. In the event employees, improperly classified as helpers regardless of their level of skill, are employed on a covered project, they must be paid the applicable wage rates for laborers and mechanics employed on the project performing the kind or classification of work they actually performed.

What wage rates must be paid to supervisory employees (foreman, general foremen, superintendents, etc.) employed on a covered project? The wage rates for bona fide supervisory employees are not regulated under the Davis-Bacon and related Acts since their duties are primarily administrative or executive in nature rather than those of laborers or mechanics. However, such employees who devote more than 20 percent of their time during a workweek to mechanic or laborer duties are laborers and mechanics for the time so spent and must be paid the appropriate wage rates specified in the wage determination. Employees who are bona fide executive, administrative, or professional employees as defined under the Fair Labor Standards Act at 29 CFR Part 541 are not covered by the Davis-Bacon Act.

What records shall contractors and subcontractors submit to the owner? Each contractor and subcontractor performing construction work on the project shall submit copies of their payroll records for employees working on the project as soon as practicable after each payroll. It is the responsibility of the prime contractor to include a copy of the Davis-Bacon wage determination in each construction subcontract and to ensure that subcontractors submit payroll records.

What is the responsibility of the owner for monitoring contractor and subcontractor compliance with Davis-Bacon requirements? The owner shall ensure that the wage determination is posted at the job site and that payroll records are submitted on a timely basis.

Payroll records should be reviewed to verify that the minimum wage rates for each classification are being paid. Random private interviews of a few employees of the prime contractor and each on-site subcontractor should be conducted monthly to determine type of work performed, classification, and hourly rate. Answers should be verified for agreement with payroll records. If payroll records or interviews indicate that minimum rates possibly are not being paid or that employee classification may be inappropriate based on work performed, the owner should contact the nearest Wage and Hour Division office for possible further investigation by that office.

Please clarify the "in whole or in part" application of the Davis-Bacon Act regulations to construction contracts. The Davis-Bacon Act will apply to a contract if two conditions are met. First, the contract amount must exceed $2000. This amount is for the total contract, not just that portion involving federal funds. Second, the contract work must be subject to the Davis-Bacon Act by the authorizing legislation of the federal programs involved. If a construction contract involves more than one federal program, the applicability of the Davis-Bacon Act under each federal program must be reviewed. If the Davis-Bacon Act is applicable under one program, then the entire contract must comply with the Act's requirements even if that program's portion of the total contract cost is very small. Also, please note that the Davis-Bacon Act regulations use only the term "contract." Confusion arises from the use of "contract" and "project" interchangeably. The Davis-Bacon Act applies to contracts. A project may have more than one contract. It is possible that the Davis-Bacon Act will apply to one contract but not another, based on the two-part test described above.

In monitoring for overtime, is the local government required to determine hours worked by an employee on other projects? The local government cannot require the contractor to submit payroll information from other projects. If the payroll being reviewed shows that an employee did not work more than 40 hours in the week, overtime is not an issue.

OTHER IMPORTANT DAVIS BACON DETAILS

1. The DOL will not consider any “helper” classifications, apparently due to no funding for staff needed to do this. A contractor should not even bother to submit a request for the “helper” classification. (If the worker does not qualify for classification as “apprentice” or “trainee,” the most likely option is to use the full “trade” classification unless the contractor can show that another classification, such as “laborer,” is more appropriate. But a “laborer” should not be using specialized tools of a trade.)

2. For deductions requiring DOL approval, DOL typically responds in just a few days and approval is usually given if 29 CFR 3 is met. Once a type of deduction is approved, the approval is good for one year for all federally-funded projects by the contractor.

3. Payroll deductions, beyond those listed in the regulation (29 CFR 3) as “permissible with USDOL approval,” may still be made without USDOL approval if the deductions do not reduce the worker's pay (including any applicable fringe) below the minimum in the wage decision.

4. A worker's pay is considered to be in compliance with the wage decision if the total of hourly rate and any fringe benefits received equals at least the total minimum amount in the wage decision, regardless of the distribution between cash hourly rate and fringe benefits. (Example: If a wage decision requires $6 per hour and no fringe benefits, employer is in compliance by paying $5 hourly in cash and $1 in fringe benefits.)

5. A contractor's work week must be seven consecutive days. This is to preclude a contractor from changing his work week in a way to avoid overtime.

6. Owners are not exempt from the Davis-Bacon Act if they work on the project site.

Notice to Employees

The following "NOTICE TO ALL EMPLOYEES"
<u>MUST</u> be posted on the Job Site

NOTICE TO ALL EMPLOYEES

Working on Federal or Federally Financed Construction Projects

MINIMUM WAGES

You must be paid not less than the wage rate in the schedule posted with this Notice for the kind of work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 a week. There are some exceptions.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, contact the Contracting Officer listed below:

David Kraus
County Manager
135 NE Hernando Ave
Lake City, FL 32055
(863) 758-1005

or you may contact the nearest office of the Wage and Hour Division, U.S. Department of Labor. The Wage and Hour Division has offices in several hundred communities throughout the country. They are listed in the U.S. Government section of most telephone directories under: U.S. Department of Labor Employment Standards Administration.



WH Publication 1321
Revised January 1986

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

First Wage Decision
(Davis Bacon Requirement)
(INSERTED AFTER FLORIDACOMMERCE ISSUES)

"General Decision Number: FL20240091 01/05/2024

Superseded General Decision Number: FL20230091

State: Florida

Construction Type: Heavy

County: Columbia County in Florida.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

|_____|_____|

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number Publication Date
0 01/05/2024

PAIN0164-005 06/01/2021

	Rates	Fringes
PAINTER: Brush and Spray	$ 20.21	12.38

SUFL2009-130 06/24/2009

	Rates	Fringes
LABORER: Common or General	$ 8.58 **	0.00
LABORER: Pipelayer	$ 12.60 **	1.01
OPERATOR: Backhoe/Excavator	$ 14.21 **	0.94
OPERATOR: Bulldozer	$ 13.30 **	1.92
OPERATOR: Loader	$ 11.00 **	0.00
TRUCK DRIVER: Distributor, Dump, Lowboy and Tandem	$ 11.55 **	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

**** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.20) or 13658 ($12.90). Please see the Note at the top of the wage determination for more information. Please also note that the**

minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* **an existing published wage determination**
* **a survey underlying a wage determination**
* **a Wage and Hour Division letter setting forth a position on a wage determination matter**
* **a conformance (additional classification and rate) ruling**

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION"

Employee/Employer Wage-Scale Agreement

Grantee: **Columbia County** Date: _____

Contract No: **IR044**

Construction Contract Execution Date: _____

Wage Decision: _____

Project Description: **Parnell Paving and Drainage Project**

_____

Whereas, Columbia County has been unable to obtain a specific wage rate from the Department of Labor (DOL)/Department of Commerce (FLORIDACOMMERCE), in the wage decision for this project for the classification of Heavy or Highway, and because it also appears that there are no readily available similar positions that could be reclassified under the initial wage decision, and whereas 29 CFR Part 5.5 (a)(l)(ii) allows the rate for a classification under these circumstances to be set by mutual agreement among the employee(s), the employer, and the jurisdiction, subject to approval by HUD/DOL;

Therefore by mutual consent the parties and persons signed below agree to an hourly rate of $_____ and fringe benefit rate of $_____ (may be included in hourly rate), for the above classification while acknowledging full compliance with all other federal labor standards requirements.

_____ _____
Employee Employer (If Corporation, must be Officer)

_____ _____
Date Date

_____ _____
Local Government Official Date

Note: Use one form for each affected employee.

Authorization to Make Deductions (Form)

NOTE: The contractor is required to maintain a copy of this authorization form for EVERY DEDUCTION other than those for Federal and State withholding taxes and Federal social security taxes. The only exception is that of court ordered deductions. In this case, a copy of the court order must be on file.

This form needs only be completed once for all payroll periods. If, however, any new deductions occur, a new form must be completed.

AUTHORIZATION TO MAKE OTHER DEDUCTIONS

I, _____, hereby authorize my employer, _____, to make deductions, not otherwise listed as permissible deductions in 29 CFR, on wages earned while employed on the following project:

PROJECT NUMBER: **IR044**

PROJECT NAME: **COLUMBIA COUNTY PARNELL PAVING & DRAINAGE**

These deductions are voluntary and are authorized for the purpose of _____ not to exceed ($ amount).

_____ _____

Employee Witness

_____ _____

Date Date

PERMISSIBLE PAYROLL DEDUCTIONS

The following payroll deductions may be made without requesting approval from the State of Florida (employee authorization or other documentation may still be required, however. Please consult with your program administrator on all payroll deductions.):

(a) Any deduction made in compliance with the requirements of Federal, State, or local law, such as Federal or State withholding income taxes and Federal social security taxes.

(b) Any deduction of sums previously paid to the employee as a bona fide prepayment of waged when such prepayment is made without discount or interest. A "bona fide prepayment of wages" is considered to have been made only when cash or its equivalent has been advances to the person employed in such manner as to give him complete freedom of disposition of the advanced funds.

(c) Any deduction of amounts required by court process to be paid to another, unless the deduction is in favor of the contractor, subcontractor, or any affiliated person, or when collusion of collaboration exists.

(d) Any deduction constituting a contribution on behalf of the person employed to funds established by the employer or representatives of employees, or both, for the purpose of providing either from principal or income, or both, medical or hospital care, pensions or annuities on retirement, death benefits, compensation for injuries, illness, accidents, sickness, or disability, or for insurance to provide any of the forgoing, or unemployment benefits, vacation pay, savings accounts, or similar payments for the benefit of employees, their families and dependents: (1) The deduction is not otherwise prohibited by law; (2) it is either: (I) voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of or for the continuation of employment, or (ii) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; (3) no profit or other benefit is otherwise obtained, directly or indirectly, by the contractor or subcontractor or any affiliated person in the form of commission, dividend, or otherwise; and (4) the deduction shall serve the convenience and interest of the employee.

(e) Any deduction contributing toward the purchase of United States Savings bonds when voluntarily authorized by the employee.

(f) Any deduction requested by the employee to enable him to repay loans to or to purchase shared in credit unions organized and operated in accordance with Federal and State credit union statutes.

(g) Any deduction voluntarily authorized by the employee for the making of contributions to Community Chests, United Givers Funds, and similar charitable organizations.

(h) Any deduction voluntarily authorized by the employee for the making of contributions to governmental or quasi-governmental agencies, such as the American Red Cross.

(i) Any deductions to pay regular union initiation fees and membership dues, not including fines or special assessments: Provided, however, that a collective bargaining agreement between employee provided for such deductions and the deductions are not otherwise prohibited by law.

(j) Any deduction not more than for the "reasonable cost" of board, lodging, or other facilities meeting the requirements of section 3 (M) of the Fair Labor Standards Act of 1938, as amended, and Part 531 of Title 29, Code of Federal Regulations. When such a deduction is made, the additional records required under Section 516.27 (a) of Title 29, Code of Federal Regulations, shall be kept.

Certificate from Contractor Appointing Officer or Employee to Supervise Payment of Employees (Form)

CERTIFICATE FROM CONTRACTOR APPOINTING OFFICER OR EMPLOYEE TO SUPERVISE PAYMENTS OF EMPLOYEES

Project Name: **PARNELL PAVING AND DRAINAGE**

Date: _____

Location: **Columbia County** Project No.: **IR044**

(I) (We) hereby certify that (I am) (we are) (the prime contractor) (the subcontractor) for

_____ in connection with construction of
(Specify "General Construction," "Plumbing," "Roofing," etc.)

the above-mentioned Project, and that (I) (we) have appointed _____,

whose signature appears below, to supervise the payment of (my) (out) employees beginning

_____, 20_____: That he/she is in a position to have full knowledge of

the facts set forth in the payroll documents and in the statement of compliance required by the so-called

Kick-Back Statue which he is to execute with (my) (our) full authority and approval until such time as (I)

(we) submit to the _____ a new certificate appointing
(Administering agency – County)

some other person for the purposes herein above stated.

_____
(Identifying Signature of Appointee)

Attest (if required):

_____
(Name of Firm or Corporation)

_____ By: _____
(Signature) *(Signature)*

_____ _____
(Title) *(Title)*

- - - -

Sample Payroll Form

U.S. DEPARTMENT OF LABOR
WAGE AND HOUR DIVISION

PAYROLL

(For Contractor's Optional Use; See Instruction, Form WH-347 Inst.)

OMB No.: 1215-0149
Expires: 06-30-88

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐													ADDRESS								
PAYROLL NO.				FOR WEEK ENDING									PROJECT AND LOCATION			PROJECT OR CONTRACT NO.					
(1) NAME, ADDRESS, AND SOCIAL SECURITY NUMBER OF EMPLOYEE	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	O T . O R S T .	(4) DAY AND TIME HOURS WORKED EACH DAY							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROS AMOUNT EARNED	(8) DEDUCTIONS						(9) NET WAGES PAID FOR WEEK
														FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	
			o																	
			s																	

FORM WH-347 (1/68) - FORMERLY SOL 184 - *PURCHASE THIS FORM DIRECTLY FROM THE SUPT. OF DOCUMENTS*

Date _____

I, _____, _____
(Name of signatory party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by_____

_____ on the _____
(Contractor or subcontractor) (Building or work)

_____; that during the payroll period commencing on the _____

day of _____, 19_____, and ending the ____ day of _____, 19___, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made wither directly or indirectly to or on behalf of said

_____from the full
(Contractor or subcontractor)

weekly wages earned by any person and that no deductions have been made wither directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat, 948, 63 Stat. 108, 72 State 967; 76 State 357; 40 U.S.C. 276c), and de-scribed below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are no less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS OR PROGRAMS

☐ -- In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ -- Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount of the required fringe benefits as listed in the contract, except as noted in Section 4 (c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. DEPARTMENT OF LABOR
Wage and Hour Division

INSTRUCTIONS FOR COMPLETING THE PAYROLL FORM, WH-347

General: The use of WH-347, payroll form, is not mandatory. This form has been made available for the convenience of contractors and subcontractors required by their Federal or Federally-aided construction-type contracts and subcontracts to submit weekly payrolls. Properly filled out, this form will satisfy the requirements of Regulations, Parts 3 and 5 (29 CFR, Subtitle A) as to payrolls submitted in connection with contracts subject to the Davis-bacon and related Acts.

This form meets needs resulting from the amendment of the Davis-Bacon Act to include fringe benefits provisions. Under this amended law, the contractor is required to pay not less than fringe benefits as predetermined by the Department of Labor, in addition to payment of not less than the predetermined rates. Th contractor's obligation to pay fringe benefits may be met either by payment of the fringes to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringes.

This payroll provides for the contractor's showing in the face of the payroll all monies paid to the employees, whether as basic rates or as cash in lieu of fringes and provides for the contractor's representation in the statement of compliance on the rear of the payroll of payment to others of fringes required by the contract and not paid as cash on lieu of fringes. Detailed instructions concerning the preparation of the payroll follow:

Contractor or Subcontractor: Fill in your firm's name and check appropriate box.

Address: Fill in your firm's address.

Column 1 - **Name, Address, and Social Security number of Employee:** The employee's full name and Social Security number must be shown on each weekly payroll submitted. The employee's address must also be shown on the payroll covering the first week in which the employee works on the project. The address need not be shown on subsequent weekly payrolls unless the address changes.

Column 2 - **Withholding Exemptions:** This column is merely inserted for the employer's convenience and is not a requirement of Regulations, parts 3 and 5.

Column 3 - **Work Classifications:** List classification descriptive of work actually performed by employees. Consult classifications and minimum wage schedule set forth in contract specification. If additional classification is deemed necessary, see Contracting Officer or Agency representative. Employee may be shown as having worked in more than one classification provided accurate breakdown of hours so worked is maintained and shown on submitted payroll by use of separate line entries.

Column 4 - **Hours Worked:** On all contracts subject to the Contract Work Hours and Safety Standard Act enter as overtime hours all hours worked in excess of 40 hours a week. (Section 1241(a), Public Law 99-145 (99 Stat. 734) eliminated language applying the statutory overtime requirements to a workday of eight hours, effective January 1, 1986.)

Column 5 - **Total:** Self-explanatory.

Column 6 - **Rate of Pay, including Fringe Benefits:** In straight time box, list actual hourly rate paid the employee for straight time worked plus any cash in lieu of fringes paid the employee. When recording the straight time hourly rate, any cash paid in lieu of fringes may be shown separately from the basic rate, e.g., $5.00/.50. This is of assistance in correctly computing overtime. See "Fringe Benefits" below. Payment of not less than time and one-half the basic or regular rate paid is required for overtime under the Contract Work Hours and Safety Standards Act. In addition to paying not less than the predetermined rate for the classification in which the employee works, the contractor shall pay to approved plans, funds, or programs or shall pay as cash in lieu of fringes amounts predetermined as fringe benefits in the wage decision made part of the contract. See "FRINGE BENEFITS" below.

FRINGE BENEFITS - Contractors who pay all required fringe benefits: A contractor who pays fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor shall continue to show on the face of the payroll the basic cash hourly rate and overtime rate paid to employees just as has always been done. Such a contractor shall check paragraph 4(a) of the statement on the reverse of the payroll to indicate payment of approved plans, funds, or programs not less than the amount predetermined as fringe benefits for each craft. Any exceptions shall be noted in Section 4(c).

Contractors who pay no fringe benefits: A contractor who pays no fringe benefits shall pay to the employee and insert the straight time hourly rate column of the payroll, an amount not less than the predetermined rate of each classification plus the amount of fringe benefits determined for each classification in the applicable wage decision. Inasmuch as it is not necessary to pay time and a half on cash and paid in lieu of fringes, the overtime rate shall not be less than the sum of the basic predetermined rate, plus the half-time premium on basic or regular rate, plus the required cash in lieu of fringes at the straight time rate. In addition, the contractor shall check paragraph 4(b) of the statement on the reverse of the payroll to indicate payment of fringe benefits in cash directly to the employees. Any exceptions shall be noted in Section 4(c).

Use of Section 4(c), Exceptions

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the employees as cash in lieu of fringes. Any exceptions to Section 4(a) or 4(b), whichever the contractor may check, shall be entered in Section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid as cash in lieu of fringes and the hourly amount paid to plans, funds, or programs as fringes. The contractor shall pay, and shall show the payment to each such employee for all hours (unless otherwise provided by applicable determination) worked on Federal or Federally assisted project an amount not less than the predetermined rate plus cash in lieu if fringes as shown in Section 4(c). The rate paid and amount of cash paid in lieu of fringe benefits per hour should be entered in column 6 on the payroll. See paragraph on "Contractors who pay no fringe benefits" for computation of overtime rate.

Column 7 - **Gross Amount Earned:** Enter gross amount earned on this project. If part of the employee's weekly wage was earned on projects other than the project described on this payroll, enter in column 7 first the amount earned on the Federal or Federally assisted project and then the gross amount earned during the week on all projects.

Column 8 - **Deductions:** Five columns are provided for showing deductions made. If more than five deductions should be involved, use first 4 columns; show the balance of deductions under "Other" column; show actual total under "Total Deductions" column; and in the attachment to the payroll describe the deductions contained in the "Other" column. All deductions must be in accordance with the provisions of the Copeland Act Regulations, 29 CFR Part 3. If the employee worked on other jobs in addition to this project, show actual deductions for the weekly gross wage, but indicate that deductions are based on the gross wages.

Column 9 - **Net Wages Paid for Week:** self-explanatory.

Totals - Space has been left at the bottom of the columns so that totals may be shown if the contractor so desires.
Statement Required by Regulations, Parts 3 and 5: While this form need not be notarized, the statement on the back of the payroll is subject to the penalties provided by 18 U.S.C. 1001, namely, possible imprisonment for 5 years or $10,000.00 fine or both. Accordingly, the party signing this required statement should have knowledge of the facts represented as true.

Space has been provided between items (1) and (2) of the statement for describing deductions made. If all deductions made are adequately described in the "Deduction" column above, state "See Deductions column in this payroll." See paragraph entitled "FRINGE BENEFITS" above for instructions concerning filling our paragraph 4 of the statement.

Section 3 Questions and Forms

Section 3 - Economic Opportunities

What is Section 3?

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that helps foster local economic development, neighborhood economic improvement, and individual self-sufficiency. The Section 3 program requires that recipients of certain HUD financial assistance, to the greatest extent feasible, provide job training, employment, and contracting opportunities for low- or very-low income residents in connection with projects and activities in their neighborhoods.

Download Section 3 information from HUD's website: http://www.hud.gov/offices/fheo/section3/section3.cfm

How does Section 3 promote self- sufficiency?

Section 3 is a starting point to obtain job training, employment and contracting opportunities. From this integral foundation coupled with other resources comes the opportunity for economic advancement and self-sufficiency.

- Federal, state and local programs
- Advocacy groups
- Community and faith-based organizations

How does Section 3 promote homeownership?

Section 3 is a starting point to homeownership. Once a Section 3 resident has obtained employment or contracting opportunities they have begun the first step to self-sufficiency.

Who are Section 3 residents?

Section 3 residents are:

- Public housing residents or
- Persons who live in the area where a HUD-assisted project is located and who have a household income that falls below HUD's low-mod income limits.

Determining Income Levels

- Low income is defined as 80% or below the median income of that area.
- Very low income is defined as 50% or below the median income of that area.

What is a Section 3 business concern?

A business that:

- Is 51 percent or more owned by Section 3 residents;
- Employs Section 3 residents for at least 30 percent of its full-time, permanent staff; or
- Provides evidence of a commitment to subcontract to Section 3 business concerns, 25 percent or more of the dollar amount of the awarded contract.

What programs are covered?

Section 3 applies to HUD-funded Public and Indian Housing assistance for development, operating, and modernization expenditures.

Section 3 also applies to certain HUD-funded Housing and Community Development projects that complete housing rehabilitation, housing construction, and other public construction.

What types of economic opportunities are available under Section 3?

- **Job training**
- **Employment**
- **Contracts**

Any employment resulting from these expenditures, including administration, management, clerical support, and construction, is subject to compliance with Section 3.

Examples of Opportunities include:

- Accounting
- Architecture
- Appliance repair
- Bookkeeping
- Bricklaying
- Carpentry
- Carpet Installation
- Catering
- Cement/Masonry
- Computer/Information
- Demolition
- Drywall
- Electrical
- Elevator Construction
- Engineering
- Fencing
- Florists
- Heating
- Iron Works
- Janitorial
- Landscaping
- Machine Operation
- Manufacturing
- Marketing
- Painting
- Payroll Photography
- Plastering
- Plumbing
- Printing Purchasing
- Research
- Surveying
- Tile setting
- Transportation
- Word processing

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that promotes local economic development, neighborhood economic improvement, and individual self-sufficiency.

The **Section 3** program requires that recipients of certain HUD financial assistance, to the greatest extent possible, provide job training, employment, and contract opportunities for low- or very-low income residents in connection with projects and activities in their neighborhoods.

More about Section 3:

- 24 CFR 135
- Section 3 Summary Report

Requirement of the Florida Small Cities and Disaster Recovery CDBG Programs

Any recipient of CDBG funds that has an open grant must report Section 3 activities to the Department by July 31 each year using the Section 3 Summary Report form. The reports received from grant recipients will be summarized by the Department and submitted to HUD with the Annual Performance Report. The following information may assist you in completing the Section 3 Summary Report form:

- Section 3 persons are individuals from households with low or very low income. The Section 8 income limits are used to define low income. Section 3 is "race and gender" neutral.

- If CDBG funds are used for one of the covered activities – housing rehab, housing construction or public construction – a report must be completed.

    - If the funds awarded to a contractor are under $200,000, no activity needs to be reported. If the funds awarded to a subcontractor are under $100,000, no activity needs to be reported.

    - If a local government hires an employee that will have any oversight or administrative responsibilities relating to the covered activities, the local government should report Section 3 activity.

- A permanent employee may be an employee hired for full time work on a temporary basis or an employee hired for full time work on the job site whether temporary or permanent.

- Grant recipients and the contractors they work with should attempt to provide employment opportunities to Section 3 persons or businesses when possible. (Job announcements, bid language, etc., may reference that priority will be given to Section 3 persons or businesses.)

    - Grant recipients are not required to set numerical goals nor are they required to have a Section 3 plan. This, however, does not exempt a local government from the requirement to attempt to make economic opportunities available for Section 3 persons or businesses within the area.

- The area or jurisdiction is typically the county or the region surrounding the work to be paid for with CDBG funding OR the county or region nearest to the address of the recipient. Grant recipients may want to give preference to Section 3 individuals or businesses having the same zip code as a way of show preference.

- Grant recipients will have to work closely with contractors in order to be able to report on Section 3 activities. The Department provides a form that contractors may complete to provide information regarding their Section 3 activities.

- When contractors submit bids, they should state whether or not it will be necessary for them to employ additional workers. If a contractor believes that additional employees may be necessary, they should indicate in the bid that they will give preference to hiring low income persons within the area.

- Individuals who have been receiving public assistance may meet the definition of Section 3.

- Any contract reported on the Contractual Obligations and Minority Business Enterprise report that is reflected as a Section 3 business should be reported on during the fiscal year in which the contract was awarded.

- The exclusion for minor rehab does not typically apply to CDBG since the housing unit is usually brought up to the local building code. Minor rehab consists of replacing broken windows, fixing a leaking roof, and other such repairs.

Section 3 Participation Report

(Construction Prime Contractor)

April, 2015

Local Government: Columbia County CDBG Contract #: IR044

This form must be completed by the prime contractor for any construction contract over $100,000. Voluntary reporting for contracts under $100,000 is encouraged.

Contractor's Name: _____

Contractor's DUNS Number: _____ Contract Amount: $ _____

1. Does the business qualify as a "Section 3 Business Concern" because	
a) It is at least 51% owned by Section 3 residents*, or	☐ Yes ☐ No
b) At least 30% of its permanent full-time employees are	
i) Currently Section 3 residents*, or	☐ Yes ☐ No
ii) Were Section 3 residents* within first three years of employment, or	☐ Yes ☐ No
c) Will at least 25% (dollar value) of construction subcontracts (no material/supplies/ equipment vendors unless they are also installing same) be to businesses meeting (a) or (b) above?	☐ Yes ☐ No
If ***yes***, list any Section 3 subcontractors and subcontract amount:	

Subcontractors	Subcontract Amount
	$
	$
	$
2. Will the contractor be hiring any additional staff (office or field) for this project?	☐ Yes ☐ No
• If ***yes***, what types of jobs will be filled, and how many additional hires are estimated in each job type?	

***Section 3 resident means:**

(1) A public housing resident; or

(2) An individual who resides in the metropolitan area or nonmetropolitan city in which the section 3 covered assistance is expended, and who is:

(i) *A low-income person,* as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act defines this term to mean families (including single persons) whose incomes do not exceed 80 per centum of the median income for the area, as determined by the Secretary, with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 80 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low-income families; or

(ii) *A very low-income person,* as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)) defines this term to mean families (including single persons) whose incomes do not exceed 50 per centum of the median family income for the area, as determined by the Secretary with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 50 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of unusually high or low family incomes.

(3) A person seeking the training and employment preference provided by section 3 bears the responsibility of providing evidence (if requested) that the person is eligible for the preference.

Note: This contract is funded with federal funds, and this information is required for construction contracts over $100,000 for reporting purposes. See Section 3 portion of ***CDBG Supplemental Conditions for Construction Projects*** for additional information.

Section 3 Participation Report
(Construction Subcontractor)

Local Government: Columbia County CDBG Contract #: IR044

This form must be completed by construction subcontractors when the prime contract is at least $100,000. (Do not include the cost of equipment or material supplies unless you are installing also.) Voluntary reporting is encouraged when the prime contract is under $100,000.

Subcontractor's Name: _____

Subcontractor's DUNS Number: _____ Subcontract Amount: $ _____

1. Does the business qualify as a "Section 3 Business Concern" because	
a) It is at least 51% owned by Section 3 residents*, or	☐ Yes ☐ No
b) At least 30% of its permanent full-time employees are	
i) Currently Section 3 residents*, or	☐ Yes ☐ No
ii) Were Section 3 residents* within first three years of employment, or	☐ Yes ☐ No
2. Will the subcontractor be hiring any additional staff (office or field) for this project?	☐ Yes ☐ No
• If ***yes***, what types of jobs (e.g., laborer, equipment operator) will be filled, and how many additional hires are estimated in each job type?	

*__Section 3 resident__ means:

(1) A public housing resident; or

(2) An individual who resides in the metropolitan area or nonmetropolitan city in which the section 3 covered assistance is expended, and who is:

(i) A ***low-income person***, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act defines this term to mean families (including single persons) whose incomes do not exceed 80 per centum of the median income for the area, as determined by the Secretary, with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 80 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low-income families; or

(ii) A ***very low-income person***, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)) defines this term to mean families (including single persons) whose incomes do not exceed 50 per centum of the median family income for the area, as determined by the Secretary with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 50 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of unusually high or low family incomes.

(3) A person seeking the training and employment preference provided by section 3 bears the responsibility of providing evidence (if requested) that the person is eligible for the preference.

Note: This contract is funded with federal funds, and this information is required for reporting purposes for projects costing over $100,000. See Section 3 portion of ***CDBG Supplemental Conditions for Construction Contracts*** for additional information.

Debarment Certification

Certification Regarding Debarment, Suspension, and Other Responsibility Matters (Primary Covered Transactions)

April, 2015

Recipient: Columbia County Contract Number: IR044

Name of Company Selected as a Prime Contractor: _____

DUNS Number: _____

1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

   (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

   (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

   (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1)(b) of this certification; and

   (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

_____ _____

Authorized Signature Date

_____

Name Typed

_____

Title

_____

Street Address

_____

City, State, Zip

(24 CFR 24.510 and 24 CFR, Part 24, Appendix A)

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion (Subcontractor)

April, 2015

Recipient: Columbia County Contract Number: IR044

Name of Subcontractor: _____

DUNS Number: _____

Lower Tier Covered Transactions

(1) The prospective lower tier participant certifies, by submission of this document, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to the above statement, the prospective participant shall attach an explanation to this form.

_____ _____

Authorized Signature Date

_____

Name Typed

_____

Title

_____

Street Address

_____

City, State, Zip

(24 CFR 24.510 and 24 CFR, Part 24, Appendix A)

CDBG Supplemental Conditions

The supplemental conditions contained in this section are intended to cooperate with, to supplement, and to modify the general conditions and other specifications. In case of disagreement with any other section of this contract, the Supplemental Conditions shall govern.

(1) 1. Termination (Cause and Convenience)
(2) 2. Access to Records
(3) 3. Retention of Records
(4) 4. Remedies
(5) 5. Environmental Compliance (Clean Air Act and Clean Water Act)
(6) 6. Energy Efficiency
(7) 7. Special Equal Opportunity Provisions
8. Conflict of Interest
9. Utilization of Minority and Women's Businesses
10. Federal Labor Standards Provisions (Davis-Bacon, Copeland, and Contract Work Hours Act)
(8) 11. Guidance to Contractor for Compliance with Labor Standards Provisions
(9) 12. E-Verify

==========

1. <u>Termination (Cause and Convenience)</u>

A. This contract may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this contract through no fault of the terminating party, provided that no termination may be affected unless the other party is given:

(1) not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate; and

(2) an opportunity for consultation with the terminating party prior to termination.

B. This contract may be terminated in whole or in part in writing by the local government for its convenience, provided that the other party is afforded the same notice and consultation opportunity specified in l(a) above.

C. If termination for default is affected by the local government, an equitable adjustment in the price for this contract shall be made, but

(l) no amount shall be allowed for anticipated profit on unperformed services or other work, and

(2) any payment due to the contractor at the time of termination may be adjusted to cover any additional costs to the local government because of the contractor's default.

If termination for convenience is affected by the local government, the equitable adjustment shall include a reasonable profit for services or other work performed for which profit has not already been included in an invoice.

For any termination, the equitable adjustment shall provide for payment to the contractor for services rendered and expenses incurred prior to receipt of the notice of intent to terminate, in addition to termination settlement costs reasonably incurred by the contractor relating to commitments (e.g., suppliers, subcontractors) which had become firm prior to receipt of the notice of intent to terminate.

D. Upon receipt of a termination action under paragraphs (a) or (b) above, the contractor shall (1) promptly discontinue all affected work (unless the notice directs otherwise) and (2) deliver or otherwise make available to the local government all data, drawings, reports specifications, summaries and other such information, as may have been accumulated by the contractor in performing this contract, whether completed or in process.

E. Upon termination, the local government may take over the work and may award another party a contract to complete the work described in this contract.

F. If, after termination for failure of the contractor to fulfill contractual obligations, it is determined that the contractor had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the local government. In such event, adjustment of the contract price shall be made as provided in paragraph (c) above.

2. Access to Records

The local government, the Florida Department of Commerce, the U.S. Department of Housing and Urban Development, the Comptroller General of the United States, the Chief Financial Officer of the State of Florida, the Auditor General of the State of Florida, the Florida Office of Program Policy Analysis and Government Accountability, and any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the contractor which are directly pertinent to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

3. Retention of Records

The contractor shall retain all records relating to this contract for six years after the local government makes final payment and all other pending matters are closed.

4. Remedies

Unless otherwise provided in this contract, all claims, counter-claims, disputes and other matters in question between the local government and the contractor, arising out of or relating to this contract, or the breach of it, will be decided by arbitration, if the parties mutually agree, or in a Florida court of competent jurisdiction.

5. Environmental Compliance

If this contract exceeds $100,000, the contractor shall comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 USC 1857(h), section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738, and U.S. Environmental Protection Agency regulations (40 CFR Part 15). The contractor shall include this clause in any subcontracts over $100,000.

6. Energy Efficiency

The contractor shall comply with any mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

7. Special Equal Opportunity Provisions

A. Activities and Contracts Not Subject to Executive Order 11246, as Amended

(Applicable to Federally assisted construction contracts and related subcontracts $10,000 and under.)

During the performance of this contract, the contractor agrees as follows:

(1) The contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

(2) The contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer seeking forth the provisions of this

nondiscrimination clause. The contractor shall state that all qualified applicants be considered without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) Contractors shall incorporate foregoing requirements in all subcontracts.

B. Executive Order 11246, as Amended (through 2014), Section 202 Equal Opportunity Clause (Applicable to contracts/subcontracts above $10,000)

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information."

(4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of

enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

(C) Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246). (Applicable to contracts/subcontracts exceeding $10,000.)

(a) The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

(b) The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Female participation: 6.9% (statewide)

Minority participation (See Appendix at CDBG-25 for goals for each county)

These goals are applicable to all Contractor's construction work (whether or not it is federally-assisted) performed in the covered area. If the Contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established or the geographic area where the contract resulting from his solicitation is to be performed. The hours of minority and female employment or training must be substantially uniform throughout the length of the contract and in each trade the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

(c) The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

(d) As used in this Notice, and in the contract resulting from the solicitation, the "covered area" is the county in which the contract work is being undertaken.

(D) **41 CFR 60-4.3. Equal Opportunity Clauses**

(a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants and all non-construction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of $10,000 to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of this part and in construction subcontracts in excess of $10,000 necessary in whole or in part to the performance of non-construction Federal contracts and subcontracts covered under the Executive order.

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

1. As used in these specifications:

   A. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

   B. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

   C. "Employer identification number" means the Federal Social Security number used on the Employer's quarterly Federal Tax Return, U. S. Treasury Department Form 941.

   D. "Minority" includes:

      (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Island); and

      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7.A. through P. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally-assisted construction contract shall apply the minority and female goals established for the geographic area where the contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

(b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(c) Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the contractor may have taken.

(d) Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or woman sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

(e) Develop on-the-job training opportunities and/or participate in training programs for the areas which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7.(b) above.

(f) Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

(g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(h) Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

(i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female recruitment students and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a contractor's work force.

(k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR 60-3.

(l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

(n) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations 7. (a) through (p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7.(a) through (p) of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out sections and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing

regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensively as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its effort to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance and upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

E. Certification of Non-Segregated Facilities (Contracts over $10,000)

The contractor does not maintain or provide for its employees any segregated facilities at any of its establishments and does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The contractor certifies further that it will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, “segregated facilities” mean any waiting rooms, work areas, rest rooms and wash rooms, restaurants, and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

The contractor further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause; that it will retain such certifications in its files; and that it will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods) .

F. Civil Rights Act of 1964

Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

G. Section 109 of the Housing and Community Development Act of 1974

No person in the United States shall on the grounds of race, color, national original, religion or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

H. "Section 3" Compliance in the Provision of Training, Employment and Business Opportunities

(1) The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 USC 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(2) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(3) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(4) The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(5) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

(6) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

(7) With respect to work performed in connection with Section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 USC 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

I. Section 503 Handicapped (Contracts $2,500 or more)

(1) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.

(3) In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(4) The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

(5) The contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or their contract understanding, that the contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973 and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

(6) The contractor will include the provisions of this clause in every subcontract or purchase order of $2,500 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

Additional Specific Requirement for Contractors/Subcontractors – Sec 3 solicitations

As noted elsewhere in this document, the U.S. Department of Housing and Urban Development (HUD) and the Florida Department of Commerce (FLORIDACOMMERCE) consider the hiring of Section 3 individuals (either low or very-low income persons according to HUD guidelines) as an extremely important goal of all Community Development Block Grant (CDBG) funded projects. Thus, during monitoring visits, FLORIDACOMMERCE will expect to find documentation from both prime contractor and subcontractors that effort was made to reach Section 3 individuals for any new hiring for this CDBG-funded project. OneStop Career Center offices are an excellent resource to use in reaching out to find possible Section 3 hires. Local offices can be found on the web at: http://careercenteroffices.com/state/FL.html. Again, you must document your contacts with this or any other employment office that you might use. Make copies of and keep all emails pertaining to your communications with these employment offices. Also, make copies for the grantee. Any questions concerning this requirement can be directed to your grant contact at the local government or the grantee's consultant. On occasion, individuals living in the area of the project may contact you or your employees at the project site. If you do hire such individuals, just make a memorandum for the files describing the circumstances, such as when and who was contacted and date hired. There is also a Section 3 self-certification form that will be required. Contact your grantee or the consultant.

J. Age Discrimination in Employment Act of 1967, as Amended

It shall be unlawful for an employer-

(1) to fail or refuse to hire or to discharge any individual or otherwise discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's age;

(2) to limit, segregate, or classify his employees in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's age; or

(3 to reduce the wage rate of any employee in order to comply with this chapter.

K. Title II of the Genetic Information Nondiscrimination Act of 2008 (GINA)

(1) Under Title II of the Genetic Information Nondiscrimination Act, it is illegal to discriminate against employees or applicants because of genetic information. Employers are prohibited from using genetic information in making employment decisions. GINA restricts employers and other entities covered by Title II (employment agencies, labor organizations and joint labor-management training and

apprenticeship programs - referred to as "covered entities") from requesting, requiring or purchasing genetic information, and strictly limits the disclosure of genetic information.

The law forbids discrimination on the basis of genetic information when it comes to any aspect of employment, including hiring, firing, pay, job assignments, promotions, layoffs, training, fringe benefits, or any other term or condition of employment.

(2) "Genetic information" includes information about an individual's genetic tests and the genetic tests of an individual's family members, as well as information about the manifestation of a disease or disorder in an individual's family members (i.e. family medical history). Family medical history is included in the definition of genetic information because it is often used to determine whether someone has an increased risk of getting a disease, disorder, or condition in the future.

8. Conflict of Interest of Officers or Employees of the Local Jurisdiction, Members of the Local Governing Body, or Other Public Officials

No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who exercises any function or responsibility with respect to this contract, during his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed. Further, the contractor shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.

9. Utilization of Minority and Women Firms (M/WBE)

The contractor shall take all necessary affirmative steps to assure that M/WBE firms are utilized when possible as suppliers and/or subcontractors, as applicable. Prior to contract award, the contractor shall document efforts to utilize M/WBE firms, including identifying what firms were solicited as suppliers and/or subcontractors, as applicable. Information regarding certified M/WBE firms can be obtained from:

- Florida Department of Management Services, Office of Supplier Diversity,
- Florida Department of Transportation (construction services, particularly highway),
- Minority Business Development Center in most major cities, and
- Local government M/WBE programs in many large counties and cities.

A firm recognized as an M/WBE by any of the above agencies is acceptable for the CDBG program.

Additional Specific Requirement for Contractor/Subcontractors – WMBE solicitations

The State of Florida Department of Commerce (FLORIDACOMMERCE) has advised in its recent monitorings that the grantee and its contractors and subcontractors are required to solicit for woman and minority businesses (WMBE) when hiring for Community Development Block Grant (CDBG) activities. Additionally, FLORIDACOMMERCE has advised that the State has a website that has lists of WMBE certified firms by County that should be used when this solicitation is carried out. FLORIDACOMMERCE has also advised that the grantee, contractors and subcontractors should use not only the list for the County in which the project is taking place but all adjoining counties as well. Following this page, you will find that list. You are advised to use this list to create a mass-mailing email to send your Invitation to Bid/Request for Proposal or whatever document you use to advise firms that you have a project that you are looking for firms to bid on. You should require a return reply and keep a copy of the sent email and replies. Copies should also be sent to the grantee. Any questions concerning this requirement can be directed to your grant contact at the local government or the grantee's consultant.

10. Federal Labor Standards Provisions

(Davis-Bacon Act, Copeland Act, and Contract Works Hours & Safety Standards Act) The Project to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. (1) (a) Minimum Wages. All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction

or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b) (i) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits; therefore, only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, employment Standards Administration, U. S. Department of Labor, Washington, D. C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(iii) In the event that the Contractor, the laborers or mechanics to be employed in the Classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designed for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that the additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (b)(ii) or (iii) of this paragraph, shall be paid to all workers performing work in

the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account asset for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(2) Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD, or its designee may, after written notice to the contractor, sponsor, applicant, or owners, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017).

(b) (i) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owners, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(I). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U. S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.5 (a)(3)(I) and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either

directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Option Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph A(3)(b)(ii) of this section

(iv) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(c) The contractor or subcontractor shall make the records required under paragraph A(3)(a) of this section available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

(4) (a) Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U. S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program, shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with the determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and

individually registered in a program which has received prior approval, evidenced by formal certification by the
U. S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program the contract will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(5) Compliance with Copeland Act Requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contract shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

(7) Contract Termination, Debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3 and 5 are herein incorporated by referenced in this contract.

(9) Disputes Concerning Labor Standards**.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U. S. Department of Labor (USDOL)set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the USDOL, or the employees or their representatives.

(10) (a) Certification of Eligibility. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 USC 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, USC, "Federal Housing Administration transactions", provides in part "Whoever, for the purpose of ... influencing in any way the action of such Administration ... makes, utters or publishes any statement, knowing the same to be false ... shall be fined not more than $5,000 or imprisoned not more than two years, or both."

(11) Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this contract are applicable shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this contract to his employer.

B. Contract Work Hours and Safety Standards Act. As used in the paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act , which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54.83 State 96).

(3) The contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any

subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

11. Guidance to Contractor for Compliance with Labor Standards Provisions

A. Contracts with Two Wage Decisions

If the contract includes two wage decisions, the contractor, and each subcontractor who works on the site, must submit either two separate payrolls (one for each wage decision) or one payroll which identifies each worker twice and the hours worked under each wage decision. One single payroll, reflecting each worker once, may be submitted provided the Contractor uses the higher rate in the wage decisions for each identical job classification. However, where a job classification is not listed in a wage decision and is needed for that portion of the work, the classification **must** be added to the wage decision. A worker may not be paid at the rate for a classification using the hourly rate for that same classification in another wage decision. After the additional classification is approved, the contractor may pay the higher of the two rates and submit one payroll, if desired.

B. Complying with Minimum Hourly Amounts

(1) The minimum hourly amount due to a worker in each classification is the total of the amounts in the "Rates" and "Fringe Benefits" (if any) columns of the applicable wage decision.

(2) The contractor may satisfy this minimum hourly amount by any combination of cash and bona fide fringe benefits, regardless of the individual amounts reflected in the "Rates" and "Fringe Benefits" columns.

(3) A contractor payment for a worker which is required by law is not a fringe benefit in meeting the minimum hourly amount due under the applicable wage decision. For example, contractor payments for FICA or unemployment insurance are not a fringe benefit; however, contractor payments for health insurance or retirement are a fringe benefit. Generally, a fringe benefit is bona fide if (a) it is available to most workers and (b) involves payments to a third party.

(4) The hourly value of the fringe benefit is calculated by dividing the contractor's annual cost (excluding any amount contributed by the worker) for the fringe benefit by 2080. Therefore, for workers with overtime, an additional payment may be required to meet the minimum hourly wages since generally fringe benefits have no value for any time worked over 40 hours weekly. (If a worker is paid more than the minimum rates required by the wage decision, this should not be a problem. As long as the total wages received by a worker for straight time equals the hours worked times the minimum hourly rate in the wage decision, the requirement of the Davis-Bacon and Related Acts has been satisfied.)

C. Overtime

For any project work over 40 hours weekly, a worker generally must be paid 150% of the actual hourly cash rate received, not the minimum required by the wage decision. (The Davis-Bacon and related acts only establish minimum rates and does not address overtime; the Contract Work Hours Act contains the overtime requirement and uses "basic rate of pay" as the base for calculation, not the minimum rates established by the Davis-Bacon and related acts.)

D. Deductions

Workers who have deductions, not required by law, from their pay must authorize these deductions in writing. The authorization must identify the purpose of each deduction and the amount, which may be a specific dollar amount or a percentage. A copy of the authorization must be submitted with the first payroll containing the deduction. If deducted amounts increase, another authorization must be submitted. If deducted amounts decrease, no revision to the original authorization is needed. Court-ordered deductions, such as child support, may be identified by the responsible payroll person in a separate document. This document should identify the worker, the amount deducted and the purpose. A copy of the court order should be submitted.

E. Classifications Not Included in the Wage Decision

If a classification not in the wage decision is required, please advise the owner's representative in writing and identify the job classification(s) required. In some instances, the State agency may allow the use of a similar classification in the wage decision.

Otherwise, the contractor and affected workers must agree on a minimum rate, which cannot be lower than the lowest rate for any trade in the wage decision. Laborers (including any subcategory of the laborer classification) and truck drivers are not considered a trade for this purpose. If the classification involves a power equipment operator, the minimum cannot be lower than the lowest rate for any power equipment operator in the wage decision. The owner will provide forms to document agreement on the minimum rate by the affected workers and contractor.

The USDOL must approve the proposed classification and rate. The contractor may pay the proposed rate until the USDOL makes a determination. Should the USDOL require a higher rate, the contractor must make wage restitution to the affected worker(s) for all hours worked under the proposed rate.

F. Supervisory Personnel

Foremen and other supervisory personnel who spend at least 80% of their time supervising workers are not covered by the Davis-Bacon and Related Acts. Therefore, a wage decision will not include such supervisory classifications and their wages are not subject to any minimums under the Davis-Bacon and Related Act or overtime payments under the Contract Work Hours and Safety Standards Act. However, foremen and other supervisory personnel who spend less than 80% of their time engaged in supervisory activities are considered workers/mechanics for the time spent engaged in manual labor and must be paid at least the minimum in the wage decision for the appropriate classification(s) based on the work performed.

G. Sole Proprietorships/Independent Contractors/Leased Workers

The nature of the relationship between a prime contractor and a worker does not affect the requirement to comply with the labor standards provisions of this contract. The applicability of the labor standards provisions is based on the nature of the work performed.

If the work performed is primarily manual in nature, the worker is subject to the labor standards provisions in this contract. For example, if John Smith is the owner of ABC Plumbing and performs all plumbing work himself, then Mr. Smith is subject to the labor standards provisions, including minimum wages and overtime. His status as "owner" is irrelevant for labor standards purposes.

If a worker meets the IRS standards for being an independent contractor, and is employed as such, this means that the worker must submit a separate payroll as a subcontractor rather than be included on some other payroll. The worker is still subject to the labor standards provisions in this contract, including minimum wages and overtime.

If a contractor or subcontractor leases its workers, they are subject to the labor standards provisions in this contract, including minimum wages and overtime. The leasing firm must submit payrolls and these payrolls must reflect information required to determine compliance with the labor standards provisions of this contract, including a classification for each worker based on the nature of the work performed, number of regular hours worked, and number of overtime hours worked.

H. Apprentices/Helpers

A worker may be classified as an apprentice **only if participating in a federal or state program**. Documentation of participation must be submitted. Generally, the apprentice program specifies that the apprentice will be compensated at a percentage of the journeyman rate. For Davis-Bacon Act purposes, the hourly rate cannot be lower than the percentage of the hourly rate for the classification in the applicable wage decision.

If the worker does not participate in a federal or state apprentice program, then the worker must be classified according to duties performed. This procedure may require classification in the "trade" depending on tools used, or as a laborer if specialized tools of the trade are not used. The contractor may want to consult with the Wage and Hour Division of the U.S. Department of Labor located in most large cities regarding the appropriate classification.

Presently, no worker may be classified as a "helper". As with apprentices not participating in a formal apprentice program, the worker must be classified according to duties performed and tools used.

12. E-Verify

Contractors and subcontractors performing work funded by CDBG subgrants are required to enroll in the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees that they hire during the term of their contracts under Executive Order 11-116, signed by the Governor of Florida on May 27, 2011.

(a) E-Verify is an Internet-based system that allows businesses to determine the eligibility of their employees to work in the United States. A contractor or subcontractor that has not signed up for E-Verify and executed a memorandum of understanding with the Department of Homeland Security can enroll in the E-Verify system on the Department of Homeland Security's website listed below:

http://www.uscis.gov/e-verify/e-verify-enrollment-page

(b) Contractors and subcontractors shall enroll in the E-Verify system prior to hiring any new employee after the effective date of their contracts to perform work on CDBG-funded projects. The address for obtaining an Employer Memorandum of Understanding is:

http://www.uscis.gov/sites/default/files/USCIS/Verification/E-Verify/E-Verify_Native_Documents/MOU_for_E-Verify_Employer.pdf

(c) The Department of Homeland Security offers tutorials and other assistance at the web address below:

http://www.uscis.gov/e-verify/you-start

Additional Specific Requirement for Contractors/Subcontractors – Employment Eligibility Verification

Executive Order 11-116, signed May 27, 2011, by the Governor of Florida, requires Department of Commerce (FLORIDACOMMERCE) contracts in excess of nominal value to expressly require recipients to utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by recipient during the Agreement term. All prime contracts under the Agreement also requires that contractors and subcontractors performing work or providing services pursuant to the Agreement utilize the E-Verify system to verify the employment eligibility of all new employees hired by the contractors and subcontractors during the term of the contract.
E-Verify is an Internet-based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of all new employees hired to work in the United States after the effective date of the required Memorandum of Understanding (MOU). There is no charge to employers to use E-Verify. The Department of Homeland Security's E-Verify system can be found at:

https://www.dhs.gov/e-verify

If recipient does not have an E-Verify MOU in effect, recipient must enroll in the E-Verify system prior to hiring any new employee after the effective date of the Agreement.

Appendix
Minority Participation Goals

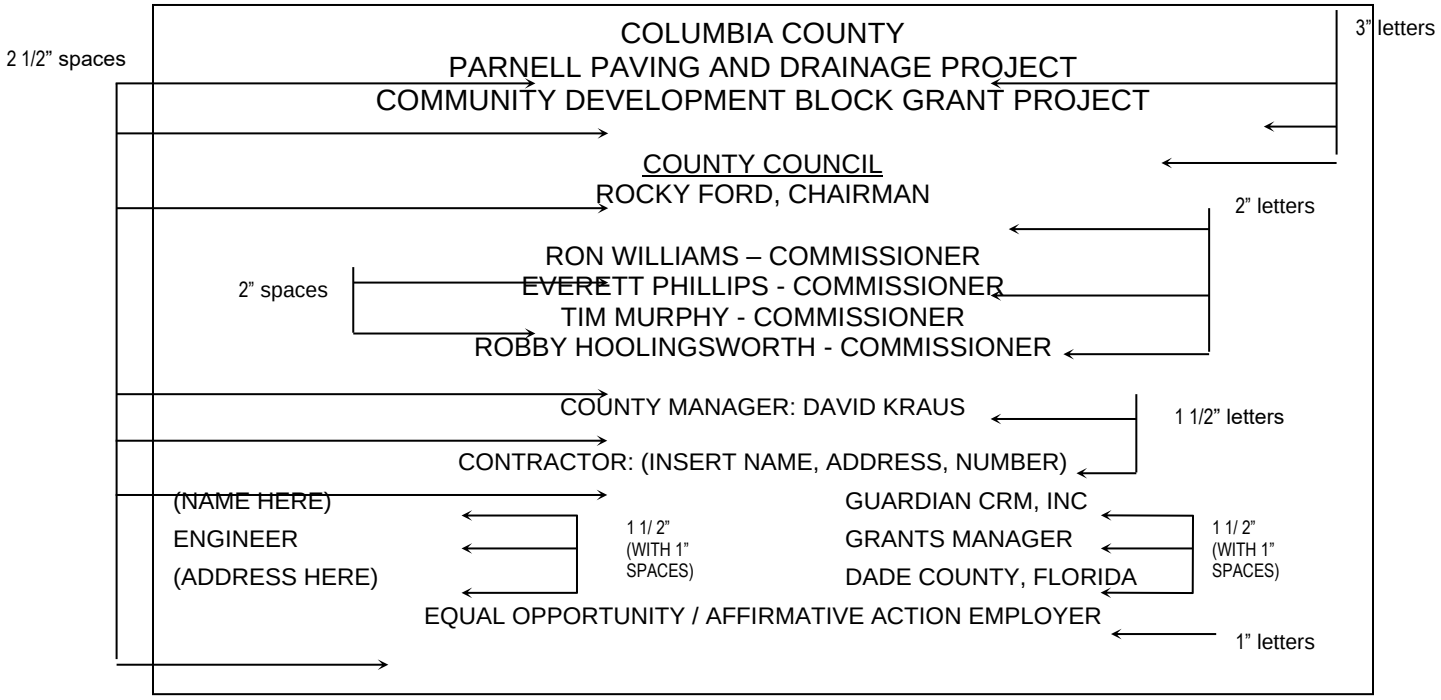
These are the goals, by county, for meeting the minority participation portion of Section 7-B(2)(b) of the CDBG Supplemental Conditions. These are contractor workforce goals, not goals for subcontracting to minority and women firms. Solicitation of minority and women firms as subcontractors is a separate federal requirement which the contractor must document compliance with.

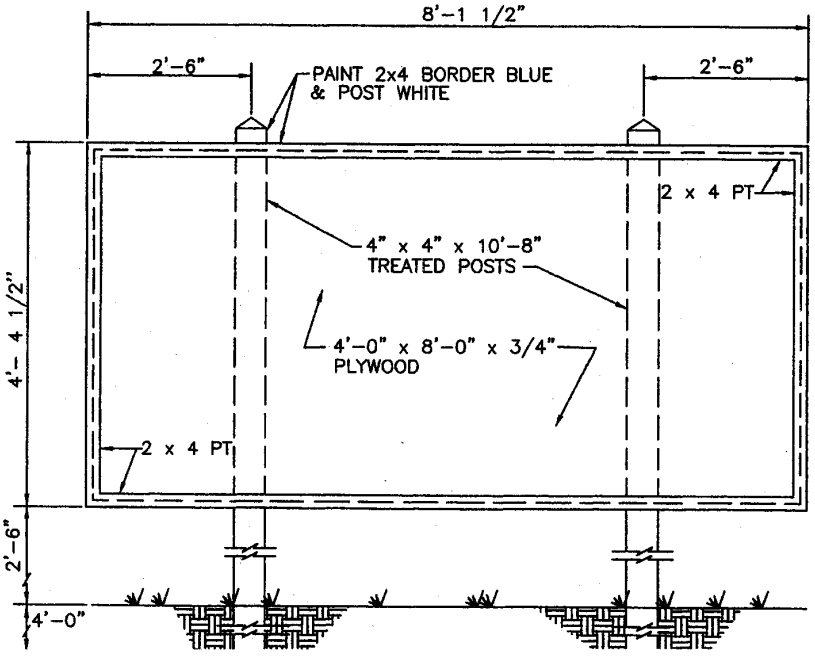
Tampa-St. Petersburg Area	Percentage
Hillsborough, Pinellas, Pasco	17.9
Charlotte, Citrus, Collier, DeSoto, Hardee, Hernando, & Highlands (all seven counties)	17.1
Lee	15.3
Manatee	15.9
Polk	18.0
Sarasota	10.5
Tallahassee Area	
Leon, Wakulla	24.3
Calhoun, Franklin, Gadsden, Jackson, Jefferson, Liberty, Madison, & Taylor (all eight counties)	29.5
Pensacola - Panama City Area	
Bay	14.1
Escambia, Santa Rosa	18.3
Gulf, Holmes, Okaloosa, Walton, & Washington (all five counties)	15.4
Jacksonville Area	
Alachua	20.6
Baker, Clay, Duval, Nassau, & St. Johns	21.8
Bradford, Columbia, Dixie, Gilchrist	22.2
Hamilton, Lafayette, Levy, Marion, Putnam, Suwannee, & Union (all 11 counties)	

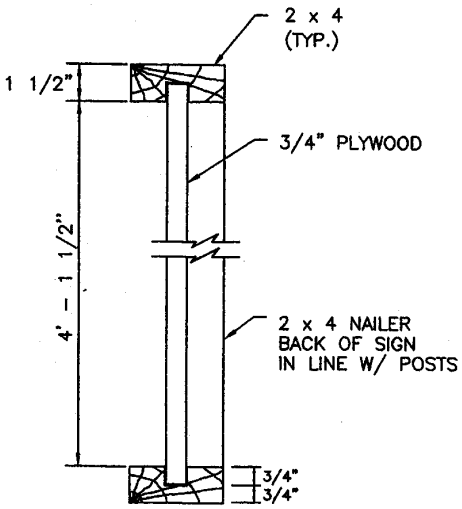
Orlando - Daytona Beach Area	Percentage
Volusia	15.7
Brevard	10.7
Orange, Osceola, & Seminole (all three counties)	15.5
Flagler, Lake, & Sumter (all three counties)	14.9
Miami - Fort Lauderdale Area	
Dade	39.5
Broward	15.5
Palm Beach	22.4
Glades, Hendry, Indian River, Monroe, Okeechobee, Martin, & St. Lucie (all seven counties)	30.4

LIST OF MBE FIRMS BY COUNTY

Blakeland Construction Services	Grace Walker	13568 NW 1st Lane	Jonesville	FL	352-872-5211	grace.walker@blakeland.us
Woodshire Construction	Melody Rich	1309 Ivywood Dr	Brandon	FL	(804) 548-6600	contact@woodshireconstruction.com
Cal-Tech Testing, Inc.	Abby Stalvey	Po Box 1625	Lake City	FL	386-755-3633	astalvey@caltechtesting.com
Oelrich Construction, Inc.	Julia Thomas	275 NW 137th Drive, Suite A	Jonesville	FL	352-745-7877	jthomas@oelrichconstruction.com
Oelrich Construction, Inc.	Ivan Oelrich	275 NW 137th Dr	Newberry	FL	(352) 745-7877	ivan@oelrichconstruction.com
Foresight Construction Group, Inc.	Juan Segarra	3917 NW 97TH BLVD	GAINESVILLE	FL	352-335-6352	jsegarra@foresightcgi.com
NICNEVOL ENGINEERING SERVICES	Webert Lovencin	3728 Philips Hwy	Jacksonville	FL	904-423-1083	wlovencin@nicnevol.com
Suwannee Contracting, LLC	Sara Manansala	30293 73rd Pl	Branford	FL	(352) 262-6803	saram2525@gmail.com


2 1/2" spaces
3" letters
COLUMBIA COUNTY
PARNELL PAVING AND DRAINAGE PROJECT
COMMUNITY DEVELOPMENT BLOCK GRANT PROJECT
COUNTY COUNCIL
ROCKY FORD, CHAIRMAN
2" letters
2" spaces
RON WILLIAMS – COMMISSIONER
EVERETT PHILLIPS - COMMISSIONER
TIM MURPHY - COMMISSIONER
ROBBY HOOLINGSWORTH - COMMISSIONER
COUNTY MANAGER: DAVID KRAUS
1 1/2" letters
CONTRACTOR: (INSERT NAME, ADDRESS, NUMBER)
(NAME HERE)
ENGINEER
(ADDRESS HERE)
1 1/ 2" (WITH 1" SPACES)
GUARDIAN CRM, INC
GRANTS MANAGER
DADE COUNTY, FLORIDA
1 1/ 2" (WITH 1" SPACES)
EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER
1" letters


8'–1 1/2"
2'–6"
PAINT 2x4 BORDER BLUE & POST WHITE
2'–6"
2 x 4 PT
4" x 4" x 10'–8" TREATED POSTS
4'–0" x 8'–0" x 3/4" PLYWOOD
2 x 4 PT
4'– 4 1/2"
2'–6"
4'–0"


2 x 4 (TYP.)
1 1/2"
3/4" PLYWOOD
4' – 1 1/2"
2 x 4 NAILER BACK OF SIGN IN LINE W/ POSTS
3/4"
3/4"

DIVISION 0

ENGINEER-PROVIDED
BIDDING AND CONTRACT REQUIREMENTS

SECTION 00100
ADVERTISEMENT FOR BID
Bid No. XXXX-XX

PROJECT: Columbia County
Parnell Hills Residential Subdivision Paving and Drainage

OWNER: Columbia County
Mr. Chad Williams, PE – County Engineer
135 NE Hernando Avenue
Lake City, Florida 32056-1529
Telephone: (386) 623-2452

ENGINEER: Jones Edmunds & Associates, Inc.
Brian A. Thomas, PE – Engineer of Record (EOR)
730 NE Waldo Road
Gainesville, Florida 32641
Telephone: (352) 377-5821

1.0 WORK DESCRIPTION

The Project is at Parnell Hills, Lake City, Florida 32025.

The Work is generally described as paving the Parnell Hills Subdivision, drainage improvements, and all associated earthwork and stabilization.

The work generally includes but is not limited to the following:

Clearing and grubbing, grading, stabilizing, limerock base, asphaltic concrete, driveway improvements, culverts, grassing, erosion control, and incidental items.

All work shall be in accordance with the Construction Drawings, Specifications, and Contract Documents.

2.0 RECEIPT OF BIDS

Bidding and Contract Documents may be examined upon registering at the County's web portal at the following link:

https://www.columbiacountyfla.com/PurchasingBids.asp

To ensure that Bidders receive all addenda and/or clarifications to the Bidding Documents in a timely manner, it is mandatory that all bidders obtain at least one set of Bidding Documents from

the County to be eligible to bid on this project; electronic copies of the documents may be obtained through the County's web portal. Once a Bidder registers at the above link, all subsequent addenda will be issued via email unless the Bidder requests otherwise. Email BCCpurchasing@columbiacountyfla.com for further details and to obtain a set of Contract Documents.

Bids shall be completed on the enclosed Bid Form as set forth in the Instructions to Bidders and otherwise be in compliance with the Bidding Documents. Sealed bids will be received at the Columbia County Purchasing Department until X:XX P.M. (local time) on XXXX XX, 2023, at which time and place all bids will be opened. Any Bids received after the specified time and date will not be considered.

A **non-mandatory** pre-bid conference will be held on XXXX XX, 2023, at X:XX P.M. at: Duval Place, 971 West Duval Street, Suite 150, Lake City, Florida 32055. Owner/Engineer strongly recommends Bidders to participate in the pre-bid conference. Only prospective bidders on the Engineer's plan holders list may submit a bid.

For further information or clarification, email BCCpurchasing@columbiacountyfla.com

END OF SECTION

SECTION 00200
INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

B. *Work and Project*—The work/project as described in Paragraph 1.0 of Section 00100, Advertisement for Bid.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents stated in the advertisement or invitation to bid may be obtained by registering at the County's web portal at the following link:

https://www.columbiacountyfla.com/PurchasingBids.asp

Once a Bidder registers at the above link, all subsequent addenda will be provided via email.

2.02 To assure that Bidders receive all addenda and or clarifications to the Bidding Documents in a timely manner, it is mandatory that all bidders obtain at least one set of Bidding Documents from the County (Owner) to be eligible to bid on this project. Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in providing electronic copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

2.04 Only bona fide general contractors, subcontractors, suppliers, individuals, or entity will be issued Bidding Documents. The requestor may be required to identify general contractor(s) that they are affiliated with or plan to submit a quote to. The Issuing Office reserves the right to investigate the intent of use of the Bidding Documents. If the Issuing Office determines that the requestor intends to use the Bidding Documents for any purpose other than bidding the Project, the request for Bidding Documents will be denied.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 A. To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for in Section 00450, Construction Contractor's Qualification Statement for Engineered Construction.

B. Bidders shall provide State of Florida Contractor's License Number.

3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 *Subsurface and Physical Conditions*

A. The Supplementary Conditions identify:

1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.

2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder as additional information as part of the Bidding Documents. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph 5.03 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others. Bidder is responsible for verifying the existence, location, depth, and type of utility.

4.03 *Hazardous Environmental Condition*

A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site, that Engineer has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder as additional information as part of the Bidding Documents. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph 5.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.06 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.06 A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work described by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.

B. Paragraph 7.13.G of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;

B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 5.06 of the Supplementary Conditions as containing reliable "technical data";

E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder’s safety precautions and programs;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work; and

J. correlate the information known to the Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and

all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – PRE-BID CONFERENCE

5.01 A **non-mandatory** pre-Bid conference will be held at *X:XX p.m.* local time on *XXXX XX, 2023* at Duval Place, 971 West Duval Street, Suite 150, Lake City, Florida 32055. Representatives of Owner and Engineer will be present to discuss the Project. Owner/Engineer strongly recommends Bidders to participate in the pre-bid conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Addenda will be issued via email unless the Bidder requests otherwise. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 – SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to the Owner in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda emailed to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than 10 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 – BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 6.01.C and 6.01.D of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 121 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) finally completed and ready for final payment are set forth in Section 00410, Bid Form.

ARTICLE 10 – LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or those substitute or "or-equal" materials and equipment approved by Engineer and identified on the Bid Form. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or "or-equal" item. No item of

material or equipment will be considered by Engineer as a substitute or "or-equal" unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Paragraphs 7.05 and 7.06 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.07 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – PREPARATION OF BID

13.01 To assure that Bidders receive all addenda and/or clarifications to the Bidding Documents in a timely manner, it is mandatory that all bidders obtain at least one set of Bidding Documents from the Issuing Office to be eligible to bid on this project. The Bid form

included in these Bidding Documents shall be used by the Bidder. Additional copies may be obtained from the Issuing Office.

13.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein. In the case of optional alternatives, the words "No Bid," "No Change," or "Not Applicable" may be entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.08 All names shall be printed in ink below the signatures**.**

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located. The Bidder shall also be a state-certified Contractor in good standing and hold current registration with the Florida Construction Industry Licensing Board of the State Department of Professional Regulation. The type of license must be in a class that is related to the general nature of the construction to be performed on this project. The Bidder's State Contractor's license number for the state of the project shall be shown on the Bid form.

ARTICLE 14 – BASIS OF BID; COMPARISON OF BIDS

14.01 *Lump Sum*

A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

14.02 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.03 *Allowances*

A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

15.01 Each prospective Bidder is furnished with one copy of the Bidding Documents.

15.02 *The following documents shall be submitted with and made a part of the Bid:*

A. Required Bid security in the form of a certified check or Bid Bond (Section 00430).

B. Tabulation of Subcontractors and Suppliers (Section 00431).

C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.

D. Contractor’s License No.: _____.

E. Florida Trench Safety Act Certification (Section 00440).

F. Construction Contractor’s Qualification Statement for Engineered Construction (Section 00450).

G. Sworn Statement under Section 287.133(3)(A), Florida Statutes, on Public Entity Crimes (Section 00451).

H. Bidder's Statement of Disputes, Litigation, Arbitration, and Surety Completion, Last Three (3) Years (Section 00452).

I. Noncollusion Affidavit (Section 00453).

J. Drug-Free Workplace Certificate (Section 00454).

K. List of Project References.

L. Conflict of Interest Statement.

M. E-Verify.

15.03 A Bid shall be submitted in duplicate no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to Columbia County Purchasing Department, 135 NE Hernando Avenue, Suite 203, Lake City, Florida 32055.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Owner.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and

insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

20.02 Provisions for indemnification by the Contractor are set forth in the Agreement, in Paragraph 7.18 of the General Conditions, as amended by the Supplementary Conditions, and are incorporated here by reference.

ARTICLE 21 – SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 10 days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

END OF SECTION

SECTION 00410
BID FORM

PROJECT ID: Columbia County
Parnell Hills Residential Subdivision Paving and Drainage

ARTICLE 1 – BID RECIPIENT

1.01 THIS BID IS SUBMITTED TO:

Columbia County Purchasing Department
135 NE Hernando Avenue, Suite 203
Lake City, Florida 32056-1529
Phone: (386) 719-2028
Email: BCCpurchasing@columbiacountyfla.com

County Bid No.: XXXX-XX
Jones Edmunds Project No.: 03780-002-01

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-5.03 as containing reliable "technical data".

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

J. Bidder certifies Bidder's authority and qualification to do business in the state where the Project is located, that the Bidder is a state-certified Contractor in good standing and holds current registration with the Florida Construction Industry Licensing Board of the Florida Department of Professional Regulation, that the type of license is in a class that authorizes the Bidder to perform the general nature of the construction to be

performed on this project, and that the Bidder's State Contractor's license number for the state of the project is shown on the Bid form.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1	Mobilization, Demobilization, and General Conditions	Lump Sum		$	$

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
2	Environmental Protection	Lump Sum		$	$
3	Construction Surveying and As-Built Drawings	Lump Sum		$	$
4	Sitework	Lump Sum		$	$
5	Stormwater System	Lump Sum		$	$
6	Paving and Signage	Lump Sum		$	$
	Total of All Base Bid Item Prices				**$**

Bidder certifies that Unit Prices have been computed in accordance with Paragraph 13.02 of the General Conditions.

Bidder shall submit its Bid on the basis of the Base Bid and shall provide a separate Bid price for each additive alternative, if any, described in the Bidding Documents and as provided for on the Bid Form.

For determination of the apparent low Bidder, Bids will be compared on the basis of the aggregate amount of the Base Bid, plus any combination of the alternates as determined by the Owner.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the form of Agreement contained within the Bidding Documents.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a part of this Bid:

A. Required Bid security in the form of a certified check or Bid Bond (Section 00430).

B. Tabulation of Subcontractors and Suppliers (Section 00431).

C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.

D. Contractor's License No.: _____.

E. Florida Trench Safety Act Certification (Section 00440).

F. Construction Contractor's Qualification Statement for Engineered Construction (Section 00450).

G. Sworn Statement under Section 287.133(3)(A), Florida Statutes, on Public Entity Crimes (Section 00451).

H. Bidder's Statement of Disputes, Litigation, Arbitration, and Surety Completion, Last Three (3) Years (Section 00452).

I. Noncollusion Affidavit (Section 00453).

J. Drug-Free Workplace Certificate (Section 00454).

K. List of Project References.

L. Conflict of Interest Statement.

M. E-Verify.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____
(SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability):_____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in Florida is ____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____

State Contractor License No. _____

END OF SECTION

SECTION 00430
BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name and Include Location)*:

BOND

Bond Number:

Date *(Not earlier than Bid due date)*:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
_____	_____
Title	Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

SECTION 00431
TABULATION OF SUBCONTRACTORS AND SUPPLIERS

The Undersigned states that the following is a full and complete list of the proposed subcontractors and suppliers on this Project and the class of work to be performed by each and that such list will not be added to nor altered without written consent to the Owner through the Engineer.

	SUBCONTRACTOR OR SUPPLIER AND ADDRESS	**CLASS OF WORK OR MATERIAL**
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		

BIDDER:_____

By:_____

Name:_____

Title:_____

Date:_____

SECTION 00440
FLORIDA TRENCH SAFETY ACT CERTIFICATION

The Bidder acknowledges that included in the various items of the proposal and in the Total Bid Price are costs for complying with the most current version of the Florida Trench Safety Act (90-96, Laws of Florida). The Bidder further identifies the costs to be summarized below:

	Cost
1. Trench Safety Act Compliance	$ _____
2. Special Shoring	$ _____

Identify method of compliance for Item #1: _____

_____

Identify or attach a copy of Special Shoring Requirements for Item #2: _____

_____

The undersigned certifies that he/she is the Contractor who will perform the trench excavation for this project and hereby gives written assurance that Contractor will comply with the applicable trench safety standards specifically set forth in Florida's Trench Safety Act (90-96, Laws of Florida).

BIDDER: _____

By: _____

Name: _____

Title: _____

Sworn to and subscribed before me this _____ day of _____, 20___.

_____
Notary Public

My Commission Expires: _____

SECTION 00450

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION

This qualification statement was developed by AGC of America in cooperation with the Engineers Joint Contract Documents Committee (EJCDC) which recommend its use as a suggested generic prequalification statement or a contract-specific qualification statement. In the latter case, the owner or engineer may wish to make appropriate supplemental inquires.

The Engineers Joint Contract Documents Committee consists of representatives of the following organizations:

National Society of Professional Engineers
American Consulting Engineers Council
American Society of Civil Engineers
Construction Specifications Institute

Submitted by:

Name of Organization _____

Name of Individual _____

Title _____

Address _____

_____

_____

Telephone _____

AGC DOCUMENT NO. 220 CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION,
© 1990, The Associated General Contractors of America.

Submitted to:

Name _____

Address _____

_____

_____

Telephone _____

Project Name and Description (if applicable)

_____

_____

_____

_____

Contractor's General Business Information

Check If:

☐ Corporation ☐ Partnership ☐ Joint Venture ☐ Sole Proprietorship

If Corporation:

a. Date and State of Incorporation

_____

_____

b. List of Executive Officers

Name	Title

AGC DOCUMENT NO. 220 • CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION,
© 1990, The Associated General Contractors of America.

If Partnership:

a. Date and State of Organization

_____

_____

b. Names of Current General Partners

_____

_____

c. Type of Partnership

☐ General ☐ Publicly Traded

☐ Limited ☐ Other (describe): _____

If Joint Venture:

a. Date and State of Organization

_____

_____

b. Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *)

_____

_____

_____

_____

_____

If Sole Proprietorship:

a. Date and State of Organization

_____

_____

b. Name and Address of Owner or Owners

_____

_____

_____

_____

AGC DOCUMENT NO. 220 • CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION,
© 1990, The Associated General Contractors of America.

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If joint venture list each participant's projects separately).

2. On Schedule B, attached, list current projects under construction by this organization. (If joint venture, list each participant's projects separately).

3. Name of surety company and name, address, and phone number of agent.

_____

_____

_____

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563?
☐ Yes ☐ No

If yes, show names and addresses of affiliated companies.

_____

_____

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.

6. Has your organization ever failed to complete any construction contract awarded to it? ☐ Yes ☐ No

If yes, describe circumstances on attachment.

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization?
☐ Yes ☐ No

If yes, describe circumstances on attachment.

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner?
☐ Yes ☐ No

If yes, describe circumstances on attachment.

9. Indicate general types of work performed with your own work force.

_____

_____

10. If required, can your organization provide a bid bond for this project? ☐ Yes ☐ No

11. What is your approximate total bonding capacity?

☐ $500,000 to $2,000,000

☐ $2,000,000 to $5,000,000

☐ $5,000,000 to $10,000,000

☐ $10,000,000 or more

3C DOCUMENT NO. 220 • CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION, 1990, The Associated General Contractors of America.

12. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.

_____

_____

_____

_____

13. Furnish the following information with respect to an accredited banking institution familiar with your organization.

Name of Bank _____

Address _____

_____

_____

Account Manager _____

Telephone _____

I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

_____

By: _____

Title: _____

Dated: _____

AGC DOCUMENT NO. 220 • CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION,
© 1990, The Associated General Contractors of America.

SCHEDULE A

Name, Location and Description of Project	Owner	Design Engineer	Date Completed	Contract Price	Reference/Contact Include Address and Phone

SCHEDULE B

Name, Location and Description of Project	Owner	Design Engineer	Contract Price	Amount Completed	Date of Scheduled Completion	Reference/Contact Include Address and Phone

SCHEDULE C - PERSONNEL

Name	Position	Date started with this organization	Date started in construction	Prior positions and experience in construction

SECTION 00451
SWORN STATEMENT UNDER SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(To be signed in the presence of a notary public or other officer authorized to administer oaths.)

STATE OF _____

COUNTY OF _____

Before me, the undersigned authority, personally appeared _____, who, being by me first duly sworn, made the following statement:

1. The business address of _____
(firm name of Bidder/Contractor)

is _____.

2. My relationship to _____
(firm name of Bidder/Contractor)

is _____ .
(relationship such as sole proprietor, partner, president, vice president)

3. I understand that a "public entity crime" as defined in Section 287.133 of the Florida Statutes includes a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

4. I understand that "convicted" or "conviction" is defined by the statute to mean a finding of guilt or a conviction of a public entity crime, with or without adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

5. I understand that "affiliate" is defined by the statute to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime; or (2) an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime; or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate; or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.

6. Neither the Bidder/Contractor nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the Bidder/Contractor, nor any affiliate of the Bidder/Contractor, has been convicted of public entity crime subsequent to July 1, 1989.

(Draw a line through Paragraph 6 if Paragraph 7 below applies.)

7. There has been a conviction of a public entity crime by the Bidder/Contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the Bidder/Contractor who is active in the management of the Bidder/Contractor or an affiliate of the Bidder/Contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is_____.

A copy of the order of the Division of Administrative Hearings is attached to this statement.

(Draw a line through Paragraph 7 if Paragraph 6 above applies.)

_____
(Signature)

Sworn to and subscribed to before me in the State and County first mentioned above on the _____day of _____, 20____ .

_____
Notary Public

(affix seal)

_____
My commission expires

SECTION 00452
BIDDER'S STATEMENT OF DISPUTES, LITIGATION,
ARBITRATION, AND SURETY COMPLETION
LAST THREE (3) YEARS

PROJECT	NAME AND ADDRESS OF OWNER OR ENGINEER	NAME AND PHONE OF OWNER OR ENGINEER REPRESENTATIVE	DATE OF CONTRACT	AMOUNT	STATUS

(Signed)_____

SECTION 00453

NONCOLLUSION AFFIDAVIT

TO: The _____, herein called the "Owner."

Pursuant to bidding requirements for the work titled "_____
_____,"

the enclosed contract documents shall be provided to the Owner.

State of _____

County of _____

_____, being first duly
(Officer's Name)

sworn, deposes, and says that:

A. He\She is _____ (officer's title) of _____(company name), the Bidder that has submitted the attached bid;

B. He\She is fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;

C. Such bid is genuine and is not a collusive or sham bid;

D. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm, or person to submit a collusive or sham bid in connection with the contract for which the attached bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm, or person to fix the price or prices in the attached bid or of any other Bidder, or to fix any overhead, profit, or cost element of the bid price or the bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the _____ or any person interested in the proposed contract; and

E. The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

_____

Subscribed and sworn to before me
this _____ day of _____, 20_____

_____
Notary Public

My commission expires _____

SECTION 00454
DRUG-FREE WORKPLACE CERTIFICATE

I, the undersigned, in accordance with Florida Statute 287.087, hereby certify that _____
_____(Print or Type Name of Firm)

- ☐ Publishes a written statement notifying that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace named above, and specifying actions that will be taken against violations of such prohibition.

- ☐ Informs employees about the dangers of drug abuse in the workplace; the firm's policy of maintaining a drug-free working environment and available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug-use violations.

- ☐ Gives each employee engaged in providing commodities or contractual services that are under bid or proposal a copy of the statement specified above.

- ☐ Notifies the employees that as a condition of working on the commodities or contractual services under bid or proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of or plea of guilty or nolo contendere to any violation of Chapter 1893 or any controlled substance law of the State of Florida or the United States for a violation occurring in the workplace, no later than 5 days after such conviction, and requires employees to sign copies of such written statement to acknowledge their receipt.

- ☐ Imposes a sanction on or requires the satisfactory participation in a drug-abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.

- ☐ Makes a good faith effort to continue to maintain a drug-free workplace through the implementation of the drug-free workplace program.

"As a person authorized to sign this statement, I certify that the business, firm, or corporation named above complies fully with the requirements set forth herein."

_____
Authorized Signature

_____
Date Signed

State of: _____

County of: _____

Sworn to and subscribed before me this __ day of _____, 20___

Personally known __ or Produced Identification _____
(Specify Type of Identification)

_____
Signature of Notary

My Commission Expires_____

SECTION 00614

Public Work

F.S. Chapter 255.05 (1)(a)

Cover Page

THIS BOND IS GIVEN TO COMPLY WITH SECTION 255.05 OR SECTION 713.23 FLORIDA STATUTES, AND ANY ACTION INSTITUTED BY A CLAIMANT UNDER THIS BOND FOR PAYMENT MUST BE IN ACCORDANCE WITH THE NOTICE AND TIME LIMITATION PROVISIONS IN SECTION 255.05(2) OR SECTION 713.23 FLORIDA STATUTES.

BOND NO: _____

CONTRACTOR NAME: _____

CONTRACTOR ADDRESS: _____

_____

CONTRACTOR PHONE NO: _____

SURETY COMPANY: _____

_____

_____

OWNER NAME: Columbia County_____

OWNER ADDRESS: 135 NE Hernando Avenue _____

Lake City, Florida 32055 _____

OWNER PHONE NO.: 386-758-5405 _____

OBLIGEE NAME: (If contracting entity is different from the owner, the contracting public entity) _____

OBLIGEE ADDRESS: _____

_____

OBLIGEE PHONE NO.: _____

BOND AMOUNT: _____

CONTRACT NO.: (If applicable) _____

DESCRIPTION OF WORK: _____

_____

PROJECT LOCATION: Parnell Hills _____

Lake City, Florida 32025 _____

LEGAL DESCRIPTION: (If applicable) _____

_____

FRONT PAGE

All other bond page(s) are deemed subsequent to this page regardless of any page number(s) that may be printed therein.

END OF SECTION

SECTION 00625
CERTIFICATE OF SUBSTANTIAL COMPLETION

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:

This Tentative **Certificate of Substantial Completion applies to:**

☐ All Work under the Contract Documents: ☐ The following specified portions of the Work:

_____

_____

_____

_____

_____
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A Tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities ☐ Not Amended

Owner's Amended Responsibilities:

_____

_____

_____

_____

Contractor's Amended Responsibilities:

_____

_____

_____

_____

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer	Date
Accepted by Contractor	Date
Accepted by Owner	Date

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

ACEC
AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

NSPE®
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed By

CSI®
Building Knowledge
Improving Project Delivery

NUCA
We Dig America

EJCDC® C-700, Standard General Conditions of the Construction Contract.
Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Copyright© 2018

National Society of Professional Engineers

1420 King Street, Alexandria, VA 22314-2794

(703) 684-2882

www.nspe.org

American Council of Engineering Companies

1015 15th Street N.W., Washington, DC 20005

(202) 347-7474

www.acec.org

American Society of Civil Engineers

1801 Alexander Bell Drive, Reston, VA 20191-4400

(800) 548-2723

www.asce.org

The copyright for this EJCDC document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

Page

Article 1—Definitions and Terminology 1
1.01 Defined Terms 1
1.02 Terminology 6
Article 2—Preliminary Matters 7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance 7
2.02 Copies of Documents 7
2.03 Before Starting Construction 7
2.04 Preconstruction Conference; Designation of Authorized Representatives 8
2.05 Acceptance of Schedules 8
2.06 Electronic Transmittals 8
Article 3—Contract Documents: Intent, Requirements, Reuse 9
3.01 Intent 9
3.02 Reference Standards 9
3.03 Reporting and Resolving Discrepancies 10
3.04 Requirements of the Contract Documents 10
3.05 Reuse of Documents 11
Article 4—Commencement and Progress of the Work 11
4.01 Commencement of Contract Times; Notice to Proceed 11
4.02 Starting the Work 11
4.03 Reference Points 11
4.04 Progress Schedule 12
4.05 Delays in Contractor's Progress 12
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions 13
5.01 Availability of Lands 13
5.02 Use of Site and Other Areas 14
5.03 Subsurface and Physical Conditions 15
5.04 Differing Subsurface or Physical Conditions 16

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5.05 Underground Facilities 17
5.06 Hazardous Environmental Conditions at Site 19
Article 6—Bonds and Insurance 21
6.01 Performance, Payment, and Other Bonds 21
6.02 Insurance—General Provisions 22
6.03 Contractor's Insurance 24
6.04 Builder's Risk and Other Property Insurance 25
6.05 Property Losses; Subrogation 25
6.06 Receipt and Application of Property Insurance Proceeds 27
Article 7—Contractor's Responsibilities 27
7.01 Contractor's Means and Methods of Construction 27
7.02 Supervision and Superintendence 27
7.03 Labor; Working Hours 27
7.04 Services, Materials, and Equipment 28
7.05 "Or Equals" 28
7.06 Substitutes 29
7.07 Concerning Subcontractors and Suppliers 31
7.08 Patent Fees and Royalties 32
7.09 Permits 33
7.10 Taxes 33
7.11 Laws and Regulations 33
7.12 Record Documents 33
7.13 Safety and Protection 34
7.14 Hazard Communication Programs 35
7.15 Emergencies 35
7.16 Submittals 35
7.17 Contractor's General Warranty and Guarantee 38
7.18 Indemnification 39
7.19 Delegation of Professional Design Services 39
Article 8—Other Work at the Site 40
8.01 Other Work 40
8.02 Coordination 41
8.03 Legal Relationships 41

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Article 9—Owner's Responsibilities 42
9.01 Communications to Contractor 42
9.02 Replacement of Engineer 42
9.03 Furnish Data 42
9.04 Pay When Due 42
9.05 Lands and Easements; Reports, Tests, and Drawings 43
9.06 Insurance 43
9.07 Change Orders 43
9.08 Inspections, Tests, and Approvals 43
9.09 Limitations on Owner's Responsibilities 43
9.10 Undisclosed Hazardous Environmental Condition 43
9.11 Evidence of Financial Arrangements 43
9.12 Safety Programs 43
Article 10—Engineer's Status During Construction 44
10.01 Owner's Representative 44
10.02 Visits to Site 44
10.03 Resident Project Representative 44
10.04 Engineer's Authority 44
10.05 Determinations for Unit Price Work 45
10.06 Decisions on Requirements of Contract Documents and Acceptability of Work 45
10.07 Limitations on Engineer's Authority and Responsibilities 45
10.08 Compliance with Safety Program 45
Article 11—Changes to the Contract 46
11.01 Amending and Supplementing the Contract 46
11.02 Change Orders 46
11.03 Work Change Directives 46
11.04 Field Orders 47
11.05 Owner-Authorized Changes in the Work 47
11.06 Unauthorized Changes in the Work 47
11.07 Change of Contract Price 47
11.08 Change of Contract Times 49
11.09 Change Proposals 49
11.10 Notification to Surety 50

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Article 12—Claims 50
12.01 Claims 50
Article 13—Cost of the Work; Allowances; Unit Price Work 51
13.01 Cost of the Work 51
13.02 Allowances 55
13.03 Unit Price Work 55
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work 56
14.01 Access to Work 56
14.02 Tests, Inspections, and Approvals 56
14.03 Defective Work 57
14.04 Acceptance of Defective Work 58
14.05 Uncovering Work 58
14.06 Owner May Stop the Work 58
14.07 Owner May Correct Defective Work 59
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period 59
15.01 Progress Payments 59
15.02 Contractor's Warranty of Title 62
15.03 Substantial Completion 62
15.04 Partial Use or Occupancy 63
15.05 Final Inspection 64
15.06 Final Payment 64
15.07 Waiver of Claims 65
15.08 Correction Period 66
Article 16—Suspension of Work and Termination 67
16.01 Owner May Suspend Work 67
16.02 Owner May Terminate for Cause 67
16.03 Owner May Terminate for Convenience 68
16.04 Contractor May Stop Work or Terminate 68
Article 17—Final Resolution of Disputes 69
17.01 Methods and Procedures 69
Article 18—Miscellaneous 69
18.01 Giving Notice 69
18.02 Computation of Times 69

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

18.03 Cumulative Remedies 70
18.04 Limitation of Damages 70
18.05 No Waiver 70
18.06 Survival of Obligations 70
18.07 Controlling Law 70
18.08 Assignment of Contract 70
18.09 Successors and Assigns 70
18.10 Headings 70

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

    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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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;

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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. 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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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;

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);

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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;

        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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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, 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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:

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

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,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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;

    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;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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, 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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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 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.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SECTION 00800
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2018 Edition) and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplemental Conditions will have the meanings indicated in the General Conditions. Additional terms used in these Supplemental Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions with the prefix changed to "SC".

ARTICLE 1 DEFINITIONS AND TERMINOLOGY

Add the following new paragraph immediately after Paragraph 1.01.45:

SC-1.01.46 SURETY - The person, firm, or corporation which is bound by the contract bonds with and for Contractor (Principal); and which is held and firmly bound unto Owner for the conditions of obligations set forth in said bonds.

ARTICLE 2 PRELIMINARY MATTERS

Delete Paragraph 2.01.B in its entirety and insert the following in its place:

SC-2.01.B Before any Work at the Site is started, Contractor shall deliver to the Owner, certificates of insurance that Contractor is required to purchase and maintain in accordance with Article 6.

SC-2.01 Add the following new paragraph immediately after Paragraph GC-2.01.C:

SC-2.01.D Additional Insureds include the respective officers, partners, directors, employees, agents, consultants, and subconsultants of the following firms and municipal government(s):

a) Columbia County (Owner)
b) Jones Edmunds & Associates, Inc. (Engineer)

SC-2.02.A Amend the first sentence of Paragraph 2.02.A of the General Conditions by changing "four" to "five".

SC-2.03.A Amend the first sentence of Paragraph 2.03.A of the General Conditions by changing “Within 10 days after the Effective date of the Contract” to “At the Preconstruction Conference”.

SC-2.04.A Amend the first sentence of Paragraph 2.04.A of the General Conditions by changing “Before any Work at the Site is started” to “Within twenty (20) days after the Owner signs the Agreement.”

ARTICLE 3 CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

Delete Paragraph 3.03.B in its entirety and insert the following in its place:

SC-3.03.B Notwithstanding the provisions of Paragraph 3.03A, where conflict, error, ambiguity, or discrepancy exists within or between the Contract Documents, the more stringent requirements apply; otherwise the order of precedence (from highest to lowest) of the Contract Documents shall be as follows:

a) Change Orders and Field Orders, with the most recently issued instrument having precedence;
b) Addendums with the most recently issued instrument having precedence;
c) Bidding Requirements;
d) These Supplementary Conditions;
e) The General Conditions;
f) Technical Specifications;
g) Drawings;
h) The provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents);
i) 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).

Figure dimensions in Drawings shall take precedence over scale dimensions. Detailed Drawings shall take precedence over general Drawings.

ARTICLE 4 COMMENCEMENT AND PROGRESS OF THE WORK

SC 4.01.A Amend the third sentence of Paragraph 4.01.A of the General Conditions by changing “60th” to “120th”.

Add the following new paragraph immediately after Paragraph 4.01.A:

SC-4.01.B Owner may issue Notice to Proceed at the Preconstruction Conference. Contractor shall begin the Work within (24) hours of the date given in the Notice to Proceed.

If Contractor does not start the Work within ten (10) days after this date, Owner may, at his discretion, terminate Contractor in accordance with Paragraph 16.02.

ARTICLE 5 SITE, SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

Add the following to the end of Paragraph 5.01.C:

SC-5.01.C Contractor shall obtain said land rights at his own expense and without liability to the Owner. Contractor shall not enter upon private property without first obtaining written permission from the rightful property owner.

Add the following new paragraphs immediately after Paragraph 5.03.A.3:

SC-5.03.A.4 In the preparation of Drawings and Specifications, Engineer or Engineer's Consultants relied upon the following reports of explorations and tests of subsurface conditions at the Site:

- Geotechnical Report – GSE.

SC-5.03.A.5 Copies of these reports and drawings itemized in SC-5.03.A.4 that are not included with the Bidding Documents may be examined at the Engineer's office during regular business hours. These reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Contractor may rely as identified and established above are incorporated therein by reference. Contractor is not entitled to rely upon other information and data utilized by Engineer and Engineer's Consultants in the preparation of Drawings and Specifications.

Add Paragraph following 5.04.E.4:

SC-5.04.E.5 However, Owner, Engineer, and Engineer's Consultants shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

Add Paragraph following 5.06.A.3:

SC-5.06.A.4 *Reports and Drawings:* In the preparation of Drawings and Specifications, Engineer or Engineer's consultants relied upon the following reports and drawings relating to Hazardous Environmental Conditions at the site:

- None.

SC-5.06.J Amend the first Paragraph of 5.06.J of the General Conditions by changing "(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)" to "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs)"

ARTICLE 6 BONDS AND INSURANCE

Delete Paragraph 6.01.C in its entirety and insert the following in its place:

SC-6.01.C All Bonds shall be in the form prescribed by the Contract Documents or other form approved by Owner. All else notwithstanding, the terms of all Payment Bonds shall be substantially in the form prescribed by Chapter 255, Florida Statutes. All Bonds shall be executed by Contractor and a Surety licensed to transact such business in the State of Florida and named on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular Number 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. Contractor will cause the Bonds to be recorded with the Clerk of the Circuit Court in the county in which the Work is to be performed. Failure of the Contractor to deliver required Bonds in the form prescribed may constitute an event justifying termination for cause pursuant to Article 16. The expense for all Bonds shall be Contractor's responsibility.

Insert the following sentence at the end of Paragraph 6.01.D:

SC-6.01.D Bonds shall be issued by a company with a Best's rating of at least B+ authorized to do business in the state of Florida

Amend the last sentence in Paragraph 6.02.B as follows:

SC-6.02.B Insurance shall be issued by a company with a Best's rating of at least B+ authorized to do business in the State of Florida.

SC-6.02.E Delete Paragraph 6.02.E in its entirety and insert the following in its place:

Add the following new paragraphs immediately after Paragraph 6.02.N:

SC-6.02.O Umbrella Liability insurance is preferred, but an Excess Liability equivalent is acceptable. Whichever type of coverage is provided, it shall not be more restrictive than the underlying insurance policy coverages, including, but not

limited to the coverage Trigger, defense, notice of occurrence/accident/ circumstances, notice of claim and extended reporting period.

SC-6.02.P No work shall be commenced under this contract until the required Certificate(s) have been provided. Work shall not continue after expiration (or cancellation) until new Certificate(s) have been provided. Non-continuance of work after expiration (or cancellation) of Certificate(s) will not constitute a delay beyond Contractor's control as defined in Paragraph 4.05.

SC-6.02.Q Contractor shall arrange for its insurers' policies to include, or be endorsed to include, a severability of interest/cross liability provision, so that Owner will be treated as if a separate policy were in existence, but without increasing the policy limits.

SC-6.02.R Insurance required of Contractor or any other insurance of Contractor shall be considered primary and insurance or self-insurance of Owner shall be considered excess, as may be applicable to claims that arise out of this Contract.

Add the following new paragraphs immediately after Paragraph 6.03.C:

SC-6.03.D The limits of liability for the insurance required by Paragraph 6.03.A of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers compensation and related coverages under Paragraphs 6.03.A of the General Conditions:

a.	State		Statutory
b.	Applicable Federal (e.g., Longshoreman's)		Statutory
c.	Employer's Liability	Each Employee	$1,000,000
		Each Accident	$1,000,000
		Disease Policy Limit	$1,000,000
		Disease Each Employee	$1,000,000

2. Contractor's General Liability under Paragraphs 6.03.A of the General Conditions, which shall also include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of Contractor:

a.	General Aggregate (Except Products - Completed Operations)	$1,000,000

b. Products – Completed Operations Aggregate $1,000,000

c. Each Occurrence
(Bodily Injury and Property Damage) $1,000,000

d. Property Damage liability insurance may be required to include Explosion, Collapse and Underground coverages where applicable.

e. Excess or Umbrella Liability

General Aggregate	$2,000,000
Each Occurrence	$1,000,000

3. Automobile Liability under Paragraph 6.03.A of the General Conditions:
Combined Single Limit $1,000,000

4. Additional Insureds include the respective officers, partners, directors, employees, agents, consultants, and subconsultants of the following firms and municipal government(s):

a) Columbia County (Owner)
b) Jones Edmunds & Associates, Inc. (Engineer)

SC-6.04.B.1. Add the following after SC-6.04.B as a separate paragraph:

Additional Insureds shall include the following:

a) Columbia County (Owner)
b) Jones Edmunds & Associates, Inc. (Engineer)

SC-6.04.C.1 Add the following after Paragraph 6.04.C:

Additional Insureds shall include the following:

a) Columbia County (Owner)
b) Jones Edmunds & Associates, Inc. (Engineer)

Add the following paragraph after Paragraph 6.06.C:

SC-6.07 If Owner has any objection to the coverage afforded by or other provisions of Bonds or insurance required to be purchased and maintained by Contractor in accordance with Article 6 on the basis of non-conformance with the Contract Documents, Owner shall so notify Contractor in writing within 10 days after receipt of the certificates (or other evidence requested). Contractor shall provide

to Owner such additional information in respect of insurance provided as Owner may reasonably request.

ARTICLE 7 CONTRACTOR'S RESPONSIBILITIES

Add the following new paragraph immediately after Paragraph 7.01.B:

SC-7.01.C Owner reserves the right to reject any means, methods, techniques, sequences, or procedures proposed by Contractor which:

1. will not produce finished work in accordance with the terms of the Contract Documents.

Owner's failure to exercise his right to reject such means, methods, techniques, sequences, or procedures shall not relieve the Contractor of his obligation to accomplish the result intended in the Contract Documents nor shall the exercise of such right to reject create a cause of action for damages.

SC-7.03.C Amend the following “regular working hours” to “the hours between 7:00 AM and 7:00 PM”

Add the following new paragraph immediately after Paragraph 7.03.C:

SC-7.03.D Engineer shall record time and costs required by Engineer and Engineer's Consultants to provide services due to Contractor's working beyond regular working hours as defined in the General Requirements. Owner's reimbursement for the charges shall be a deduction from Contractor's Partial Payment(s).

Add the following new paragraphs immediately after Paragraph 7.06.A.3.d:

SC-7.06.A.3.e Each action mentioned above required for review of proposed substitute items of material or equipment shall be followed in the order given. Failure to do so shall be cause for rejection of the proposed substitution.

Add the following to the end of Paragraph 7.07.A:

SC-7.07.A The Contractor shall not subcontract part(s) of the work, the aggregate cost of which is greater than 50 percent of the contract price, without prior written approval by Owner. Contractor shall cause appropriate provisions to be inserted in each subcontract making the Owner and Engineer a third party beneficiary of such subcontract and to give Contractor the same power as regards terminating any subcontract that Owner may exercise over Contractor under any provision of the Contract Documents. Each Subcontractor shall discharge all duties and responsibilities of Contractor to Owner covered by his subcontract.

SC-7.09.A Change “Owner” to “Contractor” in the last sentence of Paragraph 7.09.A.

Add the following to the end of Paragraph 7.11.A:

SC-7.11.A The Contractor shall also cause all Subcontractors to comply with all Laws and Regulations bearing on the conduct of the Work.

Insert the following at the beginning of Paragraph 7.11.B:

SC-7.11.B If Contractor observes that the Contract Documents are at variance with Laws or Regulations, Contractor shall promptly notify Engineer in writing. Contractor shall not proceed with the Work until so instructed by Owner. Any necessary adjustments to the Contract Price or the Contract Times shall be made as provided in the Contract Documents.

Add the following to the end of Paragraph 7.12.A:

SC-7.12.A Annotation of record documents shall be legible, precise, and complete as determined by Engineer. Record drawings shall also meet all additional requirements, if any, as specified in the Contract Documents including providing an electronic CAD version.

Add the following new paragraph immediately after Paragraph 7.13.C.3:

SC-7.13.C.4 The Contractor shall be responsible at all times for precautions to achieve the protection of all persons, including employees and property. Contractor shall make special effort to detect hazardous conditions and shall take prompt action where necessary to avoid accident, injury, or property damage. OSHA and all other applicable safety laws and ordinances shall be followed as well as American National Standards Institute Safety Standards. All accidents, injuries, claims, or potential claims shall be reported promptly to Owner.

Add the following new paragraph immediately after Paragraph 7.16.D.3:

SC-7.16.D.4 The Contractor shall reimburse Owner for the charges of Engineer and Engineer's Consultants for costs generated as a result of more than two submittals of any one Shop Drawing or Sample being required for evaluation due to rejection for noncompliance of the original submittal or for lack of information required by the Contract Documents. Owner’s reimbursement for the charges shall be a deduction from Contractor's Partial Payment(s).

SC-7.16 E.1.b Remove Paragraph 7.16 E.1.b in its entirety.

SC-7.18.A Amend the first paragraph of 7.18.A of the General Conditions by changing "(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)" to "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs)"

Add the following new paragraph immediately after Paragraph 7.18.B:

SC-7.18.C Neither Contractor nor Owner shall sell, transfer, assign, or otherwise dispose of the contract or any portion thereof, or of any right, title, or interest therein, or any obligations thereunder, without written consent of the other party.

ARTICLE 9 OWNER'S RESPONSIBILITIES

SC-9.02 A. Amend Paragraph 9.02 A. of the General Conditions by striking out the following words: ", provided Contractor makes no reasonable objection to the replacement engineer."

ARTICLE 10 ENGINEER'S STATUS DURING CONSTRUCTION

Add the following new paragraphs immediately after Paragraph 10.03.B:

SC-10.03.C The Resident Project Representative is the Engineer's agent at the site, will act as directed by and under the supervision of the Engineer, and will confer with the Engineer regarding the Resident Project Representative's actions. The Resident Project Representative's dealings in matters pertaining to the on-site work shall in general be with the Engineer and the Contractor keeping the Owner advised as necessary. The Resident Project Representative's dealings with subcontractors shall only be through or with the full knowledge and approval of the Contractor. The Resident Project Representative shall generally communicate with the Owner with the knowledge of and under the direction of the Engineer.

SC-10.03.C.1 Duties and Responsibilities of the Resident Project Representative

SC-10.03.C.1.a Schedules: Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by the Contractor and consult with the Engineer concerning acceptability.

SC-10.03.C.1.b Conferences and Meetings: Attend meetings with the Contractor, such as preconstruction conferences, progress meetings, job conferences, and other project-related meetings, and prepare and circulate copies of minutes thereof.

SC-10.03.C.1.c Liaison:

i. Serve as Engineer's liaison with the Contractor, working principally through the Contractor's superintendent and assist in understanding the intent of the Contract Documents; and assist the Engineer in serving as the Owner's liaison with the Contractor with the Contractor's operations affect the Owner's onsite operations.
ii. Assist in obtaining from the Owner additional details or information, when required for proper execution of the Work.

SC-10.03.C.1.d Shop Drawings and Samples:

i. Record date of receipt of Shop Drawings and samples.
ii. Receive samples which are furnished at the site by the Contractor, and notify the Engineer of availability of samples for examination.
iii. Advise the Engineer and Contractor of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been reviewed by the Engineer.

SC-10.03.C.1.e Review of Work, Rejection of Defective Work, Inspections and Tests:

i. Conduct onsite observations of the Work in progress to assist the Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
ii. Report to the Engineer whenever the Resident Project Representative believes that any Work is unsatisfactory, faulty, or defective, or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test, or approval required to be made; and advise the Engineer of Work that the Resident Project Representative believes should be corrected or rejected or should be uncovered for observation, or required special testing, inspection, or approval.
iii. Verify that tests, equipment, and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that the Contractor maintains adequate records thereof; and observe, record, and report to the Engineer appropriate details relative to the test procedures and startups.
iv. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project; record the results of these inspections and report to the Engineer.

SC-10.03.C.1.f Interpretation of Contract Documents: Report to the Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to the Contractor clarifications and interpretations as issued by the Engineer.

SC-10.03.C.1.g Modifications: Consider and evaluate the Contractor's suggestions for modifications in Drawings or Specifications and report with recommendations to the Engineer. Transmit to the Contractor decisions as issued by the Engineer.

SC-10.03.C.1.h Records:

i. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project-related documents.
ii. Keep a diary or log book recording the Contractor's hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to the Engineer.
iii. Record names, address, and telephone numbers of all contractors, subcontractors, and major suppliers of materials and equipment.

SC-10.03.C.1.i Reports:

i. Furnish the Engineer with periodic reports as required of progress of the Work and of the Contractor's compliance with the progress schedule and schedules of Shop Drawing and sample submittals.
ii. Consult with the Engineer in advance of scheduled major tests, inspections, or start of important phases of the Work.
iii. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from the Contractor and recommend to the Engineer Change Orders, Work Directive Changes, and Field Orders.
iv. Report immediately to the Engineer and Owner upon the occurrence of any accident.

SC-10.03.C.1.j Payment Requests: Review applications for payment with the Contractor for compliance with the established procedure for their submission and forward with recommendations to the Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the site but not incorporated in the Work.

SC-10.03.C.1.k Certificates, Maintenance, and Operation Manuals: During the course of the Work, verify that certificates, maintenance, and operation manuals and other data required to be assembled and furnished by the Contractor are applicable

to the items actually installed and in accordance with the Contract Documents, and have this material delivered to the Engineer for review and forwarding to the Owner prior to final payment for the Work.

SC-10.03.C.2 Completion:

i. Before the Engineer issues a Certificate of Substantial Completion, submit to the Contractor a list of observed items requiring completion or correction.
ii. Conduct final inspection in the company of the Engineer, Owner, and Contractor, and prepare a final list of items to be completed or corrected.
iii. Observe that all items on the final list have been completed or corrected and make recommendations to the Engineer concerning acceptance.

Add the following new paragraphs after Paragraph 10.07.E:

SC-10.07.E.1 Limitations of Authority of the Resident Project Representative:

SC-10.07.E.1.a Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by the Engineer.

SC-10.07.E.1.b Shall not exceed limitations of the Engineer's authority as set forth in the Contract Documents.

SC-10.07.E.1.c Shall not undertake any of the responsibilities of the Contractor, subcontractors, or Contractor's superintendent.

SC-10.07.E.1.d Shall not advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences, or procedures of construction unless such advice or directions are specifically required by the Contract Documents.

SC-10.07.E.1.e Shall not advise on, issue directions regarding, or assume control over safety precautions and programs in connection with the Work.

SC-10.07.E.1.f Shall not accept Shop Drawing or sample submittals from anyone other than the Contractor.

SC-10.07.E.1.g Shall not authorize the Owner to occupy the Project in whole or in part.

SC-10.07.E.1.h Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by the Engineer.

ARTICLE 12 CLAIMS

SC-12.01.B Amend the first sentence of Paragraph 12.01.B by changing: "(but in no event later than 30 days)" to "(but in no event later than 15 days)" and "…Change Proposals within 30 days…" to "…Change Proposals within 15 days…"

ARTICLE 13 COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

Add the following to the end of Paragraph 13.01.B.5.c.1:

SC-13.01.B.5.c.1 In no case shall rates exceed those published by the current edition of Data Quest Incorporated titled, Rental Rate Blue Book for Construction Equipment, and other procedures established by Florida Department of Transportation.

Add the following to the end of Paragraph 13.01.B.5.c.2:

SC-13.01.B.5.c.2 In no case shall the rates exceed the edition of RS Means in effect when the Contract was executed.

Amend Paragraph 13.01.B.5.f as follows:

SC-13.01.B.5.f Amend the first sentence of Paragraph 13.01.B.5.f by striking out the following words: "(except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.04),"

Add the following new paragraph immediately after Paragraph 13.01.B.5.i:

SC-13.01.B.5.j The cost of compliance with current local, state, and federal safety regulations.

Add to the following paragraphs after Paragraph 13.03.E.2:

SC-13.03.E.2.a The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1) if the total cost of a particular item of Unit Price Work amounts to 5% or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25% from the estimated quantity of such item indicated in the Agreement; and

2) if there is no corresponding adjustment with respect to any other item of work; and

3) if Contractor believes that Contractor has incurred additional expense as a result thereof; or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

Add the following new paragraphs immediately after Paragraph 13.03.E.3:

SC-13.03.F If Owner objects to Contractor's quoted adjustment in Unit Price Work set forth in Paragraph 13.03.D, Owner may assign such work to its own forces or another contractor.

SC-13.03.G Owner reserves the right to delete any Unit Price Work with the change, if any, in the Contract Price or in the Contract Times determined in accordance with Article 11.

ARTICLE 14 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Add the following to the end of Paragraph 14.02.A:

SC-14.02.A Contractor shall reimburse Owner for the charges of Engineer and Engineer's Consultants for all costs due to work not being ready for tests and/or inspections when the Contractor has notified Engineer that work is ready for tests and/or inspections. Contractor shall reimburse Owner for all failed tests and subsequent retests. Partial payments payable to Contractor shall be distributed, first to reimburse the Owner for such charges, with the balance distributed to the Contractor in accordance with the Contract Documents.

Delete Paragraph 14.02.B of the General Conditions and add the following in its place:

SC-14.02.B Contractor shall also submit unit costs for specified tests to be reimbursed by the Testing Allowance. All field work, including labor, equipment, travel, etc., performed by the approved independent testing laboratory is the responsibility of the Contractor and shall be included in the Contract Price. These costs are not included in the allowance.

Copies of all testing agency invoices submitted to the Contractor for payment shall be forwarded with the Contractor's request for partial payment. Invoices shall be submitted routinely throughout the project and shall be pertinent to the

partial payment period under consideration. Testing agency invoices in excess of sixty (60) days old shall not be considered for payment. Invoices shall clearly indicate type and amount of tests performed, unit and total cost, and shall indicate if the invoiced testing cost is a result of retests required due to the Contractor's failure to achieve specified requirements. The cost of retesting due to test failure will be borne by the Contractor. Payment to the Contractor for testing shall not be made without the required itemized invoicing.

Add the following new paragraph immediately after Paragraph 14.03.F:

SC-14.03.G The Contractor shall reimburse the Owner for the charges of the Engineer and Engineer's consultants for any additional field observations, engineering analysis, correspondence, meetings, or other work due to non-complying or defective construction, materials, or equipment performed or furnished by the Contractor, subcontractors, or suppliers. Owner’s reimbursement for the charges shall be a deduction from the Contractor's Partial Payment(s).

SC-14.07.A Amend the first sentence of 14.07.A by. changing “Engineer” to “Owner (or, prior to Engineer’s recommendation of final payment, Engineer)”.

SC-14.07.C Add the following to the end of Paragraph 14.07.C “Including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs)”.

ARTICLE 15 PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

Delete Paragraph 15.01.B.3 in its entirety and insert the following in its place:

SC-15.01.B.3 Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor certifying that Contractor has disbursed to all subcontractors and suppliers having an interest in the contract their pro rata shares of the payment out of previous progress payments received by Contractor for all work completed and materials furnished in the previous period, less a retainage withheld by Contractor pursuant to an agreement with a subcontractor. Contractor shall provide a waiver of lien for all stored materials with the second application for payment after submitting application for payment. If the waiver of lien is not provided, current application for payment will be reduced by the value of the stored materials until said time waiver of lien is received or stored materials become incorporated in the Work. Within 30 days of receipt for the final progress payment or any other payments received thereafter except the final payment, Contractor shall pay all subcontractors and suppliers having an interest in the contract their pro rata shares of the payment for all work completed and materials furnished.

SC-15.01.C.1 Amend the last sentence of the paragraph by adding the following words: “or direct Engineer to present the Application to Owner with Engineer’s recommendation of partial payment.”

SC-15.01.C.2 After the word “schedules”, add the words “and the Contract Documents.”

Add the following new paragraph immediately after Paragraph 15.01.C.2.c:

SC-15.01.C.2.d Contractor’s other obligations under the Contract Documents have been fulfilled.

Add the following new paragraph immediately after Paragraph 15.01.D.1:

SC-15.01.D.2 The Owner shall make payments of all approved invoices to the Contractor in accordance with the Local Government Prompt Payment Act, per Florida Statutes, Section 218.70.

SC-15.04.A.3 Amend the paragraph by changing “make an inspection of” to “make an observation of”.

SC-15.05.A Change (i) title “Final Inspection” to “Site Observation”, (ii) in first sentence, second line “final inspection” to “site observation”, and (iii) in first sentence, third line “inspection” to “observation”.

Amend the last sentence of Paragraph 15.06.E:

SC-15.06.E Change “Owner shall pay the resulting balance due to Contractor within 30 days of Owner’s receipt of the final Application for Payment from Engineer.” to “The Owner shall make payments of all approved invoices to the Contractor in accordance with the Local Government Prompt Payment Act, per Florida Statutes, Section 218.70.”

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

SC-16.02.A.1 Add the following before the beginning of the first sentence “Contractor’s failure to start the work in accordance with the Notice to Proceed or Contract documents”.

SC-16.03.A.1 Delete Paragraph 16.03.A.1 in its entirety and insert the following in its place:

all 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, to be measured by applying the percentage

of completion of each item of such Work to the scheduled value of each item as stated in the Schedule of Values, less previous payments made for such item;

SC-16.03.A.2 Delete Paragraph 16.03.A.2 in its entirety.

END OF SECTION

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

REQUEST FOR INFORMATION (RFI) No. ____

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: Jones Edmunds & Associates, Inc. PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____

TO: _____ DATE: _____

RE: CONTRACT DOCUMENT REFERENCE(S): _____

FROM: _____

DESCRIPTION OF RFI:

☐ INFORMATION ☐ CLARIFICATION ☐ INTERPRETATION

is Requested for the Items Described Below or in the Attached:

RESPONSE REQUESTED BY: _____ _____
DATE *SIGNATURE*

TO: _____ DATE: _____

FROM: _____

RESPONSE TO RFI NO.: _____

Our Response to your Request for ☐ INFORMATION ☐ CLARIFICATION ☐ INTERPRETATION

is Described Below or in the Attached: _____

ATTACHMENT: _____ _____
SIGNATURE

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

SHOP DRAWING / SUBMITTAL LOG AND CONTROL SHEET

Project:	Owner:	Project Manager:
Project No:	Contractor:	Project Manager:
PAGE _____ OF _____	Engineer: Jones Edmunds & Associates	Project Manager:

Contractor Submittal No.	Jones Edmunds Submittal No.	Description	Specification Section	CC / Date	Originals # Copies Received	Originals Date Received	To Reviewer Date	To QA/QC Date	To Const. Manager Date	ACTION					Transmitted to Contractor By and Date	Number of Copies Returned	Transmitted Via	Remarks
										Approved	Not Approved	Return for Correction	Approved As Noted	For Info. Only				
1	1																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
2	2																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
3	3																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
4	4																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
5	5																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
6	6																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	
Resubmittal	Resubmittal																	

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

SHOP DRAWING/SUBMITTAL CONTROL FORM

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: Jones Edmunds & Associates, Inc. PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____

CONTRACTOR INFORMATION

SUBMITTAL DATE: _____ SUBMITTAL NUMBER: _____ NO. OF COPIES SENT: _____

☐ ORIGINAL SUBMITTAL ☐ RESUBMITTAL ☐ SUPPLEMENT ☐ INFORMATION ONLY

NOTE: If other than original then include: Date of Original _____ Submittal No. of Original _____

A. SPECIFICATION SECTION AND SUB-SECTION NUMBER: _____

B. DESCRIPTION: _____

C. MANUFACTURED BY: _____ INSTALLED BY: _____

The above referenced submittal has been reviewed by the undersigned and I/we certify that the material and/or equipment meets or exceeds the project specification requirements with:

☐ NO DEVIATIONS ☐ A COMPLETE LIST OF DEVIATIONS AS FOLLOWS[a]

_____

_____

[a]Any deviations not brought to the attention of the Engineer for review and concurrence shall be the responsibility of the Contractor to correct, if required by Engineer.

ENGINEER INFORMATION

NO. OF COPIES RECEIVED _____ NO. OF COPIES RETURNED _____

ACTIVITY	DATE	PERSON	COMMENT
RECEIVED			
RETURNED			

SUBMITTAL REVIEW

REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS, QUANTITIES, OR INSTALLATION REQUIREMENTS.

☐ NO EXCEPTIONS NOTED ☐ MAKE CORRECTIONS NOTED ☐ AMEND AND RESUBMIT ☐ REJECTED—SEE REMARKS

☐ FOR INFORMATION ONLY ☐ COMMENTS ATTACHED Signed: _____

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

NOTICE OF NONCOMPLIANCE (NON) No. ____

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: Jones Edmunds & Associates, Inc. PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____

TO: _____ DATE: _____
_____ TIME: _____

NONCOMPLIANCE OBSERVATION: _____

DETAILS OF OBSERVATION: _____

REFERENCE TO CONTRACT DOCUMENTS: _____

Your response to this notice is required by the close of business on the day following the date of issuance.

Receipt of the above notice of noncompliance is hereby acknowledged by:

_____

THIS THE _____ DAY OF _____, 20____

BY:

TITLE: _____ _____
CONTRACTOR'S REPRESENTATIVE RESIDENT PROJECT REPRESENTATIVE

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

CERTIFICATE OF GUARANTEE

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: Jones Edmunds & Associates, Inc. PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____

DESCRIPTION OF WORK: _____

DATE OF ISSUANCE: _____

The Work under the Contract, except as expressly excluded, and all of its subcontracts, severally and collectively, whether herein stipulated in each case or not, shall be guaranteed against faulty workmanship and/or material as specified below from date of acceptance of the work. The provisions of the guarantee and/or guarantees shall be incumbent on all parties of the work, including the Contractor, each subcontractor, all material supply houses and all manufacturers whose products and/or equipment are incorporated into the facilities.

Neither the Certificate of Substantial Completion, Final Certificate of Payment, nor any provision in the Contract Documents, nor partial or entire use or occupancy of the premises by the Owner shall constitute an acceptance of work, materials, or equipment not performed or installed in accordance with the Contract Documents, or relieve the Contractor or his Sureties of liability in respect to any warranties or responsibility for faulty materials or workmanship.

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 with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other work that may be necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Maintenance Bond shall remain in full force and effect through the guarantee period.

CONTRACTOR	BY	DATE
Jones Edmunds & Associates, Inc.		
ENGINEER	BY	DATE
OWNER	BY	DATE

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

WORK CHANGE DIRECTIVE NO. _____

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: Jones Edmunds & Associates, Inc. PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____

DATE OF ISSUANCE: _____ EFFECTIVE DATE: _____

Contractor is directed to proceed promptly with the following change(s):

ITEM NO.	DESCRIPTION
1	
2	
3	

ATTACHMENTS

_____

_____

PURPOSE FOR WORK CHANGE DIRECTIVE:

Authorization for Work described herein to proceed on the basis of Cost of the Work due to:

☐ Non-agreement on pricing of proposed change.

☐ Necessity to expedite Work described herein before agreeing to changes on Contract Price and Contract Time.

☐ Other: _____

ESTIMATED CHANGE IN CONTRACT PRICE AND CONTRACT TIME:

Contract Price: $ _____ (increase/decrease) Contract Time (days): _____ (increase/decrease)

_____ _____
ENGINEER SIGNATURE *DATE*

_____ _____
OWNER REPRESENTATIVE SIGNATURE *DATE*

_____ _____
CONTRACTOR REPRESENTATIVE SIGNATURE *DATE*

_____ _____
FUNDING AGENCY SIGNATURE (if applicable) *DATE*

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

CONSTRUCTION FIELD ORDER (CFO) NO. _____

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____

DATE OF ISSUANCE: _____ EFFECTIVE DATE: _____

SPECIFICATION SECTION REFERENCE: _____

DRAWINGS / DETAILS REFERENCE: _____

ATTENTION: You are hereby directed to promptly execute this Construction Field Order, for minor changes in the Work without changes in Contract Price or Contract Time. If you consider that a change in Contract Price or Contract Time is required, please notify the Engineer within **7 days** and before proceeding with this Work.

DESCRIPTION AND REASON FOR CHANGE

_____

_____

_____

_____

_____

ATTACHMENTS

_____

_____

_____

_____ _____

ENGINEER SIGNATURE *DATE*

Contractor hereby acknowledges receipt of the above Construction Field Order.

_____ _____

CONTRACTOR REPRESENTATIVE SIGNATURE *DATE*

SECTION 00943
CONTRACTOR'S RELEASE

Before me, the undersigned authority, appeared _____ who, being first duly sworn and deposed, says that he is _____of _____, a corporation authorized to do business under the Laws of the State of _____, which is the Contractor on Project No. _____, under a contract with _____, that the said deponent is duly authorized to make this affidavit, that deponent knows of his own knowledge that said contract has been complied with in every particular by said Contractor and that all parts of the work have been approved by _____ Engineers; that there are no bills remaining unpaid for labor, material, or otherwise, in connection with said contract and work, and that there are no suits pending against the undersigned as Contractor or any one in connection with the Work done and materials furnished or otherwise under said contract. Deponent further says that the final estimate which has been submitted to _____ simultaneously with the making of this affidavit constitutes all claims and demands against _____ on account of said contract or otherwise, and that acceptance of the sum specified in said final estimate will operate as a full and final release and discharge of _____ from any further claims, demands, or compensation by the Contractor under the above contract. Deponent further agrees that all guarantees under this contract shall start and be in full force from the date of this release as spelled out in the contract documents.

_____
(Contractor's Officer)

Sworn to and subscribed to before
me this _____ day of _____, 20_____

_____
(Notary Public)

My Commission Expires _____

(Seal)

SECTION 00944
SURETY'S RELEASE FOR FINAL PAYMENT

CONTRACTOR: _____ **CONTRACT:** _____

We, the _____, having therefore executed a performance bond for the above-named contractor covering the project and section as described above in the sum of _____, (_____), hereby agree that _____ may make full payment of the final estimate, including the retained percentage, to said contractor.

It is fully understood that the granting of the right to _____ to make payment of the final estimate to said contractor and/or his assignee, shall in no wise relieve this surety company of its obligations under its bond, as set forth in the specifications, contract, and bond pertaining to the above project.

IN WITNESS WHEREOF, the _____ has caused this instrument to be executed on its behalf by its _____ and/or its duly authorized attorney in fact, and its corporate seal to be hereunto affixed, all on this _____ day of _____ A.D. 20_____.

_____
Surety Company

(Power of Attorney must be attached if executed by attorney in fact.)

By:_____

STATE OF _____
COUNTY OF _____

Before me, the undersigned authority, personally appeared _____, to me well known as the person described in and who executed the foregoing instrument in the name of _____, as its_____ and the said _____ acknowledged that he executed said instrument in the name of _____, as its _____ and/or _____ for the purposes therein expressed and that he had due and legal authority to execute the same on behalf of said _____, a corporation.

IN WITNESS WHEREOF, I have hereto set my hand and official seal at _____ this _____ day of _____, A.D. 20_____.

_____
(Notary Public)

My Commission Expires _____

(Seal)

Alachua | Jacksonville | Sarasota
Tampa | Titusville | Winter Haven

JonesEdmunds

PROPOSED CONTRACT MODIFICATION (PCM) No. ____

OWNER/CLIENT: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

ENGINEER: Jones Edmunds & Associates, Inc. PROJECT NO.: _____ PROJECT MANAGER: _____

CONTRACTOR: _____ PROJECT NO.: _____ PROJECT MANAGER: _____

PROJECT NAME: _____ PROPOSED CONTRACT MODIFICATION _____

TO: _____ DATE: _____

Please submit your proposal for an equitable adjustment in the contract amount and/or performance time in accordance with the following:

CONTRACT DOCUMENT REFERENCE(S): _____

DESCRIPTION OF MODIFICATION: _____

REASON FOR MODIFICATION: _____

WORK DIRECTIVE:

- ☐ Proceed with the work immediately.
- ☐ Do not proceed with the work until a change order is issued.

Your response is requested by: _____

xc:

SIGNATURE: _____

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01000
PROJECT REQUIREMENTS

PART 1 GENERAL

1.01 DEFINITIONS

A. Owner – The term *Owner* when used in the Technical Specifications refers to the entity with whom the Contractor has entered into the Agreement for this project and for whom the Work is to be performed. The term *Owner* also encompasses representatives of the Owner.

1.02 SCOPE OF WORK

A. The Work to be done consists of the furnishing of all labor, materials, and equipment and the performance of all Work included in this Contract. The summary of the Work is presented in Section 01100, Summary of Work.

B. Work Included

1. The Contractor shall furnish all labor, superintendence, materials, plant power, light, heat, fuel, water, tools, appliances, equipment, supplies, and means of construction necessary for proper performance and completion of the Work. The Contractor shall obtain and pay for all necessary local building permits. The Contractor shall perform and complete the Work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the Owner and in strict accordance with the Contract Documents. The Contractor shall clean up the Work and maintain it during and after construction, until accepted, and shall do all Work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the Work.
2. The cost of incidental work described in these Project Requirements for which there are no specific Contract Items shall be considered as part of the general cost of doing the Work and shall be included in the prices for the various Contract Items. No additional payment will be made therefore.
3. The Contractor shall provide and maintain such modern plant, tools, and equipment as may be necessary, in the opinion of the Owner, to perform in a satisfactory and acceptable manner all the Work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his workmanship, materials, and equipment, prior approval of the Owner notwithstanding.

C. Public Utility Installations and Structures

1. Public utility installations and structures shall be understood to include all poles, tracks, pipes, wires, conduits, vaults, manholes, and all other appurtenances and facilities pertaining thereto whether owned or controlled by the Owner, other governmental bodies, or privately owned by individuals, firms, or corporations used to serve the public with transportation, traffic control, gas, electricity, telephone, cable, fiber optic, sewerage, drainage, water, or other public or private property which may be affected by the Work shall be deemed included hereunder.

   a. The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, condition, and extent of all such installations and structures as may be encountered and as may affect the construction operations.
   b. The Contractor shall protect all public utility installations and structures from damage during the Work. Access across any buried public utility installation or structure shall be made to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor shall be repaired by the Contractor, at his expense. No separate payment shall be made for such protection or repairs to public utility installations or structures.
   c. Public utility installations or structures owned or controlled by the Owner or other governmental body which are shown on the Drawings to be removed, relocated, replaced, or rebuilt by the Contractor shall be considered as a part of the general cost of doing the Work and shall be included in the prices bid for the various Contract Items. No separate payment shall be made therefor.
   d. Where public utility installations of structures owned or controlled by the Owner or other governmental body are encountered during the Work and are not indicated on the Drawings or in the Specifications, and when, in the opinion of the Owner, removal, relocation, replacement, or rebuilding is necessary to complete the Work under this Contract, such Work shall be accomplished by the utility having jurisdiction, or such Work may be ordered, in writing by the Owner, for the Contractor to accomplish. If such work is accomplished by the utility having jurisdiction it will be carried out expeditiously, and the Contractor shall give full cooperation to

permit the utility to complete the removal, relocation, replacement, or rebuilding as required. If such work is accomplished by the Contractor, it will be paid for as extra work as provided in the Agreement.

e. At all times in performance of the Work the Contractor shall employ acceptable methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage, or destruction of public utility installations and structures and shall at all times in the performance of the Work avoid unnecessary interference with or interruption of public utility services and cooperate fully with the owners thereof to that end.

f. The Contractor shall give written notice to the Owner and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations at least 48 hours in advance of breaking ground in any area or on any unit of the Work.

g. The maintenance, repair, removal, relocation, or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the owners of such utilities.

1.03 DRAWINGS AND PROJECT MANUAL

A. Drawings: When obtaining data and information from the Drawings, figures shall be used in preference to scaled dimensions and large-scale drawings in preference to small-scale drawings.

B. Supplementary Drawings

1. When, in the opinion of the Owner, it becomes necessary to explain more fully the Work to be done or to illustrate the Work further or to show any changes that may be required, the Owner will prepare drawings known as Supplementary Drawings, with specifications pertaining to such Drawings, and the Contractor will be furnished one complete set of reproducible black-line prints (22 inches by 34 inches) and one reproducible copy of the specifications, or alternatively may be provided electronic files in PDF format, at the Owner's option.
2. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Contract Drawings. Where such Supplementary Drawings require either less or more than the estimated quantities of Work, credit to the Owner or compensation therefor to the Contractor shall be subject to the terms of the Agreement.

C. Contractor to Check Drawings and Data

1. The Contractor shall verify all dimensions, quantities, and details shown on the Drawings, Supplementary Drawings, Schedules, Specifications, or other data received from the Owner, and shall notify the Owner of all errors, omissions, conflicts, and discrepancies found therein. Failure to discover or correct errors, conflicts, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction, or improper operation resulting therefrom, nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions, as full instructions will be furnished by the Owner should such errors or omissions be discovered.
2. All schedules are given for the convenience of the Owner and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for making estimates of the size, kind, and quantity of materials and equipment included in the Work to be done under the Contract.

D. Specifications: The Technical Specifications each consist of three parts: General, Products, and Execution. The General part of a Specification contains General Requirements that govern the Work. The Products and Execution parts modify and supplement the General Requirements by detailed requirements for the Work and shall always govern whenever there appears to be a conflict.

E. Intent

1. All Work called for in the Specifications applicable to this Contract, but not shown on the Drawings in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Drawings or in the Specifications but involved in carrying out their intent or in the complete and proper execution of the Work is required and shall be performed by the Contractor as though it were specifically delineated or described.
2. The apparent silence of the Specifications as to any detail or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used. The interpretation of these Specifications shall be made upon that basis.

1.04 MATERIALS AND EQUIPMENT

A. Manufacturer

1. All transactions with the manufacturers or subcontractors shall be through the Contractor unless the Contractor shall request, and at the Owner's option, that the manufacturer or subcontractor deal directly with the Owner. Any such transactions shall not in any way release the Contractor from his full responsibilities under this Contract.
2. Any two or more pieces of material or equipment of the same kind, type, or classification, and being used for identical types of service, shall be made by the same manufacturer.

B. Delivery

1. The Contractor shall deliver materials in ample quantities to ensure the most speedy and uninterrupted progress of the Work to complete the Work within the allotted time.
2. The Contractor shall also coordinate deliveries to avoid delay in or impediment of the progress of the work of any related Contractor.

C. Tools and Accessories

1. Unless otherwise stated in the Contract Documents, the Contractor shall furnish each type, kind, or size of equipment one complete set of suitably marked high-grade special tools and appliances that may be needed to adjust, operate, maintain, or repair the equipment. Such tools and appliances shall be furnished in approved painted-steel cases, properly labeled, and equipped with good-grade cylinder locks and duplicate keys.
2. Spare parts shall be furnished as specified herein and as recommended by the manufacturer necessary for the operation of the equipment, not including materials required for routine maintenance.
3. Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place, and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight, and principal rate data.

D. Service of Manufacturer's Engineer

1. The Contract Prices for equipment shall include the cost of furnishing a competent and experienced engineer or superintendent who shall represent the manufacturer and shall help the Contractor, when required, install, adjust, test, and place in operation the equipment in conformity with the Contract Documents.

2. After the equipment is placed in permanent operation by the Contractor, the manufacturer's engineer or superintendent shall make all adjustments and tests required by the Owner to prove that the equipment is in proper and satisfactory operating condition and shall instruct such personnel as may be designated by the Owner in the proper operation and maintenance of such equipment.

1.05 INSPECTION AND TESTING

A. General

1. For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests, and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Five copies of the reports shall be submitted, or quantity as required by the Owner, and authoritative certification thereof must be furnished to the Owner as a prerequisite for the acceptance of any material or equipment.
2. If, in the making of any test of any material or equipment, the Owner ascertains that the material or equipment does not comply with the Contract Documents, the Contractor will be notified thereof and he will be directed to refrain from delivering said material or equipment, or to remove it promptly from the site or from the Work and replace it with acceptable material without cost to the Owner.
3. Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with the recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.
4. The Contractor shall be fully responsible for the proper operation of equipment during testing and instruction periods and shall neither have nor make any claim for damage that may occur to the equipment before the time when the Owner formally takes over the operation thereof.

B. Costs

1. The Contractor shall provide all inspection and testing of materials furnished under this Contract, unless otherwise expressly specified.
2. The Contractor shall bear the cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents, and such costs shall be deemed to be included in the Contract Price.
3. The Owner may test materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract for compliance. The Contractor shall reimburse the Owner for the expenditures incurred in making such tests of materials and equipment that are rejected for non-compliance.

C. Certificate of Manufacture

1. The Contractor shall furnish the Owner with authoritative evidence in the form of a certificate of manufacture that the materials to be used in the Work have been manufactured and tested in conformity with the Contract Documents.
2. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer.

D. Demonstration Tests

1. Before the Contractor's request for a Substantial Completion inspection, all equipment and piping installed under this Contract shall be subjected to demonstration tests as specified or required to prove compliance with the Contract Documents.
2. The Contractor shall furnish labor, fuel, energy, water, and all other materials, equipment, and instruments necessary for all demonstration tests at no additional cost to the Owner. The Contractor shall assist in the demonstration tests as applicable.

1.06 LINES AND GRADES

A. Grade

1. All Work under this Contract shall be constructed in accordance with the lines and grades shown on the Drawings or as given by the Owner. The full responsibility for keeping alignment and grade shall rest upon the Contractor.
2. The Contractor shall establish benchmarks and coordination points using Surveys where provided in the Contract Drawings. Where not provided in the Contract Drawings, the benchmarks and coordination points shall be established by the Contractor at no additional cost to the Owner. Reference marks for lines and grades as the Work progresses will be located by the Contractor to cause as little inconvenience to the prosecution of the Work as possible. The Contractor shall place excavation and other materials so as to cause no inconvenience in the use of the reference marks provided. He shall remove any obstructions he places contrary to this provision.

B. Surveys

1. At his own expense, the Contractor shall furnish and maintain stakes and other such materials.
2. The Contractor shall check such reference marks by such means as he may deem necessary and, before using them, shall call the Owner's attention to any inaccuracies.
3. At his own expense, the Contractor shall establish all working or construction lines and grades as required from the reference marks set by the Contractor and shall be solely responsible for the accuracy of these lines and grades. He shall, however, be subject to check and review by the Owner.

C. Safeguarding Marks

1. The Contractor shall safeguard all points, stakes, grade marks, monuments, and benchmarks made or established on the Work; bear the cost of re-establishing them if disturbed; and bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or removing without authorization such established points, stakes, and marks.
2. The Contractor shall safeguard all existing and known property corners, monuments, and marks adjacent to but not related to the Work and shall bear the cost of re-establishing them if they are disturbed or destroyed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01100
SUMMARY OF WORK

PART 1 GENERAL

1.01 SCOPE OF WORK

Unless otherwise expressly provided in the Contract Documents, the Work must be performed in accordance with best modern practice, with materials and workmanship of the highest quality to the satisfaction of the Owner.

A. The Project title is Columbia County Parnell Hills Residential Subdivision Paving and Drainage.

B. The Work of this Project shall be performed in accordance with the Contract Documents and generally includes, but is not limited to, paving the Parnell Hills Subdivision, drainage improvements, and all associated earthwork and stabilization consisting of the following:

1. Clearing and grubbing, grading, stabilizing, limerock base, asphaltic concrete, driveway improvements, culverts, grassing, erosion control, and incidental items.

C. The Specification Divisions and Drawings are an integrated part of the Contract Documents and, as such, will not stand alone if used independently as individual sections, divisions, or drawing sheets. The Drawings and Specifications establish minimum standards of quality for this project. They do not purport to cover all details entering into the design and construction of materials and equipment.

1.02 REFERENCE STANDARDS

Reference standards and recommended practices referred to herein shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. American Association of State Highway and Transportation Officials (AASHTO) Formerly (AASHO)
B. American Concrete Institute (ACI)
C. American Institute of Steel Construction (AISC)
D. American Iron and Steel Institute (AISI)
E. American National Standards Institute (ANSI)
F. American Standards Association (ASA)
G. American Society of Mechanical Engineers (ASME)

H. American Society of Testing and Material (ASTM)
I. American Water Works Association (AWWA)
J. American Welding Society (AWS)
K. Anti-Friction Bearing Manufacturer's Association (AFBMA)
L. Building Officials and Code Administrators International, Inc. (BOCA)
M. Construction Specifications Institute (CSI)
N. Federal Specification (FS)
O. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, Latest English Edition (Standard Specifications)
P. FDOT Roadway and Traffic Design Standards Latest English Edition (FDOT Index)
Q. Geosynthetics Institute (GSI)
R. National Bureau of Standards (NBS)
S. National Electrical Manufacturer's Association (NEMA)
T. National Fire Protection Association (NFPA)
U. Portland Cement Association (PCA)
V. Occupational Safety and Health Act (Public Law 91-596), U.S. Department of Labor (OSHA)
W. Steel Structures Painting Council (SSPC)
X. Southern Standard Building Code (SSBC)
Y. Underwriters' Laboratories, Inc. (UL)
Z. United States of America Standards Institute (USASI)
AA. Regulations of Florida Industrial Commission Regarding Safety
BB. All local, state, county, or municipal building codes requirements of the Owner's Insurance

1.03 GENERAL REQUIREMENTS

A. Unless otherwise specified on the Construction Drawings or Specifications, all work and the quality of materials shall conform to the referenced sections of the FDOT *Standard Specifications for Road and Bridge Construction, Supplementary Specifications*, and *Roadway and Traffic Design Standards*. The Contractor shall retain on the job site copies of these standard FDOT documents. The basis of payment shall conform to Section 01200, Measurement and Payment, of the General Requirements.

1.04 WORKING HOURS

A. Normal working hours shall be between the hours of 7:00 AM to 5:00 PM or as indicated in Section 01735, Control of Work.

B. Work under this contract shall not be prosecuted on Sundays or on State and/or National holidays, except in time of emergency, and then only under written permission from the Owner who shall be the sole judge as to the urgency of that

situation. On weekdays and Saturdays, the workday shall be limited to daylight hours.

C. If the Contractor deems it necessary to work on Sundays, holidays, or beyond daylight hours to comply with his construction schedule or because of an emergency, the Contractor shall request permission of the Owner to do so. If, in the opinion of the Owner, the need is bona fide, the Owner will authorize the Contractor to work such hours as may be necessary.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01200
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section covers methods of measurement and payment for items of work under this Contract.

B. The total Contract Price shall cover all work required by the Contract Documents. All cost in connection with the proper and successful completion of the work including furnishing all materials, equipment, and tools and performing all necessary labor and supervision to fully complete the work, shall be included in the unit price and lump-sum Bid prices. All work not specifically set forth as a pay item in the Bid Form or Bid Schedule shall be considered a subsidiary/ ancillary obligation of the Contractor and all costs in connection with these subsidiary/ancillary obligations shall be included in the Bid(s) to provide a complete and functional Project.

1.02 EXCAVATION, TRENCHING, AND CLEARING

A. Except where otherwise specified, the unit price or lump-sum price bid for each item of work which involves excavation, trenching, clearing, grubbing, or disposal of cleared and grubbed materials shall include all costs for such work. No direct payment shall be made for clearing, grubbing, disposal of cleared or grubbed materials, excavation, trenching, disposal of surplus excavated material, handling water (and groundwater), and purchasing and hauling of required fill material. All excavation and trenching shall be unclassified as to materials which may be encountered; in addition, trenches shall be unclassified as to depth, unless otherwise stated.

1.03 LUMP SUM

A. For lump-sum items, payments shall be made to the Contractor in accordance with an accepted Progress Schedule of Values on the basis of actual work completed and accepted by the Owner at the final completion of the Project.

1.04 UNIT PRICE

A. For unit price items, payment shall be made based on the actual amount of work accepted by the Owner and for the actual amount of materials in place at the final completion of the Project, as confirmed by the final measurements.

B. After the work is completed and before final payment is made, the Owner shall make final measurements, with all required assistance from the Contractor, to determine the quantities of various items of work accepted as the basis for the final unit price payment.

1.05 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

A. When alterations in the quantities of unit price work not requiring a Change Order(s), as herein provided for, are ordered and performed, the Contractor shall accept payment in full at the Contract unit price multiplied by the actual quantities of work constructed and accepted by the Owner at the completion of the project.

B. The actual percentage of each lump-sum bid item completed by the Contractor and accepted by the Owner at the final completion of the Project will be paid to the Contractor.

1.06 DELETED ITEMS

A. Should any items contained in the Bid Schedule(s) be found unnecessary for the proper completion of the work contracted, the Owner may eliminate such items from the Contract. This action shall in no way invalidate the Contract and no financial allowance or compensating payment for anticipated profit, overhead, etc., will be made for items so eliminated in making final payment to the Contractor.

1.07 PARTIAL PAYMENTS

A. Partial payments shall be made monthly as the work progresses. Partial payment shall be made subject to the provisions of the General and Supplementary Conditions.

1.08 PAYMENT FOR STORED MATERIAL DELIVERED TO THE PROJECT

A. When requested by the Contractor and at the discretion of the Owner, payment may be made for all or part of the value of acceptable materials and equipment to be incorporated into bid items, which have not been used, and which have been delivered to the construction site or placed in storage places acceptable to the Owner. The Contractor shall provide receipts for all stored material items requested for reimbursement which clearly identify the stored material item, where it is to be constructed, the unit cost of the item, as well as the total cost of the delivered item(s), the quantity of the item, the brand name of the item, and the supplier. Note that there are additional documentation requirements and storage

requirements within the Contract Documents that must also be met before the Contractor can be reimbursed for these stored materials.

B. No payment shall be made for fuels, supplies, installation or connection hardware, lumber, false work, or other similar materials or on temporary structures or other work (items) of any kind which are not a permanent part of the Contract. Items having a value of less than $2,500 shall not be compensated for as a stored material item.

1.09 FINAL PAYMENT

A. If requested by the Engineer, the Contractor shall field verify all quantities in dispute by using visual observation, taped measurements, or other methods designated by the Engineer. The field verification shall be made in the presence of the Engineer and agreed to by both the Engineer and the Contractor. The Owner will prepare a final adjusting Change Order that will adjust the final quantities of the project Bid Schedule to reflect the actual work accepted by the Owner and for which the Contractor will be compensated.

1.10 SCHEDULE OF VALUES

A. A schedule of values for the lump-sum bid items and some of the unit-price bid items as required by the Engineer shall be submitted and accepted before the first pay request is approved by the Engineer. The schedule of values shall be based on the prices bid in the Bid Schedule(s). Prices bid in the Bid Schedule(s) cannot be changed in the schedule of values; they can only be broken down into more detail so that the Engineer can more accurately review and approve the Contractor’s pay application for the completed work.

1.11 MISCELLANEOUS CONSTRUCTION ITEMS

A. When pipe are constructed across an existing road, unless specified culvert pipe as designated on the Drawings, the road shall not be cut to perform this construction unless authorized in writing by the Engineer. Service lines are to be bored, jack and bored, or horizontally directionally drilled (HDD) under the road. Jetting of water lines or water service lines will not be allowed.

B. The Contractor shall take all precautions necessary to locate and protect existing utilities, roads, and miscellaneous items from damage during construction.

C. The Contractor shall repair, relocate, or replace existing utilities, roadways, and miscellaneous items to pre-construction conditions.

D. All repairs, relocations, and replacements necessary are considered incidental to the work and will be at the Contractor's cost, with no cost to the Owner.

E. The unit-price bid items and lump-sum bid items for all pipe items shall constitute full compensation for furnishing, laying, jointing, and testing of pipe; dewatering; excavation and backfill; replacing damaged vegetation; and cleanup. All pipelines including but not limited to sewer lines, water lines, force mains, and gravity sewer lines, which are to be paid for per linear foot in the Bid Schedule, will be measured for payment only on a horizontal plane after installation, unless otherwise noted

PART 2 PAY ITEM DESCRIPTIONS

2.01 BID

The descriptions provided in the following Paragraphs are to be used by the Bidder in preparing the Bid Schedule(s). They generally indicate how the major work scope items and their respective costs are to be separated into the line items listed in the Bid Schedule(s). These descriptions are not fully representative nor all-inclusive of the work required to complete the project in accordance with the Contract Documents. It is the Bidder's responsibility to include all required costs within the most appropriate line item(s).

Item 1. Mobilization, Demobilization, and General Conditions—This item shall include and cover the costs for construction preparatory operations including movement of personnel and equipment to and from the site, field offices, sanitary facilities, project administration and management, insurance, bonds, Owner and Engineer indemnification, temporary utilities, all required permitting, maintenance of traffic for all work in accordance with Florida Department of Transportation requirements, and all other similar activities and facilities necessary for executing this project. This item also includes all costs for establishing, maintaining, and monitoring a complete and comprehensive site health and safety program during the execution of the Contract that complies with all local, state, and federal safety guidelines and laws. This item shall not exceed 8% of the total contract amount. This item is lump sum. The Contractor shall be paid 40% of this item upon completion of mobilization and 10% upon demobilization; the remainder shall be paid on a prorated basis equally over the remaining scheduled construction duration.

Item 2. Environmental Protection—This item shall include all costs for providing and implementing a comprehensive environmental protection program for the project site and areas affected by the construction as shown on the Drawings and stated in the Specifications. This includes providing all labor, equipment, and materials necessary to prevent environmental damage to the soil, water, and air in conformance with all local, state, and federal laws. Examples include control of stormwater, erodible soils, noise, dust, pollutants, trash, waste, stored fuels, pumping discharge, and any other substance or activity that may adversely impact the environment. This cost includes permitting fees if necessary, monitoring, maintenance, and

restoration of the site and services necessary to perform construction surveying and record surveys. This item is lump sum. The Contractor shall be paid 50% of this item upon environmental protection plan(s) approval and establishing environmental protection, and the remainder shall be paid on a prorated basis equally over the remaining construction duration.

Item 3. Construction Surveying and As-Built Drawings—This item shall include all costs for providing and implementing construction surveying and as-built drawing preparation for the entire project as shown on the Drawings and stated in the Specifications and as required by all permits obtained for this project. Construction Surveying includes all costs for providing the service of a Professional Land Surveyor to perform pre-construction stakeout and As-Built Drawings in accordance with the Contract Documents and to the satisfaction of the Owner. This item is lump sum and will be paid based on the percentage of the work completed.

Item 4. Sitework—This item shall include all labor, equipment, materials, and services necessary to clear and grub all areas within the limits of construction; dewatering; all earthwork including excavation, loading, hauling, placing, soil import, surplus soil export, and backfill, embankment, grading, and compaction for site improvements. The work includes fencing, all required testing, sod, seed, landscaping, maintenance of traffic, maintaining and protecting the completed site work, and related work. This item is lump sum and will be paid based on the percentage of the work completed.

Item 5. Stormwater System—This item shall include all labor, equipment, materials, and services necessary to furnish and install drainage structures, stormwater culvert piping, endwalls, mitered-end sections, construct ditches, and placement of rip rap; appurtenances, fittings, and fasteners to complete drainage improvements and modify existing drainage structures if required. This item is lump sum and will be paid based on the percentage of the work completed.

Item 6. Paving and Signage—This item shall include all labor, equipment, materials, and services necessary to construct stabilized subgrade, limerock base, and asphalt pavement, traffic signage and related work as shown on the Drawings and stated in the Specifications. This item shall also include all labor, equipment, materials, and services necessary to construct paved driveways. The work includes constructing stabilized subgrade, base, and asphaltic concrete for all paved areas. This item also includes all required testing, maintenance of traffic, signage, and striping. This item is lump sum. Partial payments shall be paid based on the percentage of completed and approved work.

END OF SECTION

SECTION 01290
SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. To the Owner, a proposed Schedule of Values allocated to the various portions of the Work, in accordance with Section 01000, Project Requirements, and Section 01200, Measurement and Payment.

B. Upon request of the Owner, supporting data that will substantiate the values' correctness.

C. The accepted Schedule of Values shall be used as the basis for the Contractor's Applications for Payment.

D. An update and resubmittal of the Schedule of Values when Change Orders affect the listing or when the actual performance of the Work involves necessary changes of substance to values previously listed and approved.

E. Schedule of Values

1. Submit typed schedule on EJCDC 1910-8-E forms or another format as may be approved by the Owner.
2. Submit Schedule of Values in PDF format via Owner-approved electronic transmittal method or on CD, or as duplicate hardcopies, within 10 days after the date of Owner-Contractor Agreement.
3. Format – Use the schedule of prices in the Bid Proposal. Show the cost breakdown for each lump-sum item. The lump-sum breakdown shall, at a minimum, use the Table of Contents of this manual outline. Identify each line item with the number and title of the major Specification Section. Identify site mobilization and demobilization, bonds and insurance, submittals, equipment procurement, installation, warranty, startup, Record Drawings, photographs, and operations and maintenance manuals, etc.
4. Revise the schedule to list approved Change Orders with each Application for Payment.

1.02 CASH ALLOWANCES

A. Costs Included in Allowances – The cost of the product to the Contractor or subcontractor, less applicable trade discounts and applicable taxes.

B. Costs Not Included in the Allowance but are included in the Contract Price – Product handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing.

C. Contractor Responsibilities

1. Execute purchase agreement with designated supplier.
2. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
3. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

D. Differences between allowance amounts and actual costs will be adjusted by Change Order before final payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01310
CONSTRUCTION COORDINATION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall coordinate Work with that of other construction projects as needed.

B. Before starting Work and from time to time as the Work progresses, the Contractor and each subcontractor shall examine the work and materials installed by others as it applies to its own work and shall notify the Engineer immediately in writing if any conditions exist which will prevent satisfactory results in the installation of the system. Should the Contractor or subcontractor start work without such notification, it shall be construed as an acceptance of all claims or questions as to the suitability of the work of others to receive its Work. The Contractor shall remove and/or replace, at its own expense, all work under this Contract that may have to be removed on account of such defects or omissions.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. The Contractor shall ensure that all drawing, product data, and samples comply with Contract Documents and field dimensions and clearances.

B. The Contractor shall submit requests for interpretation of Contract Documents in a timely fashion to ensure there are no disruptions with the Work as scheduled. Obtain instructions through the Engineer to resolve all queries.

C. Process requests for substitutions and Change Orders through the Engineer.

D. Deliver close-out submittals to the Engineer.

1.03 WORK SEQUENCE

A. The Contractor shall submit a preliminary Progress Schedule, in accordance with Section 01320, Progress Schedule, to the Engineer. After review, the Contractor shall revise and resubmit the Progress Schedule to comply with requested revisions.

1.04 CONSTRUCTION MOBILIZATION

The Contractor shall do the following:

A. Cooperate with the Owner in allocating mobilization areas on site for field offices and sheds, access, traffic, and parking facilities. During construction, the Contractor shall coordinate the use of the site and facilities through the Engineer.

B. Comply with the Engineer's procedures for intra-project communications: submittals, reports and records, schedules, coordination drawings, recommendations, and resolution of ambiguities/conflicts.

C. Comply with the Owner’s instructions for use of temporary utilities and construction facilities.

D. Coordinate field engineering and layout work.

E. Coordinate scheduling, submittals, and work of the various sections of Contract Documents to ensure the efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.

F. Coordinate the sequence of Work to accommodate the Owner occupancy as specified in the Contract Documents.

G. In addition to Progress Meetings specified in Section 01320, Progress Schedule, hold pre-construction conferences with personnel and Subcontractors to ensure coordination of Work. The Engineer shall be informed of such meetings and shall be allowed to attend.

H. Coordinate the Work of various sections having interdependent responsibilities for installing equipment, connecting equipment, and placing such equipment in service.

I. Assemble and coordinate close-out submittals specified in Section 01770, Project Closeout.

1.05 CLOSE-OUT PROCEDURES

The Contractor shall do the following:

A. Notify the Owner when Work is considered ready for Substantial Completion.

B. Comply with the Owner's instructions to correct items of Work listed in executed Certificates of Substantial Completion.

C. Notify the Owner when Work has reached Final Completion.

D. Comply with the Owner's instructions for completing items of Work found incomplete in the Engineer's final inspection.

E. Comply with Section 01770, Project Closeout.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 UTILITIES

A. The Contractor shall coordinate the activities of all utility companies with equipment in the construction area with the Contractor’s and Subcontractor’s Work.

3.02 CUTTING AND PATCHING

A. No cutting and patching of new Work will be accepted. All Work must be new and continuous in its final form.

END OF SECTION

SECTION 01320
PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. All work of this Contract shall be scheduled and monitored by the Contractor using the Critical Path Method (CPM) and shall use the Precedence Diagram Method (PDM) of scheduling. The Contractor shall prepare all schedules and all monthly updates described in this Section. The Contractor will prepare revisions of the schedule to reflect changes in the Contractor's plan of performance or changes in the Work and submit these revisions to the Owner for acceptance. The Owner's acceptance of the scheduling documents is to ensure that all CPM Scheduling documents prepared by the Contractor are in conformance with the Contract Documents and Specifications described herein. This acceptance will not impose on the Engineer or Owner the responsibility for the schedule or for the sequencing, scheduling, or progress of the Work, nor will the acceptance interfere with or relieve the Contractor of full responsibility for the schedule and the means, methods, procedures, and sequence of construction.

B. The Contractor shall prepare and maintain a detailed progress schedule throughout the construction of the Project. The schedule shall be the Contractor's working schedule and be used to plan, organize, and execute the Work, record and report actual performance and progress, and show how the Contractor plans to complete the Work. The schedule will be in the form of an activity-oriented network diagram (CPM).

C. When the Contractor prepares the CPM Schedule and the schedule is accepted by the Owner, it shall become part of the Contract Documents and will be used by Contractor and Engineer to monitor the progress of the Project. The CPM Schedule may be revised to show changes in the Contractor's method or manner of performance; delays, or authorized changes in the Work. All changes to the schedule will be made in accordance with Article 1.07 of this Section.

D. The Contractor acknowledges that free float belongs to the Owner.

1.02 PRELIMINARY 90-DAY CPM SCHEDULE

A. The Contractor shall develop a 90-Day CPM Schedule within 10 days after the date indicated in the Notice to Proceed. This schedule shall be a computerized CPM Schedule showing only the early start, early finish of each work activity. The 90-Day Schedule shall contain work activities over the first 90 days, and the

estimated durations for each work activity shall be 15 workdays or less. The balance of the job shall be shown in summary log. The 90-Day Schedule shall include but not be limited to site work, hazardous material removal, demolition, key procurement activities (i.e. submissions, approvals, fabrication, and delivery), equipment, mechanical, electrical, and plumbing coordination and any other work that will occur during the first 90 days. This 90-Day Schedule shall become part of the Detailed CPM Schedule.

1.03 DEFINITIONS

The following terms used in this Section shall have the following meanings:

A. *Activity.* A fundamental unit of work in a CPM Schedule establishing the time and resources required for performing or furnishing a part of the Work or a requisite step. Each Activity has defined geographical boundaries, time duration in days, and a detailed estimate of resources required to construct the task. Each activity is assigned a unique description, activity number, activity code, and a dollar value.

B. *Record Schedule.* The Record Schedule will have actual start dates and actual finish dates for all work Activities and Milestones necessary to complete the Work.

C. *Baseline Schedule.* The Engineer-accepted Proposed Baseline Schedule. The Baseline Schedule is the Contractor's plan which has been approved by the Engineer for completion of the Work in compliance with the Milestones listed in the Contract Documents and within the Contract Time. The Baseline Schedule may be revised only by the Engineer's approval of a Contractor-produced adjusted Baseline Schedule. The Baseline Schedule for the Work is the sole basis for (a) the monitoring of the Contractor's progress against Milestones and the Contract Time; (b) calculating Total Float or Contract Float; and (c) the evaluation and reconciliation of extensions in Contract Time, if any. The first Baseline Schedule shall be designated by all parties as the Baseline Schedule, Rev. 0. When Baseline Schedules are adjusted by the Contractor and approved by the Engineer, they shall be designated as Baseline Schedule, Rev. 1, 2, 3, etc. (as appropriate) and shall replace the previously approved Baseline Schedule.

D. *Contract Float.* Workdays between the Contractor's expected date for early completion of the Work, or specified part, and the corresponding Contract Time.

E. *CPM Network.* The structure of the computerized schedule. The CPM Network accounts for the entire Work and defines the construction logic in terms of all of the Activities with their logical dependencies.

F. *Critical Path.* A series of Activities linked by dependencies that determine the shortest possible time to complete the Work.

G. *Early Dates.* The early start dates and early finish dates, i.e., the dates each Activity will start and finish if each is started at the earliest end of the range of dates that the CPM indicates the Activities can be performed.

H. *Excusable Delay.* An unforeseeable delay, beyond the control of the Contractor, experienced due to no fault or negligence by the Contractor, its subcontractors, or suppliers.

I. *Free Float.* The amount of time that any activity can be delayed without adversely affecting the early start of the following activity.

J. *Fragnet.* A predefined or individual segment of a network which represents a specified sequence of the Work. Fragnets shall be submitted which include all Activities, required resources, and costs and shall be submitted to the Engineer for approval of all Change Orders before their incorporation into the Baseline Schedule by the Contractor. A Fragnet shall be submitted before approval of any proposed logic changes. Fragnets are banded Activities representing a revised portion of the Baseline Schedule and shall be logically connected and constrained by previously existing predecessor and successor Activities, as applicable.

K. *Late Dates.* The late start dates and the late finish dates; i.e., the dates each Activity will start and finish if each is started at the latest end of the range of dates that the CPM Network indicates the Activities can be performed and still achieve the Milestones and Contract Time.

L. *Milestone.* A point of progress designated for the purpose of establishing start or finish times for a key aspect of the Work.

M. *Predecessor Activity.* An Activity which precedes another Activity (to which it is logically tied) in the CPM Network.

N. *Preliminary Schedule*. The Contractor's Baseline Schedule for the first 180 days of the Contract.

O. *Proposed Baseline Schedule.* The Proposed Baseline Schedule shall represent the Contractor's plan for completion of the Work in compliance with Milestones listed in the Contract Documents and within the Contract Time. It represents the Contractor's first complete planned schedule submitted for review and approval by the Engineer. The Proposed Baseline Schedule shall take into account all foreseeable activities to be accomplished by any separate contractors, utility owners, or the Owner's operations. The Proposed Baseline Schedule shall

anticipate all necessary manpower and resources to accomplish activities within the durations set forth in the Proposed Baseline Schedule. The Proposed Baseline Schedule shall address and indicate all submittals required by the Contract and indicate the times allowed for review, resubmittal, and approval of submittals. Upon approval by the Engineer, the first Proposed Baseline Schedule shall become the Baseline Schedule, Rev. 0.

P. *Resource Loading.* The allocation of work force and equipment necessary for the completion of an Activity as scheduled.

Q. *Six-Week Schedule.* A detailed progress schedule taken from the Working Schedule, which discloses the plan for the next 6 weeks' Work and the actual schedule for the previous 6 weeks' Work.

R. *Successor Activity.* An Activity which follows another Activity (to which it is logically tied) in the CPM Network.

S. *Total Float.* The number of workdays by which a part of the Work in the Baseline Schedule or Revised Baseline Schedule may be delayed from its Early Dates without necessarily extending the Contract Time.

T. *Working Schedule.* When the Proposed Baseline Schedule (or a subsequent adjustment is made by the Contractor to the Baseline Schedule) is accepted by the Engineer and becomes the Baseline Schedule, Rev. 0, 1, 2, 3, etc., it shall be duplicated and become the Working Schedule. The Contractor shall update the Working Schedule monthly with a Data Date designated by the Engineer. The Working Schedule shall be updated monthly to reflect actual progress only and shall be the basis for determining monthly progress payments and the Contractor's performance in relation to the most recently approved Baseline Schedule. The Final Working Schedule shall be the Record Schedule.

1.04 DETAILED CPM SCHEDULE

A. The Detailed Network Diagram shall provide sufficient detail and clarity of form and technique so that the Contractor can plan, schedule, and control his work properly and the Engineer can readily monitor and follow the progress for all portions of the Work. The Detailed Network Diagram shall comply with the Contract Times of the Agreement and various limits imposed by the Contract Documents, including required sequencing of portions of the Work described in Section 01100, Summary of Work. The following factors shall have a bearing on the required depth of activity detail:

1. The structural breakdown of the Project.
2. Project Phasing and/or Milestones.

3. The type of work to be performed and the labor trades involved.
4. All purchase, manufacture, and delivery activities for all major materials and equipment.
5. Submittal and approval of shop drawings and material samples.
6. Plans for all subcontract work.
7. Assignment of responsibility for performing all activities.
8. Access and availability to work areas.
9. Identification of interfaces and dependencies with preceding, concurrent, and follow-on subcontractors and contractors.

B. Activities shown shall be in workdays and shall have a maximum duration of 5 days, except in the case of non-construction activities such as procurement of materials and delivery of equipment. All durations shall be the result of definitive manpower and resource planning by the Contractor.

1.05 COMPUTERIZATION OF THE DETAILED CPM SCHEDULE

A. The mathematical analysis of the Detailed Network Diagram shall be made by computer, and a tabulation for each activity shall include the following:

1. Unique event numbers.
2. Activity descriptions.
3. Durations in workdays for each activity.
4. Earliest start date (by calendar date).
5. Earliest finish date (by calendar date).
6. Latest start day (by calendar date).
7. Latest finish day (by calendar date).
8. Slack or total float in workdays.
9. Percentage of activity completed.

B. The following computer outputs shall be prepared as part of the initial schedule submission and each update thereafter:

1. Activity file sort.
2. Eight-week “Look Ahead” detailed bar chart.
3. Summary bar chart.
4. CDs of all computer files.
5. Items 1 through 3 above, submit four copies of each.

1.06 COMPLETION REQUIREMENT

A. The 90-Day Schedule shall be completed within 10 calendar days after the date indicated in the Notice to Proceed.

B. The Detailed CPM Schedule shall be prepared within 30 calendar days after the date indicated in the Notice to Proceed.

C. If the Contractor fails to provide the required CPM scheduling documents to the Engineer within the time prescribed and/or revisions of the scheduling documents within the required time, the Contractor shall be in default of the Contract requirements and the Engineer may withhold approval of progress payments until such time as the Contractor submits the required information.

D. Notwithstanding the implementation of the Progress Schedule, it shall be the sole responsibility of the Contractor to complete the Work within the time of completion required by the Contract.

1.07 UPDATINGS

A. The 90-Day CPM Schedule shall be updated monthly until the Owner accepts the Detailed CPM Schedule.

B. The first update of the Detailed CPM Schedule shall take place 60 calendar days after the Notice to Proceed with subsequent updates performed monthly at the jobsite for the duration of the contract.

C. The Contractor shall update the Detailed CPM Schedule monthly, using a cutoff/data date agreeable to the Contractor and the Owner. This cutoff/data date shall be consistent from month to month. The update information shall include but not be limited to the following:

1. Actual start dates.
2. Actual completion dates.
3. Activity percent completion.
4. Remaining duration of activities in progress.

D. The Contractor shall update all the scheduling documents and submit these documents to the Owner within 5 workdays of the cutoff/data date.

E. The Contractor shall submit seven copies of the CPM schedule and one electronic copy of the CPM schedule on a CD.

F. As part of the normal CPM update, the Contractor shall prepare a written narrative report highlighting the progress during the past update period. The written narrative report shall include but not be limited to the following information:

1. Summary of work accomplished during the past update period.

2. Milestone Comparison Chart.
3. Analysis of Critical Path(s).
4. Analysis of Secondary Critical Path(s). Secondary Critical Path is defined as float within 10 workdays of Critical Path.
5. Analysis of time lost/gained during the update period.
6. Identification of problem areas.
7. Identification of change orders and/or any delay that is impacting/delaying the project schedule.
8. Solutions to current problems.

G. The Contractor is required to attend and participate in a CPM update review meeting with the Owner and Engineer. Attendance is mandatory. This meeting will take place 7 workdays after the cutoff/data date, or during progress meetings as decided by the Owner and the Engineer. The purpose of this meeting is to review past progress, current status, problem areas, and future progress. The Contractor's narrative report will be reviewed at this meeting.

H. All schedule update information outlined above will be reviewed and accepted by the Owner.

1.08 RECOVERY SCHEDULE

A. If the Contractor fails to achieve the planned progress, as indicated in the approved/updated detailed CPM Schedule, and the Contractor's lack of progress delays the Critical path and/or an intermediate milestone by more than 10 workdays (monthly or cumulatively), the Contractor shall submit to the Owner for review and acceptance a proposed Recovery Schedule indicating how the Contractor will recover the time lost.

B. If the Contractor fails to submit a Recovery Schedule and/or fails to cooperate with the Owner in the Recovery Schedule process, the Owner can immediately order the Contractor to accelerate completion of the late activities which have been delayed by whatever means necessary without any additional costs to the Owner. The Owner can withhold future progress payments until the Contractor's progress is in compliance with the Contract Schedule or until the Owner has approved by Change Order proposed adjustments to the contract milestones, extension of contract time, or modification of the Contract Schedule.

1.09 CHANGE ORDERS, DELAYS AND EXTENSIONS OF TIME

A. When proposed Change Orders, approved Change Orders, or any delays are experienced and the Contractor believes the Change Order/Delay is causing delay to an intermediate contract milestone or to the project completion, the Contractor shall submit to the Owner a Time Impact Analysis, explaining the influence of

each Change Order/Delay on the current updated Contract CPM Schedule. The Contractor shall prepare a "Fragnet" (network analysis) of each Change Order/Delay on the current updated Contract CPM Schedule. The analysis will demonstrate the time impact based on the date the change is given to the Contractor, the status of construction at that point in time, and the event time computation of all affected activities. The event times used in the analysis shall be those included in the latest updated copy of the detailed CPM Schedule closest to the time of delay..

B. For the Contractor to be entitled to an extension of Contract time to an intermediate contract milestone and/or to the project completion, the Time Impact Analysis must show that the Change Order/Delay impacts the intermediate contractual milestone date and/or the updated CPM Schedule's Critical Path, thereby directly impacting the project completion date. Change Orders/Delays that do not impact intermediate contractual milestones and/or the critical path and impact activities with float will not be considered as a delay to the project and no extension of time will be granted.

C. The Contractor must submit a written analysis within 7 calendar days after a delay occurs or authorized change in work is given to the Contractor. If the Contractor does not submit a written analysis for specific Change Order(s) or Delay(s) within the specified period of time, then it is mutually agreed that the particular Change Order of Delay has no time impact on the Project CPM Schedule and no time extension is required.

D. The Owner will accept or reject each Time Impact Analysis within 14 calendar days after submission unless subsequent meetings and negotiations are necessary. Upon the Owner's acceptance, the Contractor will incorporate fragnets illustrating the influence of the Change Orders and Delays into the Detailed CPM Schedule during the first update after agreement is reached.

1.10 PROGRESS MEETINGS

A. The Owner will conduct progress meetings at least once per month to discuss the progress of the Work. The Contractor and any subcontractors the Contractor deems necessary shall attend these meetings. At the Owner's discretion, the frequency of the meetings may be increased if the progress of the Work is not satisfactory or if coordination problems should arise.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01325
CONSTRUCTION PHOTOS AND VIDEOS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall have digital photos and videos made of the Work from views and at such times as directed by the Owner. The photos and videos shall represent a visual history of the Project, from Contract Award through Contract Completion.

B. The requirements of this Section constitute a minimum requirement, but the Owner may request additional photos or videos at their discretion for complete documentation of the work performed.

C. The Contractor shall also use additional digital photography as necessary to record and facilitate resolution of on-site issues through the transmission of photos by e-mail or other electronic submittal forum from the site to the Owner's offices.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 DIGITAL PHOTO REQUIREMENTS

A. Digital photos shall be in color. Provide one copy of each digital photo via electronic submittal to the Owner.

B. Provide photos taken of each of the major items during construction.

C. View and Quantities Required: A minimum of 30 photos per month clearly showing project status and key elements of construction.

D. Deliver digital photos to the Owner on a monthly basis.

E. Photos shall be from locations to illustrate the condition of construction and the state of progress adequately.

F. The Contractor shall provide before and after photos of each portion of the site. The below-ground facilities shall include before, during, and after photos of all equipment, walls, floor, piping, utility crossings, and supports. At major locations,

photos shall include before, during, and after prints all submitted electronically in ascending date order to show the Work as it progresses.

3.02 DIGITAL VIDEO RECORDING REQUIREMENTS

A. The Contractor shall provide to the Owner color digital video of each major facility and structures and facilities adjacent to the construction before construction starts, during construction, and when construction has been completed. Videos shall include the entire site and areas of adjacent properties within 100 feet of the limit of the Work. Special effort shall be made to show the existing improvements and features affected by the work.

B. Approximately every 2 weeks, 10 minutes of digital video shall be submitted to the Owner showing Work completed, Work in progress, Work started, and problems that occurred since the last digital video was made.

C. The Contractor shall maintain the master video of each portion of the facility on the Work site. The master video shall be a running chronicle of construction progress. The Contractor shall combine the bi-weekly video onto the master video.

D. The bi-weekly video shall be submitted to the Owner within 10 working days after recording and the bi-weekly videos may include multiple locations.

E. All videos shall be recorded with character generator operating with date, time, and location on screen. During video recording, the Contractor shall narrate the video, explaining what is being shown, problems that have occurred, and what is being done.

F. All videos shall be delivered to the Owner before Final Completion is submitted.

3.03 AERIAL PHOTOS AND VIDEOS

A. The Contractor shall obtain digital, true-color, aerial photos and aerial videos using aerial drones or other approved means of the entire project site before construction begins, during construction at monthly intervals, and at final completion showing the entire completed construction project.

B. The Contractor is required to secure all permits and approvals from authorities having jurisdiction before any aerial or drone flights and shall have licensed pilots/drone pilots performing the flights in accordance with applicable regulations.

C. Provide a minimum of 20 aerial digital photos from each flight.

D. Aerial videos shall be a minimum of 5 minutes in length or as needed to show the projects from all sides with slow panning, tilting, and/or translating views of the work sites.

E. The Contractor shall submit an aerial photo and video plan to the Owner for approval before conducting the work. The plan shall include a description of the proposed views, lengths of each scene, equipment to be used, schedule, and other relevant information to ensure the Owner's needs are met.

3.04 PHOTO AND VIDEO INFORMATION

A. Each digital photo and video file shall be digitally tagged with the following data or the file name shall be referenced from a log that contains the following information for each photo and video:

1. Digital photo or video digital file name/number.
2. Project name.
3. Contract number.
4. Name of Contractor.
5. Date photo or video was taken.
6. Photographer name.
7. Description of location, view, and construction items the photo displays.

B. All photos and videos shall be clear, unobstructed, sharply focused, and free of distortion.

END OF SECTION

SECTION 01330
SUBMITTALS AND ACCEPTANCE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall submit documentation that describes the Work to be performed under the Contract as required in this Section. This documentation will be for the Owner's review and use. The documentation furnished by the Contractor must enable the Owner to verify the Contractor's performance and compliance with Contract requirements. The documentation shall cover all services and deliverables required and secured by the Contract Documents.

1.02 SUBMITTALS

A. General—The Contractor shall submit the following:

1. Project documentation: For the Owner's internal use and shall include all documentation necessary to ascertain compliance with technical/ contractual provisions.
2. Shop drawings: Drawings, schedules, diagrams, warrant, and other data prepared specifically for this Contract by the Contractor or through the Contractor by way of subcontractor, manufacturer, supplier, distributor, or other lower-tier contractor to illustrate a portion of the Work.
3. Product data: Preprinted materials such as illustrations, standard schedules, instructions, brochures, manufacturer's descriptive literature, catalog data, and other data to illustrate a portion of the Work, but not prepared exclusively for this Contract.
4. Samples: Physical examples of products, materials, assemblies, or workmanship that are physically identical to portions of the Work, illustrating portions of work, or establishing standards for evaluating appearance of finished work or both.
5. Installation Lists: All manufacturers or equipment suppliers who propose to furnish equipment or products shall submit an installation list to the Owner with the required Shop Drawings. The installation list shall include all installations where identical equipment has been installed and has been operating for at least 1 year.
6. Administrative submittals: Data presented for reviews and acceptance to ensure that administrative requirements of the project are adequately met but not to ensure directly that work is in accordance with the design concept and in compliance with Contract Documents.

B. Coordination

1. Submittals and schedules shall be checked and coordinated with the Work of all trades involved before they are submitted and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.

C. Start of Work

1. Within 30 calendar days after the notice to proceed for the project, the Contractor shall submit to the Owner a Contract Data Requirements List that defines all data to be submitted under this Contract. Included in this list shall be the names of all proposed manufacturers furnishing specified items to the extent known. Review of this list by the Owner shall in no way relieve the Contractor from providing materials, equipment, systems, and structures fully in accordance with the Specifications.

D. General Requirements

1. The Contractor shall prepare, assemble, and submit all documents as described herein. The Contractor shall submit certification that the documents prepared conform to the Contract requirements and will result in a complete and operable project. The Owner shall review the Contractor’s documents for conformance to the Contract requirements and may comment on the documents.
2. The Contractor shall approve and certify all project documents. The Contractor’s failure to certify the documents or failure to provide documents that demonstrate conformance to the Contract requirements are grounds for rejection. The Contractor shall be responsible for and bear all costs for proceeding with any part of the Work that fails to meet the Contract requirements.
3. Submittal of documents for the Owner’s review shall in no way relieve the Contractor of full responsibility for providing a complete, safe, reliable, operating, and coordinated Work (system/equipment/facilities) that comply with these Contract documents.

E. Requests for Substitution

1. All requests for substitution shall clearly and specifically indicate any and all differences or omissions between the products specified as basis of design and the product proposed for substitution. Data shall include but

not be limited to differences as follows for both the specified and substituted products:

a. Principle of operation.
b. Materials of construction or finishes.
c. Thickness or gauge of materials.
d. Weight of item.
e. Deleted features or items.
f. Added features or items.
g. Changes in other work caused by the substitution.
h. If the substitution contains differences or omissions not specifically called to the attention of the Owner, the Owner reserves the right to require equal or similar features to be added to the substituted product at the Contractor's expense.

F. Submittal Requirements and Procedures

1. Drawing Formats and Requirements

a. Drawings—All Drawings and Shop Drawings shall be prepared in 11-x-17-inch or larger format and shall have a blank area of 3 x 4 inches in the lower right-hand corner above the title block. Each Drawing shall indicate the following information in the title block:

(1) Title and Drawing Number.
(2) Date of Drawing or Revision.
(3) Name of Building or Facility.
(4) Name of Contractor or subcontractor.
(5) Drawing contents and locations.
(6) Specification Section and Subsection Numbers.

b. All drawings shall be submitted via electronic transmittal in PDF format or other formats as may be required by the Owner for review.

2. Product Data:

a. Requirements—Product data shall include all catalog cuts, performance surveys, test reports, equipment lists, material lists, diagrams, pictures, and descriptive material. All product data shall be submitted in either 8.5-x-11-inch or 11-x-17-inch size formats. The submittal information shall show the standard and optional product features, as well as all performance data and

specifications. The manufacturer’s recommendation for special tools shall be supplied.

b. All product data shall be submitted via electronic transmittal in PDF format or other formats as may be required by the Owner for review.

3. Samples—The Contractor shall furnish samples required by the Contract Documents, for review by the Owner. Samples shall be delivered to the Owner as specified or directed.

   a. All samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product, with integrally related parts and attachment devices. The samples shall show the full range of color, texture, and pattern.
   b. The Contractor shall submit a minimum of four samples of items submitted. All samples shall be marked with required submittal information, as specified above.

4. Color, Texture, and Pattern Charts:

   a. The Contractor shall submit color, texture, or pattern charts of all required finishes.
   b. A minimum of four charts of each item shall be submitted.

5. Submittal Information Requirements

   a. When used in the Contract Documents, the term "Submittal Information" shall be considered to mean the following information at a minimum:

      (1) Contract Name.
      (2) Contract Number.
      (3) Location within Facility.
      (4) Date Submitted.

   b. Drawings—The Contractor shall mark submittal information on all Drawings in the left half of the 4-x-3-inch block as described above.

   c. Product Data and Manufacturer's Literature—The Contractor shall mark all product data and manufacturer's literature with submittal information and note which item is being furnished. The Contractor shall mark the option and supplies to be furnished with the item. Do not submit the manufacturer's general catalog: submit

only items being installed or delivered. When manuals are being submitted, the Contractor shall mark submittal information on both the cover and title page. If manuals being submitted contain more than just one item, each item must be marked, and only Contract name and number is to be marked on the cover and title page.

G. Required Submittals

1. Structural Submittals

a. This Section specifies general procedural requirements for contractual submittals for the following structural schedules, product data, samples, and manufacturer's certificates:

(1) Product Data—The Contractor shall provide product data for all architectural and structural items, options, and other data and provide supplemental manufacturer's standard data for information unique to the Work and installation. The submittals shall reflect all items delivered or installed under this Contract.
(2) Samples—The Contractor shall provide all samples required under this Specification including color charts and product samples.
(3) Material, equipment, and installation and demolition Specifications.

H. Submittal Review

1. The Owner’s review of the Contractor’s documents shall not relieve the Contractor of the responsibility for meeting all of the requirements of the Contract nor of the responsibility for correcting the documents furnished. The Contractor shall have no claim for additional cost or extension in time because of delays due to revisions of the documents that may be necessary for ensuring compliance with the Contract.

2. The Owner will review a submittal or re-submittal once, after which the cost of review shall be borne by the Contractor. The cost of Engineering shall be equal to the Engineer’s full cost.

3. No partial submittals will be reviewed. A submittal or re-submittal not complete will be returned to the Contractor for completing and re-submittal.

4. Documents submitted by the Contractor for approval by the Owner will be returned bearing a project-specific stamp bearing the dated signature of the reviewer and one of four boxes checked:

    a. NO EXCEPTIONS NOTED—This indicates that the submittal appears to comply with the requirements of the performance specifications and that the Work may proceed.
    b. MAKE CORRECTIONS NOTED—This indicates that the reviewer has added a minor correction to the submission and that the Work (modified in accordance with the correction comment) may proceed. The Contractor shall accept the responsibility of the modified document and resulting Work with no additional compensation.
    c. AMEND AND RESUBMIT—This indicates that the submittal will require Contractor modifications based on the reviewer's comments that accompanied the returned submittal. The Contractor will be cautioned that work may not proceed under this review status.
    d. REJECTED—This indicates that the submittal is not in conformance with the requirements of the performance Specifications and cannot be modified to gain compliance. A new submittal will be required in the instance of a "reject" status and the Contractor will be cautioned that work may not proceed under this condition.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SUBMITTAL PROCEDURES

A. Before submitting documents for the Owner's review, the Contractor shall review the documentation for conformance to the Contract requirements. Submittals shall be complete and comprise a logical division of the Contract Work.

B. All documentation submitted by the Contractor to the Owner shall be accompanied by a letter of transmittal and shall be submitted in a sequence that allows the Owner to have all of the information necessary for checking and accepting a particular document at the time of submittal.

C. Each document shall be identified by a document number, Contract number, Contract name, location, Specification Section, subsection numbers, and submittal date. Where a manual/drawing is revised to reflect a change in design or a change for any other reason, each such revision shall be shown by a revision number, date, and subject in a revision block. Indication of official approval by the Contractor's Project Manager shall also be included. To permit rapid location of the revision,

additional notation shall be made in the manual opposite the line or area where the change was made and identified by the corresponding revision number.

3.02 DOCUMENTATION CONTROL AND SUBMITTAL SEQUENCING

A. The Contract Data Requirements List shall be updated and resubmitted to the Owner monthly, throughout the duration of the Contract. This list shall identify the Contractor's submittal number, proposed and actual submittal date, Contract Specification Section Number, Paragraph, Item of the Work, and type of document.

B. The Contractor shall work with the Owner to provide a regulated flow of submittals that allows the Owner to review the submittals in the defined time frame without undue delays. Monthly the Contractor shall provide the Owner a schedule of the approximate quantities and delivery dates for all submittals due for the next 120 days.

3.03 FINAL RECORD DRAWINGS

A. The Contractor shall submit the Final Record Drawing Package to the Owner for review at Substantial Completion or 60 days before Final Completion at the discretion of the Owner. The Contractor shall be provided with CADD files of the Contract Drawings in pdf and AutoCAD, versions specified by the Owner. Final Record Drawings shall be prepared in AutoCAD with the same version used for the Contract Drawings and shall be provided electronically in AutoCAD. The Contractor may request to use a different version, but it must be approved by the Owner.

B. Final Record Drawings shall also be provided in hardcopy format, three copies, printed at the full size of the original Contract Drawings.

C. Record Drawings shall be in accordance with Section 01785, Record Documents.

3.04 REQUIREMENTS FOR SUBMITTAL

A. Additional documents, drawings, interface data, and other pertinent project submittal data are listed in specific sections of this Contract.

3.05 RECORD PRINTS

A. The Contractor shall submit one set of all record prints before final completion. The record print or project records shall include submittals, catalog cuts, drawings, calculations, test reports, manufacturer's data, maintenance manuals, installation instructions, and operating manuals. All "record prints" shall be

delivered to the Owner in three-ring binders with dividers and shall be placed in order by Specification Section.

END OF SECTION

SECTION 01350
ENVIRONMENTAL PROTECTION PROCEDURES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Work covered by this Section consists of furnishing all labor, materials, and equipment and performing all work required for the prevention of environmental pollution in conformance with applicable laws and regulations during and as the result of construction operations under this Contract. In this Section *environmental pollution* is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, affect other species of importance to man, or degrade the utility of the environment for aesthetic and/or recreational purposes.

B. The control of environmental pollution requires considering air, water, and land and involves managing noise and solid waste as well as other pollutants.

C. The Contractor shall schedule and conduct all work in a manner that will minimize the erosion of soils in the area of the Work. The Contractor shall provide erosion-control measures such as diversion channels, sedimentation or filtration systems, berms, staked silt fence, seeding, mulching or other special surface treatments that are required to prevent silting and muddying of streams, rivers, impoundments, lakes, etc. All erosion-control measures shall be in place in an area before any construction activity in that area. Specific requirements for erosion and sedimentation controls are specified in Section 02370, Erosion and Sedimentation Control.

D. This Section is intended to ensure that construction is achieved with a minimum of disturbance to the existing ecological balance between a water resource and its surroundings. These are general guidelines. It is the Contractor's responsibility to determine the specific construction techniques to meet these guidelines.

E. All phases of sedimentation and erosion control shall comply with and be subject to the laws of the State of Florida and the Project Environmental Resource Permit. The Contractor shall prepare a sedimentation and erosion-control drawing meeting the requirements of the law and furnish two copies of the approved drawing to the Engineer.

1.02 SUBMITTALS

A. Contractor shall prepare a Stormwater Pollution and Prevention Plan (SWPPP) and a sedimentation and erosion-control drawing meeting the Florida Department of Environmental Protection (FDEP), Suwannee River Water Management District (SRWMD), and local water management district requirements. The drawing shall clearly indicate the construction entrance, delivery and storage area, in-stream turbidity controls, and proposed locations for soil stockpiles. The Contractor shall furnish two copies to the Engineer and two copies to the Owner.

B. The Contractor shall provide the Engineer with two copies of documentation that the Contractor filed with FDEP a "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" in accordance with Rule 62-621.300(4), FAC.

C. The Contractor shall submit two copies of approved Spill Prevention Control and Countermeasures (SPCC) plans to the Owner and the Engineer.

D. If the Contractor proposes to construct temporary roads or embankments and excavations for work areas, the Contractor shall submit the following to the Owner for approval at least 10 days before the scheduled start of such temporary work:

1. A layout of all temporary roads, excavations, embankments, and drainage to be constructed within the work area.
2. Details of temporary road construction.
3. Drawings and cross-sections of proposed embankments and their foundations, including a description of proposed materials.
4. Drawings showing the proposed restoration of the area. The proposed removal of any trees and shrubs must be indicated. The Contractor is responsible for obtaining necessary tree clearing permits with the local municipalities.
5. Locations of guard posts or barriers required to control vehicular traffic and protect trees and shrubs to be maintained undamaged.
6. The drawings shall provide for the obliteration of construction scars as such and shall provide for a natural appearing and functioning final condition of the area.
7. Modification of the Contractor's approved drawings shall be made only with the written approval of the Owner. No unauthorized road construction, excavation, or embankment construction including disposal areas will be permitted.
8. The Contractor shall mark/flag the proposed temporary work in the filed for review by the Owner before beginning such work.

1.03 WORK SEQUENCE

A. Before beginning the Work, the Contractor shall meet with the Owner to establish agreed-upon compliance with these provisions and administration of the environmental pollution control program.

B. The Contractor shall remove temporary environmental control features when approved by the Engineer and incorporate permanent control features into the project at the earliest practicable time.

1.04 REFERENCE STANDARDS

A. Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

B. The Contractor shall comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EROSION CONTROL

A. The Contractor shall provide positive means of erosion control such as shallow ditches around construction to carry off surface water. Erosion-control measures, such as temporary vegetation, siltation basins, mulch check dams, mulching, jute netting, and other equivalent techniques shall be used as appropriate. Surface water shall be prevented from flowing into excavated areas. Ditches may be used around the construction area to carry away water resulting from dewatering excavated areas. At the completion of the Work, erosion and sedimentation controls shall be removed and the ground surface restored to its original condition.

3.02 PROTECTION OF STREAMS AND SURFACE WATERS

A. Care shall be taken to prevent or reduce to a minimum any damage to any stream or surface water from pollution by debris, sediment, or other material or from the manipulation of equipment and/or materials in or near such streams. Water that has been used for washing or processing or that contains oils or sediments that will reduce the quality of the water in the stream shall not be directly returned to the stream. Such waters shall be diverted through a settling basin or filter before

being directed into streams or surface waters. The Contractor shall not discharge water from dewatering operations directly into any live or intermittent stream, channel, wetlands, surface water, or any storm sewer. Water from dewatering operations shall be treated by filtration, settling basins, or other approved method to reduce the amount of sediment contained in the water to allowable levels.

B. All preventative measures shall be taken to avoid spillage of petroleum products and other pollutants. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action plan approved by the FDEP. The Contractor shall submit two copies of approved contingency plans to the Engineer.

C. Water being flushed from structures or pipelines after disinfection with Chlorine (Cl_2) shall be treated with a dechlorination solution approved by the Engineer before discharge.

3.03 PROTECTION OF LAND RESOURCES

A. After completion of construction, the Contractor shall restore land resources within the project boundaries and outside the limits of permanent work to a condition that will appear to be natural and not detract from the appearance of the project. All construction activities shall be confined to areas shown on the Drawings.

B. The Contractor shall not deface, injure, or destroy trees or shrubs nor remove or cut them without prior approval. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Engineer. Where such special emergency use is permitted, the Contractor shall first wrap the trunk with a sufficient thickness of burlap or rags over which softwood cleats shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use.

C. The Contractor shall protect trees that may possibly be defaced, bruised, injured, or otherwise damaged by the construction equipment, dumping, or other operations by placing boards, planks, or poles around them. Monuments and markers shall be protected similarly.

D. Any trees or other landscape features scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to their original

condition. The Owner will decide the method of restoration to be used and whether damaged trees shall be treated and healed or removed and disposed of.

1. All scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1inch in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted.
2. Climbing ropes shall be used where necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor and, in the opinion of the Owner, are beyond saving shall be immediately removed and replaced.

E. The Contractor's storage and other construction buildings required temporarily in the performance of the work shall be located in cleared portions of the job site or areas to be cleared as shown on the Drawings and approved by the Owner and shall not be within wetlands or floodplains. Preserving the landscape shall be required in the selection of all sites and in the construction of buildings. Drawings showing storage facilities shall be submitted for the Owner's approval.

F. The Contractor shall remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess waste materials, or any other vestiges of construction as directed by the Engineer. Excavating, filling, and plowing of roadways are expected to be required to restore the area to near natural conditions which will permit the growth of vegetation the roadway areas. The disturbed areas shall be prepared and seeded as approved by the Owner.

G. All debris and excess material will be disposed of outside wetland or floodplain areas in an environmentally sound manner.

3.04 PROTECTION OF AIR QUALITY

A. Burning—Burning will not be permitted at the project site for the disposal of refuse and debris.

B. Dust Control—The Contractor shall maintain all excavations, embankment, stockpiles, access roads, waste areas, borrow areas, and all other work areas within or outside the project boundaries free from dust which could cause the standards for air pollution to be exceeded and which would cause a hazard or nuisance to others.

C. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited. The use of chlorides is prohibited.

D. To be approved, sprinkling must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor shall have sufficient competent equipment on the job to accomplish this. Dust control shall be performed as the Work proceeds and whenever a dust nuisance or hazard occurs, as determined by the Owner.

3.05 NOISE CONTROL

A. The Contractor shall make every effort to minimize noises caused by the construction operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with Federal and State regulations.

3.06 MAINTENANCE OF POLLUTION-CONTROL FACILITIES DURING CONSTRUCTION

A. During the life of this Contract, the Contractor shall maintain all facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created.

3.07 PERMIT COMPLIANCE REQUIREMENTS

A. The Contractor shall comply with all conditions of permits and crossing agreements obtained by the Owner or required to be obtained by the Contractor, including but not limited to:

1. Columbia County.
2. Florida Department of Environmental Protection.
3. US Army Corps of Engineers.
4. Suwannee River Water Management District.

END OF SECTION

SECTION 01355
SPECIAL PROVISIONS

PART 1 GENERAL

1.01 SPARE PARTS

A. Where spare parts are specified in the Specification Sections, the Contractor shall furnish all spare parts recommended by the manufacturer or system supplier for 1 year of service. In addition, the Contractor shall furnish all spare parts itemized in each Section.

B. The Contractor shall collect and store all spare parts in an area to be designated by the Owner and shall furnish the Owner with an inventory listing all spare parts, the equipment they are associated with, the name and address of the supplier, and the delivered cost of each item. Copies of actual invoices for each item shall be furnished with the inventory to substantiate the delivery cost.

C. Spare parts shall be packed in cartons properly labeled with indelible markings with complete descriptive information, including manufacturer, part number, part name, and equipment for which the part is to be used and shall be properly treated for 1 year of storage.

1.02 HURRICANE PREPAREDNESS PLAN

A. Within 30 calendar days of the date of Notice to Proceed, the Contractor shall submit a Hurricane Preparedness Plan to the Owner for approval. The Plan shall describe in detail the necessary measures that the Contractor will perform, at no additional costs to the Owner, in case of a hurricane warning. The Contractor shall revise the Plan as required by the Owner.

1.03 WEATHER PROTECTION

A. In the event of inclement weather, the Contractor shall protect the Work and materials from damage or injury from the weather. If, in the opinion of the Owner, any portion of the Work or materials has been damaged by reason of failure on the part of the Contractor to protect the Work, such Work and materials shall be removed and replaced with new materials and Work to the satisfaction of the Owner.

1.04 PROVISIONS FOR CONTROL OF EROSION

A. The Contractor shall take sufficient precautions during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other polluting materials harmful to humans, fish, or other life, into the wetlands and surface waters of the State. Control measures must be adequate to ensure that turbidity in the receiving water will not be increased more than 10 nephelometric turbidity units (NTU), or as otherwise required by the State or other controlling body, in water used for public water supply or fish unless limits have been established for the particular water. In surface water used for other purposes, the turbidity must not exceed 25 NTU unless otherwise permitted. Special precautions shall be taken in the use of construction equipment to prevent operations that promote erosion.

1.05 PROVISIONS FOR THE CONTROL OF DUST AND LITTER

A. The Contractor shall take sufficient precautions during construction to minimize the amount of dust created. Wetting down the Site may be required or as directed by the Owner to prevent dust as a result of vehicular traffic, site clearing, and/or various construction activities. Control of litter and/or blowing debris caused by any regrading by the Contractor shall be the responsibility of the Contractor.

1.06 ON-SITE STORAGE

A. The Contractor should note that there may be special storage requirements and possible charges for noncompliance of on-site storage requirements for materials and equipment as specified in Section 01600, Materials and Equipment.

1.07 ELECTRICAL POWER AND TESTING EQUIPMENT

A. The Contractor shall furnish electric power and all equipment and tools required for testing equipment. The cost of this electric power, equipment, and tools shall be included in the prices quoted in the Bid Form.

1.08 DAMAGE DUE TO HIGH WATER

A. The Contractor will be responsible for all damage done to his work by heavy rains or floods and he shall take all reasonable precautions to provide against damages by building such temporary dikes, channels, or shoring to carry off stormwater as the nature of the work may require.

1.09 EMERGENCY PHONE NUMBERS AND ACCIDENT REPORTS

A. Emergency phone numbers (fire, medical, police) shall be posted at the Contractor's phone and the phone's location be made known to all.

B. Accidents shall be reported immediately to the Owner by message or phone.

C. The Contractor shall document all accidents and shall submit to the Owner a fully detailed written report about the accident within 1 week following each accident.

1.10 ITEMS SPECIFIED ON DRAWINGS

A. Items of material, equipment, machinery, and the like may be specified on the Drawings and not in the Specifications. The Contractor shall provide such items in accordance with the Specification on the Drawings.

1.11 SALVAGE

A. Any existing equipment or material, including but not limited to valves, pipes, fittings, couplings, etc., which is removed or replaced as a result of construction under this project may be designated as salvage by the Owner and, if so, shall be excavated, if necessary, and shall be cleaned and stored on or adjacent to the Site in a protected place specified by the Owner or loaded onto trucks provided by the Owner. Any equipment or material not worthy of salvaging, as directed by the Owner, shall be disposed of by the Contractor at a suitable location at the Contractor's expense.

1.12 WORKMANSHIP, MATERIAL, AND EQUIPMENT

A. When a particular product or products are specified or called for, it is intended and shall be understood that the proposal tendered by the Contractor include those products in his bid. Should the Contractor desire to substitute a product or products equal to those specified, the Contractor shall furnish information as described in the Standard General Conditions. The alternate product or products submitted by the Contractor shall meet the requirements of the Specifications and shall, in all respects, be equal to the product or products specified by name in the Specifications.

B. All apparatus, mechanisms, equipment, machinery, and manufactured articles for incorporation into the Work shall be the new and unused standard products of recognized reputable manufacturers.

1.13 RESPONSIBILITY OF CONTRACTOR

A. The Contractor shall be responsible for the entire Work determined by the Drawings, Specifications, and Contract from the date of the starting of the Work until it is accepted as evidence of approval of the Completion Certificate by the Owner. The Contractor shall be responsible for removals, renewals, and replacements due to action of the elements and all other causes except as otherwise provided in the Specifications. The Contractor shall keep the Contract under his own control and it shall be his responsibility to see that the Work is properly supervised and carried on faithfully and efficiently. The Contractor shall supervise the work personally or shall have a competent English-speaking superintendent or representative, who shall be on the site of the project at all working hours and who shall be empowered with full authority by the Contractor to direct the performance of the Work and make arrangement for all necessary materials, equipment, and labor without delay.

B. Renewals or repairs required because of defective materials or workmanship or due to the action of the elements or other natural causes, including fire and flood, before the acceptance as determined by the Completion Certificate, shall be done in accordance with the Contract and Specifications at the expense of the Contractor.

1.14 CONSTRUCTION CONDITIONS AND SUBSURFACE INVESTIGATION

A. The Contractor shall strictly adhere to the specific requirements of the governmental unit(s) or agency(ies) having jurisdiction over the Work. Wherever there is a difference in the requirements of a jurisdictional body and these Specifications, the more stringent shall apply.

B. The Contractor shall be responsible for having determined to his satisfaction, before submitting his bid, the nature and location of the Work, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the groundwater conditions, the character of equipment and facilities needed before and during the execution of the Work, the general and local conditions, and all other matters which can in any way affect the Work under this Contract. The prices established for the work to be done will reflect all costs pertaining to the Work. Any claims for extras based on substrata, groundwater table, and other such conditions will not be allowed.

1.15 SUSPENSION OF WORK DUE TO WEATHER

A. During inclement weather, all work which might be damaged or rendered inferior by such weather conditions shall be suspended. The orders and decisions of the Owner as to suspensions shall be final and binding. The ability to issue such an

order shall not be interpreted as a requirement to do so. During suspension of the work from any cause, the Work shall be suitably covered and protected so as to preserve it from injury by the weather or otherwise, and if the Owner shall so direct, the rubbish and surplus materials shall be removed.

1.16 PERMITS

A. Upon notice of award, the Contractor shall immediately apply for all applicable permits, including building permits, NPDES permits, dewatering permits, and any other required permits not previously obtained by the Owner to do the Work from the appropriate governmental agency or agencies. No work shall begin until all applicable permits have been obtained and copies delivered to the Owner. The Contractor shall bear all costs for obtaining all permits.

1.17 PUMPING

A. The Contractor with his own equipment shall do all pumping necessary to prevent flotation of any part of any of the structures during construction operations.

B. For the duration of the Contract and with his own equipment, the Contractor shall pump out water and wastewater which may seep or leak into the excavations or structures.

1.18 CLAIMS FOR PROPERTY DAMAGE

A. Upon notification by the Owner, the Contractor shall investigate each claim for property damage and shall file, within 10 days of such notification, a statement with the Owner setting forth all facts and details relative to the claim.

1.19 DAILY REPORTS

A. The Contractor shall submit daily reports of construction activities, including non-workdays. The report shall include the following:

1. Manpower, number of workers by craft.
2. Equipment on the project.
3. Major deliveries.
4. Activities work with reference to the CPM schedule activity numbers.
5. New problems.
6. Weather conditions including amount of daily rainfall.
7. Other pertinent information.

B. A similar report shall be submitted for/by each subcontractor.

C. The reports shall be submitted to the Owner within 2 days of the respective report date. Each report shall be signed by the Contractor's Superintendent or Project Manager.

1.20 CONNECTIONS TO EXISTING SYSTEMS

A. The Contractor shall perform all work necessary to locate, excavate, and prepare for connections to the terminus of the existing systems all as shown on the Drawings or where directed by the Owner. The cost of this work and for the actual connection of the existing mains shall be included in the bid for the Project and shall not result in any additional cost to the Owner.

1.21 COORDINATION OF WORK

A. The Contractor shall afford other contractors and the Owner reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work and shall properly connect and coordinate the Work with such other work. The Contractor shall coordinate his Work with the Owner and other contractors to store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the Work so that it will not unduly interfere with the progress of the Work or the work of any other contractors.

B. If the execution or result of any part of the Work depends on any work of the Owner or of any separate contractor, the Contractor shall, before proceeding with the Work, inspect and promptly report to the Owner in writing any apparent discrepancies or defects in such work of the Owner or of any separate contractor that render it unsuitable for the proper execution or result of any part of the Work.

C. Failure of the Contractor to inspect and report any deficiencies shall constitute an acceptance of the Owner's or separate contractor's work as fit and proper to receive the Work, except as to defects which may develop in the Owner's or separate contractor's work after completion of the Work and which the Contractor could not have discovered by his inspection before the Work was completed.

D. If the Contractor damages the work or property of the Owner or of any separate contractor on the Project or other work on the Site, or delays or interferes with the Owner's work on ongoing operations or facilities or adjacent facilities or the separate contractor's work, the Contractor shall be liable for damage caused, and, in the case of another contractor, the Contractor shall attempt to settle the claim with the other contractor before the other contractor institutes litigation or other proceedings against the Contractor.

E. If a separate contractor sues the Owner on account of any damage, delay, or interference caused or alleged to have been caused by the Contractor, the Owner

shall notify the Contractor, who shall defend the Owner in such proceedings at the Contractor's expense. If any judgment or award is entered against the Owner, the Contractor shall satisfy the same and shall reimburse the Owner for all damages, expenses, attorneys' fees, and other costs which the Owner incurs as a result of the judgment or award.

F. If a separate contractor causes damage to the Work or to the property of the Contractor or causes delay or interference with the Contractor's performance of the Work, the Contractor shall present directly to the separate contractor any claims it may have as a result of such damage, delay, or interference (with an information copy to the Owner) and shall attempt to settle its claim against the separate contractor before instituting litigation or other proceedings against the separate contractor.

G. In no event shall the Contractor seek to recover from the Owner or the Engineer, and the Contractor hereby represents to the Owner and the Engineer that he will not seek to recover from them, or either of them, any costs, expenses, (including, but not limited to, attorneys' fees) or losses of profit incurred by the Contractor as a result of any damage to the Work or property of the Contractor or any delay or interference caused or allegedly caused by any separate contractor.

H. The Owner shall determine and adjust any difference or conflict which may arise between the Contractor and other contractors who may be performing work on behalf of the Owner or between the Contractor and workmen of the Owner in regard to their work. If the work of the Contractor is delayed because of any acts of omissions of any other contractor of the Owner, the Contractor shall on that account have no claim against the Owner other than for an extension of time.

1.22 FINAL GUARANTEE

A. The Contractor shall guarantee all work for 1 year from the date of Substantial Completion of the Work by the Owner.

B. If, within the guarantee period, repairs or changes are required in connection with guaranteed work, which, in the opinion of the Owner, are rendered necessary as the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the Contractor shall do the following promptly upon receipt of notice from the Owner and without expense to the Owner:

1. Place in satisfactory condition in every way all such guaranteed work and correct all defects in the guaranteed work.
2. Make good all damage to the building or site, or equipment or piping, or their contents, which, in the opinion of the Owner, is the result of the use

of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the contract.

3. Make good any work or material or the equipment and contents of the building, structure, or site disturbed in fulfilling any such guarantee.

C. If the Contractor, after notice, fails to proceed to comply with the terms of this guarantee within 10 days, the Owner may have the defects corrected and the Contractor and his surety shall be liable for all expenses incurred provided. However, that in case of an emergency where, in the opinion of the Owner, delay would cause loss or damage, repairs may be started without notice being given to the Contractor and the Contractor shall pay the cost of such repairs.

D. All special guarantees or warranties applicable to specific parts of the Work as may be stipulated in the Contract Specifications or other papers forming a part of this Contract shall be subject to the terms of this Paragraph during the first year of life of each such guarantee. The Contractor shall assemble all special guarantees and manufacturers' warranties, along with a summary list of the special guarantees and warranties, and deliver these to the Owner before the Work is accepted.

1.23 RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK

A. With the approval of the Owner, the Contractor may use on the project such stone, gravel, sand, or other material determined suitable by the Owner as may be found in the excavation. The Contractor shall replace at his own expense, with other acceptable material, all of that portion of the excavation materials so removed and used which were needed for use in the embankments, backfills, approaches, or otherwise. No charge for the materials used will be made against the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01400
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. General

1. This Section defines minimum requirements for the Quality Assurance (QA) Program to be provided by the Contractor. The deliverable documents are defined, along with the method of execution of the QA Program.
2. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with the Contract Document requirements.
3. Specified tests, inspections, and related actions do not limit the Contractor's Quality Control (QC) procedures that facilitate compliance with the Contract Documents.

B. Definitions

1. Quality Assurance services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with Contract requirements.
2. Quality Control services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements.

C. Payment

1. Separate payment will not be made for providing and maintaining an effective Quality Assurance and Quality Control Program, and all costs associated with such a program shall be included in the applicable unit prices, lump-sum prices, or allowances contained in the Contract Price Breakdown.

1.02 WORK SEQUENCE

A. Where reference is made to a particular standard, the revision in effect at the time of Bid opening shall apply except where a specific date is established.

B. For products or workmanship specified by association, trades, or other consensus standards, the Contractor shall comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable code.

C. If specified reference standards conflict with Contract Documents, the Contractor shall request clarification from the Engineer before proceeding.

1.03 QUALITY ASSURANCE

A. The Contractor shall install all materials and equipment in a neat and first-class workman-like manner.

B. The Contractor shall replace all existing paving, stabilized earth, curbs, driveways, , fences, signs, and other improvements with the same type of material that was removed during construction or as directed by the Engineer without increase in the Contract Price or Contract Time.

C. The Engineer shall recommend to the Owner the removal and replacement of any items that, in the Engineer's opinion, do not present an orderly and reasonably neat or workman-like appearance, provided such an orderly installation can be made using customary trade methods. The removal and replacement shall be done when directed in writing by the Owner at the Contractor's own expense and without additional expense to the Owner.

1.04 TOLERANCES

A. Monitor tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. If manufacturers' tolerances conflict with Contract Documents, request clarification from the Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.05 FIELD SAMPLES

A. The Contractor shall furnish field samples at the site, as required by individual Specifications Sections for review.

B. Acceptable samples represent a quality level for the Work.

C. Where field sample is specified in individual sections to be removed, the Contractor shall clear the area after the field sample had been accepted by the Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. The Contractor is responsible for quality control and shall establish and maintain an effective QC system in compliance with the Contract Documents. The QC system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the Contract requirements. The system shall cover all Work and shall be keyed to the proposed design and construction sequence. The project QC Officer will be held responsible for the quality of work on the job and is subject to removal by the Engineer for non-compliance with quality requirements specified in the Contract. The project QC Officer in this context shall mean the individual with the responsibility for the overall management of the project quality.

3.02 QUALITY CONTROL PLAN

A. General: Not later than 30 calendar days after receipt of Notice to Proceed, the Contractor shall furnish for review by the Engineer the QC Plan proposed to implement the requirements of the Contract. The Plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Engineer will consider an interim plan for the first 30 calendar days of operation.

B. Content of the QC Plan: The QC Plan shall include, at a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers, and purchasing agents:

1. A description of the quality control organization, including a chart showing lines of authority for all aspects of the Work specified. The staff shall include a Quality Control Officer who shall report to the Project Manager or executive.
2. The name, qualifications (in résumé format), duties, responsibilities, and authorities of each person assigned a QC function.
3. A copy of the letter to the Quality Control Officer signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the Quality Control Officer, including authority to stop work which is not in compliance with the Contract.

4. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents.
5. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will verify that identified deficiencies have been corrected.
6. Reporting procedures, including proposed reporting formats.

C. Acceptance of Plan: Acceptance of the Contractor's plan is required before the start of Work. Acceptance is conditional and will be predicated on satisfactory performance during the Work. The Engineer reserves the right to require the Contractor to make changes in its QC Plan and operations, including removing personnel as necessary to obtain the quality specified.

D. Notification of Changes: After acceptance of the QC Plan, the Contractor shall notify the Engineer in writing of any proposed change. Proposed changes are subject to acceptance by the Engineer.

3.03 SUBMITTALS

A. Submittals shall be made as specified in Section 01330, Submittals and Acceptance. The QC organization shall be responsible for certifying that all submittals comply with the Contract requirements.

3.04 TESTS

A. Testing Services

1. All tests to determine compliance with the Contract Documents shall be performed by an independent commercial testing firm acceptable to the Owner. The testing firm's laboratory shall be staffed with experienced technicians, properly equipped, and fully qualified to perform the tests in accordance with the specified standards.
2. Testing services provided by the Owner are for the sole benefit of the Owner; however, test results shall be available to the Contractor. Testing necessary to satisfy the Contractor's internal Quality Control Procedures shall be the sole responsibility of the Contractor.
3. When necessary, the Contractor shall interrupt its Work for Owner sampling and testing. The Contractor shall have no Claim for increase in Contract Price or Contract Time due to such interruption. The Contractor shall cooperate in these testing activities, as needed.
4. Testing, including sampling, will be performed by the testing firm's laboratory personnel in the general manner indicated in the Specifications.

B. Transmittal of Test Reports: Written reports of tests and engineering data furnished by the Contractor for the Engineer's review shall be submitted as specified for Shop Drawings.

3.05 COMPLETION INSPECTION

A. Final Completion Punch List: Near the completion of all Work, the QC Officer shall inspect the Work and develop a "punch list" of items that do not conform to the approved Drawings and Specifications. Such a list of deficiencies shall be included in the QC documentation and shall include the estimated date by which the deficiencies shall be corrected. The QC Officer or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Engineer that the Facility is ready for the Engineer's final inspection.

B. Final Inspection and Acceptance: The Contractor's QC Officer and the Engineer will be in attendance at this inspection. Additional Engineer personnel may also be in attendance. The final acceptance inspection will be formally scheduled by the Engineer when all punch list deficiencies have been corrected. Notice will be given to the Engineer at least 14 days before the final inspection and must include the Contractor's assurance that all punch list items will be complete and acceptable by the date scheduled for the final inspection. Failure of the Contractor to have all Contract Work acceptably complete for this inspection will be cause for noncertification of final payment by the Engineer.

3.06 NOTIFICATION OF NONCOMPLIANCE

A. The Engineer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Engineer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.07 REPAIR AND PROTECTION

A. On completion of testing, inspection, sampling, and similar services, the Contractor shall repair damaged construction and restore substrates and finishes.

B. The Contractor shall protect all construction exposed by or for Quality Control service activities.

C. The repair and protection are the Contractor's responsibilities, regardless of the assignment of responsibility for Quality Control services.

END OF SECTION

SECTION 01450
TESTING AND TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor will pay for the costs of all laboratory tests required to determine soil density, concrete compressive strength, asphalt compressive strength, and other testing to determine compliance with the Contract Documents. All required testing shall be coordinated and scheduled by the Contractor.

1. The Contractor shall cooperate with the laboratory to facilitate the execution of required services.
2. The Owner shall approve the selection of the testing laboratory.
3. Employment of a testing laboratory shall in no way relieve the Contractor of the obligation to perform work in accordance with the requirements of the Contract Documents.

1.02 RELATED WORK

A. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders, or approvals of public authorities.

B. Respective Sections

1. Certification of products.
2. Laboratory tests required and standards for testing.

1.03 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance.

B. Submit to the Engineer for review a list and schedule of all tests to be conducted.

C. Describe test procedures along with the duration of tests.

D. After each inspection and test, the Laboratory shall promptly submit two copies of the laboratory report to the Engineer, one copy to the Contractor, and one copy to the Owner.

E. Include the following:

1. Date issued.
2. Project title and number.
3. Name of field testing technician or inspector.
4. Date and time of sampling or inspection.
5. Identification of product and Specifications Section.
6. Location in the Project.
7. Type of inspection or test.
8. Date of test.
9. Results of test.
10. Conformance with Contract Documents.

F. When requested by the Engineer, provide interpretation of test results.

1.04 REFERENCE STANDARDS

A. Reference standards and recommended practices shall be the latest revision of any such document in effect at the bid time.

1.05 QUALITY ASSURANCE

A. The Laboratory is not authorized to do any of the following:

1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of the Work.
3. Perform any duties of the Engineer of Record or the Engineer.

B. The Contractor shall be responsible for the following:

1. Cooperating with laboratory personnel, providing access to work and to manufacturer's operations.

2. Securing and delivering to the laboratory adequate quantities of representative samples of materials proposed to be used and that require testing.

3. Providing to the laboratory the preliminary design mix proposed to be used for concrete and other materials mixes that require control by the testing laboratory.

4. Furnishing incidental labor and facilities:

a. To provide access to Work to be tested.

b. To obtain and handle samples at the project site or at the source of the product to be tested.
c. To facilitate inspections and tests.
d. To store and cure test samples.

5. Notifying the Engineer and laboratory sufficiently in advance of operations to allow the laboratory time to assign personnel and schedule tests.

6. Employing and paying for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling, and testing required for the Equipment Supplier or Contractor's (as applicable) convenience.

C. Materials and equipment used in the performance of Work under this Contract are subject to inspection and testing at the point of manufacture or fabrication. Standard requirements for quality and workmanship are indicated in the Contract Documents. The Engineer may require the equipment supplier or Contractor (as applicable) to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contract Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the Owner shall be allowed on account of such testing and certification.

D. If the test and any subsequent retest results indicate that the materials or equipment fail to meet the requirements of the Contract Documents, the equipment supplier or Contractor (as applicable) shall pay for the laboratory costs.

1.06 QUALIFICATIONS

A. Laboratory: Licensed to operate in Florida.

B. Laboratory Staff: Maintain a full-time Florida-registered Professional Engineer on staff to review the services performed under this project.

C. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to either National Bureau of Standards (NBS) or accepted values of natural physical constants.

D. Provide qualified personnel at the site. Cooperate with the Engineer and Contractor in performing services.

E. Perform specified inspection, sampling, and testing of products in accordance with specified standards.

F. Ascertain compliance of materials and mixes with requirements of Contract Documents.

G. Promptly notify the Engineer and Contractor of observed irregularities or non-conformance of Work or Products.

H. Perform additional inspections and tests required by Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 RESPONSIBILITY

A. This Section specifies guidelines for temporary facilities, utilities, and controls required to provide an adequate and safe work site at every stage during construction of the Project. The Contractor is solely responsible for the requirements set forth in this Section.

1.02 ONSITE TEMPORARY

A. Except as otherwise indicated, the Contractor may, at his option, furnish stand-alone utility plants to provide needed services in lieu of connected services from available public utilities, provided such stand-alone plant facilities comply with all governing regulations. Before availability of temporary utility services, the Contractor will provide trucked-in/trucked-out containerized or unitized services for start-up of construction operations at the site.

1.03 COSTS

A. Except as otherwise indicated, the costs of providing and using temporary utility services are included in the contract sum.

1.04 TEMPORARY FACILITIES

A. The types of utility services required for temporary use at the project site include the following (other specific services may be required for specific construction methods of operations):

1. Electrical Power Service.
2. Water Service (potable for certain uses).
3. Sanitary.
4. Storm Sewer or Open Drainage/Run-off Control.
5. Gas/Diesel (fuel) Service.

1.05 TEMPORARY ELECTRICITY

A. The Contractor shall make the necessary applications and arrangements and pay all fees and charges for electrical energy for power and light necessary for proper completion of the Work and during its entire progress up to time of final

acceptance by the Owner. The Contractor shall provide and pay for all temporary switches, connections, and meters.

1.06 TEMPORARY WATER

A. The Contractor shall make all necessary application and arrangements and pay all fees and charges for water necessary for the proper completion of the Project up to the time of final acceptance. The Contractor shall provide and pay for any temporary piping and connections.

1.07 TEMPORARY SANITARY FACILITIES

A. The Contractor shall provide adequate sanitary facilities for the use of those employed on the Work. Such facilities shall be made available when the first employees arrive on the site of the Work, shall be properly secluded from public observation, and shall be constructed and maintained during the progress of the Work in suitable numbers and at such points and in such manner as may be required or approved.

1.08 STORM SEWER

A. The Contractor shall provide adequate stormwater containment and treatment through open drainage or direction into a stormwater collection system.

1.09 FUEL/DIESEL

A. The Contractor shall provide all his own fuel for generating power, operating vehicles, and equipment. The fuel shall be stored in a safe location and double-contained to prevent leakage.

1.10 CLEANLINESS OF FACILITIES

A. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the Work, on the lands of the Owner, or on adjacent property.

1.11 TERMINATION AND REMOVAL

A. At the time the need for a temporary utility service has ended or has been replaced by use of permanent services, or no later than the time of final completion, the Contractor shall promptly remove the installation unless requested by the Engineer to retain it for a longer period. Any work that may have been delayed or affected by the installation and use of the temporary utility, including repairs to

construction and grades and restoration and cleaning of exposed surfaces, shall be completed at this time. The Contractor shall replace any work damaged beyond acceptable restoration.

1.12 NOISE CONTROL

A. The Contractor shall provide adequate protection against objectionable noise levels caused by the operation of construction equipment.

1.13 DUST CONTROL

A. The Contractor shall provide for adequate protection against raising objectionable dust clouds caused by moving construction equipment, high winds, or any other cause.

1.14 WATER CONTROL

A. The Contractor shall provide for satisfactory disposal of surplus water and shall submit a plan to the Owner for review before initiating and implementing the plan. Approval shall be obtained from the proper authorities before the use of public or private lands or facilities for such disposal.

1.15 POLLUTION CONTROL

A. The Contractor shall provide for adequate protection against polluting any public or private lands, lakes, ponds, rivers, streams, creeks, and other such areas by the disposal of surplus material in the form of solids, liquids, gases, or from any other cause.

1.16 ADVERSE IMPACT

A. The Contractor shall evaluate and assess the impact of any adverse effects on the natural environment that may result from construction operations and shall operate to minimize pollution of air, ground, or surface waters, vegetation, and afford the neighboring community the maximum protection during and up to completion of the construction project.

1.17 STREAMS, LAKES, AND OTHER BODIES OF WATER

A. The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, and reservoirs with fuels, oils, bitumens, calcium chloride, or other harmful materials. He shall conduct and schedule his operations to avoid or otherwise prevent pollution of siltation of streams, lakes, and reservoirs and to avoid interference with the movements of migratory fish.

1.18 CHEMICALS

A. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, termiticide, disinfectant, acid, polymer, reactant, or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

1.19 EROSION CONTROL

A. The Contractor shall not expose by construction operations a larger area of erosive land at any one time than the minimum necessary for efficient construction operations, and the duration of exposure of the uncompleted construction to the elements shall be as short as practicable. Erosion-control features shall be constructed concurrently with other work and at the earliest practicable time.

1.20 STORAGE FACILITIES

A. All products, materials, and equipment shall be stored in accordance with the manufacturer's instructions, with seals and labels intact and legible. Products subject to damage by the elements shall be stored in weathertight enclosures. Temperature and humidity shall be maintained within the ranges required by the manufacturer's instructions. Fabricated products shall be stored above the ground on blocking or skids. Products that are subject to deterioration shall be covered with impervious coatings with adequate ventilation to avoid condensation. Loose granular materials shall be stored in a well-drained area on solid surfaces to prevent mixing with foreign matter. Any products that will come in contact with water shall be stored off the ground to prevent contamination.

1.21 INSPECTION

A. Storage shall be arranged in such a manner to provide easy access for inspection. Periodic inspections shall be made of all stored products to ensure that they are maintained under specified conditions and free from damage or deterioration.

1.22 TEMPORARY PROTECTION

A. After installation, the Contractor shall provide substantial coverings as necessary to installed products to protect them from damage from traffic and subsequent construction operations. Coverings shall be removed when no longer needed.

1.23 ADJACENT TO WORK

A. The Contractor shall protect from damage all property along the line of the Work or in the vicinity of or in any way affected by the Work, the removal or destruction of which is not called for by the Drawings. Wherever such property is damaged due to the activities of the Contractor, it shall be immediately restored to its original condition by the Contractor at no cost to the Owner.

1.24 REMEDY BY OWNER

A. In case of failure on the part of the Contractor to restore such property or make good such damage or injury, the Owner may, after 48 hours' notice to the Contractor, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary and the cost of such repairs, rebuilding, or restoration will be deducted from any monies due or which may become due to the Contractor under this Contract.

1.25 PROTECTION FROM DAMAGE

A. The Contractor shall be responsible for protecting property in the areas in the vicinity of the Project and for protecting his equipment, supplies, materials, and work against any damage resulting from the elements, such as flooding, rainstorm, wind damage, or other such damage, and shall be responsible for damage resulting from the same. The Contractor shall provide adequate drainage facilities, tie-downs, or other protection throughout the contract period for the protection of his, the Owner's, and other properties from such damage.

1.26 TRAFFIC REGULATION

A. Signs, marking barricades, and procedures shall conform to the requirements of the Florida Department of Transportation Manual on Traffic Controls and Safe Practices for Street and Highway Construction, Maintenance, and Utility Operations.

1.27 SIGNAGE

A. The Contractor shall provide and maintain adequate barricades around open excavations.

1.28 REMOVAL OF SIGNAGE

A. On completion of the Work, the Contractor shall remove all debris, excess materials, barricades, and temporary work, leaving walkways and roads clear of obstructions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01650
DELIVERY, STORAGE, AND HANDLING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section specifies the general requirements for the delivery, handling, storage, and protection of all items required in the construction of the Work. Specific requirements, if any, are specified with the related item.

1.02 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall adhere to the requirements specified in this Section for storing and protecting the items.

B. The Contractor shall do the following:

1. Materials and equipment shall be loaded and unloaded by methods affording adequate protection against damage. Every precaution shall be taken to prevent injury to the material or equipment during transportation and handling. Suitable power equipment shall be used and the material or equipment shall be under control at all times. Under no condition shall the material or equipment be dropped, bumped, or dragged. When a crane is used, a suitable hook or lift sling shall be used. The crane shall be so placed that all lifting is done in a vertical plane. Materials or equipment skid loaded, palletized, or handled on skidways shall not be skidded or rolled against material or equipment already unloaded.

2. Material and equipment shall be delivered to the job site by means that will adequately support it and not subject it to undue stresses. Material and equipment damaged or injured in the process of transportation unloading or handling shall be rejected and immediately removed from the site.

3. The Contractor shall coordinate the delivery of all materials, including those furnished by the Owner. The Contractor shall be responsible for the proper transport, handling, and storing of all materials, and materials shall be protected to ensure their expected performance. Delivery schedules shall be coordinated by the Contractor, in advance, so that the Work will be done in a timely manner.

4. The Contractor shall coordinate deliveries of products with construction schedules to avoid conflict with work and conditions at the site. The Contractor shall also do the following:

    a. Deliver products in undamaged condition, in the manufacturer's original containers or packaging, with identifying labels intact and legible.
    b. Immediately on delivery, inspect shipments to ensure compliance with requirements of the Contract Documents and approved submittals and to ensure that the products are properly protected and undamaged.

5. The Contractor shall provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

6. All materials and equipment shall be stored on-site in complete compliance with the manufacturer’s recommendations.

7. Store products subject to damage by the elements in weather-tight enclosures.

8. Maintain temperature and humidity within the ranges required by the manufacturer's instructions.

9. Store fabricated products above the ground, on blocking or skids to prevent soiling or staining. Cover products that are subject to deterioration with impervious sheet coverings, and provide adequate ventilation to avoid condensation.

10. All materials and equipment to be incorporated in the Work shall be handled and stored by the Contractor before, during, and after shipment in a manner that will prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, theft, or damage of any kind to the material or equipment.

11. All materials which, in the opinion of the Owner, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the Work, and the Contractor shall receive no compensation for the damaged material or its removal.

12. The Contractor shall arrange storage in a manner to provide easy access for inspection and make periodic inspections of stored products to ensure that products are maintained under specified conditions, free from damage or deterioration.

13. The Contractor shall provide substantial coverings as necessary to protect installed products from traffic damage and subsequent construction operations and shall remove these coverings when they are no longer needed.

14. Should the Contractor fail to take proper action on storage and handling of equipment supplied under this Contract, within 7 days after written notice to do so has been given, the Owner retains the right to correct all deficiencies noted in the previously transmitted written notice and deduct the cost associated with these corrections from the Contractor's Contract. These costs may include expenditures for labor, equipment use, administrative, clerical, engineering, and any other costs associated with making the necessary corrections.

15. Schedule delivery to reduce long-term onsite storage before installation and/or operation. Under no circumstances shall equipment be delivered to the site more than 1 month before installation without written authorization from the Owner.

16. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged, or sensitive to deterioration.

17. Deliver products to the site in the manufacturer's original sealed containers or other packing systems, complete with instructions for handling, storing, unpacking, protecting, and installing.

18. Unload and place all items delivered to the site in a manner which will not hamper normal construction operation nor that of subcontractors and other contractors and will not interfere with the flow of necessary traffic.

19. Provide necessary equipment and personnel to unload all items delivered to the site.

20. The Contractor shall store and protect products in accordance with the manufacturer's instructions, with seals and labels intact and legible. Follow storage instructions, review them with the Owner, and keep a written record of this. Arrange storage to permit access for inspection.

21. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

22. Store cement and lime under a roof and off the ground and keep it completely dry at all times. All structural, miscellaneous, and reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored with the webs vertical. Precast concrete shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping, or cracking. Handle and store brick, block, and similar masonry products in a manner to keep breaking, cracking, and spilling to a minimum.

23. Store all mechanical and electrical equipment and instruments subject to corrosive damage by the atmosphere if stored outdoors (even though covered by canvas) in a weathertight building to prevent damage. The building may be a temporary structure on the site or elsewhere, but it must be satisfactory to the Owner. The building shall be provided with adequate ventilation to prevent condensation. The Contractor shall ensure that temperature and humidity are maintained within the range required by the manufacturer.

    a. All equipment shall be stored fully lubricated with oil, grease, and other lubricants unless otherwise instructed by the manufacturer.
    b. Moving parts shall be rotated a minimum of once weekly to ensure proper lubrication and to avoid metal-to-metal "welding." Upon installation of the equipment, the Contractor shall start the equipment, at least at half load, once weekly for an adequate period to ensure that the equipment does not deteriorate from lack of use.
    c. Lubricants shall be changed when installation is complete and as frequently as required thereafter during the period between installation and acceptance. The Contractor shall put new lubricants into the equipment at the time of acceptance.
    d. Before accepting equipment that has been stored for some time, the Contractor shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the manufacturer shall be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested, and accepted in a minimum time period. As such, the manufacturer will guarantee the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the Contractor's expense.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01720
FIELD ENGINEERING

PART 1 GENERAL

1.01 SCOPE OF WORK

The Contractor shall do the following:

A. Provide and pay for the following field engineering services required for the Project:

1. Survey work required in the execution of the Project.
2. Civil, structural, or other professional engineering services specified or required to execute the Contractor’s construction methods.

B. Retain the services of a registered land surveyor licensed in Florida to do the following:

1. Identify existing control points and property line corner stakes as required.
2. Verify all existing structure locations and all proposed structure corner locations, tank locations, and equipment locations within the Project site.
3. Maintain an accurate location of all buried piping 4 inches in diameter and larger.

1.02 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance.

B. The Contractor shall submit to the Engineer the name and address of the registered land surveyor or professional engineer.

C. On request of the Engineer, the Contractor shall submit documentation to verify the accuracy of field engineering work.

D. The Contractor shall submit a certificate signed by a registered land surveyor certifying that elevations and locations of improvements are in conformance or non-conformance with Subcontract Documents.

E. At the end of the Project and before final payment, submit the certified drawings listed below with the Surveyor's title block (signed and sealed by the registered

land surveyor) of the items listed below. These drawings shall be included with and made a part of the project record documents.

1. Certified site survey at 1-inch = 10-foot scale on sheets 24 inches by 36 inches, indicating the building corners, sidewalks, paved areas, and location of all above-ground structures for the project site.
2. Certified drawing showing the location, lines, and grades of all lines 4 inches in diameter and larger buried and exterior to buildings and other buried facilities (e.g., valves, tanks, vaults) installed as a result of the work. This shall be at the same scale as the Engineer's yard piping drawing.
3. Certified drawings showing elevations of all flow control points such as weirs, elevations of all existing and new structures, and equipment in the treatment plant.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. All work shall be performed in accordance with the Minimum Technical Standards set forth by the Board of Professional Surveyors and Mappers.

1.04 QUALITY ASSURANCE

A. Existing basic horizontal and vertical control points for the project are those designated on Drawings.

B. Locate and protect control points before starting site work and preserve all permanent reference points during construction:

1. Make no changes or relocations without prior written notice to the Engineer.
2. Report to the Engineer when any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.
3. Require the surveyor to correctly replace project control points that may be lost or destroyed.
4. Establish replacements based on original survey control.

1.05 QUALIFICATIONS

A. Registered land surveyor of the discipline required for the specific service on the project, currently licensed in Florida.

1.06 SYSTEM DESCRIPTION

A. The Contractor shall establish a minimum of two site benchmarks for each road within the project area.

1. Record locations, with horizontal and vertical data, on Record Documents.

B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means:

1. Site improvements:

a. Stakes for grading, fill, and topsoil placement.
b. Utility slopes and invert elevations.

2. Building foundation, column locations, and floor levels.

3. Controlling lines and levels required for mechanical and electrical trades.

C. From time to time, verify layouts by the same methods.

D. Maintain a complete and accurate log of all control and survey work as the work progresses.

E. As a condition for approval of monthly progress payment requests, update the project record drawings daily then report monthly progress based on the work performed during the month ending at the pay request. The Contractor shall coordinate this monthly with the Owner's representative on the site as part of the pay request.

F. Maintain an accurate record of piping changes, revisions, and modifications.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01730
CUTTING, CORING, AND PATCHING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall provide all cutting, coring, fitting, and patching, including attendant excavation and backfill, required to complete the Work or to accomplish the following:

1. Make the Work's several parts fit together properly.
2. Uncover portions of the Work to provide for installation of ill-timed work.
3. Remove and replace defective work.
4. Remove and replace work not conforming to requirements of Subcontract Documents.
5. Remove samples of installed work as specified for testing.
6. Provide routine penetrations of non-structural surfaces for installing piping and electrical conduit.

1.02 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance.

B. The Contractor shall submit a written request well in advance of executing any cutting or alteration that affects the following:

1. Work of the Owner or any other Contractor.
2. Structural value or integrity of any element of the Project.
3. Visual qualities of elements exposed to view.

C. The written request shall include the following:

1. Identification of the Project.

2. Description of affected Work.

3. The necessity for cutting, altering, or excavating.

4. The effect on the work of the Owner or any other Contractor or on the structural or weatherproof integrity of the Project.

5. Description of proposed Work:

    a. Scope of cutting, patching, alteration, or excavation.
    b. Trades which will execute the Work.
    c. Products proposed to be used.
    d. Extent of refinishing to be done.

6. Alternatives to cutting and patching.

7. Cost proposal, when applicable.

8. Written permission of any other Contractor whose work will be affected.

D. The Contractor shall submit written notice to the Engineer designating the date and the time the Work will be uncovered.

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials for finish patching shall be equal to those of adjacent construction.

PART 3 EXECUTION

3.01 INSPECTION

A. The Contractor shall inspect existing conditions of project, including elements subject to damage or to movement during cutting and patching.

B. After uncovering Work, the Contractor shall inspect conditions affecting installation of products or performance of the Work.

C. The Contractor shall report unsatisfactory or questionable conditions to the Owner in writing and shall not proceed with work until the Owner and Engineer has provided further instructions.

D. All cutting and coring shall be performed in such a manner as to limit the extent of patching.

E. All holes cut through concrete and masonry walls, slabs, or arches shall be core-drilled unless otherwise approved. No structural members shall be cut without approval of the Engineer, and all such cutting shall be done in a manner directed by the Engineer. No holes shall be drilled in beams or other structural members without obtaining prior approval. All work shall be performed by mechanics skilled in this type of work.

F. Rough patching shall be such as to bring the cut or cored areas flush with existing construction unless otherwise shown. Finish patching shall match existing surfaces as approved.

3.02 PREPARATION

A. Provide adequate temporary support as necessary to ensure the structural value or integrity of the affected portion of the Work.

B. Provide devices and methods to protect other portions of the Project from damage.

C. Provide protection from elements for that portion of the Project that may be exposed by cutting and patching work and maintain excavations free from water.

D. Provide for Proper Pavement Restoration: The Contractor shall restore existing paving, including underdrains if any are encountered and broken into, and shall replace or rebuild the paving using the same type of construction as was in the original. The Contractor shall be responsible for restoring all such work, including subgrade and base courses, where present. The Contractor shall obtain and bear the expense of such local or other governmental permits as may be necessary.

END OF SECTION

SECTION 01735
CONTROL OF WORK

PART 1 GENERAL

1.01 PLANT

A. The Contractor shall furnish plant and equipment, which will be efficient, appropriate, and large enough to secure a satisfactory quality of work and a rate of progress that will ensure the completion of the work within the Contract Time. If at any time the Plant appears to be inefficient, inappropriate, or insufficient for securing the quality of work required or for producing the rate of progress stated above, the Engineer may order the Contractor to increase the efficiency, change the character, or increase the plant and equipment and the Contractor shall conform to such an order. Failure of the Engineer to give such an order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

1.02 PRIVATE LAND

A. Do not enter or occupy private land outside of easements, except by permission of the landowner.

1.03 PIPE LOCATIONS

A. Locate pipelines substantially as indicated on the Drawings. The Engineer reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve him of laying and jointing different or additional items where required.

1.04 OPEN EXCAVATIONS

A. Adequately safeguard all open excavations by providing temporary barricades, caution signs, lights, and other means to prevent accidents to persons and damage to property. Provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workers. Remove bridges provided for access during construction when no longer required. The length or size of excavation will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Engineer. If the excavation becomes a hazard or if it excessively restricts traffic at any point, the Engineer may require special construction procedures, such as limiting the length of the

open trench, prohibiting stacking excavated material in the street, and requiring that the trench be closed overnight.

B. Take precautions to prevent injury to the public due to open trenches. Provide adequate light at all trenches, excavated material, equipment, or other obstacles that could be dangerous to the public at night.

1.05 TEST PITS

A. Excavate test pits, at the direction of the Engineer, to locate underground pipelines or structures in advance of the construction. Backfill test pits immediately after their purpose has been satisfied and restore and maintain the surface in a manner satisfactory to the Engineer.

1.06 MAINTENANCE OF TRAFFIC

A. Unless permission to close a street is received in writing from the proper authority, place all excavated material so that vehicular and pedestrian traffic may be maintained at all times. If the construction operations cause traffic hazards, repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety satisfactory to the Engineer.

B. Maintenance of traffic shall be in accordance with Florida Department of Transportation (FDOT) District 2 guidelines. Detours around construction will be subject to the approval of the Owner and the Engineer. Where detours are permitted, provide all necessary barricades and signs as required to divert the flow of traffic. Expedite construction operations while traffic is detoured. The Owner will strictly control periods when traffic is being detoured.

C. Take precautions to prevent injury to the public due to open trenches. Night watchmen may be required where special hazards exist or police protection provided for traffic while work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided.

1.07 CARE AND PROTECTION OF PROPERTY

A. The Contractor shall be responsible for preserving all public and private property and use every precaution necessary to prevent damage to this property. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, the Contractor shall restore such property to a condition similar or equal to that existing before the damage was done or make good the damage in other manner acceptable to the Engineer.

1.08 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

A. The Contractor shall assume full responsibility for protecting all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the Drawings. Carefully support and protect all such structures and utilities from injury of any kind. Immediately repair any damage resulting from the construction operations.

B. The Contractor, however, shall bear full responsibility for obtaining all locations of underground structures and utilities (including existing water services, drain lines, gas, power, and sewers). The Contractor shall maintain services to buildings and pay costs or charges resulting from damage to such services.

C. Notify all utility companies in writing at least 72 hours (excluding Saturdays, Sundays, and legal holidays) before excavating in any public way. Also notify Sunshine State One Call of Florida, telephone 1-800-638-4097, at least 72 hours before starting work.

D. If, in the opinion of the Engineer, permanent relocation of a utility owned by the County is required, the Engineer may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for at the Contract unit prices, if applicable, or as extra work under the General Conditions. If relocation of a privately owned utility is required, the Engineer will notify the Utility to perform the work as expeditiously as possible. The Contractor shall cooperate with the Engineer and Utility. No claim for delay will be allowed due to such relocation.

E. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be part of the work under the Contract and all costs associated shall be included in the Contract Price.

1.09 WATER FOR CONSTRUCTION PURPOSES

A. In locations where public water supply is available, the Contractor may be allowed to use water for construction purposes. The cost to obtain water shall be included in the Contract Price.

B. The express approval of the Owner shall be obtained before water is used. Hydrants shall only be operated under the supervision of the Owner personnel.

C. Waste of water by the Contractor shall be sufficient cause for withdrawing the use of water.

D. The Owner shall only provide water for hydraulic testing of the largest water-bearing structure.

1.10 MAINTENANCE OF FLOW

A. Provide for the flow of sewers, drains, and water courses interrupted during the progress of the work, and immediately cart away and remove all deleterious and offensive matter. Discuss the entire procedure of maintaining existing flow with the Engineer well in advance of the interruption of any flow.

1.11 COOPERATION WITHIN THIS CONTRACT

A. All firms or persons authorized to perform any work under this Contract shall cooperate with the General Contractor and subcontractors or trades and assist in incorporating the work of other trades where necessary or required.

B. Cutting and patching and drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated in this Section or directed by the Engineer.

1.12 CLEANUP AND DISPOSAL OF EXCESS MATERIAL

A. During the Work, keep the site of operations as clean and neat as possible. Dispose of all residue resulting from the construction work and at the conclusion of the work remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures, and any other refuse remaining from the construction operations and leave the entire site of the work in a neat and orderly condition.

B. To prevent environmental pollution arising from the construction activities related to the performance of this Contract, comply with all applicable Federal, State, and local laws and regulations concerning waste material disposal, as well as the specific requirements stated in this Section and in other related sections.

C. Disposing of excess excavated material in wetlands, stream corridors, and plains is strictly prohibited even if the permission of the property owner is obtained. Any violation of this restriction by the Contractor or any person employed by the Contractor will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. The Contractor will be required to remove the fill and restore the area impacted at no increase in the Contract Price.

1.13 SPECIAL WORK HOUR LIMITATIONS

A. The Contractor shall limit hours of operation in accordance with Section 01100, Summary of Work. No work shall be performed at night, on Sundays, or on legal holidays except in cases of emergency. The Engineer must authorize all exceptions to this work-hour limitation in writing.

1.14 CHARACTER OF THE CONTRACTOR'S SUPERINTENDENT AND WORKERS

A. The Contractor's superintendent and project manager shall conduct themselves in a professional manner. If, in the opinion of the Owner and the Engineer, the superintendent and project manager do not conduct themselves in a professional and courteous manner, the Engineer can recommend to the Owner that the superintendent and/or the project manager be relieved of their responsibilities and removed from the project. Upon written notice from the Owner, the Contractor shall immediately remove the superintendent and/or the project manager of their responsibilities and removed from the project. The work of this project must be conducted under the supervision of a full-time superintendent.

B. Any person employed by the Contractor or by any subcontractor who in the opinion of the Engineer does not conduct him/herself in a professional and courteous manner or is intemperate or disorderly, shall at written request of the Engineer, be removed immediately by the Contractor or subcontractor employing such person, and that person shall not be allowed to work on any other portion of work in this Contract without written approval of the Engineer. Should the Contractor fail to remove such person(s) or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may recommend to the Owner that the work be suspended until compliance with such orders has been met. Contract time will not be stopped during this time.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01740
FINAL CLEANING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall execute cleaning during progress of the Work and at the completion of the Work as required by General Conditions.

1.02 ENVIRONMENTAL CONCERNS

A. Cleaning and disposal operations shall comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

The Contractor shall do the following:

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

B. Use only those cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned.

C. Use cleaning materials only on surfaces recommended by the cleaning material manufacturer.

PART 3 EXECUTION

3.01 PERIODIC CLEANING

The Contractor shall do the following:

A. Execute periodic cleaning to keep the work, the site, and adjacent properties free from accumulations of waste materials, rubbish, and windblown debris.

B. Provide onsite containers for the collection of waste materials, debris, and rubbish.

C. Remove waste materials, debris, and rubbish from the site periodically and dispose of at legal areas away from the site.

3.02 DUST CONTROL

The Contractor shall do the following:

A. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

3.03 FINAL CLEANING

The Contractor shall do the following:

A. Employ skilled workers for final cleaning.

B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from interior and exterior surfaces exposed to view.

C. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.

D. Before final completion or Owner occupancy, inspect exterior surfaces exposed to view and all work areas to verify that the entire Work is clean.

END OF SECTION

SECTION 01745
MISCELLANEOUS WORK AND CLEANUP

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment, and incidentals required and perform the miscellaneous work not specified in other sections but obviously necessary for the proper completion of the work as shown on the Drawings.

B. When applicable, perform the work in accordance with other related sections. When no applicable specification exists, perform the work in accordance with the best modern practice and/or as directed by the Engineer.

C. The work of this Section includes but is not limited to the following:

1. Crossing and relocating existing utilities.
2. Restoring driveways.
3. Cleaning up.
4. Performing incidental work.
5. Protecting and/or removing and reinstalling/replacing signs, lampposts, and mailboxes.
6. Restoring and replacing curbing.
7. Protecting and bracing utility poles.
8. Restoring easement and rights-of-way.
9. Construction signage.
10. Obtaining and complying with construction permits.
11. Removing trees.

D. Submit to the Engineer a breakdown of the lump sum for miscellaneous work and cleanup, including the above items at a minimum. This breakdown shall be subject to the approval of the Engineer and when so approved shall be the basis for determining progress payments and for negotiating change orders, if required.

1.02 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. FDOT Design Standards for Design, Construction, Maintenance, and Utility Operations on the State Highway System

1. Index Series 600—Traffic Control Through Work Zones.

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials required for this Section shall be the same quality of materials that are to be restored. Where possible, re-use existing materials that are removed.

PART 3 EXECUTION

3.01 CROSSING AND RELOCATING EXISTING UTILITIES

A. Perform any extra work required in crossing culverts, watercourses including brooks and drainage ditches; storm drains; gas mains; water mains; electric, telephone, gas and water services; and other utilities. This work shall include bracing, hand excavation, backfill (except crushed stone), and any other work required for crossing the utility or obstruction not included for payment in other items in the Bid Form. Notification of Utility Companies shall be as specified in Section 01355, Special Provisions.

B. In locations where existing utilities cannot be crossed without interfering with the construction of the work as shown on the Drawings, remove and relocate the utility as directed by the Engineer or cooperate with the Utility Companies concerned if they relocate their own utility.

C. At pipe crossings and where designated by the Engineer, furnish and place crushed stone bedding so that the existing utility or pipe is firmly supported for its entire exposed length. The bedding shall extend to the mid-diameter of the pipe crossed. Payment for crushed stone at pipe crossings will be made according to the unit price bid in the Bid Form.

3.02 RESTORING BITUMINOUS CONCRETE DRIVEWAYS AND SIDEWALKS

A. Existing public and private driveways disturbed by the construction shall be replaced. Paved drives shall be repaved to the limits and thicknesses existing before construction. Gravel drives shall be replaced and regraded in kind.

B. Existing public and private sidewalks disturbed by the construction shall be replaced with sidewalks of equal quality and dimension.

3.03 CLEANING UP

A. Remove all construction material, excess excavation, buildings, equipment, and other debris remaining on the job as a result of construction operations and restore the site of the work to a neat and orderly condition.

3.04 INCIDENTAL WORK

A. Perform all incidental work not otherwise specified but obviously necessary to the proper completion of the work as shown on the Drawings and as specified in this Section.

3.05 PROTECTION AND/OR REMOVAL AND REINSTALLATION/REPLACEMENT OF SIGNS, LAMPPOSTS, AND MAILBOXES

A. Existing signs, lampposts, and mailboxes that may be damaged or removed when installing the new pipelines shall be reinstalled in a vertical position in the same location from which they were removed. Replace damaged items with items of equal or better quality than the damaged items. Provide a concrete anchor as necessary to ensure a rigid alignment. Exercise care in reinstalling all items to prevent damage to the newly installed pipelines.

3.06 RESTORATION AND REPLACEMENT OF CURBING

A. The Contractor shall protect concrete, bituminous, or timber curbing. If necessary, remove curbing and replace it after backfilling. Curbing that is damaged during construction shall be replaced with curbing of equal quality and dimension at the Contractor's expense.

3.07 PROTECTION AND BRACING OF UTILITY POLES

A. Make all arrangements with the proper utility companies for bracing and protecting all utility poles that may be damaged or endangered by the operations. Work under this item shall include the related removal and reinstallation of guy wires or support poles whether shown on the Drawings or not.

3.08 RESTORING EASEMENTS AND RIGHTS-OF-WAY

A. The Contractor shall be responsible for all damage to private property due to the operations. Protect from injury all walls, fences, cultivated shrubbery, vegetables, fruit trees, pavement, underground facilities such as water pipe, or other utilities that may be encountered along the route. If removal and replacement are required, it shall be done in a workmanlike manner so that replacement is equivalent to that which existed before construction.

B. Existing lawn and sod surfaces damaged by construction shall be replaced. Cut and replace the lawn and sod or restore the areas with an equivalent depth and quality of loam, seed, and fertilizer as necessary to produce a stand of grass at least equal to that existing before construction. These areas shall be maintained and reseeded, if necessary, until all work under this Contract has been completed and accepted. Any additional work required to restore the property to the original condition shall be performed.

C. Existing trees, shrubs, plants, and bushes outside of easements shall be fully protected as specified in Section 01355, Special Provisions. The work shall also include removing and replacing those trees, shrubs, and bushes as indicated on the Drawings. It shall include the careful excavation of the root ball, which shall be wrapped with burlap while out of the ground. Replant the plants after backfilling the trench, stake them in an upright position, and periodically water replanted trees, bushes, and shrubs. The Contractor is fully responsible for ensuring that any and all trees, bushes, and shrubs removed and replanted "take" and return to a viable state. Any replanted item that fails to "take" or that is so damaged as to be unsuitable for replanting shall be replaced, at no additional cost to the Owner, with a tree, bush, or shrub equal to the one removed.

D. As described in Section 02230, Site Preparation, trees damaged beyond repair through no fault of the Contractor shall be removed as directed by the Engineer. Replacement of these trees will be as directed by the Engineer and paid for by the Owner. For bidding purposes, the Contractor shall assume that removing three trees may be required.

E. The Engineer will inspect all work for provisional acceptance upon the written request received at least 10 days before the expected date of inspection.

1. At the end of this period, any plant that is missing, dead, or not in satisfactory growth, as determined by the Engineer, shall be replaced.
2. All replacements shall be plants of the same kind and size. They shall be furnished and planted as specified in this Section. The cost of replacement shall be borne by the Contractor except where it can be definitely shown that loss resulted from vandalism or the Owner's failure to maintain plantings as instructed.
3. At the end of the guarantee period, the Engineer will inspect the plantings upon written request submitted by the landscape contractor at least 10 days before the expected date.
4. After all necessary corrective work has been completed and tree staking has been removed, the Engineer will certify in writing the final acceptance of the planting.

3.09 CONSTRUCTION SIGNAGE

A. Furnish, install, maintain, and remove warning devices and traffic and construction signs in accordance with FDOT Index Series 600 and as directed by the Engineer.

3.10 PERMITS

A. The Contractor is responsible for obtaining and complying with all permits or their implementation, including the Minor Impact Wetlands Permit and the NPDES Construction Dewatering Permit.

3.11 TREE REMOVAL

A. Various trees within the project area shall be removed before construction as required in the Construction Documents. Coordinate removal with the County and the Homeowner. The Contractor is responsible for all damage to private property due to the operations. Protect from injury all walls, fences, cultivated shrubbery, pavement, underground facilities such as water pipe, or other utilities that may be encountered in the area. Any additional work required to restore the property to its original condition, other than the tree removal, shall be performed.

END OF SECTION

SECTION 01770
PROJECT CLOSEOUT

PART 1 GENERAL

1.01 SUBSTANTIAL COMPLETION

A. When the Contractor considers that the Work or designated portion of the Work is Substantially Complete, the Contractor shall submit written notice to the Engineer with a list of items to be completed or corrected.

B. If the Engineer's review finds that the Work is not substantially complete, the Engineer will promptly notify the Contractor in writing, listing observed deficiencies.

C. The Contractor shall remedy deficiencies and send a second written notice of Substantial Completion.

D. When the Engineer finds the Work is Substantially Complete, the Engineer will prepare a Certificate of Substantial Completion.

1.02 FINAL COMPLETION

A. When the Contractor considers that the Work or designated period of the Work is complete, the Contractor shall submit written certification to the Engineer indicating the following:

1. The Contract Documents have been reviewed.
2. The Work has been reviewed for compliance with the Contract Documents.
3. The Work has been completed in accordance with the Contract Documents and deficiencies listed with Certificates of Substantial Completion have been corrected.
4. The Work is complete and ready for final inspection.
5. All required shop drawings, catalog cuts, operations and maintenance manuals, instruction manuals, test reports, samples, spare parts, training, and all other submittals have been submitted and reviewed by the Engineer.
6. All deliverables have been delivered or placed as accepted by the Engineer.

B. If the Engineer's review reveals that the Work is incomplete, the Engineer will promptly notify the Contractor in writing listing observed deficiencies.

C. The Contractor shall remedy deficiencies and send a second certification of Final Completion.

D. When the Engineer finds that the Work is complete, the Engineer will consider closeout submittals.

1.03 ADDITIONAL REVIEW FEES

A. If the status of Completion of Work requires more than two reviews of the Work by the Engineer due to failure of the Work to comply with the Contractor's claims on the first and second reviews, the Owner will deduct from the final payment to the Contractor the amount of the Engineer’s compensation for additional review services.

1.04 CLOSEOUT SUBMITTALS

A. Evidence of Compliance with Requirements of Governing Authorities:

1. All required Certificates of Government Inspections.

B. Record Documents: Under provisions of Section 01785, Record Documents.

C. Evidence of Payment and Release of Liens: In accordance with Conditions of the Contract.

D. Consent of Surety to Final Payment.

1.05 STATEMENT OF ADJUSTMENT OF ACCOUNTS

A. Submit final statement reflecting adjustments to total Contract Price, indicating the following:

1. Original total Contract Price.
2. Previous change orders.
3. Changes under allowances.
4. Changes under unit prices.
5. Deductions for uncorrected Work.
6. Penalties and bonuses.
7. Deductions for liquidated damages.
8. Deductions for Engineer’s additional review fees.
9. Other adjustments to total Contract Price.
10. Total Contract Price as adjusted.

11. Previous payments.
12. Sum remaining due.

B. Upon the Owner's review and approval, the Engineer will issue a final Change Order reflecting approved adjustments to the total Contract Price not previously made by change orders.

1.06 APPLICATION FOR FINAL PAYMENT

A. Submit application for final payment in accordance with provisions of Conditions of the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01780
WARRANTIES AND BONDS

PART 1 GENERAL

1.01 SCOPE OF WORK

The Contractor shall do the following:

A. Compile specified warranties and bonds.
B. Co-execute submittals when so specified.
C. Review submittals to verify compliance with Contract Documents.
D. Submit submittals to the Owner for review.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Assemble warranties, bonds, and service and maintenance contracts executed by each of the respective manufacturers, suppliers, and subcontractors.

B. Number of original signed copies required: two each.

C. Table of Contents: Neatly typed, in sequence of the Specifications. Provide completion information for each item as follows:

1. Product or work item.

2. Firm, address, telephone and fax numbers, and name and email of principal.

3. Scope.

4. Date of beginning of warranty, bond, or service and maintenance contract.

5. Duration of warranty, bond, or service and maintenance contract.

6. Provide information for Owner's personnel:

a. Proper procedure in case of failure.
b. Instances that might affect the validity of warranty or bond.

7. Contractor, with address, telephone and fax numbers, and the name and email of responsible principal.

D. Submittal of warranties, bonds, and service and maintenance contracts shall be included in submittals for review and before Final Completion with actual dates included.

E. The Contractor's obligation to correct defective or nonconforming Work shall run for 1 year (or such longer period may otherwise be specified in the Contract Documents) beginning from the date Substantial Completion is achieved.

1.03 WARRANTIES

A. The warranty shall guarantee against the manufacturing and/or design inadequacies, materials, and workmanship not in conformity, improper assembly, hidden damage, failure of devices and/or components, excessive leakage, or other circumstances which would cause the equipment to fail under normal design and/or specific operating conditions for 1 year or such longer period as may be shown and/or specified from and after the date of Substantial Completion.

B. The Contractor shall replace and install each piece of equipment, device, or component which shall fail within the term specified above of the guarantee with reasonable promptness without increase in the Contract Price. If the Contractor fails to provide timely repairs as specified in this Section, the Owner shall issue a claim against the Contractor's Bond. In some instances, if approved by the Owner, the Contractor may be allowed to repair the equipment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01785
RECORD DOCUMENTS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section details the minimum requirements for the Contractor for maintenance and recording of Record Documents and Record Drawings.

B. The Contractor shall retain the services of a State of Florida licensed Professional Land Surveyor (PLS) to prepare Record Drawings.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance, and record documents as specified below:

A. The Contractor shall institute a computerized record control program.

B. The Contractor shall make documents and samples available at all times for inspection by the Owner.

C. The Contractor shall submit to the Owner the name and address of the licensed PLS, along with the following:

1. Documentation of current State of Florida licensure as a PLS.
2. Documentation of a current State of Florida business license to practice surveying.
3. Documentation demonstrating three projects within the past 5 years where the surveyor performed field engineering and record drawing preparation using AutoCAD 2018 or later for projects of a similar type and size as the work covered by the Contract Documents.

D. At Substantial Completion, the Contractor shall submit for review and approval all Record Documents including Record Drawings with cover letter to the Owner, listing the following:

1. Date.
2. Project Title and Number.
3. Contractor’s Name and Addresses.
4. PLS name and Florida license number.
5. Number and Title of each Record Document.

6. Electronic file names.
7. Signature of Contractor or its Authorized Representative.
8. Contract Section and Subsection numbers.
9. Location.

E. Before assembling and submitting records, the Contractor shall review for completeness the records maintained by its subcontractors.

F. Submit three sets of hard copy record drawings and electronic record drawings in PDF format, prepared and printed from updated AutoCAD contract drawings as discussed in this Section to the Owner for review and comment or approval. Deficiencies in the Record Drawings shall be corrected before final payment and contract closeout. Printed and electronic transmittals shall be clearly labeled with the appropriate project number, client name, date, and file names. If files are compressed, a description of the compression software must be included along with a copy of the appropriate uncompressing software.

G. Final Record Drawings shall be signed and sealed by the PLS. Electronic Record Drawing submittals in PDF format shall be digitally signed and sealed in accordance with State of Florida requirements.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROJECT RECORD

A. The Contractor shall label and file Record Documents and samples in accordance with the corresponding Specification Section number. Each document shall be labeled “PROJECT RECORD” in neat, large, printed letters. Record Documents shall be maintained in a clean, dry, and legible condition. Record documents shall not be used for construction purposes.

3.02 RECORDING

The Contractor shall record construction information as follows:

A. Record and update daily Record information from field notes on a set of opaque Contract Drawings and to the satisfaction of the Owner.

B. Provide felt tip marking pens, maintaining separate colors for each major system, for recording information.

C. Record information concurrently (daily) with construction progress. Work shall not be concealed until required information is recorded.

D. The Contractor shall present the field logbook containing swing tie information and red-lined as-built drawings at each monthly construction meeting for review by the Owner. Failure to produce adequate as-built information will be grounds for withholding appropriate funds from the monthly payment applications.

E. The Contractor's PLS shall perform all field surveying and Computer Assisted Design (CAD) Drawing preparation in AutoCAD necessary to prepare signed and sealed (certified) Record Drawings for all site improvements (stormwater, paving, grading, utilities, building corners, structures, signs, other surface and subsurface improvements, etc.) as detailed herein, as well as elsewhere in the Contract Documents and as may be required by applicable permits for as-built certification and closeout.

F. The Contractor shall perform all other field recording for facilities and other improvements not covered by the PLS, and prepare CAD Drawings in AutoCAD showing as-built conditions of the improvements constructed under this project.

3.03 RECORD DRAWINGS

A. Record Drawings shall be a special revision of the construction drawings and shall reflect the following:

1. Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
3. Field changes of dimension and detail.
4. Changes made by modifications.
5. Top-of-wall elevations, northing and easting coordinates, and slab elevations of all new and modified structures.
6. For underground piping, northing and easting coordinates of valves elbows, tees, and invert elevations.
7. Details not on original construction drawings.
8. At locations where a top-of-pipe elevation or centerline is required for pipeline, a top-of-ground or top-of-pavement elevation shall also be measured and noted on the Drawings.
9. On Record Drawings, at locations where the horizontal or vertical dimensions of constructed pipelines, structures, equipment, and other improvements deviate from the horizontal positions that were shown on the construction Drawings, the actual positions of the pipelines or structures shall be measured and redrawn to depict their actual positions

on the Record Drawings, and their original design positions shall be cross-hatched out, screened back to a lighter shade, or other notations to indicate the change between design and as-built.

10. Record information shall include a thorough description of the improvements that have been installed, including types of material, size, class, diameter, diameter ratio, deviations from the design, and other basic information.
11. For new valves, the manufacturer type (e.g., gate, plug, ball), size (pipe nominal diameter), and make (manufacturer) of each valve shall be noted on the Record Drawings.
12. The drawings scales used in the Record Drawings shall be the same as were used in the Contract Drawings, and the sheet number of each Record Drawing sheet shall be the same as the sheet numbers that were used on the Contract Drawings from which the Record Drawings originate.
13. Record Drawings shall accurately depict all existing improvements lying within the immediate vicinity of the constructed facilities. Existing improvements shall include but not be limited to sidewalks, fences, road surfaces, buildings, and other utilities. Immediate vicinity includes areas within utility easements, right-of-way corridors, and also includes areas within 15 feet of new potable water mains, force mains, gravity sewer mains, storm pipes, power and communications lines, gas piping, and other utilities. Immediate vicinity also includes areas within 10 feet of potable water meters, backflow preventers, and fire hydrants. Rights-of-way, easements, and property corners shall be shown and shall be of sufficient detail as to confirm that constructed facilities are within appropriate property boundaries, easements, or rights-of-way. A reference to the recording document (O.R. Book or Plat Book and Page) shall be included with any depiction of a right-of-way, easement, or property boundary.
14. Each roadway depicted on the Drawings shall have the correct roadway name noted on it.
15. Horizontal locations required for valves, fittings, services, and other utility structures shall be to the center of each installation. Top-of-ground or pavement elevations required along pipelines shall be reported to the nearest 0.1 foot. Top-of-pipe elevations shall be reported to the nearest 0.1 foot. Elevations of manhole rims and manhole pipe inverts shall be reported to the nearest 0.1 foot. Top-of-wall elevations shall be reported to the nearest 0.02 foot. Weir and gate elevations shall be reported to the nearest 0.02 foot.
16. All sheets that were used to depict locations and elevations of utility structures in the Construction Drawings shall be included in the Record Drawings set.
17. Record information shall be presented in a clear and comprehensible form.

18. Abandoned-in-place water main pipe shall be shown in their actual positions.

B. CAD Requirements for Record Drawings: The Contractor shall, upon completion of the work, provide the Owner with a complete set of Record Drawings that includes as-built information updated in AutoCAD on the original Contract Drawings. The Record Drawings shall include every drawing that is in the Contract Drawing set, plus any supplemental drawings necessary to convey the as-built information. Supplemental drawings shall use the same title block as the other Record Drawings with supplemental unique page numbers. No additional compensation will be allowed for the Contractor to provide the Record Drawings. The Contractor shall use the AutoCAD drawings furnished by the Owner for this purpose. Record Drawings must be submitted in the AutoCAD format of the Contract Drawings. No other CAD software or format will be accepted. The Contractor is solely responsibility for ensuring that the Record Drawings conform to the following CAD requirements:

1. All changes to drawings must be done in accordance with the same scale of the drawing revised and shall be delineated by placing a "cloud" around the areas revised and adding a revision triangle indicating the appropriate revision number.
2. Each drawing must have the revision block completed to indicate the revision number, date, and initials of the person revising the drawing. The description of the revision must say "Record Drawing." This procedure must be followed for every drawing even when no changes are made to the drawing.
3. All revisions to drawings must be put on separate layers with the layer names prefixed Record followed by the appropriate existing layer name. The colors and line types of the appropriate existing layers shall be adhered to when creating new layers.

C. The Contractor’s PLS shall sign and seal the Record Drawings certifying them as true, accurate, correct, and complete, and that all data were collected in the field by the PLS or by a representative under the direct supervision of the surveyor. All visible record features, including sewer and drainage inverts, must be measured and located by the surveyor or by personnel under his or her direct supervision. The certifying surveyor shall be fully responsible for the accuracy of the record locations and elevations shown on the Record Drawings.

1. The Contractor’s surveyor shall resurvey all visible surface structures as part of the Record Drawings submittal, including, but not limited to, valve boxes, hydrants, relocated or new water meter boxes, automatic blow-off assemblies, walls, gates, and weirs.
2. Horizontal locations shall be tied to Geodetic Datum (NAD) 83.

3. Elevations shall be tied to North American Vertical Datum (NAVD) 88. Elevations tied to National Geodetic Vertical Datum (NGVD) 29 shall be converted to NAVD 88.

D. Record Drawings for facilities and other improvements not covered by their PLS shall be signed by the Contractor certifying the Record Drawings as being an accurate representation of as-built conditions. The Owner reserves the right to reject record drawings that do not accurately represent as-built conditions, and the Contractor shall be responsible for correcting the record drawings at no additional cost to the Owner.

END OF SECTION

DIVISION 2

SITE CONSTRUCTION

SECTION 02220
DEMOLITION AND MODIFICATIONS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment, and incidentals required and demolish, modify, remove, and dispose of work shown on the Drawings and as specified in this Section.

B. The work includes but is not limited to demolishing, modifying, and removing existing materials, equipment, or work necessary to install the new work as shown on the Drawings and as specified in this Section and to connect with existing work in an approved manner.

C. Demolition, modifications, and removals which may be specified under other Sections shall conform to requirements of this Section.

D. Demolition and modifications include:

1. Removal and disposal of existing asphalt, base, concrete structures, piping, fencing, and miscellaneous items as shown on the Drawings.
2. Off-site disposal of excess and unacceptable materials.

E. Blasting and the use of explosives will not be permitted for any demolition work.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Furnish a detailed sequence of demolition and removal work to ensure the uninterrupted progress of the Owner's operations. The sequence shall be compatible with sequence of construction and shutdown coordination requirements.

B. Before beginning demolition work, the Contractor shall complete all modifications necessary to bypass the affected structure. Actual work shall not begin until the Engineer has observed and approved the modifications and authorized beginning the demolition work in writing.

1.03 QUALITY ASSURANCE

A. The Contractor shall engage the service of a professional engineer registered in the State of Florida for the design of the temporary shoring/bracing of the existing structure and hung utilities during the demolition, repair, or replacement of existing infrastructure.

1.04 JOB CONDITIONS

A. Protection

1. The Contractor shall conduct the demolition and removal work to prevent damage or injury to structures, equipment, piping, instrumentation, conduit, light fixtures, etc., and occupants of the structures and to adjacent features that might result from falling debris or other causes, and not interfere with the use and free and safe passage to and from adjacent structures.

B. Scheduling

1. The Contractor shall carry out operations to avoid interference with operations and work in the existing facilities.

C. Notification

1. At least 48 hours before beginning demolition or removal, the Contractor shall notify the Owner in writing of the proposed schedule of the demolition or removal.

D. Conditions of Structures

1. The Owner and the Engineer assume no responsibility for the actual condition of the structures to be demolished or modified.
2. Conditions existing at the time of inspection for bidding purposes will be maintained by the Owner insofar as practicable. However, variations within a structure may occur before the start of demolition work.

E. Repairs to Damage

1. The Contractor shall promptly repair damage caused to adjacent facilities by demolition operation when directed by the Engineer and at no cost to the Owner. Repairs shall be made to a condition at least equal to that which existed before construction.

F. Traffic Access

1. The Contractor shall conduct demolition and modification operations and remove equipment and debris to ensure minimum interference with roads onsite and to ensure minimum interference with occupied or used facilities.
2. Special attention is directed towards maintaining safe and convenient access to the existing facilities by plant personnel and plant associated vehicles.

1.05 RULES AND REGULATIONS

A. The County shall control the demolition, modification, or alteration of the existing buildings or structures.

B. No building or structure or any part thereof shall be demolished until an application has been filed with the Building Inspector and a permit issued. The fee for this permit shall be the Contractor's responsibility.

1.06 DISPOSAL OF MATERIAL

A. Salvageable material and equipment shall become the property of the Owner. The Contractor shall dismantle all such items to a size that can be readily handled and deliver them to a designated storage area.

B. All other material and items of equipment shall become the Contractor's property and must be removed from the site.

C. Storing or selling removed items on the site will not be allowed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. All materials and equipment removed from existing work shall become the property of the Contractor, except for those which the Owner has identified and marked for his/her use. All materials and equipment marked by the Owner to remain shall be carefully removed so as not to be damaged and shall be cleaned and stored on or adjacent to the site in a protected place specified by the Engineer or loaded onto trucks provided by the Owner.

B. The Contractor shall dispose of all demolition materials, equipment, debris, and all other items—except those marked by the Owner to remain—off the site and in conformance with all existing applicable laws and regulations.

C. Pollution Controls

1. Use water sprinkling, temporary enclosures, and other suitable methods to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level. Comply with governing regulations pertaining to environmental protection.

a. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
b. Clean adjacent structures, facilities, and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to conditions existing before starting the work.

3.02 STRUCTURAL REMOVALS

A. The Contractor shall remove structures to the lines and grades shown unless otherwise directed by the Engineer.

B. All demolition debris shall be removed and taken from the site, unless otherwise approved by the Engineer.

C. After parts or all of slabs and like work which tie into new work or existing work are removed, the point of junction shall be neatly repaired so as to leave only finished edges and surface exposed.

3.03 DEMOLITION, REPLACEMENT, AND REPAIR

A. Structural elements shall not be overstressed. The Contractor shall be responsible for shoring and/or bracing as required and indicated on the Drawings for adequate structural support as a result of work performed.

B. Before demolition, the Contractor shall provide temporary shoring and/or bracing of the structure and hung utilities as indicated on the Drawings.

C. The shoring and/or bracing shall remain in place until the repair mortar and/or concrete in each stage has attained design strength.

3.04 CLEAN-UP

A. The Contractor shall remove from the site all debris resulting from the demolition operations as it accumulates. Upon completion of the work, the Contractor shall remove all materials, equipment, waste, and debris of every sort and shall leave the premises clean, neat, and orderly.

END OF SECTION

SECTION 02230
SITE PREPARATION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, and equipment required and perform all site preparation, complete as shown on the Drawings and as specified in this Section.

B. The Contractor shall obtain all permits required for site preparation before proceeding with the work, including clearing and tree removal.

C. The areas to be cleared, grubbed, and stripped within public rights-of-way and utility easements shall be minimized to the extent possible for the scope of pipeline work and in consideration of the actual means and methods of construction used. No unnecessary site preparation shall be performed within these areas.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance.

A. Submit to the Owner copies of all permits required before clearing, grubbing, and stripping work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CLEARING

A. The Contractor shall cut and remove all timber, trees, stumps, brush, shrubs, roots, grass, weeds, rubbish, and any other objectionable material resting on or protruding through the surface of the ground.

B. The Contractor shall preserve and protect trees and other vegetation designated on the Drawings or directed by the Engineer to remain as specified below.

3.02 GRUBBING

A. The Contractor shall grub and remove all stumps, roots in excess of 1-1/2 inches in diameter, matted roots, brush, timber, logs, concrete rubble, and other debris encountered to a depth of 18 inches below original grade or 18 inches beneath the bottom of foundations, whichever is deeper.

B. The Contractor shall refill all grubbing holes and depressions excavated below the original ground surface with suitable materials and compact to a density conforming to the surrounding ground surface in accordance with Section 02300, Earthwork for Structures, and Section 02305, Earthwork for Utilities.

3.03 STRIPPING

A. The Contractor shall strip topsoil from all areas to be occupied by buildings, structures, and roadways and all areas to be excavated or filled.

B. Topsoil shall be free from brush, trash, large stones, and other extraneous material. Avoid mixing topsoil with subsoil.

C. The Contractor shall stockpile and protect topsoil until it is used in landscaping, loaming, and seeding operations and dispose of surplus topsoil after all work is completed.

3.04 DISPOSAL

A. Dispose of material and debris from site preparation operations by hauling such materials and debris to an approved offsite disposal area. No rubbish or debris of any kind shall be buried on the site.

B. Burning of cleared and grubbed materials or other fires for any reason will not be permitted.

3.05 PROTECTION

A. Trees and other vegetation designated on the Drawings or directed by the Engineer to remain shall be protected from damage by all construction operations by erecting suitable barriers, guards and enclosures, or by other approved means. The Contractor shall conduct clearing operations in a manner to prevent falling trees from damaging trees and vegetation designated to remain and to the work being constructed. The Contractor shall provide for the safety of employees and others.

B. The Contractor shall maintain protection until all work in the vicinity of the work being protected has been completed.

C. The Contractor shall not operate heavy equipment or stockpile materials within the branch spread of existing trees.

D. The Contractor shall immediately repair any damage to existing tree crowns, trunks, or root systems. Roots exposed and/or damaged during the work shall immediately be cut off cleanly inside the exposed or damaged area. Treat cut surfaces with an acceptable tree wound paint and topsoil spread over the exposed root area.

E. When work is completed the Contractor shall remove all dead and downed trees. Live trees shall be trimmed of all dead and diseased limbs and branches. All cuts shall be cleanly made at their juncture with the trunk or preceding branch without injury to the trunk or remaining branches. Cuts over 1 inch in diameter shall be treated with an acceptable tree wound paint.

F. The Contractor shall restrict construction activities to those areas within the limits of construction designated on the Drawings, within public rights-of-way, and within easements provided by the Owner. Adjacent properties and improvements on these properties, public or private, which become damaged by construction operations shall be promptly restored to their original condition to the full satisfaction of the property owner.

G. The Contractor shall remove trees damaged beyond saving, through no fault of the Contractor, as directed by the Engineer.

END OF SECTION

SECTION 02240
DEWATERING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section covers the work necessary to complete the dewatering activities. All work in this Section shall be performed in accordance with the requirements of the Environmental Resource Permit as issued by Suwannee River Water Management District.

B. In addition to the requirements listed in this Section, the Contractor shall obtain, if required, and comply with all requirements of the Generic Permit for the Discharge of Ground Water From Any Non-Contaminated Site Activity as described in FAC 62-621-300.

C. Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control groundwater flow into excavations and permit construction to proceed on dry, stable subgrades.

1. Maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation does not flood, and that damage to subgrades and permanent structures is prevented.
2. Prevent surface water from entering excavations by grading, dikes, or other means.
3. Remove dewatering system if no longer needed.

D. The Contractor shall dewater so as to prevent damage to existing work. The Contractor shall repair or replace damage resulting from the dewatering activities promptly, remedy environmental damage as approved by the Engineer, and pay any and all fines levied to Contractor at no additional cost or time to the Owner.

E. The Dewatering Plan shall be signed and sealed by the licensed professional engineer responsible for its preparation.

F. The Contractor shall design the dewatering system. The Contractor shall be responsible for obtaining whatever investigations are necessary, before bidding, to design the dewatering system.

1.02 SUBMITTALS

The Contractor shall submit the following in accordance with Section 01330, Submittals and Acceptance:

A. Before construction, the Contractor shall obtain a dewatering permit from the Suwannee River Water Management District as required. At a minimum, the dewatering plan submitted with the dewatering application shall include the following:

1. Duration of dewatering for each area.
2. Number and size of pumps.
3. Method of dewatering each area.
4. Methods for routing/containing the discharge.
5. Methods of isolating dewatering areas.
6. Time dewatering structure will be in place.
7. Proposed discharge points.

Five copies of the plan shall be submitted to the Owner for record purposes only.

B. The Contractor shall be responsible for determining if a Water Use Permit will be required. If a Water Use Permit is required, it is the Contractor's responsibility to obtain the required information from the Engineer and Owner to complete the Water Use Permit application to submit with the Dewatering Plan. If a Water Use Permit is required, the Contractor shall submit five copies of the application to the Owner/Engineer for submittal purposes only.

C. The Contractor shall be responsible for obtaining a Generic Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity as set forth in FDEP Rule 62-621.300(2), FAC. The Contractor shall obtain the required permit Form 62-621.300(2) and the required information from the Engineer and Owner to complete the Generic Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity application to submit with the Dewatering Plan. The Contractor shall submit five copies of the application to the Owner/Engineer for submittal purposes only.

D. Provide photographs or videotape, sufficiently detailed, of existing conditions of adjoining properties, facilities, and other construction and site improvements that might be later misconstrued as damage caused by dewatering operations.

E. Submit Record Drawings at Project closeout identifying and locating utilities and other subsurface structural, electrical, or mechanical items encountered during dewatering.

1. Note locations and capping depth of wells and well points.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. Florida Administrative Code (FAC)

1. FAC 62-621-300—FDEP – Generic Permits.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with water disposal requirements of authorities having jurisdiction.

B. Pre-installation Conference: Conduct conference at the Project site to present and discuss dewatering means, methods, and monitoring program.

C. Identify a person who shall be present at all times during the execution of this portion of the Work and who shall be thoroughly familiar with the dewatering system being installed for this Project, the referenced standards, environmental and permit requirements, the requirements of this Work, and who shall direct all work performed under this Section.

D. It shall be the responsibility of the Contractor to determine the water levels before and during the dewatering work.

1.05 QUALIFICATIONS

A. The Contractor shall provide at least one person who shall be present at all times during the execution of this portion of the Work and who shall be thoroughly familiar with the dewatering system being installed, the referenced standards, the requirements of this Work, and who shall direct all work performed under this Section.

B. The Contractor shall be responsible for determining the water level before beginning excavation and construction.

1.06 PRE-BID INSPECTION AND TESTING

A. The Contractor is advised that site soil borings may indicate groundwater levels below the levels which may occur in response to normal, seasonal, extreme, or prolonged rainfall. The Contractor is further advised that site soil borings may not necessarily represent soil conditions to be encountered elsewhere on the job site, other than at the specific boring locations.

B. Before bidding, the Contractor shall perform a detailed site inspection and, if desired, obtain the Owner's permission to perform site-specific testing as he deems necessary to obtain all required information relative to project dewatering requirements.

C. The Contractor shall include as part of his Bid the total cost of all surface and subsurface dewatering as required to construct the Project in complete compliance with the Drawings and these Specifications.

1.07 PROJECT CONDITIONS

A. The Contractor shall not interrupt utilities serving facilities occupied by Owner or others unless approved by the Owner and Engineer and then only after arranging to provide temporary utility services according to requirements indicated.

B. A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of the geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by the geotechnical engineer. The Owner will not be responsible for interpretations or conclusions drawn from these data.

1. The geotechnical report is included in an Appendix section of these specifications.
2. Make additional test borings and conduct other exploratory operations necessary for dewatering.

C. Survey adjacent structures and improvements, employing a professional land surveyor licensed in Florida to establish exact elevations at fixed points to monitor settlement. Clearly identify monitoring points and reference vertical datum, and benchmarks. Monitor and record existing initial elevations.

1. During dewatering, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations for comparison with original elevations. Promptly notify the Engineer if changes in elevations occur or

if cracks, sags, or other damage is evident in adjacent construction and existing structures.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 DEWATERING SYSTEM

A. The dewatering system shall be adequate to drain the soils to be excavated to the extent that the piezometric water level in the construction area is a minimum of 2 feet below the bottom of the excavation, side slopes of excavations, or bottom of the footings at all times, or as otherwise required to obtain the specified compaction and installation conditions. Pipeline trenches must be dewatered at least 1 foot below the trench bottom.

B. If layered soils are encountered, the hydrostatic head in the zone below the subgrade elevation shall be relieved to prevent uplift.

C. Unless otherwise noted and before any excavating below or within 2 feet above the groundwater level, a dewatering system shall be placed into operation to lower water levels to the extent specified previously and then shall be operated continuously 24 hours a day, 7 days a week, throughout the excavation to maintain and protect all work until the work has been completed to the satisfaction of the Engineer.

D. Where used, well points shall be installed in an Engineer-approved manner and in sufficient numbers to provide the necessary removal of water as stated previously. Well points and header piping shall be installed so that traffic on public thoroughfares and site access roads will not be impeded.

E. The Contractor shall be solely responsible for the arrangement, location, and depths of the dewatering system necessary to accomplish the specified work. The dewatering system shall stay in full operation until not less than 90% of the total building load is applied, as will be determined by the Engineer, or until excavations and trenches have been backfilled and compacted.

F. To prevent excessive noise, exhaust from all pumps and engines shall be silenced and muffled.

G. Wellpoint or surface water pump discharge shall be controlled to prevent erosion, undermining, and all other damage and be piped to approved locations.

H. With the Engineer's assistance, the Contractor is responsible for determining what approvals and permits are required to comply with any and all applicable regulations and permitting requirements relating to dewatering activities. With the Engineer's assistance the Contractor shall obtain all necessary approvals and permits and comply with any and all applicable regulations and permitting requirements concerning all dewatering activities, including pumpage and discharge. The Contractor is solely responsible for all costs associated with the proper implementation of dewatering activities.

I. The Contractor shall perform all dewatering work in strict compliance with Section 01350, Environmental Protection Procedures, and the Contract Drawings.

J. Excavations shall be kept free from water during the placing of concrete and for 36 hours after or until concrete forms are removed.

K. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.

1. Prevent surface water and subsurface or groundwater from entering excavations, ponding on prepared subgrades, or flooding the site and surrounding area.
2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

L. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

M. Install sufficient dewatering equipment to drain water-bearing strata above and below the bottom of foundations. If excavating through layered soils, relieve any potential groundwater hydrostatic head in the zones below to prevent uplift.

1. Open-sump pumping which leads to loss of fines, subgrade softening, and slope instability shall not be permitted.

N. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water in a manner that avoids flooding or accumulation on private

property. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.

3.02 OBSERVATION WELLS

A. The Contractor shall install observation wells as may be required to record accurate water levels.

B. The Contractor shall be responsible for maintaining all observation wells and observing and recording the elevation of the piezometric water levels daily.

C. Wells damaged or destroyed shall be replaced at no additional cost to the Owner.

3.03 CLEANUP

A. Upon completing dewatering elsewhere on the Project, the Contractor shall remove all equipment and leave the project site in a neat, clean, and acceptable condition satisfactory to the Owner. Wellpoint holes and excavations shall be adequately backfilled and compacted to prevent settlement.

END OF SECTION

SECTION 02300
EARTHWORK FOR STRUCTURES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, equipment, tools, appliances, and materials and perform all operations necessary for the following:

1. Preparing subgrades for slab-on-grade, walks, pavements, and lawns and grasses.
2. Excavating and backfilling for buildings and structures.
3. Laying the subbase course for concrete sidewalks and pavements.
4. Excavating and backfilling for utility trenches.
5. Excavating and backfilling for trenches for buried mechanical and electrical utilities and pits for buried utility structures, as indicated on the Contract Drawings and described in this Section.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D3282 of each onsite and borrow soil material proposed for fill and backfill.
2. Laboratory compaction curve according to ASTM D1557 for each onsite and borrow soil material proposed for fill and backfill.

B. The Contractor shall submit records before the start of this work. The Contractor shall verify that the existing conditions are correct as shown on the plans and mentioned in these Specifications. The Contractor shall note any discrepancies found immediately and notify the Owner and Engineer.

The records shall include the following:

1. The location of all existing underground utilities, structures, etc., surrounding the areas to be excavated that may be impacted by the work.
2. The location of test excavations.
3. The location of inspections.

C. Testing Agency Invoices indicating if the invoice is for an initial test or a re-test of the Contractor's work.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. American Society for Testing and Materials (ASTM)

1. ASTM C33/C33M—Standard Specification for Concrete Aggregates.
2. ASTM D698—Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1556—Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
4. ASTM D1557/D1556M—Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
5. ASTM D2167—Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
6. ASTM D2487—Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
7. ASTM D2937—Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method.
8. ASTM D2940/D2940M—Standard Specification for Graded Aggregate Material For Bases or Subbases for Highways or Airports.
9. ASTM D3282—Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes.
10. ASTM D3740—Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
11. ASTM D6938—Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
12. ASTM E329—Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

B. Occupational Safety and Health Administration (OSHA)

1. OSHA 2226—Trenching and Excavation Safety.

1.04 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E329 to conduct soil materials and definition testing, as documented according to ASTM D3740.

B. The Contractor shall do the following:

1. Ensure that excavations provide adequate working space and clearance for the work to be performed and for installing piping and buried utilities. In no case shall excavation faces be undercut.
2. Ensure that foundation surfaces are clean and free of loose material of any kind when pipelines and buried utilities are placed on them.
3. Perform excavating, trenching, and backfilling in compliance with applicable requirements of governing authorities having jurisdiction.
4. Ensure that shoring and sheeting for excavations are designed by a Florida-registered Professional Engineer and are in accordance with OSHA 2226.
5. Before beginning any excavation or grading, ensure the accuracy of all survey data indicated on the Contract Drawings and in the Specifications and/or as provided. If the Contractor discovers any inaccuracies, errors, or omissions in the survey data, the Contractor shall immediately notify the Owner so that proper adjustments can be anticipated or ordered. If the Contractor begins any excavation or grading, this shall be considered an acceptance of the survey data by the Contractor, after which time the Contractor has no claim against the Owner resulting from alleged errors, omissions, or inaccuracies of the survey data.
6. Ensure that tolerances for excavation are plus or minus 0.10 foot to the required line and to the required grade. Tolerance for compaction of in-place material shall be plus or minus 0.10 foot to the required grade, unless otherwise noted.
7. Remove unsatisfactory materials and unsuitable materials including muck, silts, peat, and other loose and very loose compressible soils from excavations before placing pipe foundation, bedding, and buried utilities.

1.05 PROJECT CONDITIONS

A. Existing Utilities: The Contractor shall not interrupt utilities serving facilities occupied by the Owner or others unless permitted to do so in writing by the Engineer and then only after arranging to provide temporary utility services according to the requirements indicated.

1. Notify the Engineer not less than 2 days in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without the Engineer's written permission.
3. Contact a utility-locator service for the area where the Project is located before excavating.

B. The Contractor shall demolish and completely remove from the site underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

1.06 DEFINITIONS

A. *Backfill*: Soil material or controlled low-strength material used to fill an excavation.

1. *Initial Backfill*: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. *Final Backfill*: Backfill placed over initial backfill to fill a trench.

B. *Base Course*: The course placed between the subbase course and hot-mix asphalt paving.

C. *Bedding Course*: The course placed over the excavated subgrade in a trench before laying pipe.

D. *Borrow Soil*: Satisfactory soil imported from off-site for use as fill or backfill.

E. *Drainage Course*: The course supporting the slab-on-grade that also minimizes the upward capillary flow of pore water.

F. *Excavation*: Removing material encountered above subgrade elevations and to lines and dimensions indicated.

1. *Authorized Additional Excavation*: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by the Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices.
2. *Unauthorized Excavation*: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by the Engineer. Unauthorized excavation as well as remedial work directed by the Engineer shall be without additional compensation.

G. *Fill*: Soil materials used to raise existing grades.

H. *Structures:* Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. *Subgrade*: Surface or elevation remaining after completing excavation or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

J. *Utilities*: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

A. General: The Contractor shall provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: ASTM D3282 Soil Classification Groups A-1 and A-3 and or a combination of these groups, free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsuitable Soils: Soil Classification Groups A-2, A-4, A-5, A-6, A-7, and A-8 according to ASTM D3282, or a combination of these groups.

1. Unsuitable soils also include satisfactory soils not maintained within 2% of optimum moisture content at time of compaction.

D. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 95% passing a 1-1/2-inch sieve and not more than 8% passing a No. 200 sieve.

E. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90% passing a 1-1/2-inch sieve and not more than 12% passing a No. 200 sieve.

F. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; except with 100% passing a 1-inch sieve and not more than 8% passing a No. 200 sieve.

G. Sand: ASTM C33/C33M; fine aggregate, natural, or manufactured sand.

H. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

PART 3 EXECUTION

3.01 PREPARATION

A. The Contractor shall protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. The Contractor shall prepare subgrade for earthwork operations, including removing vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface as specified in Section 02230, Site Preparation.

C. The Contractor shall protect and maintain erosion and sedimentation controls, which are specified in Section 01350, Environmental Protection Procedures.

3.02 DEWATERING

A. The Contractor shall prevent surface water and groundwater from entering excavations, from ponding on prepared subgrades, and from flooding the Project site and surrounding area.

B. The Contractor shall protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
2. Install a dewatering system**,** specified in Section 02240, Dewatering, to keep subgrades dry and convey groundwater away from excavations. Maintain until dewatering is no longer required.

3.03 EXPLOSIVES

A. Explosives: Do not use explosives.

3.04 EXCAVATION, GENERAL

A. Unclassified Excavation: The Contractor shall excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and

obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsuitable soil materials, replace with satisfactory soil materials.

3.05 EXCAVATION FOR STRUCTURES

A. The Contractor shall excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.10 foot. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb the bottom of the excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 0.10 foot. Do not disturb the bottom of excavations intended as bearing surfaces.

3.06 EXCAVATION FOR WALKS AND PAVEMENTS

A. The Contractor shall excavate surfaces under walks and pavements to indicated lines, cross-sections, elevations, and subgrades.

3.07 EXCAVATION FOR UTILITY TRENCHES

A. The Contractor shall excavate trenches to indicated gradients, lines, depths, and elevations.

B. The Contractor shall excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.

1. Clearance: 12 inches on each side of pipe or conduit.

C. Trench Bottoms: The Contractor shall excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape the subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints,

fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed multiple-duct conduit units, hand excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support the bottom 90º of pipe circumference. Fill depressions with tamped sand backfill.
3. Alternately, excavate trenches 4 inches deeper than the bottom of pipe elevation to allow for bedding course. Hand excavate for bell of pipe.

3.08 SUBGRADE INSPECTION

A. The Contractor shall notify the Engineer when excavations have reached the required subgrade.

B. If the Engineer determines that unsuitable soil is present, the Contractor shall continue excavating and replace with compacted backfill or fill material as directed.

C. The Contractor shall proof-roll the subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll the subgrade in one direction**,** repeating proof-rolling in the direction perpendicular to the first direction. Limit vehicle speed to 3 mph.
2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by the Engineer, and replace with compacted backfill or fill as directed.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices or additional work.

E. As directed by the Engineer, the Contractor shall reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities without additional compensation.

3.09 UNAUTHORIZED EXCAVATION

A. The Contractor shall fill unauthorized excavation under foundations or wall footings by extending the bottom elevation of concrete foundation or footing to the excavation bottom without altering the top elevation. Lean concrete fill, with

28-day compressive strength of 2,500 psi, may be used when approved by the Engineer.

1. Fill unauthorized excavations under other construction or utility pipe as directed by the Engineer.

3.10 STORAGE OF SOIL MATERIALS

A. The Contractor shall stockpile excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water.

1. Stockpile soil materials away from edge of excavations. Do not store within the drip line of remaining trees.

3.11 BACKFILL

A. The Contractor shall place and compact backfill in excavations promptly, but not before completing the following:

1. Constructing below finish grade, including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring, bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud.

3.12 UTILITY TRENCH BACKFILL

A. The Contractor shall place backfill on subgrades free of mud.

B. The Contractor shall place and compact the bedding course on trench bottoms and where indicated. Shape the bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. The Contractor shall backfill trenches excavated under footings and within 18 inches of bottom of footings with suitable soil.

D. The Contractor shall place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

E. The Contractor shall backfill voids with satisfactory soil while installing and removing shoring and bracing.

F. The Contractor shall place and compact final backfill of satisfactory soil to final subgrade elevation.

3.13 SOIL FILL

A. The Contractor shall plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. The Contractor shall place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.
3. Under building slabs, use engineered fill.
4. Under footings and foundations, use engineered fill.

C. The Contractor shall place soil fill on subgrades free of mud.

3.14 SOIL MOISTURE CONTROL

A. The Contractor shall uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compacting to within 2% of the optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy.
2. Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2% and is too wet to compact to specified dry unit weight.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS

A. The Contractor shall place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. The Contractor shall place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. The Contractor shall compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D698:

1. Under structures, building slabs, steps, and pavements, scarify and recompact the top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95%.
2. Under walkways, scarify and recompact the top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92%.
3. Under lawn or unpaved areas, scarify and recompact the top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90%.
4. For utility trenches, compact each layer of initial and final backfill soil material at 85% in unpaved lawn areas. Final backfill compaction shall meet the requirement listed above depending on the location of the trench.

3.16 GRADING

A. General: The Contractor shall uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross-sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.17 FIELD QUALITY CONTROL

A. The number and location of the tests shall be as specified in these Specifications and as directed by the Engineer during construction.

B. The Contractor shall coordinate activity with the Engineer and the testing agency to permit testing as directed in the presence of the Engineer.

C. The cost of all testing to achieve specified requirements shall be borne by the Contractor. The Contractor shall be reimbursed by the Owner for passing field tests.

D. The costs of any and all retests due to failure to achieve specified requirements shall be solely borne by the Contractor and are not reimbursable under this contract.

E. All materials proposed for use shall be tested as follows:

Material	Required Test	Min. No. Tests
Satisfactory Soil Materials	Soil Classification using ASTM D3282 (including all tests contained therein)	One per source of materials to determine conformance with materials specified herein; additional test whenever there is any apparent change.
	Soil moisture-density relationship using Modified Proctor ASTM D1557	One per source of material or apparent change in material.

F. The Contractor shall allow the testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after the test results for previously completed work comply with requirements.

G. Footing Subgrade: At footing subgrades the testing agency will perform at least one test of each soil stratum to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by the Engineer.

H. The testing agency will test compaction of soils in place according to ASTM D1556/D1556M, ASTM D2167, ASTM D2937, and ASTM D6938 as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2,000 square feet or less of paved area or building slab, but in no case fewer than three tests.
2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for each 100 feet or less of wall length but no fewer than two tests.
3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 400 feet or less of trench length but no fewer than two tests.

I. When the testing agency reports that subgrades, fills, or backfills have not achieved the degree of compaction specified, the Contractor shall scarify and moisten or aerate or remove and replace soil to the depth required and recompact and retest until specified compaction is obtained.

J. The approved testing agency shall transmit copies of field testing results as follows:

1. One copy to the Owner.
2. Two copies to the Engineer.
3. Two copies to the Contractor.

The field test reports shall include, at a minimum, project title; project location; location of sample(s) tested; time of testing; date of testing; testing person's full name; testing agency name, address, and telephone number; and test results.

K. No soil material shall be used until 1) the Engineer has reviewed and approved test reports and 2) the Contractor submits certification that the soil material proposed for construction is clean and meets gradation and other parameters specified in these Specifications.

L. At no cost to the Owner, the Contractor shall remove and replace or correct all materials and work which, in the opinion of the Engineer, tests indicate do not conform to the requirements of these Specifications.

M. The results of in-place density tests shall be considered satisfactory if the density in each instance is equal to or greater than the specified density. Soil moisture content at the time of testing shall conform to requirements of these Specifications.

N. Where unsatisfactory compaction is revealed by the tests, the Contractor shall re-excavate, backfill, recompact, and/or rework the backfill as required to obtain the required degree of compaction over the entire depth of the excavation.

O. The testing agency shall transmit to the Engineer copies of all testing agency invoices submitted to the Contractor for payment. Invoices shall clearly indicate specific services and date and time services are rendered and shall indicate if the invoiced testing cost is an initial test of the Contractor's work or is a re-test required due to the Contractor's failure to initially achieve the specified requirements.

3.18 PROTECTION

A. Protecting Graded Areas: The Contractor shall protect newly graded areas from traffic and erosion and keep them free of trash and debris.

B. The Contractor shall repair and reestablish grades to the specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by the Engineer; reshape and recompact.

C. Where settling occurs before the Project Correction Period elapses, the Contractor shall remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: The Contractor shall transport surplus satisfactory soil to designated storage areas on the Owner's property and stockpile and spread this soil as directed by the Engineer.

1. Remove waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION

SECTION 02305
EARTHWORK FOR UTILITIES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall provide all materials, equipment, labor, and work necessary to completely construct the project in accordance with the Contract Documents. This work includes but is not limited to the following:

1. Excavating and removing unsatisfactory materials.
2. Preparing trench foundations.
3. Providing satisfactory material for all trenches as specified and as required.
4. Obtaining, storing, maintaining, and disposing of materials.
5. Dewatering, shoring, and sheeting.
6. Placing, compacting, testing, final grading, and subgrade demolition.
7. Performing all other work required by the Contract Documents.

B. The Contractor is responsible for performing all work so as not to damage existing roadways, facilities, utilities, structures, etc. and shall repair and replace such damage to equal or better than its original undamaged condition without cost to the Owner.

C. The Contractor shall examine the site before submitting a bid, taking into consideration all conditions that may affect the work.

D. The Contractor shall coordinate all additional subsurface investigations and testing included with this work with the Engineer before performing the excavation and foundation preparation work. In general, if the Contractor finds different and unsuitable/unsatisfactory soil conditions during the work, the Contractor shall notify the Engineer and the Owner immediately.

1.02 SUBMITTALS

The Contractor shall submit the following shop drawings in accordance with Section 01330, Submittals and Acceptance.

A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D3282 of each on-site and borrow soil material proposed for fill and backfill.
2. Laboratory compaction curve according to ASTM D1557 for each on-site and borrow soil material proposed for fill and backfill.

B. The Contractor shall submit records before the start of this work. The Contractor shall verify that the existing conditions are correct as shown on the plans and mentioned in these Specifications. The Contractor shall note any discrepancies found immediately and notify the Owner and Engineer. The records shall include the following:

1. Location of all existing underground utilities, structures, etc. surrounding the areas to be excavated that may be impacted by the work.
2. Location of test excavations.
3. Location of inspections.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply:

A. American Society for Testing and Materials (ASTM)

1. ASTM D1556/D1556M—Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM D1557—Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
3. ASTM D2487—Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
4. ASTM D2937—Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method.
5. ASTM D3282—Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes.
6. ASTM D3740—Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used In Engineering Design and Construction.
7. ASTM D6938—Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

8. ASTM E329—Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

B. Florida Statutes (FS)

1. Florida Trench Safety Act (90-96, Laws of Florida).

C. Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1926, Subpart P—Safety and Health Regulations for Construction, Excavations.
2. OSHA 2226—Trenching and Excavation Safety.

1.04 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E329 to conduct soil materials and definition testing, as documented according to ASTM D3740.

B. The Contractor shall do the following:

1. Ensure that excavations provide adequate working space and clearance for the work to be performed and for installing piping and buried utilities. In no case shall excavation faces be undercut.
2. Ensure that foundation surfaces are clean and free of loose material of any kind when pipelines and buried utilities are placed on them.
3. Perform excavating, trenching, and backfilling in compliance with applicable requirements of governing authorities having jurisdiction.
4. Ensure that shoring and sheeting for excavations are designed by a Florida-registered Professional Engineer and are in accordance with OSHA 2226.
5. Before beginning any excavation or grading, ensure the accuracy of all survey data indicated on the Contract Drawings and in these Specifications and/or as provided. If the Contractor discovers any inaccuracies, errors, or omissions in the survey data, the Contractor shall immediately notify the Owner so that proper adjustments can be anticipated or ordered. If the Contractor begins any excavation or grading, this shall be considered an acceptance of the survey data by the Contractor, after which time the Contractor has no claim against the Owner resulting from alleged errors, omissions, or inaccuracies of the survey data.
6. Ensure that tolerances for excavation are ±0.10 foot to the required line and to the required grade. Tolerance for compaction of in-place material shall be ±0.10 foot to the required grade.

7. Ensure that all trench materials derived from the project site and imported to this site are examined, tested, and classified by an Engineer-approved soils testing laboratory.
8. Remove unsatisfactory materials and unsuitable materials including muck, silts, peat, and other loose and very loose compressible soils from excavations before placing pipe foundation, bedding, and buried utilities.

1.05 PROJECT CONDITIONS

A. Existing Utilities: The Contractor shall not interrupt utilities serving facilities occupied by the Owner or others unless permitted to do so in writing by the Engineer and then only after arranging to provide temporary utility services according to the requirements indicated.

1. Notify the Engineer not less than 2 days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without the Engineer's written permission.
3. Contact a utility-locator service and obtain utility locations for the Project Area before excavating.

B. The Contractor shall demolish and completely remove from the site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

1.06 DEFINITIONS

A. *Backfill*: Soil material or controlled low-strength material used to fill an excavation.

1. *Initial Backfill*: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. *Final Backfill*: Backfill placed over initial backfill to fill a trench.

B. *Base Course*: The course placed between the subbase course and hot-mix asphalt paving.

C. *Bedding Course*: The course placed over the excavated subgrade in a trench before laying pipe.

D. *Borrow Soil*: Satisfactory soil imported from off-site for use as fill or backfill.

E. *Drainage Course*: The course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. *Excavation*: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. *Authorized Additional Excavation*: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by the Engineer. Authorized additional excavation and replacement material will be paid for according to the Contract provisions for unit prices.
2. *Bulk Excavation*: Excavation more than 10 feet in width and more than 30 feet in length.
3. *Unauthorized Excavation*: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be without additional compensation.

G. *Fill*: Soil materials used to raise existing grades.

H. *Structures*: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. *Subgrade*: The surface or elevation remaining after completing excavation, or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

J. *Utilities*: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.07 TESTING REQUIREMENTS

A. The Contractor shall furnish a soil survey for satisfactory material and samples of materials.

B. Testing for source material, for classification, and for prequalification of material (on or off site) shall be performed by an independent testing agency retained by the Contractor and approved by the Engineer.

C. Testing for in-place compacted fill shall be performed by the same independent testing agency as approved by the Engineer and retained by the Contractor.

D. The number and location of the tests shall be as specified in these Specifications and as directed by the Engineer during construction.

E. The Contractor shall coordinate activity with the Engineer and the testing agency to permit testing as directed in the presence of the Engineer.

F. The cost of all testing to achieve specified requirements shall be borne by the Contractor. The Contractor shall be reimbursed by the Owner for passing field tests.

G. The costs of any and all retests due to failure to achieve specified requirements shall be solely borne by the Contractor and are not reimbursable under this contract.

H. All materials proposed for use shall be tested as follows:

Material	Required Test	Min. No. Tests
Satisfactory Soil Materials	Soil Classification using ASTM D3282 (including all tests contained therein)	One per source of materials to determine conformance with materials specified this Specification; additional test whenever there is any apparent change.
	Soil moisture-density relationship using Modified Proctor ASTM D1557	One per source of material or apparent change in material.

I. Soil materials shall be tested during construction as follows:

Material	Required Test	Min. No. Tests
Satisfactory Soil Material in-place after compaction	Field Density ASTM D1556/D1556M – Sand Cone Method, or ASTM D6938 – Nuclear Density Method, or ASTM D2937 – Drive Cylinder Method	For each layer of trench bottom subgrade before addition of soil materials, refill, bedding, and backfill, and for each 400 linear feet of trench or fraction thereof, whichever is greater; two tests for each drainage, manhole, or wet well structure; additional test whenever there is any change in native soil, groundwater, or soil moisture conditions.

J. The approved testing agency shall transmit copies of required laboratory test results as follows:

1. One copy to the Owner.
2. Two copies to the Engineer.
3. Two copies to the Contractor.

The laboratory test reports shall include, at a minimum, project title; project location; location of sample; source, time, and date of testing; testing agency's name, address, and telephone number; and test results. Each test report shall be

signed and sealed by the Professional Engineer representing the testing agency as specified in these Specifications.

K. The approved testing agency shall transmit copies of field testing results as follows:

1. One copy to the Owner.
2. Two copies to the Engineer.
3. Two copies to the Contractor.

The field test reports shall include, at a minimum, project title; project location; location of sample(s) tested; time of testing; date of testing; testing person's full name; testing agency name, address, and telephone number; and test results.

L. No soil material shall be used until 1) the Engineer has reviewed and approved test reports and 2) the Contractor submits certification that the soil material proposed for construction is clean and meets gradation and other parameters in these Specifications.

M. At no cost to the Owner, the Contractor shall remove and replace or correct all materials and work which tests indicate do not conform, in the opinion of the Engineer, to the requirements of these Specifications.

N. The results of in-place density tests shall be considered satisfactory if the density in each instance is equal to or greater than the specified density. Soil moisture content at the time of testing shall conform to requirements of these Specifications.

O. Where the tests reveal unsatisfactory compaction, the Contractor shall re-excavate, backfill, recompact, and/or rework the backfill as required to obtain the required degree of compaction over the entire depth of the excavation.

P. The testing agency shall transmit to the Engineer copies of all testing agency invoices submitted to the Contractor for payment. Invoices shall clearly indicate specific services and date and time services are rendered and shall indicate if the invoiced testing cost is an initial test of the Contractor's work or is a re-test required due to the Contractor's failure to initially achieve the specified requirements.

PART 2 PRODUCTS

2.01 STRUCTURAL MATERIALS

A. Materials used for shoring and bracing, such as sheet piling, uprights, stringers, and crossbraces, shall be in good serviceable condition. Any timber used shall be sound and free from large or loose knots.

B. Pressure-treated timber shall be used where wood sheeting or piling is specified or indicated to be cut and left in place.

2.02 TRENCH SOIL MATERIALS

A. Materials used for trench construction shall be free of clumps of clay, rock or gravel, debris, waste, frozen materials, and other deleterious matter as determined by the Engineer and shall be satisfactory soil materials as follows:

Area Classification	Soil Materials
In excavations and trenches	Excavated and borrow material that has been sampled, tested, and approved as "Satisfactory Soil Material."

B. Satisfactory Soil Materials

1. Soil Classification Groups: Satisfactory soil materials for each trench shall be as follows:

Satisfactory Soil Material (ASTM D3282, Soil Classification Groups)		
In-situ Foundation	Bedding, Haunching, and Initial Backfill	Final Backfill
A-1-a A-1-b A-3	A-1-a A-3	A-1-a A-1-b A-3

2. Maximum Particle Size Limitations for Satisfactory Soil Materials: The maximum allowable particle size for satisfactory soil materials within each trench for each type of utility shall be as follows:

Conduit	Maximum Allowable Particle Size		
	In-situ Foundation	Bedding, Haunching, and Initial Backfill	Final Backfill
Plastic Pipe (PVC, CPVC, HDPE, etc.) less than 6-inch-diameter	See Note 1	1/2 inch	3 inches
Plastic Pipe (PVC, CPVC, HDPE, etc.) 6-inch-diameter and Larger	See Note 1	3/4 inch	3 inches
Concrete Pipe			
Steel Pipe			
Ductile Iron Pipe			
Fiberglass Pipe	See Note 1	3/4 inch or three times the wall thickness, whichever is less	3 inches
Other Conduit Materials	See Note 2	See Note 2	See Note 2

(1) There is no requirement when satisfactory undisturbed native soil material is used. Disturbed portions of the foundation and/or unsatisfactory native soil material shall be replaced with satisfactory soil materials meeting all the requirements for Bedding.
(2) The maximum allowable particle size shall be in accordance with the manufacturer's written recommendation.

3. Additional Requirements of Satisfactory Materials: Satisfactory soil materials shall be free of debris, waste, frozen materials, vegetation, or other deleterious matter. Soils within 4 inches of the exterior surface of the pipe shall be free of gravel, stones, or other materials which may abrade the pipe surface.

C. Unsatisfactory Materials: Unsatisfactory soil materials shall mean ASTM D3282, Soil Classification Groups A-2-4, A-2-5, A-2-6, A-2-7, A-4, A-5, A-6, A-7, and peat and other highly organic soils and soil materials of any classification that have a moisture content at the time of compaction beyond the range of 1 percentage point below and 3 percentage points above the optimum moisture content of the soil material as determined by moisture-density relations test.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

The Contractor shall do the following:

A. Carefully verify by hand methods the location of all surrounding underground utilities before performing utility excavations and trenches.

B. Protect utilities to be left in place from damage.

C. Do not interrupt existing utilities serving facilities occupied and used by the Owner, except when permitted in writing by the Owner.

D. Protect benchmarks, survey points, and existing structures, roads, sidewalks, monitoring wells, paving, curbs, etc. against damage from equipment, vehicular or foot traffic, settlement, lateral movement, undermining, washout, and all construction-related activities.

E. Repair and replace damage to existing facilities to equal or better than their original undamaged condition without cost to the Owner and to the approval of the Engineer.

F. Excavate and trench in ways that will prevent surface water and subsurface water from flowing into excavations and will prevent flooding of the site and surrounding area.

G. Protect excavations and trenching by shoring, bracing, sheet piling, underpinning, or other methods as required to prevent cave-ins or loose dirt from falling into excavations and trenches.

H. Do not operate earth-moving equipment within 5 feet of walls of concrete structures for depositing or compacting backfill material.

I. Compact the backfill material placed next to concrete walls with hand-operated tampers or similar equipment that will not damage the structure.

J. Excavate, fill, backfill, and grade to elevations required by the Contract Documents.

K. Pile excavated materials suitable for backfill in an orderly manner a sufficient distance from excavations to prevent overloading, slides, and cave-ins.

L. Do not obstruct access ways, roadways, and plant facilities.

M. Dewater excavations and trenches in accordance with Section 02240, Dewatering.

N. Refer to the Contract Drawings for additional requirements related to earthwork and protection of existing features.

3.02 TRENCH EXCAVATION

A. Before excavating the trench, the Contractor shall prepare the surface, including clearing and grubbing as specified in Section 02230, Site Preparation.

B. The Contractor shall be required to fully comply with all applicable OSHA Excavation Safety Standards and to abide by them as covered by the most current version of the Florida Trench Safety Act (90-96, Laws of Florida).

C. The Contractor shall ensure that mechanical equipment used for trench excavation shall be of a type, design, and construction and shall be so operated that conduit/utility, when accurately laid to specified alignment, will be centered in the trench with adequate clearance between the conduit/utility and sidewalls of the trench. Undercutting the trench sidewall to obtain clearance will not be permitted.

D. The Contractor shall not use mechanical equipment in locations where its operation would cause damage to trees, buildings, culverts, other existing property, utilities, structures, etc. above or below ground. In all such locations, the Contractor shall use hand-excavating methods.

E. The Contractor shall not use blasting.

F. The Contractor shall cut trenches sufficiently wide to enable proper installation of services and to allow for testing and inspection. The Contractor shall also trim and shape trench bottoms and leave them free of irregularities, lumps, and projections. Trench width shall be excavated as specified on the Contract Drawings.

G. The Contractor shall construct trench walls to avoid sidewall collapse or sloughing. Trenches shall be either braced or open construction in accordance with the Contract Documents. No separate payment will be made for any special procedure used in connection with the excavation.

H. Where sheeting and bracing are not required, the Contractor shall construct trench walls in the bottom of the excavation as vertical as possible to the maximum height allowable by OSHA. Trench walls above this height shall be sloped to guard against sidewall collapse or sloughing as specified on the Contract Drawings.

I. Where sheeting and bracing are required, the sheeting and bracing system shall meet the requirements specified in these Specifications.

J. Excavations shall be to the design elevations shown on the Contract Drawings or as specified, unless unsatisfactory or unsuitable foundation materials are encountered in the bottom of the excavation. Where unsatisfactory or unsuitable

foundation materials are encountered, this material shall be undercut and removed as indicated on the Contract Drawings and replaced with satisfactory soil material meeting all the requirements for Bedding. The lift thicknesses and compaction requirements for the replacement soil shall also meet the requirements for Bedding.

K. The Contractor shall be careful not to overexcavate except where necessary to remove unsatisfactory or unsuitable materials, irregularities, lumps, rock, and projections. Unnecessary overexcavation shall be replaced as specified in these Specifications at the Contractor's sole expense.

L. The Contractor shall accurately grade bedding soil materials at the bottoms of the trenches to provide uniform bearing and support for each section of conduit/utility at every point along its entire length except where it is necessary to excavate the bedding for conduit/utility bells (e.g., pipe bells), etc. or for proper sealing of conduit/utility joints. Abrupt changes in grade of the trench bottom shall be avoided.

M. The Contractor shall dig bell holes and depressions after the bedding has been graded to ensure that the conduit/utility rests on the prepared bedding for as much of its full length as practicable. Bell holes and depressions shall be only of such length, depth, and width as required to make the joint.

N. The Contractor shall do the following:

1. Pile all excavated material in a manner that will not endanger the work or erode the stormwater management facilities or water courses.
2. Avoid obstructing sidewalks, driveways, and plant facilities.
3. Leave hydrants, valve pit covers, valve boxes, or other utility controls unobstructed and accessible.
4. Keep gutters, drainage inlets, natural water courses, and miscellaneous drainage structures clear or make other satisfactory provisions for their proper operation.

O. The Contractor shall keep all satisfactory materials that are suitable for use/reuse in the trench construction separated from unsatisfactory materials.

P. Except where otherwise authorized, indicated, or specified, the Contractor shall replace, at the Contractor’s own expense, all materials excavated below the bottom of concrete walls, footings, slabs on grade, and foundations with concrete or flowable fill, as directed by the Engineer.

Q. The Contractor shall adhere to these Additional Excavation Requirements for piping:

1. Excavate trenches so that the piping can be laid to the lines, grades, and elevations indicated on the Contract Drawings.

2. For piping designated to be laid to a minimum cover requirement, grade trenches to avoid high and low points to the extent practical. Record Drawings of such pipes shall present top-of-pipe and grade elevations at all high and low points along each pipe segment, at the end points of each pipe segments, and at intervals not to exceed 100 feet along each pipe segment. If, in the opinion of the Engineer, additional air release and/or vacuum relief valves are required, the Contractor shall install the additional items as directed by the Engineer.

3. Except at locations specifically indicated otherwise on the Contract Drawings, the required minimum cover over the top of the pipe from finished grade for various pipe diameters shall be as follows:

	Pipe Diameter			
	48 inch or less	66 inch	72 inch	96 inch
Minimum Cover	3 feet	4 feet	4.5 feet	5 feet

Continue dewatering operations along each pipe segment until the required minimum cover is provided. During the dewatering operations, the groundwater level in the trench shall remain at all times a minimum of 1 foot below bottom of trench excavations.

R. The Contractor shall adhere to these Additional Excavation Requirements for Electrical Utilities:

1. Avoid abrupt changes in grade of the trench bottom.

2. The required minimum cover over the top of electrical conduits from finished grade shall be as follows:

	Electrical Conduits (Lines less than 5 kV)	Electrical Conduits (Lines 5 kV and up)
Minimum Cover	2 feet	3 feet

3. The required minimum clearance from the bottom of mat foundations and/or footings shall be 2 feet. Provide additional cover where necessary to satisfy the minimum clearance requirement.

4. Provide additional cover depth if necessary to avoid interference of other cables, ducts, piping, structures, and other utilities.

S. The Contractor shall adhere to this Additional Excavation Requirement for Appurtenances:

1. Ensure that excavations for valves and similar appurtenances shall be sufficient to leave at least 12 inches in the clear between the outer surfaces and the embankment or timber used to hold and protect the walls.

3.03 PROTECTION OF PERSONS AND PROPERTY

A. The Contractor shall do the following:

1. Barricade and post excavations with warning signs for the safety of persons. Provide warning lights during hours of darkness.
2. Protect structures, utilities, sidewalks, pavements, and other facilities immediately adjacent to excavations against damage, including loading, settlement, lateral movement, undermining, and washout.

B. Conduct topsoil removal operations to ensure the safety of persons and to prevent damage to existing structures and utilities, construction in progress, trees and vegetation to remain standing, and other property.

3.04 SHEETING AND BRACING

A. Where sheeting and bracing are required to support the sidewalls of the excavation, the Contractor shall retain a Professional Engineer, registered in Florida, to design sheeting and bracing. The design shall establish requirements for sheeting and bracing and shall comply with all applicable codes; authorities having jurisdiction; and federal, state, and local regulations.

B. The sole responsibility for the design, methods of installation, and adequacy of sheeting and bracing shall be and shall remain that of the Contractor and the Contractor's Professional Engineer. The Contractor shall provide all necessary sheeting and bracing or other procedures as required to ensure safe working conditions and to protect the excavations.

C. Sheeting and bracing shall consist of braced steel sheet piling, trench box, braced wood lagging, and soldier beams or other approved methods.

D. The Contractor shall immediately fill and compact voids formed outside the sheeting. Where soil cannot be properly compacted to fill the void, the Contractor shall use Class B concrete as backfill at no additional cost to the Owner.

E. The Contractor shall install sheeting outside the required clearances and dimensions. Sheeting shall be plumb, securely braced, and tied in position. Sheeting shall be adequate to withstand all pressure to which it may be subjected. The Contractor shall correct any movement or bulging at no expense to the Owner so as to provide the necessary clearances and dimensions.

F. The Contractor shall maintain sheeting and bracing in excavations and trenches for the entire time excavations will be open.

G. The Contractor shall not brace sheeting against pipe being laid. Sheeting shall be braced so that no concentrated load of horizontal thrust is transmitted to the pipe.

H. Sheeting shall not be withdrawn if driven below the spring line of any pipe. The Contractor shall cut off tops as indicated on the Contract Drawings and leave bottoms permanently in place.

3.05 DEWATERING, WATER REMOVAL, AND DRAINAGE MAINTENANCE

A. Water shall not be permitted to accumulate in excavations. The Contractor shall provide dewatering systems to convey water away from excavations so that softening of foundations bottoms, footing undercutting, and soil changes detrimental to subgrade stability and foundation will not occur. Dewatering systems and methods of disposal shall be as specified in Section 02240, Dewatering, and as approved by the Engineer before being installed by the Contractor. Groundwater levels shall be maintained a minimum of 1 foot below bottom of trenches or excavations.

B. Dewatering systems and equipment shall be in place as required to eliminate water during the excavation period until the work is completed. The Contractor shall provide ample means and equipment with which to remove promptly and dispose of properly all water entering any excavation. This includes the use of sand or gravel as required to maintain adequate flow during the pipe laying or installation of other items of work within the excavation.

C. The Contractor shall dispose of water pumped or drained in a suitable manner without damage to adjacent property, to other work under construction, or to roads. Water shall not be discharged onto surface improvements without adequate protection of the surface at the point of discharge. All gutter, drains, culverts, sewers, and inlets shall be kept clean and open for surface drainage. Water shall

not be directed across or over pavements except through approved pipes or properly constructed troughs. The Contractor shall obtain permission from the Owner of any property involved before constructing water courses or installing discharge pipe or hose for removal of water and provide for disposal of the water without ponding or creating a public nuisance.

D. All pumps used for dewatering shall have noise-reduction features and shall be able to run continuously with minimal attendance. If required by the Owner or Engineer, the pumps shall be enclosed on all sides with a plywood enclosure with padded material suitable for outdoor conditions on the inside of the enclosure to further reduce pump engine noise to an acceptable level. All applicable ordinances and codes for noise abatement shall be followed. The Contractor shall maintain pumps at all times, as necessary. When pumps are no longer required, the Contractor shall remove the pumps, wellpoints, pipes, and other apparatus from the area.

E. It is essential that the discharge of the trench dewatering pumps be conducted to natural drainage channels, drains, or storm sewers.

F. Trenches shall be constructed on the upstream side of the traffic way across roadways, driveways, or other traffic ways adjacent to drainage ditches or water to prevent impounding water after the pipe has been laid. The Contractor shall construct and maintain bridges and other temporary structures required to maintain traffic across such unfilled trenches. Backfilling shall be done so that water will not accumulate in unfilled or partially filled trenches. After backfilling is completed, the Contractor shall immediately remove all material deposited in roadway ditches or other water courses crossed by the line of trench and restore the original section, grades, and contours of ditches or water courses. Surface drainage shall not be obstructed longer than necessary.

G. Where trenches are constructed in ditches or other water courses, backfill shall be protected from surface erosion. Where the grade of the ditch exceeds 1%, the Contractor shall install ditch checks. Unless otherwise indicated on the Contract Drawings, ditch checks shall be concrete or as otherwise approved by the Engineer. Ditch checks shall extend not less than 2 feet below the original ditch or water course bottom for the full bottom width and at least 18 inches into the side slopes and shall be at least 12 inches thick.

3.06 BACKFILLING AND COMPACTION

A. The Contractor shall not backfill trenches until required tests are performed.

B. Trenches improperly backfilled shall be reopened to the depth required for proper compaction, then refilled and compacted as specified, or the condition shall be otherwise corrected as directed.

C. The Contractor shall perform the following steps to ensure compaction at the bottom of the trench or excavation before bedding:

1. Remove disturbed native soil material and/or any soils not meeting the requirement of satisfactory soil material as indicated on the Contract Drawings.
2. Compact the bottom of the trench excavation (undisturbed native subsurface soil) to no less than 95% of the Modified Proctor maximum dry density in accordance with ASTM D1557, before placement of foundation, bedding, piping, and backfill.

D. To backfill below and around pipe to the spring line of the pipe, the Contractor shall do the following:

1. Construct foundation and bedding as indicated on the Contract Drawings before placement of pipe.
2. Install each pipe at proper grade, alignment, and final position.
3. Deposit satisfactory soil material uniformly and simultaneously on each side of pipe in completed course layers to prevent lateral displacement.
4. Compact under pipe haunches and on each side of pipe to the pipe spring line as shown on the Contract Drawings to hold the pipe in the proper position during subsequent pipe backfilling and compaction operations.
5. Construct haunching as indicated on the Contract Drawings.

E. To trench backfill above pipe spring line to finished grade, the Contractor shall do the following:

1. Deposit satisfactory soil material around and above pipe in uniform layers as shown on the Contract Drawings.
2. Backfill and compact trenches from the spring line of the pipe to the top of the trench in completed course layers as shown on the Contract Drawings.
3. Use material previously defined in these Specifications as satisfactory soil material.
4. Compact by hand or mechanical tampers.

3.07 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. The Contractor shall remove and legally dispose of waste materials, including excavated material classified as unsatisfactory soil material, trash, and debris from the property at no additional cost to the Owner.

END OF SECTION

SECTION 02315
CONTROLLED DENSITY FILL

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment, and incidentals required and place the controlled density fill (CDF) as shown on the Drawings and specified in this Section.

1.02 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

1. Name and address of the CDF supplier with a list of three successful installations not less than 3 years old.
2. List of materials and the design mix proposed for each application on the project.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. American Society for Testing and Materials (ASTM)

1. ASTM C33/C33M—Standard Specification for Concrete Aggregates.
2. ASTM C150/C150M—Standard Specification for Portland Cement.
3. ASTM C618—Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

1.04 QUALITY ASSURANCE

A. The supplier shall be regularly engaged in the production and placement of CDF. The material shall have been successfully applied on at least three CDF projects that have been performed satisfactorily for at least 3 years.

PART 2 PRODUCTS

2.01 GENERAL (NOT USED)

2.02 MATERIALS

A. CDF shall be very flowable (non-excavatable) type.

B. Cement shall be domestic Portland cement conforming to ASTM C150/C150M.

C. Find aggregate shall be washed natural sand conforming to ASTM C33/C33M.

D. Fly ash shall conform to ASTM C618, Class F.

E. Water shall be potable, clean, and free from deleterious amounts of acids, alkalis, oils or organic matter.

F. Admixtures may be used with the Engineer's approval.

2.03 QUALITY

A. Design mix shall result in a very flowable material with a minimum allowable compressive strength of 60 psi at 28 days.

B. CDF is to be batched at a ready-mix plant with a slump between 10 inches and 12 inches. It should be very flowable and require no vibration.

C. CDF shall be homogeneous and consistent. Material that does not comply with the minimum specified requirements should be removed and replaced.

D. Submit certified design mixes and historic data from previous projects to substantiate that the mix design will provide the required strength.

PART 3 EXECUTION

3.01 GENERAL

A. CDF shall be protected from freezing until the material has hardened.

3.02 INSTALLATION

A. Methods of placing CDF shall minimize segregation of materials.

3.03 TESTING

A. All work performed under this Section may be subject to testing by the Engineer. The Contractor shall cooperate with the Engineer and provide convenient access to all parts of the work for checking for compliance with the Contract Documents.

END OF SECTION

SECTION 02370
EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall take every reasonable precaution throughout construction to prevent the erosion of soil and the sedimentation of streams, bays, storm systems, or other water impoundments, ground surfaces, or other property as required by federal, state, and local regulations.

B. The Contractor shall provide protective covering for disturbed areas upon suspension or completion of land-disturbing activities. Permanent vegetation shall be established at the earliest practicable time. Temporary and permanent erosion-control measures shall be coordinated to ensure economical, effective, and continuous erosion and siltation control throughout the construction and post-construction period.

1.02 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. Florida Department of Transportation (FDOT)

1. FDOT Section 103—Temporary Work Structures.
2. FDOT Section 104—Prevention, Control, and Abatement of Erosion and Water Pollution.
3. FDOT Section 530—Revetment Systems.
4. FDOT Section 982—Fertilizer.
5. FDOT Section 985—Geosynthetic Materials.

1.04 REGULATORY REQUIREMENTS

A. The Contractor shall prevent damage to properties outside the construction limits from siltation due to construction of the project and assume all responsibilities to the affected property owners for correction of damages which may occur. Erosion-control measures shall be performed conforming to the requirements of and in accordance with plans approved by applicable state and local agencies and as specified by the erosion-control portion shown on the Drawings and as required by these Specifications. The Contractor shall not allow mud and debris to accumulate in the streets or enter drainage ditches, canals, or waterways. Should the Contractor pump water from excavations during construction, appropriate siltation preventative measures shall be taken before the pumped water is discharged into any drainage ditch, canal, or waterway.

1.05 PRACTICES

The Contractor shall adhere to the following:

A. Avoid dumping soil or sediment into any stream bed, pond, ditch, or watercourse.

B. Maintain an undisturbed vegetative buffer where possible between a natural watercourse and trenching and grading operations.

C. Avoid equipment crossings of streams, creeks, and ditches where practicable.

1.06 EROSION AND SEDIMENT-CONTROL DEVICES AND FEATURES

A. The Contractor shall construct all devices (silt fences, retention areas, etc.) for sediment control at the locations required to protect federal, state, and local water bodies and water courses and drainage systems before beginning to excavate the site. All devices shall be properly maintained in place until a structure or paving makes the device unnecessary or until directed to permanently remove the device.

B. The Contractor shall use mulch to temporarily stabilize areas subject to excessive erosion and to protect seed beds after planting where required.

C. Filter fabric, hay bales, or other approved methods shall be placed and secured over the grates of each existing inlet, grating, or storm pipe opening near the area of excavation to prevent silt and debris from entering the storm systems.

D. The Contractor shall use silt fences, hay bales, and floating turbidity barriers as shown on the plans or as directed by the Owner or Owner’s Representative to restrict movement of sediment from the site.

E. The Contractor shall establish vegetative cover on all unpaved areas disturbed by the work.

PART 2 PRODUCTS

2.01 GENERAL

A. Open-mesh biodegradable mulching cloth.

B. Fertilizer shall be 10-10-10 grade or equivalent.

C. Lime shall be Dolomitic Agricultural Ground limestone, in accordance with FDOT Section 982.

D. Grass shall be in accordance with Section 02920, Seeding and Sodding.

E. Silt fence shall consist of non-biodegradable filter fabric (Trevira, Mirafi, etc.), in accordance with FDOT Section 985, wired to galvanized wire mesh fencing and supported by wood or metal posts.

F. Floating or staked turbidity barriers as specified in FDOT Section 985 and FDOT Section 104.

G. Erosion Stone: FDOT Section 530.

1. Sand-Cement Riprap.
2. Concrete Block.
3. Rubble 20 to 300 pounds each.

H. Filter Fabric for placing under Riprap shall meet the requirements of FDOT Section 985.

I. Baled hay or straw in accordance with FDOT Section 104.

PART 3 EXECUTION

3.01 CLEARING

A. The Contractor shall schedule and perform clearing and grubbing so that subsequent grading operation and erosion-control practices can follow immediately after. Excavation, borrow, and embankment operations will be conducted as a continuous operation. All construction areas not otherwise protected shall be planted with permanent vegetative cover within 30 working days after completing active construction.

3.02 STABILIZING

A. The angle for graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion-control devices or structures. All disturbed areas outside of embankment left exposed will, within 30 working days of completion of any phase of grading, be planted or otherwise provided with either temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.

3.03 REGULATORY REQUIREMENTS

A. Whenever land-disturbing activity is undertaken on a tract, a ground cover sufficient to restrain erosion must be planted or otherwise provided within 30 working days on that portion of the tract upon which further active construction is to be undertaken.

B. If any earthwork is to be suspended for any reason for longer than 30 calendar days, the areas involved shall be seeded with vegetative cover or otherwise protected against excessive erosion during the suspension period. Suspension of work in any area of operation does not relieve the Contractor of the responsibility to control erosion in that area.

3.04 VEGETATIVE COVER

A. Preparation of Seedbed. Areas to be seeded shall be scarified a depth of 4 inches until a firm, well-pulverized, uniform seedbed is prepared. Fertilizer shall be applied during the scarification process in accordance with the following rates:

1. Fertilizer—10 to 15 pounds per 1,000 square feet.

B. Seeding. Disturbed areas along embankments shall be permanently seeded with mix specified in Section 02920, Seeding and Sodding.

C. The Contractor shall mulch all areas immediately after seeding. Mulch shall be applied and anchored as specified previously in this Section.

3.05 MAINTENANCE

A. The Contractor shall maintain all temporary and permanent erosion-control measures in functioning order. Temporary structures shall be maintained until such time as vegetation is firmly established and grassed areas shall be maintained until completion of the project. Areas which fail to show a suitable stand of grass or which are damaged by erosion shall be immediately repaired. No additional

payment will be made to the Contractor for re-establishing erosion-control devices, which may become damaged, destroyed, or otherwise rendered unsuitable for their intended function during the construction of the project.

B. The Contractor shall remove all silt, sediment, and debris buildup regularly to maintain functioning storm systems and erosion-control devices.

3.06 REMOVAL OF SEDIMENT CONTROL DEVICES

A. Near completion of the project, when directed by the Engineer, the Contractor shall dismantle and remove the temporary devices used for sediment control during construction. All erosion-control devices in seeded areas shall be left in place until the grass is established. The Contractor shall seed areas around devices and mulch after removing or filling temporary control devices.

B. The Contractor shall clean up all areas at the completion of the project.

END OF SECTION

SECTION 02375
TURF REINFORCEMENT MAT

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish and install turf reinforcement mat on the ditch side slopes to be protected as shown on the Drawings.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Manufacturer's Information

1. The manufacturer's name, address, and primary contact.

2. The manufacturing plant name and the address where the turf reinforcement mat for this project will be produced.

3. The manufacturer's qualifications including:

a. The manufacturer's material properties sheet (cut sheet) of proposed turf reinforcement mat documenting it will meet or exceed the requirements.
b. Written instructions for delivering, storing, handling, installing, and repairing the proposed turf reinforcement mat, including recommendations for loading, unloading, and handling equipment (model number or load capacity).
c. Sample product warranty.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at bid time. The following documents are a part of this Specification. Where this Section differs from these documents, the requirements of this Section shall apply.

A. American Society for Testing and Materials (ASTM)

1. ASTM D4355/D4355M—Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc Type Apparatus.
2. ASTM D6524/D6524M—Standard Test Method for Measuring the Resiliency of Turf Reinforcement Mats (TRMs).
3. ASTM D6525/D6525M—Standard Test Method for Measuring Nominal Thickness of Permanent Rolled Erosion Control Products.
4. ASTM D6566—Standard Test Method for Measuring Mass per Unit Area of Turf Reinforcement Mats.
5. ASTM D6567—Standard Test Method for Measuring the Light Penetration of a Rolled Erosion Control Product (RECP).
6. ASTM D6575/D6575M—Standard Test Method for Determining Stiffness of Geosynthetics Used as Turf Reinforcement Mats (TRMs).
7. ASTM D6818—Standard Test Method for Ultimate Tensile Properties of Rolled Erosion Control Products.

PART 2 PRODUCTS

2.01 TURF REINFORCEMENT MAT

A. The TRM shall be a three-dimensional, lofty, woven polypropylene geotextile that is specially designed for erosion control applications on steep slopes and vegetated waterways.

B. The matrix shall be composed of polypropylene monofilament yarns woven into a uniform configuration of resilient pyramid-like projections.

C. The material shall exhibit very high interlock and reinforcement capacity with soil and root systems, demonstrate superior UV resistance, and enhance seedling emergence.

D. The turf reinforcement mat shall conform to the property values listed below:

PROPERTY	TEST METHOD	MARV[1]
Physical		
Mass/Unit Area	ASTM D6566	13.5 oz/yd^2
Thickness	ASTM D6525/D6525M	0.4 inch
Light Penetration (% Passing)	ASTM D6567	10%
Color	Visual	Green or Tan

PROPERTY	TEST METHOD	MARV[1]
Mechanical		
Tensile Strength (Grab)	ASTM D6818	4,000 x 3,000 lb/ft
Elongation	ASTM D6818	65% (max)
Resiliency	ASTM D6524/D6524M	80%
Flexibility	ASTM D6575/D6575M	0.534 in-lb (avg)
Endurance		
UV resistance @ 6,000 hours	ASTM D4355/D4355M	90%
Performance		
Velocity (Vegetated)	Large Scale	25 feet/sec
Shear Stress (Vegetated)	Large Scale	15 lb/ft^2
Manning's "n" (Unvegetated)	Calculated	0.028
Seedling Emergence	ECTC Draft Method #4	296%

Notes: 1 MARV indicates minimum average roll value calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any sample taken during quality assurance testing will exceed the value reported.

PART 3 EXECUTION

3.01 SITE PREPARATION

A. The Contractor shall grade and compact the area where the turf reinforcement mat was installed as directed and approved by the Engineer. The subgrade shall be uniform and smooth. Remove all rocks, clods, vegetation, or other objects so the installed mat will have direct contact with soil surface.

B. Prepare seedbed by loosening the top 2 to 3 inches minimum of soil.

C. Do not mulch areas where mat is to be placed.

3.02 SEEDING

A. Apply seed to the soil surface before installing mat. Disturbed areas shall be reseeded.

B. Refer to Section 02920, Seeding and Sodding.

3.03 INSTALLATION

A. Follow the manufacturer's recommendations, standards, and guidelines.

3.04 OVERLAPPING

A. Overlaps shall be 6 inches minimum and anchored every 18 inches minimum along the overlap. Secure using the manufacturer's suggested ground anchoring devices.

3.05 DAMAGED SECTIONS

A. Replace missing or damaged sections of the matting in accordance with the manufacturer's recommended installation guidelines.

END OF SECTION

SECTION 02531
CONNECTIONS TO AND WORK ON THE EXISTING SYSTEM

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, and equipment required and maintain flow in existing sewers and drains, handle existing sewer and drain flow, construct and maintain all temporary connections and bypasses, and construct the permanent connections to the new system as shown on the Drawings and as directed by the Engineer.

B. The Contractor shall furnish all labor, materials, and equipment required to plug existing drains, complete all work on existing manholes (including all work and materials required to reshape existing manhole inverts with brick or concrete and connecting new drainpipes to existing manholes or drainpipes), and complete all additional work required.

C. Should damage of any kind occur to the existing drain, the Contractor shall, at his own expense and as part of the work under this Item, make repairs to the satisfaction of the Engineer.

D. Notify the Engineer immediately of any discrepancies in elevations of existing pipes and structures between those shown on the Drawings and those established during construction so the Engineer can make the necessary modifications.

E. All new drainpipe for connection shall conform to the following specifications:

1. Section 02635, Reinforced Concrete Drainpipe.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 HANDLING WASTEWATER FLOWS

A. The Contractor shall furnish all labor, equipment, and materials necessary to maintain existing flows, including temporary bypasses and all pumping of wastewater and drainage that may be required to prevent backing up of sewers and drains and shall immediately cart away and remove all offensive matter at the Contractor's own expense.

B. Furnish all labor, equipment, and materials necessary to maintain existing drain, sewer, and sewer service connection flows, including temporary bypasses and all pumping of wastewater and drainage that may be required to prevent backing up of systems.

C. The use of overflow, bypass, pump, or any other means of conveying drainage to any brook or other watercourse is not allowed without permission of the Engineer.

D. Submit to the Engineer and the Owner, for approval, a detailed written plan of procedures for flow maintenance 10 days in advance of flow interruption.

E. The Contractor shall make provisions to maintain water and sewer service connections during construction. Any damaged service connection shall be replaced from the main pipeline to a minimum of 3 feet beyond the point of damage.

3.02 PLUGGING AND ABANDONING FACILITIES

A. In areas where pipes are removed from the existing sewer manholes, drain manholes, or catch basins, the point of connection shall be repaired with brick, mortar, and non-shrink grout to the satisfaction of the Engineer. Where direct connections to existing pipes are abandoned, the connection must be sealed. This shall be done by removing lateral connections from the existing pipe and repairing the pipe section with flexible transition couplings and SDR 35 PVC sewer pipe or other suitable pipe repair materials as detailed on the Drawings. The repair shall extend a minimum of 18 inches beyond each side of the opening.

B. All abandoned pipes shall be plugged and filled with controlled-density fill as directed by the Engineer.

END OF SECTION

SECTION 02532
MAINTENANCE OF FLOW IN EXISTING SEWERS AND DRAINS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall be responsible for maintaining wastewater and storm drainage flow in all public and private pipes during construction, including individual house service connections. The Contractor shall staff all bypass pumping systems during non-working hours, 7 days a week.

B. Provide all labor, equipment, power, and materials necessary to maintain flow in existing sewers (including individual house services), drains, and manholes and handle existing wastewater and stormwater flows. Construct and maintain all temporary bypass sewers and drains and be responsible for all bypass pumping of sewage and drainage that may be required to prevent backing up of sewage or drainage during installation of all new pipe and manhole and catch basin structures and to allow proper inspection and testing of the new work. The Contractor shall immediately remove and properly dispose of all offensive matter spilled during the bypass pumping at his own expense. Note that some drains have a continuous base flow, which must be handled.

C. When bypass pumping is required, the Contractor shall supply pumps, conduits, power, and other equipment to safely divert the flow of sewage or drainage around the section in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flows plus additional flows that may occur during a rain event. The Contractor shall determine the minimum bypass system capacity for each street, assuming non-surcharged full pipe flow and manning coefficient of n=0.013 and using the existing pipe sizes and inverts shown on the Drawings.

D. The Contractor shall have adequate standby equipment available and ready for immediate operation and use in the event of an emergency or breakdown. Standby pump(s) of equal or greater capacity than the largest pump used shall be installed at the mainline flow bypassing locations ready for use if a primary pump fails.

E. Bypass pumping system shall be capable of bypassing the flow around the work area and of releasing any amount of flow up to full available flow into the work area as necessary for satisfactory performances of work.

F. The Contractor shall repair at his own expense any damage to property, public or private, caused by his operations.

G. The Contractor shall maintain sewer flow around the work area in a manner that will not cause surcharging of sewers or damage to sewers and that will protect public and private property from damage and flooding.

H. Unless specified or approved by the Engineer, wastewater flows from existing sewers shall not be allowed to enter the new facilities until the new facilities have been cleaned and tested as required in the Specifications.

I. If damage of any kind occurs to the existing drains or sewers, the Contractor shall at his own expense make repairs to the satisfaction of the Engineer.

J. The Contractor shall not overflow, bypass, pump, or by any other means convey drainage to any brook or water course without permission of the Engineer.

K. Work area open trenches for sewer pipe shall not be used for bypassing flows. Work area open trenches for drainage pipe shall not be used for bypassing flows, unless otherwise directed by the Engineer.

L. Sewage shall be bypassed only to existing sewers, as directed by the Engineer.

M. Before actual operations the Contractor shall conduct leakage and pressure tests of the bypass pumping discharge piping using clean water. The Engineer will be given 24-hour notice before testing.

N. The Contractor is responsible for locating any existing utilities in the area the Contractor selects to locate the bypass pipeline. The Contractor shall locate his bypass pipelines to minimize any disturbances to existing utilities and shall obtain approval of the pipeline locations from the Owner and the Engineer. The Contractor shall pay all costs associated with relocating utilities and obtaining all approvals.

O. The Contractor shall not install the bypass pipelines in wetland areas. The pipeline must be located off streets and sidewalks and on shoulders of the roads. When the bypass pipeline crosses local streets and private driveways, the Contractor must place the bypass pipelines in trenches and cover the pipelines with temporary pavement. Upon completion of the bypass pumping operations and after the receipt of written permission from the Engineer, the Contractor shall remove all the piping, restore all property to pre-construction condition, and restore all pavement. The Contractor is responsible for obtaining any approvals from the Owner for placing the temporary pipeline within public ways.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. All procedures for maintaining flows must meet the approval of the Engineer and the Contractor shall be required to submit to the Engineer, for approval, a detailed written plan of all methods of flow maintenance 10 days in advance of flow interruption, in accordance with Section 01330, Submittals and Acceptance.

B. The plan shall include but not be limited to details of the following:

1. Number, size, material, location, and method of installing suction piping.
2. Number, size, material, method of installation, and location of installations of discharge piping.
3. Bypass pump sizes, capacity, number of each size to be on site, and power requirements.
4. Standby power generator size, sound attenuation, and location.
5. Downstream discharge plan.
6. Calculations for selecting bypass pumping pipe size.
7. Schedule for installing and maintaining bypass pumping lines.
8. Plan indicating location of bypass pumping lines.

C. Submit name(s) of proposed restoration/cleanup companies to be used in the event of sewer backups into homes or businesses caused by the Contractor's work operations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02600
STORMWATER FACILITIES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall construct stormwater handling facilities, including filter point erosion control mat (FPM), culverts, and swales as shown on the Drawings.

B. The work includes excavating, embankment, trenching, and backfilling (including excavating unsuitable material and backfill with satisfactory material) for the construction of stormwater facilities. The work also includes work associated with removing, replacing, and disposing of unsuitable soils encountered in the work.

1.02 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance. In general, shop drawings and related manufacturer's product certification shall be done in accordance with the General and Special Conditions of the Contract for approval before construction or fabrication of the material by the manufacturer.

1.03 REFERENCE STANDARDS

A. The latest edition of the Florida Department of Transportation (FDOT) *Standard Specifications for Road and Bridge Construction* (Standard Specifications) and the *Roadway and Traffic Design Standards* shall be referred to for specific and general standards for materials, details, construction, workmanship, and quality control as specified in this Section with exceptions as noted.

B. Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

1. American Society of Testing and Materials (ASTM)

a. ASTM C31/C31M—Standard Practice for Making and Curing Concrete Test Specimens in the Field.
b. ASTM C33/C33M—Standard Specification for Concrete Aggregates.

c. ASTM C39/C39M—Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
d. ASTM C76—Standard Specification for Reinforced Concrete, Culvert, Storm Drain and Sewer Pipe.
e. ASTM C150/C150M—Standard Specification for Portland Cement.
f. ASTM C361—Standard Specification for Reinforced Concrete Low-Head Pressure Pipe.
g. ASTM C443—Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
h. ASTM C939/C939M—Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method).
i. ASTM D698—Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft^3 (600 kN-m/m^3)).
j. ASTM D1248—Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable.
k. ASTM D1556/D1556M—Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
l. ASTM D1777—Standard Test Method for Thickness of Textile Materials.
m. ASTM D1784—Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
n. ASTM D2321—Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
o. ASTM D2412—Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
p. ASTM D3212—Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
q. ASTM D3350—Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.
r. ASTM D4355/D4355M—Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus.
s. ASTM D4632/D4632M—Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
t. ASTM D5034—Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test).
u. ASTM D6938—Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

v. ASTM E329—Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
w. ASTM F477—Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
x. ASTM F667/F667M—Standard Specification for 3- through 24-Inch Corrugated Polyethylene Pipe and Fittings.
y. ASTM F794—Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.
z. ASTM F949—Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings.
aa. ASTM F1417—Standard Practice for Installation Acceptance of Plastic Non-Pressure Sewer Lines Using Low-Pressure Air.
bb. ASTM F1803—Standard Specification for Poly (Vinyl Chloride)(PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter.
cc. ASTM F2306—Standard Specification for 12 to 60 in. Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications.
dd. ASTM F2487—Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Corrugated High Density Polyethylene and Polypropylene Pipelines.
ee. ASTM F2881/F2881M—Standard Specification for 12- to 60-Inch (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications.

2. American Association of State Highway and Transportation Officials (AASHTO)

a. AASHTO M294—Standard Specification for Corrugated Polyethylene Pipe, 300 to 1,500-mm (12- to 60-Inch) Diameter.
b. AASHTO M330—Standard Specification for Polypropylene Pipe, 300- to 1500-mm (12- to 60-inch) Diameter.
c. AASHTO SECTION 12—Buried Structures and Tunnel Liner.

1.04 QUALITY ASSURANCE

A. Before beginning any excavation or grading, the Contractor shall satisfy himself as to the accuracy of all survey and other data as indicated on the Drawings and in the Specifications. Should the Contractor discover any inaccuracies, errors, or omissions in the survey data, he shall immediately notify the Engineer so that proper adjustments can be anticipated or ordered. If the Contractor begins any excavation or grading, this shall be held as an acceptance of the survey and drawing data.

B. The Contractor shall certify backfill and subgrade material, perform density and moisture testing, and perform in-place density and moisture testing in accordance with Section 02305, Earthwork for Utilities.

1. Trench bottoms, each lift of backfill for culvert installation, and under FPM installations shall have densities tested on intervals not to be less than two tests per installation per lift or one per 100 linear feet per lift, whichever is greater.
2. Line and grade shall be field-checked on intervals not to exceed 100 feet. Such checking shall apply to all stormwater-related facilities. Line and grade tolerance shall be ±0.10 foot; however, grading shall in no case be allowed which will permit ponding to occur outside the stormwater retention basins.
3. The Engineer may require additional testing as deemed necessary. The Engineer shall be responsible for interpreting test results and the Contractor shall perform remedial work, at the Contractor's own expense, as directed by the Engineer. The Contractor shall provide labor as required by the Engineer to help perform tests and/or check line and grade.

C. The Contractor shall test the grout mix used in FPM installation for each FPM installation or as required by the Engineer. It should be noted that one test includes three cylinders, three sets of mortar cubes, or three nylon bags. If selected, cylinders shall be 3 inches by 6 inches.

D. The Contractor shall remove and replace or correct, at no cost to the Owner, all materials and work that tests indicate do not conform to the requirements of these Specifications.

PART 2 PRODUCTS

2.01 GENERAL

A. The Contractor shall provide all new materials free from defects impairing strength and durability and of the best commercial quality for the purpose specified. All materials shall have structural properties sufficient to safely sustain or withstand strains and stresses which they will be normally subjected to and be true to detail.

2.02 STORM PIPE

A. RCP Stormwater Culvert Piping

1. The following sections of the Standard Specifications shall apply:

a. Section 430-1, Description.
b. Section 430-2, Materials.
c. Section 449-4, Concrete Pipe.
d. Joints shall be profile rubber gaskets in accordance with Section 430-7. All joints shall be covered with filter fabric wrap.

B. High-Density Polyethylene (HDPE) Stormwater Piping

1. HDPE storm pipe shall have a smooth interior and annular exterior corrugations:

a. 12- through 60-inch pipe shall meet ASTM F2881/F2881M or AASHTO M330.
b. Manning's "n" value for use in design shall be 0.012.

2. Joint Performance:

a. Pipe shall be joined using a bell and spigot joint meeting the requirements of ASTM F2881/F2881M or AASHTO M330. The joint shall be watertight in accordance with the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure that the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly. Pipes with a diameter of 12- through 60 inches shall have an exterior bell wrap installed by the manufacturer.

3. Fittings:

a. Fittings shall conform to ASTM F2881/F2881M or AASHTO M330. Bell and spigot connections shall use a welded or integral bell and valley or inline gaskets meeting the watertight joint performance requirements of ASTM D3212.

4. Field Pipe and Joint Performance:

a. To ensure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F1417 or ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

5. Material Properties:

a. The polypropylene compound for pipe and fitting production shall be an impact-modified copolymer meeting the material requirements of ASTM F2881/F2881M, Section 5, and AASHTO M330, Section 6.1.

C. PVC Drainage Piping

1. PVC profile wall pipe and fittings shall be manufactured in accordance with the requirements of ASTM F1803, latest edition.
2. PVC profile wall pipe shall be made from a compound meeting the requirements of cell Classification 123464A as defined by ASTM D1784.

D. Corrugated PVC Drainage Piping

1. Corrugated PVC pipe and fittings with a smooth interior shall conform to the requirements of ASTM F949 and ASTM F794.
2. Pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions or other injurious defects.
3. The structural design of the corrugated PVC pipe shall be in accordance with AASHTO Section 12.
4. Corrugated PVC pipe shall be manufactured from 12454 cell class material in accordance with ASTM D1784.
5. Corrugated PVC pipes and fittings shall be A-2000 by Contech Construction Products, Inc., or Engineer-approved equal.

2.03 INLETS, MANHOLES, AND JUNCTION BOXES

A. Terrace Inlet Drain Basins

1. Terrace Inlet Drain Basins (HDPE manholes) shall be 48- to 72-inch-outside-diameter manholes as shown on the Drawings.
2. At a minimum, HDPE manholes shall be designed for H-20 wall loading.
3. Manholes shall also have a 12-inch-minimum-width external ring integrally molded to the barrel bottom to provide anchorage in backfill.
4. Inlet and outlet pipe connections shall be molded and connection shall be provided for split-couplings.
5. Stub-outs for corrugated pipe shall have at least four corrugations.

B. Inlets

1. The following sections of the Standard Specifications shall apply:

a. Section 425-1, Description.
b. Section 425-2, Composition and Proportioning.
c. Section 425-3, Materials.
d. Section 425-4, Forms.
e. Section 425-5, Precast Inlets, Manholes, and Junction Boxes.

2.04 FILTER POINT MAT EROSION-CONTROL MATERIAL

A. FPM-type erosion-control material shall be a formed mat of cement-filled, double-layer, filter-point-type fabric.

B. Filter-point fabric forming material shall consist of double-layer, open-selvage fabric joined in a mat configuration to provide filter points 5 inches on center when cast in place. Fabric shall be woven of 100% continuous multifilament nylon (tire cord) of which more than 50% by weight consists of textured nylon fiber for optimum filtering characteristics and adhesion to the injected fine aggregate concrete (grout). Nylon fabric shall have a minimum thickness of 22 mils (as stated in ASTM D1777), minimum grab breaking load of 270 pounds per inch in the fill and warp (as in ASTM D4632/D4632M), and minimum UV light resistance of 85.0% strength retention after 500 hours (as in ASTM D4355/D4355M). The filter points shall be designed and installed to provide relief of hydrostatic uplift beneath the completed mat. The average mat thickness shall be 2.2 inches with a dry weight of 25 pounds per square foot.

C. Grout shall consist of a mixture of ASTM C150/C150M Portland cement, fine aggregate, water, and entrapped air so proportioned and mixed as to provide a pumpable grout. The mix shall exhibit a minimum compressive strength of 2,500 psi at 28 days when specimens are made and tested in accordance with ASTM C31/C31M and ASTM C39/C39M. Grout consistency shall be in the 9- to 11-second range through the 3/4-inch orifice of the standard flow cone described in the ASTM C939/C939M.

2.05 MITERED END SECTIONS

A. The following sections of the Standard Specifications shall apply:

1. Section 430-1, Description.
2. Section 430-4.6, End Treatment.

PART 3 EXECUTION

3.01 PROTECTION

A. Before starting earthwork, the Contractor shall accurately locate and record abandoned and active utility lines, rerouted or extended, on project record documents.

B. Do not interrupt existing utilities serving occupied facilities except when permitted, in writing, by the Owner.

C. Maintain, reroute, or abandon existing utility lines that pass through the work area as indicated on the Drawings.

D. Protect benchmarks and existing structures, roads, sidewalks, paving, and curbs against damage from equipment, vehicular or foot traffic, settlement, lateral movement, undermining, and washout. The Contractor shall repair and replace damage to existing facilities to equal or better than original condition without cost to the Owner and to the approval of the Engineer.

E. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods as required to prevent cave-ins or loose dirt from falling into excavations.

F. The Contractor shall stockpile excavated materials suitable for backfill a sufficient distance from excavations to prevent overloading, slides, and cave-ins, and shall prevent obstruction of accessways and roadways.

G. Underpin adjacent structure(s) that may be damaged by excavation work, including service lines.

H. Notify the Engineer of unexpected subsurface conditions and discontinue work in area until the Engineer provides notification to resume work.

I. The Contractor shall perform excavations so as to prevent surface and subsurface water from flowing into excavations and also prevent flooding of the site and surrounding area.

J. Do not operate earth-moving equipment within 5 feet of walls of concrete structures for depositing or compacting backfill material. Compact backfill adjacent to concrete walls with hand-operated tampers or similar equipment that will not damage the structure.

K. Protect the bottom of excavations to prevent soil loss around and beneath foundations and slabs as required. All excavations shall be conducted in-the-dry.

L. Excavations are not to interfere with normal 45E bearing splay of any foundation, unless specifically required by the Drawings.

M. The Contractor shall barricade and post excavations with warning signs for the safety of persons. Warning lights shall be provided during hours of darkness.

3.02 PIPING

A. The Contractor shall perform backfilling as specified and shall provide full contact between the backfill material and the full perimeter of the pipe.

B. Before final acceptance, the Contractor shall completely flush and clean all parts of the system. Remove all accumulated construction debris, rocks, sand, gravel, and any other foreign material.

C. The Contractor shall ensure that the installation provides watertight piping from water inlet to outlet.

D. The Contractor shall install stormwater culverts as specified in this Section and in accordance with the manufacturer's written recommendations.

E. The following sections of the Standard Specification shall apply:

1. Section 430-4, Laying Pipe.
2. Section 430-7, Specific Requirements for Concrete Pipe.

F. The Contractor shall supply the Engineer with Drawings showing as-constructed pipe invert elevations at every 50 feet of pipeline.

G. During laying operations, do not permit debris, tools, clothing, or similar items to be placed in pipes. Pipe interior shall be free of mud and kept clean at all times.

H. Pipe ends shall be kept clear and clean and the Contractor shall ensure that inside surfaces are maintained smooth and free from any projections that may interfere with joint assembly or flow through the completed line.

I. Care shall be exercised when lowering pipe into trenches or on subgrade to prevent damaging or twisting the pipe. After laying and before completing backfill or cover operations, pipe shall be protected from any vehicular traffic.

3.03 TRENCH EXCAVATION

A. Before excavating the trench, the Contractor shall prepare the surface including clearing and grubbing as specified in Section 02230, Site Preparation.

B. The Contractor shall be required to fully comply with all applicable OSHA Excavation Safety Standards and to abide by them as covered by the most current version of the Florida Trench Safety Act (90-96, Laws of Florida).

C. The Contractor shall ensure that mechanical equipment used for trench excavation shall be of a type, design, and construction and shall be so operated that conduit/utility, when accurately laid to specified alignment, will be centered in the trench with adequate clearance between the conduit/utility and sidewalls of the trench. Undercutting the trench sidewall to obtain clearance will not be permitted.

D. The Contractor shall not use mechanical equipment in locations where its operation would damage trees, buildings, culverts, other existing property, utilities, structures, etc. above or below ground. In all such locations the Contractor shall use hand excavating methods.

E. The Contractor shall not use blasting.

F. The Contractor shall cut trenches sufficiently wide to allow for proper installation of services and to allow for testing and inspection. The Contractor shall also trim and shape trench bottoms and leave them free of irregularities, lumps, and projections. Trench width shall be excavated as specified on the Contract Drawings.

G. The Contractor shall construct trench walls so as to avoid side wall collapse or sloughing. Trenches shall be either braced or open construction in accordance with the Contract Documents. No separate payment will be made for any special procedure used in connection with the excavation.

H. Where sheeting and bracing are not required, the Contractor shall construct trench walls in the bottom of the excavation as vertical as possible to the maximum height allowable by OSHA. Trench walls above this height shall be sloped to guard against side wall collapse or sloughing as specified on the Contract Drawings.

I. Where sheeting and bracing are required, the sheeting and bracing system shall meet the requirements in these Specifications.

J. Excavations shall be to the design elevations shown on the Contract Drawings or as specified, unless unsatisfactory or unsuitable foundation materials are

encountered in the bottom of the excavation. Where unsatisfactory or unsuitable foundation materials are encountered, this material shall be undercut and removed as indicated on the Contract Drawings and replaced with satisfactory soil material meeting all the requirements for Bedding. The lift thicknesses and compaction requirements for the replacement soil shall also meet the requirements for Bedding.

K. The Contractor shall be careful not to overexcavate except where necessary to remove unsatisfactory or unsuitable materials, irregularities, lumps, rock, and projections. Unnecessary overexcavation shall be replaced as specified in these Specifications at the Contractor's sole expense.

L. The Contractor shall accurately grade bedding soil materials at the bottoms of the trenches to provide uniform bearing and support for each section of conduit/utility at every point along its entire length except where it is necessary to excavate the bedding for conduit/utility bells (e.g., pipe bells), etc. or for proper sealing of conduit/utility joints. Abrupt changes in grade of the trench bottom shall be avoided.

M. The Contractor shall dig bell holes and depressions after the bedding has been graded to ensure that the conduit/utility rests on the prepared bedding for as much of its full length as practicable. Bell holes and depressions shall be only of such length, depth, and width as required to make the joint.

N. The Contractor shall do the following:

1. Pile all excavated material in a manner that will not endanger the work or erode the stormwater management facilities or water courses.
2. Avoid obstructing sidewalks, driveways, and plant facilities.
3. Leave hydrants, valve pit covers, valve boxes, or other utility controls unobstructed and accessible.
4. Keep gutters, drainage inlets, natural water courses, and miscellaneous drainage structures clear or make other satisfactory provisions for their proper operation.

O. The Contractor shall keep all satisfactory materials that are suitable for use/reuse in the trench construction separated from unsatisfactory materials.

P. Except where otherwise authorized, indicated, or specified, the Contractor shall replace, at the Contractor’s own expense, all materials excavated below the bottom of concrete walls, footings, slabs on grade, and foundations with concrete or flowable fill, as directed by the Engineer.

3.04 REMOVAL OF UNSATISFACTORY SOIL MATERIALS

A. Areas of unsatisfactory soils, as specified in Section 02305, Earthwork for Utilities, and established by the Engineer, shall be undercut to competent soils and replaced with suitable fill as specified in Section 02305, Earthwork for Utilities. Unsuitable soils located under FPM and culverts shall be excavated to a minimum depth of 2 feet-0-inch below the finished installation. Backfill of undercut areas shall comply with Section 02305, Earthwork for Utilities.

3.05 BACKFILLING AND COMPACTION

A. The Contractor shall not backfill trenches until required tests are performed.

B. Trenches improperly backfilled shall be reopened to the depth required for proper compaction, then refilled and compacted as specified or the condition shall be otherwise corrected as directed.

C. The Contractor shall perform the following steps to ensure compaction at the bottom of the trench or excavation before bedding:

1. Remove disturbed native soil material and/or any soils not meeting the requirement of satisfactory soil material as indicated on the Contract Drawings.
2. Compact the bottom of the trench excavation (undisturbed native subsurface soil) to no less than 95% of the Modified Proctor maximum dry density in accordance with ASTM D1556, before placing foundation, bedding, piping, and backfill.

D. To backfill below and around pipe to the spring line of the pipe, the Contractor shall do the following:

1. Construct foundation and bedding as indicated on the Contract Drawings before placing pipe.
2. Install each pipe at proper grade, alignment, and final position.
3. Deposit satisfactory soil material uniformly and simultaneously on each side of pipe in completed course layers to prevent lateral displacement.
4. Compact under pipe haunches and on each side of pipe to the pipe spring line as shown on the Contract Drawings to hold the pipe in the proper position during subsequent pipe backfilling and compaction operations.

E. To trench backfill above pipe spring line to finished grade, the Contractor shall do the following:

1. Deposit satisfactory soil material around and above pipe in uniform layers as shown on the Contract Drawings.
2. Backfill and compact trenches from the spring line of the pipe to the top of the trench in completed course layers as shown in the Contract Drawings.
3. Use material previously defined in these Specifications as satisfactory soil material.
4. Compact by hand or mechanical tampers.

3.06 FILTER POINT MAT EROSION-CONTROL MATERIAL

A. Fabric Storage: Immediately after fabric is received on the job site, the Contractor shall inspect and store the fabric in a clean dry area where it will not be subject to mechanical damage or exposure to moisture or direct sunlight.

B. Fabric Placement: Fabric form panels shall be joined, placed, and injected with grout in accordance with the fabric manufacturer's written instructions and as approved by the Design Engineer and/or Project Manager. In no case will simple butt joints between panels be allowed. Before injecting grout the Contractor shall stake, lay out, and staple the fabric for final approval by the Design Engineer and/or Project Manager.

C. Anchor Trench: All edges of the inclined FPMs shall be placed in an anchor trench a minimum of 2 feet long at an angle of 45 degrees from horizontal grade except adjacent to the concrete wall where the anchor trench shall be vertical. When grout placement is completed, all anchor trenches shall be backfilled and compacted as specified in this Section for excavations. The finished appearance of the FPM shall be such that the elevation of the mat top is flush with the surrounding grade. Dimensions of FPM shown on the Drawings do not include additional material required to construct the FPM.

D. Grout Injection: Grout injection shall begin with the anchor trench and then proceed from the lower portions of the mat working back up the slope. The sequence of grout injection shall be such as to ensure complete filling of the fabric to thickness specified by the fabric manufacturer. Foot traffic shall not be permitted on the freshly pumped mat when such traffic will cause permanent indentations in the mat surface. Vehicular traffic shall not be permitted on the mat surface at any time. Grout shall be vibrated during placement. Mortar shall be washed out of the filter points.

E. Grout Thickness Testing: During grout injection, mat thickness shall be measured by inserting a short piece of wire through the crowns of the mat midway between

filter points at several locations from the crest to the toe of the slope. Any mat measuring less than 90% of the average of all thickness measurements shall be reinjected with grout until average thickness has been attained. The results of this testing shall be recorded by the independent testing lab and reported to the Design Engineer and/or Project Manager, as specified in this Section.

3.07 MITERED END SECTIONS

A. Mitered end sections shall be installed as specified in FDOT Index 272.

3.08 INLETS

A. The following section of the FDOT Standard Specifications shall apply:

1. Section 425-6 Construction Methods.

3.09 DEWATERING

A. If subsurface water is encountered, the Contractor shall use approved means to dewater the excavation. A wellpoint system or other approved equipment shall be installed, if necessary, to maintain the excavation in a dry condition for placing of concrete and laying pipelines. Dewatering shall be in accordance with Section 02240, Dewatering.

END OF SECTION

SECTION 02630
STORM DRAINAGE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section covers the work necessary to provide for the construction of a stormwater collection system. This work shall include installing the pipe, catch basins, inlets, manholes, mitered end section, etc., as may be required to complete the work as indicated in the plans.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Shop Drawings: The Contractor shall submit catalog cut sheets, manufacturer's descriptive literature, and other information as necessary to the Engineer for approval before installing pipes and structures.

B. Certifications: The Contractor shall submit a notarized certification from the pipe manufacturer that the pipe and fittings supplied are new, have been manufactured for this project, have been inspected at the plant, and meet the requirements of these Specifications.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. The most current edition of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction (Standard Specifications) and the most current edition of the Roadway and Traffic Design Standards shall be referred to for construction, workmanship, and quality control as specified in this Section with exceptions as noted. Note that any reference in the Standard Specifications to the terms "Department" or "District Materials Engineer" shall be replaced by the term "Engineer."

PART 2 PRODUCTS

The Contractor shall provide all new materials free from defects impairing strength and durability and of the best commercial quality for the purpose specified. All materials shall have structural properties sufficient to safely sustain or withstand strains and stresses which they will be normally subjected to and be true to detail.

2.01 PIPE CULVERTS

A. The following section of the FDOT Standard Specifications shall apply: Section 430.

2.02 INLETS, MANHOLES, AND JUNCTION BOXES

A. The following section of the FDOT Standard Specifications shall apply: Section 425.

2.03 MITERED END SECTIONS

A. The following section of the FDOT Standard Specifications shall apply: Section 430.

2.04 FILTER POINT MAT (SLOPE PAVING-PUMPED CONCRETE MATS)

A. The following section of the FDOT Standard Specifications shall apply: Section 524.

2.05 BEDDING MATERIAL

A. The following section of the FDOT Standard Specifications shall apply: Section 530.

2.06 PRECAST CONCRETE DRAINAGE PRODUCTS

A. The following sections of the FDOT Standard Specifications shall apply:

1. Section 449-1, Description.
2. Section 449-2, Materials.
3. Section 449-3, Construction Requirements.
4. Section 449-4, Concrete Pipe.
5. Section 449-5, Fiber Reinforced Concrete Pipe.
6. Section 449-6, Requirement for Pipe Joints When Rubber Gaskets Are To Be Used.

PART 3 EXECUTION

3.01 EXCAVATION FOR STRUCTURES AND PIPE

A. The following sections of the FDOT Standard Specifications shall apply:

1. Section 125-1, Description.
2. Section 125-2, Classification.
3. Section 125-3, Cofferdams.
4. Section 125-4, Excavation.
5. Section 125-8, Backfilling.
6. Section 125-11, Site Restoration.
7. Section 125-12, Cleaning Up.

3.02 PIPE CULVERTS

A. The following section of the FDOT Standard Specifications shall apply: Section 430.

3.03 INLETS, MANHOLES, AND JUNCTION BOXES

A. The following section of the FDOT Standard Specifications shall apply: Section 425.

3.04 MITERED END SECTIONS

A. The following section of the FDOT Standard Specifications shall apply: Section 430.

3.05 FILTER POINT MAT (SLOPE PAVING-PUMPED CONCRETE MATS)

A. The following section of the FDOT Standard Specifications shall apply: Section 524.

END OF SECTION

SECTION 02635
REINFORCED CONCRETE DRAINPIPE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment, and incidentals necessary and install and test reinforced concrete pipe for drains complete as shown on the Drawings and as specified in this Section.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Within 30 days of the Effective Date of the Agreement submit the name of the pipe and fitting supplier and a list of materials to be furnished.

B. Submit shop drawings showing layout and details of reinforcement, joint, method of manufacture and installation of pipe, specials and fittings, and a schedule of pipe lengths by diameter for the entire job.

C. Submit with the shop drawings certification from the manufacturer that the fine and coarse aggregates used in manufacture of the concrete pipe comply with the requirements of Paragraph 2.01C.

D. Before each shipment of pipe, submit the manufacturer's certification that the pipe for this Contract conforms to the ASTM Standards specified in this Section.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. American Society for Testing and Materials (ASTM)

1. ASTM C33/C33M—Standard Specification for Concrete Aggregates.
2. ASTM C76—Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
3. ASTM C150/C150M—Standard Specification for Portland Cement.

4. ASTM C361—Standard Specification for Reinforced Concrete Low-Head Pressure Pipe.
5. ASTM C443—Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
6. ASTM E329—Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

1.04 QUALITY ASSURANCE

A. The manufacturer shall perform the acceptance tests specified in ASTM C76, Paragraph 5.1.2.

B. Reinforced concrete pipe manufactured for this Contract may be inspected at the plant for compliance with this Section by an independent testing laboratory provided by the Owner. The manufacturer's cooperation in these inspections shall be required. The cost of this inspection of all pipe approved for this Contract plus the cost of inspection of a reasonable amount of disapproved pipe will be borne by the Owner. The pipe manufacturer shall be required to:

1. Have sufficient pipe made in advance so that a minimum of approximately 1,000 feet will be approved at each plant inspection. Pay for each plant inspection that does not result in this minimum length of reinforced concrete pipe being approved, the cost being deducted from monthly progress payments.
2. Notify the independent testing laboratory at least 48 hours before requesting pipe inspection.

C. The Engineer or other representatives of the Owner will examine the pipe after delivery. The pipe shall be subject to rejection at any time on account of failure to meet any of the requirements specified in this Section even though pipes may have been accepted as satisfactory at the place of manufacture. Pipe rejected after delivery shall be marked for identification and shall immediately be removed from the job.

PART 2 PRODUCTS

2.01 REINFORCED CONCRETE PIPE

A. Except as otherwise specified in this Section, pipe should conform to ASTM C76, Class IV, Wall B or C. The pipe interior shall be smooth and even, free from roughness, projections, indentations, offsets, or irregularities of any kind. The concrete mass shall be dense and uniform. The manufacturer in accordance with Section 7.2 of ASTM C76 shall design minimum reinforcement and wall thickness for sizes not tabulated in ASTM C76.

B. Cement shall be non-air-entraining Portland cement conforming to ASTM C150/C150M, Type II. The use of any admixture shall be subject to the specific approval of the Engineer.

C. Fine aggregate shall consist of washed inert natural sand conforming to the requirements of ASTM C33/C33M, except for gradation, with a maximum loss of 8% when subjected to five cycles of the soundness test using magnesium sulfate. Coarse aggregate shall consist of well-graded crushed stone or washed gravel conforming to the requirements of ASTM C33/C33M, except for gradation, with a maximum loss of 8% when subjected to five cycles of the soundness test using magnesium sulfate. Documentation that the aggregates to be used in the manufacture of reinforced concrete pipe meet these requirements shall be submitted to the Engineer as stated in Article 1.02.

D. The 28-day compressive strength of the concrete, as indicated by cores cut from the pipe, shall be equal to or greater than the design strength of the concrete. The concrete mass shall be dense and uniform. Reinforcement shall be circular for all concrete pipes. Quadrant steel shall not be used. Reinforcement shall be installed in both the bell and the spigot. At least one circumferential reinforcement wire shall be in both the bell and spigot area and reinforcement in the bell and spigot shall be adequate to prevent damage to concrete during shipping, handling, and after installation. When cores indicate that reinforcing steel has less than 85% bond the pipe shall be subjected to a 3-edge bearing test to 13 psi to verify strength and water tightness.

E. Pipe may be rejected for any of the following reasons:

1. Exposure of any wires, positioning spacers or chairs used to hold the reinforcement cage in position, or steel reinforcement in any surface of the pipe, except as permitted by Section 8.2 of ASTM C76.

2. Transverse reinforcing steel found to be in excess of 1/4-inch out of specified position after the pipe is molded.

3. Any shattering or flaking of concrete at a crack.

4. Voids, with the exception of a few minor bugholes, on the interior and exterior surfaces of the pipe exceeding 1/4-inch in depth unless properly and soundly pointed with mortar or other approved material.

5. Unauthorized application of any wash coat of cement or grout. Any pipe dressing procedures shall be subject to approval of the Engineer.

6. A hollow spot (identified by tapping the internal surface of the pipe), which is greater than 30-inch in length or wider than three times the specified wall thickness. Repair of such defective areas not exceeding these limitations may be made as specified in Paragraph 2.01R.

7. Defects that indicate imperfect molding of concrete; or any surface defect indicating honeycomb or open texture (rock pockets) greater in size than area equal to a square with a side dimension of 2-1/2 times the wall thickness or deeper than two times the maximum graded aggregate size. Repair of such defects not exceeding these limits may be made as specified in Paragraph 2.01R.

8. Any of the following:

    a. A crack having a width of 0.005 to 0.01-inch throughout a continuous length of 36 inches or more.
    b. A crack having a width of 0.0 to 0.03-inch or more throughout a continuous length of 1 foot or more.
    c. Any crack greater than 0.005-inch extending through the wall of the pipe and having a length in excess of the wall thickness.
    d. Any crack showing two visible lines of separation for a continuous length of 2 feet or more or an interrupted length of 3 feet or more anywhere in evidence, both inside and outside.
    e. Cracks anywhere greater than 0.03-inch in width.

F. The pipe shall be clearly marked as required by ASTM C76 in a manner acceptable to the Engineer. The markings may be at either end of the pipe for the convenience of the manufacturer, but for any one size shall always be at the same end of each pipe length. Pipe shall not be shipped until the compressive strength of the concrete has attained 4,000 psi.

G. Pipe shall have a minimum laying length of approximately 8 feet, except for closure and other special pieces as approved by the Engineer. Sufficient pipe of various lengths should be available at the site to affect closure at manholes or structures that cannot be located to accommodate standard lengths. Short lengths of pipe made for closure, etc. may be used in the pipeline at the end of construction if properly spaced. The length of the incoming and outgoing concrete pipe at each structure shall not exceed 4 feet, except where the joint is cast flush with the exterior wall of the structure, where steel wall fittings are provided or where otherwise noted on the Drawings. Maximum laying length shall not exceed 16 feet, but the installation of 16-foot lengths will depend upon the ability to handle such lengths of pipe in sheeted trenches, comply with trench width requirements, maintain the integrity of the sheeting and avoid disturbance to

adjacent ground. If in the opinion of the Engineer the use of 16-foot lengths is impracticable, shorter lengths shall be used.

H. Each length of pipe shall be checked against the length noted on the shop drawings. Pipe more than 1 1/2-inch longer than that shown on the shop drawings shall not be used on this project. Variations in length of the same pipe shall not exceed ASTM C76 requirements.

I. During manufacturing, measuring devices shall be used to ensure joint assembly is within the tolerance of ASTM C76 and this Section.

J. The Engineer shall have the right to take samples of the concrete after it has been mixed or as it is being placed in the forms or molds and to make such inspection and tests of the concrete as he/she may wish.

K. At the start of the work, a set of test cylinders shall be taken each day on which pipe is manufactured for the project or more often if required. This may ultimately be reduced to one set of three specimens for every 50 cubic yards of concrete placed, if the uniformity of results warrants and if approved by the Engineer. At the start of the work, a relationship shall be established between ultimate strength of test cylinders stored in a standard manner compared to cylinders steam cured with the pipe and compared to cores taken from the corresponding finished pipe. At least five sets of tests shall be made.

L. The Engineer shall have the right to cut cores from such pieces of the finished pipe as he/she selects for inspection and such tests as he/she may wish to apply. Holes left by the removal of cores shall be filled in an approved manner by and at the expense of the manufacturer. Core drilling shall be carried out by the pipe manufacturer at his/her expense. The number of cores shall not exceed the requirements of ASTM C76.

M. Test cores may be taken for every 500 linear feet of pipe manufactured, but not less than once each day on which pipe is manufactured for the project. Cores may be reduced to one set of two per week (or possibly fewer, but not less than one set for every 1,500 linear feet), if a satisfactory relationship is established between cores and cylinders made and cured in the standard manner. This relationship shall not vary by more than 10% more or less from the average ratio. Cores may be drilled in any manner that will provide a smooth core face. All pipe cylinders and cores shall be 4 inches in diameter. Cores shall be carefully saw-trimmed and capped in a vertical position with a sulfur cap of minimum thickness, at least 1 day before being tested.

N. Core testing shall conform to Standard ASTM Methods.

O. At the time of inspection the pipe will be carefully examined for compliance with the appropriate ASTM standard, as specified in this Section and shop drawings. All pipes shall be inspected for general appearance, dimension, "scratch-strength," blisters, cracks, roughness, soundness, etc. All pipes will be checked for soundness by being tapped and scratched at least once on every 50 square inches of pipe surface. The surface shall be dense and close-textured. Cores also shall serve as a basis for rejection of pipe, particularly if lamination or poor bond of reinforcement is apparent.

P. The manufacturer shall use measuring devices to ensure joint assembly is within tolerances of ASTM C76 and as specified in this Section. If, during construction, the pipes cannot be satisfactorily joined, the manufacturer shall pre-join the pipe at the plant.

Q. Unsatisfactory or damaged pipe will be either permanently rejected or returned for minor repairs. Only pipe actually conforming to the Specifications and accepted will be listed for approval, shipment, and payment. Approved pipe will be so stamped or stenciled on the inside before it is shipped. All pipe which has been damaged after delivery will be rejected and if such pipe already has been laid in the trench, it shall be acceptably repaired, if permitted, or removed and replaced, entirely at the Contractor's expense.

R. Pits, blisters, rough spots, breakage, and other imperfections may be repaired, subject to the approval of the Engineer, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final approval. Non-shrink cement mortar used for repairs shall have a minimum compressive strength of 6,000 psi at the end of 7 days and 7,000 psi at the end of 28 days, when tested in 3-inch cylinders stored in the standard manner. Subject to the approval of the Engineer, epoxy mortar may be used for repairs.

2.02 JOINTS FOR CONCRETE PIPE

A. Joints for concrete pipe less than 72 inches in diameter shall be concrete and rubber tongue-and-groove or bell-and-spigot-type joint conforming to ASTM C361 with provisions for using a round rubber O-Ring gasket in a recess in the spigot end of the pipe. The bevel on the bell of the pipe shall be between 1-1/2º and 2-1/2º. The diameters of the joint surfaces that compress the gasket shall not vary from the true diameters by more than 1/16-inch.

B. The round rubber O-Ring gaskets shall conform to ASTM C443 except as otherwise specified in this Section.

C. The gaskets shall be designed and manufactured so that the completed joint will withstand an internal water pressure in excess of 13 psi for 10 minutes without

showing any leakage by the gasket or displacement of it. The pipe manufacturer shall provide facilities for testing the effectiveness of the joints against leakage and one such test may be required for each 500 feet of pipe for each type of joint manufactured. Such tests shall be made by an internal or external pressure against the joint of at least 13 psi for 10 minutes in accordance with ASTM C443. The completed joint, when installed in place in the work, shall be capable of withstanding a groundwater pressure of 13 psi without exceeding the allowable leakage specified for the pipe testing.

D. The ends of the pipe shall be made true to form and dimension and the bell shall be made by casting against steel forms. The manufacturer shall inspect all pipe joint surfaces for out-of-roundness and pipe ends for squareness. The manufacturer shall furnish to the Engineer a notarized affidavit stating all pipe meets the requirements of ASTM C76, as specified in this Section and the joint design.

PART 3 EXECUTION

3.01 LAYING CONCRETE PIPE

A. Care shall be taken in loading, transporting, and unloading to prevent injury to the pipe or fittings and the joint surfaces. Pipe or fittings shall not be dropped. All pipe or fittings shall be examined before laying and no piece shall be installed which is found to be defective.

B. As soon as the excavation is completed to the normal grade of the bottom of the trench, place crushed stone in the trench and the pipe shall be firmly bedded in this stone to conform accurately to the lines and grades indicated on the Drawings. Crushed stone shall conform to the requirements of Section 02230, Site Preparation. Blocking under the pipe will not be permitted.

C. Crushed stone shall be placed and compacted to give complete vertical and lateral support for the lower section of the pipe as indicated on the Drawings. A depression shall be left in the supporting gravel at the joint to prevent contamination of the rubber gasket immediately before being forced home. Before the pipe is lowered into the trench, the spigot and bell shall be cleaned and free from dirt. A vegetable lubricant that is not soluble in water, furnished by the pipe manufacturer and harmless to the rubber gasket, shall lubricate the gasket and bell. The pipe shall be properly aligned in the trench to avoid any possibility of contact with the side of the trench and fouling the gasket. As soon as the spigot is centered in the bell of the previously laid pipe, it shall be forced home with jacks or come-alongs. After the gasket is compressed and before the pipe is brought fully home, each gasket shall be carefully checked for proper position around the full circumference of the joint. Steel inserts shall be used to prevent the pipe from

going home until the feeler gauge is used to check the final position of the gasket. The jacks or come-alongs shall be anchored sufficiently back along the pipeline (a minimum of five lengths) so that the pulling force will not dislodge the pieces of pipe already in place. Only a jack or come-along shall be employed to force the pipe home smoothly and evenly and hold the pipe while backfilling is in progress. Under no circumstances shall crowbars be used nor shall any of the motor-driven equipment be used.

D. As soon as the pipe is in place and before the come-along is released, backfill shall be placed as indicated on the Drawings and compacted for at least one-half the length of pipe. Not until this backfill is placed shall the come-along be released. If any motion at joints can be detected, a greater amount of backfill shall be placed before pressure is released. When pipe laying is not in progress, including lunchtime, the open ends of the pipe shall be closed by a watertight plug or other approved means.

E. Carefully regulate the equipment and construction operations so that the loading of the pipe does not exceed the loads for which the pipe is designed and manufactured. Any pipe damaged during construction operations shall promptly and satisfactorily be repaired or replaced at the Contractor's expense.

3.02 TESTING

A. General

1. All drains shall be tested for leakage by an infiltration test if the groundwater level is a minimum of 2 feet above the crown of the pipe for the full length of the section tested.
2. When drains cannot be tested by an infiltration test as specified above, they shall be tested by an exfiltration test using water.
3. Test the first section of pipeline as soon as it is installed to demonstrate that the work conforms to this Section.
4. Testing of pipe shall closely follow pipe laying. No more than 1,000 feet of pipe shall remain untested at any time.

B. Infiltration Test

1. Pipe shall be tested for infiltration after the backfill has been placed and the groundwater has been allowed to return to normal elevation. Infiltration tests shall be made under the supervision of the Engineer, and the length of line to be tested shall not be less than the length between adjacent manholes and not more than the total length of each size of pipe. The allowable infiltration shall be 100 gallons per inch of diameter per day

per mile of pipe in each section tested. There shall be no gushing or spurting leaks.

2. If an inspection of the completed sewer or any part thereof shows pipes or joints that allow noticeable infiltration of water, the defective work or material shall be replaced or repaired as directed.
3. Rates of infiltration shall be determined by means of V-notch weirs, pipe spigots, or by plugs in the end of the pipe to be furnished and installed in an approved manner and at such times and locations as may be directed by the Engineer.

C. Exfiltration Test

1. Leakage tests by exfiltration shall be made before or after backfilling at the discretion of the Engineer. The length of pipe to be tested shall be such that the head over the crown at the upstream crown is not less than 2 feet and the head over the downstream crown is not more than 6 feet. The pipe shall be plugged by pneumatic bags or mechanical plugs in such a manner that the air can be released from the pipe while it is being filled with water. Before any measurements are made, the pipe shall be kept full of water long enough to allow absorption and the escape of any trapped air to take place. Following this, a test period of at least 1 hour shall begin. Provisions shall be made for measuring the amount of water required to maintain the water at a constant level during the test period.
2. If any joint shows an appreciable amount of leakage, the jointing material shall be removed and the joint repaired. If any pipe is defective, it shall be removed and replaced. If the quantity of water required to maintain a constant level in the pipe does not exceed 100 gallons per inch of diameter per day per mile of pipe and if all the leakage is not confined to a few joints, workmanship shall be considered satisfactory. If the amount of leakage indicates defective joints or broken pipes, they shall be corrected or replaced.

3.03 CLEANING

A. At the conclusion of the work, thoroughly clean all pipelines by flushing or power jetting with water or other means to remove all dirt, stones, pieces of wood, or other material that may have entered the pipes during the construction period. Debris cleaned from the lines shall be removed from the low end of the pipeline. If after this cleaning obstructions remain, they shall be removed. After the pipelines are cleaned and if the groundwater level is above the pipe or following a heavy rain, the Engineer will examine the pipes for leaks. If any defective pipes or joints are discovered, they shall be repaired.

END OF SECTION

SECTION 02700
PAVING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section covers the work necessary to provide for the construction of all pavement where indicated on the Drawings.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Limerock material submittal is to be made to include liquid limit, plastic index, gradation, certification regarding deleterious material, limerock bearing ratio (LBR), Florida Department of Transportation (FDOT) pit number, and other information as required to indicate performance in accordance with the specifications.

B. Information regarding asphaltic and Portland cement concrete materials and mix shall be submitted as required by the referenced FDOT specifications.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time, unless otherwise noted. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. The latest editions of the FDOT Standard Specifications for Road and Bridge Construction (Standard Specifications) and Roadway and Traffic Design Standards shall be referred to for construction, workmanship, and quality control as specified with exceptions as noted in this Section.

1. Where the referenced FDOT Specifications cite "the Department," this shall be modified to “the Owner and/or Engineer” by this contract.
2. The Contractor shall retain an independent testing agency, as approved by the Engineer, to perform all tests, including tests referenced to be performed by the Engineer.

3. Payment for this project is on a Lump-Sum Basis if defined as Lump Sum on the Bid Form. The FDOT sections defining the Basis of Payment shall be applied only when unit price work is defined on the Bid Form.

B. American Society of Testing and Materials (ASTM)

1. ASTM D1556/D1556M—Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM D1557—Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).
3. ASTM D2167—Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
4. ASTM D6938—Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

1.04 QUALITY ASSURANCE

A. The Contractor shall perform field-density tests along the centerline of construction or as directed by the Engineer and in accordance with the FDOT's *Standard Specifications for Road and Bridge Construction*, latest edition.

B. The Contractor shall field check the depth of stabilization and/or limerock at each road crossing with a pipeline.

C. The Engineer may require additional testing as deemed necessary. The Engineer shall interpret test results and the Contractor shall perform remedial work as directed by the Engineer. The Contractor shall provide labor to the Engineer for help in performing tests and/or checking line and grade at no additional cost to the Owner.

D. Laboratory maximum dry density of soil mixtures at optimum moisture shall be determined by ASTM D1557 for subgrade, stabilized subgrade, and limerock base course.

E. Field density of stabilized subgrade and soils or soil mixtures in fill or backfill shall be determined by ASTM D1556/D1556M, ASTM D2167, or ASTM D6938 for limerock base course.

F. Bearing value of stabilized subgrade shall be determined by the methods required for determining LBR according to the FDOT, Standard Specification FM 5-515.

G. Field density of stabilized subbase shall be 98% or greater of the Modified Proctor maximum dry density, ASTM D1557.

H. The Engineer shall have sole responsibility for interpreting all test results. The Contractor shall bear the cost of all retests due to failure to achieve specified requirements.

PART 2 PRODUCTS

2.01 GENERAL (NOT USED)

2.02 ROCK BASE

A. The following sections of the Standard Specifications shall apply:

1. Section 200-1, Description.
2. Section 200-2, Materials.

2.03 STABILIZING MATERIALS

A. The following sections of the Standard Specifications shall apply:

1. Section 160-1, Description.
2. Section 160-2, Materials.

2.04 PRIME AND TACK COATS FOR BASE COURSES

A. The following sections of the Standard Specifications shall apply:

1. Section 300-1, Description.
2. Section 300-2, Materials.

2.05 ASPHALT

A. The following sections of the Standard Specifications shall apply:

1. Section 334-1, Description.
2. Section 334-2, Materials.
3. Section 334-3, General Composition of Mixture.
4. Section 334-5, Acceptance of the Mixture.

2.06 CEMENT CONCRETE PAVEMENT

A. The following sections of the Standard Specifications shall apply:

1. Section 350-1, Description.
2. Section 350-2, Materials.

2.07 TRAFFIC STRIPES AND MARKINGS

A. The following sections of the Standard Specifications shall apply:

1. Section 711-1, Description.
2. Section 711-2, Materials.

PART 3 EXECUTION

3.01 EXCAVATION AND EMBANKMENT

A. The following sections of the Standard Specifications shall apply:

1. Section 120-1, Description.
2. Section 120-2, Classifications of Excavation.
3. Section 120-3, Preliminary Soils Investigation.
4. Section 120-4, Removal of Unsuitable Materials and Existing Roads.
5. Section 120-5, Disposal of Surplus and Unsuitable Material.
6. Section 120-6.1, Materials for Borrow.
7. Section 120-7, Materials for Embankment.
8. Section 120-8, Embankment Construction.
9. Section 120-9, Compaction Requirements.
10. Section 120-10, Acceptance Program.
11. Section 120-11, Maintenance and Protection of Work.
12. Section 120-12, Construction.

B. Exceptions

1. Section 120-4.1, Subsoil Excavation: Unsuitable soils shall be those in Classifications A-6, A-7, or A-8 in the American Association of State Highway and Transportation Officials (AASHTO) System.
2. Section 120-4.2, Construction Over Existing Old Road: Where removal of existing pavement is called for, it shall be removed to the full depth as indicated in the cross-sections and replaced with new limerock and paving or other treatment in accordance with the Drawings and details.
3. Section 120-5.3, Disposal of Paving Materials: Disposing of muck on side slopes shall not apply.

4. Section 120-9.2.1, General: Laboratory maximum dry density shall be determined by Modified Proctor, ASTM D1557. Field densities shall be determined by ASTM D1556/D1556M, ASTM D2167, or ASTM D6938. All embankments shall be compacted to not less than 95% of the maximum dry density, as determined by modified Proctor, ASTM D1557.
5. Section 120-12.1, Construction Tolerances: No tolerance greater than 0.1 foot above or below the plan cross-section will be allowed.

3.02 STABILIZING

A. The following sections of the Standard Specifications shall apply:

1. Section 160-3, Construction Methods.
2. Section 160-4, Acceptance Program.

B. Exceptions

1. Section 160-2.4, Granular Subbase: Contractor may not substitute 6 inches of Granular Subbase for 12 inches of Stabilization unless such substitution is specifically indicated on the Drawings.
2. Section 160-4.2.1.2, Undertolerance in Bearing Value Requirements: no undertolerance will be acceptable.

3.03 LIMEROCK BEARING RATIO AND DENSITIES

A. Stabilized finish grade and stabilized shoulders shall have a minimum LBR value of 40.

B. Field density of stabilized finished grade shall be a minimum of 98% of the Modified Proctor maximum dry density as specified in ASTM D1557 to a minimum depth of 12 inches as shown on the Drawings.

3.04 PRIME AND TACK COATS

A. The following sections of the Standard Specifications shall apply:

1. Section 300-3.1, Pressure Distributor.
2. Section 300-3.2, Sampling Device.
3. Section 300-3.3. Temperature Sensing Device.
4. Section 300-5, Cleaning Base and Protection of Adjacent Work.
5. Section 300-6, Weather Limitations.
6. Section 300-7, Application of Prime Coat.
7. Section 300-8, Application of Tack Coat.

3.05 ROCK BASE

A. The following sections of the Standard Specifications shall apply:

1. Section 200-3, Equipment.
2. Section 200-4, Transporting Rock.
3. Section 200-5, Spreading Rock.
4. Section 200-6, Compacting and Finishing Base.
5. Section 200-7, Acceptance Program.
6. Section 200-8, Priming and Maintaining.

B. Exceptions

1. Section 200-7.2.1, Density: The minimum density that will be acceptable for paved areas will be 98% of the maximum dry density as determined by Modified Proctor, ASTM D1557.
2. Section 200-7.3.1.2, Depth and Surface Testing Requirements: Thickness of base shall be measured at intervals not to exceed 200 feet.

3.06 ASPHALT

A. The following sections of the Standard Specifications shall apply:

1. Section 320-6, Preparation of the Mixture.
2. Section 320-7, Transportation of the Mixture.
3. Section 330-1, Description.
4. Section 330-2, Quality Control (QC) Requirements.
5. Section 330-3, Limitations of Operations.
6. Section 330-4, Surface Preparation.
7. Section 330-5, Paving Equipment.
8. Section 330-6, Placing Mixture.
9. Section 330-7, Compacting Mixture.
10. Section 330-8, Joints.
11. Section 330-9, Surface Requirements.
12. Section 330-10, Protection of Finished Surface.

3.07 CEMENT CONCRETE PAVEMENTS

A. The following sections of the Standard Specifications shall apply:

1. Section 350-3, Equipment.
2. Section 350-4, Subgrade Preparation.
3. Section 350-5, Setting Forms.
4. Section 350-6, Protection from Weather.

5. Section 350-7, Placement of Reinforcement.
6. Section 350-8, Placing Concrete.
7. Section 350-9, Striking-off, Consolidating, and Finishing Concrete.
8. Section 350-10, Final Finish.
9. Section 350-11, Curing.
10. Section 350-12, Joints.
11. Section 350-13, Surface Requirements.
12. Section 350-14, Thickness Determinations.

3.08 PAVEMENT REPAIR

A. At his own expense the Contractor shall repair all damage to pavement as a result of work under this Contract in a manner satisfactory to the Engineer. Pavement shall be repaired to match the original surface material thickness and original grade. However, the asphalt concrete thickness shall not be less than ***2*** inches. The repair shall include preparing the subgrade, placing and compacting the applicable base, priming the limerock base, and placing and maintaining the surface treatment as specified in this Section.

B. The width of all repairs shall extend at least 12 inches beyond the limit of the damage. The edge of the pavement to be left in place shall be cut to a true edge with a saw or other approved method to provide a clean edge to abut the repair. The line of the repair shall be reasonably uniform with no unnecessary irregularities.

3.09 JOINTS

A. General pavement joints within asphalt or concrete driveways and roadways and where specified or directed by the Engineer, shall be mechanically sawed butt joints. The edges of asphalt pavement shall be trimmed to straight lines which a roller can follow or formed.

3.10 TRAFFIC STRIPES AND MARKINGS

A. The following sections of the Standard Specifications shall apply:

1. Section 711-3, Equipment.
2. Section 711-4, Application.
3. Section 711-5, Contractor’s Responsibility for Notification.
4. Section 711-6, Protection of Newly Applied Traffic Stripes and Markings.

END OF SECTION

SECTION 02820
CHAIN-LINK FENCES AND GATES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section includes the following:

1. Galvanized steel chain-link fabric.
2. Galvanized steel framework.
3. Grounding and bonding.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Product Data: Provide material descriptions, construction details, dimensions of individual components and profiles, and finishes for the products specified in this Section.

B. Product Certificates: Signed by manufacturers of chain-link fences and gates certifying that products furnished comply with requirements.

C. Field Test Reports: Indicate and interpret test results for compliance of chain-link fence and gate grounding and bonding with performance requirements.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. American Concrete Institute (ACI)

1. ACI 301—Specifications for Structural Concrete.

B. American Society for Testing and Materials (ASTM)

1. ASTM A53/A53M—Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

2. ASTM A392—Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
3. ASTM A824—Standard Specification for Metallic-Coated Steel Marcelled Tension Wire for Use With Chain Link Fence.
4. ASTM C33/C33M—Standard Specification for Concrete Aggregates.
5. ASTM C94—Standard Specification for Ready-Mixed Concrete.
6. ASTM C150/C150M—Standard Specification for Portland Cement.
7. ASTM C387/C387M—Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar.
8. ASTM F567—Standard Practice for Installation of Chain-Link Fence.
9. ASTM F626—Standard Specification for Fence Fittings.
10. ASTM F900—Standard Specification for Industrial and Commercial Steel Swing Gates.
11. ASTM F1043—Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework.
12. ASTM F1083—Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.

C. Institute of Electrical and Electronics Engineers (IEEE)

1. IEEE C2—National Electrical Safety Code (NESC).
2. IEEE 81—Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System.

D. Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1910.7—Definition and Requirements for a Nationally Recognized Testing Laboratory.

E. Underwriters Laboratories (UL)

1. UL 467—Grounding and Bonding Equipment.

1.04 QUALITY ASSURANCE

A. Source Limitations for Chain-Link Fences and Gates: The Contractor shall obtain each color, grade, finish, type, and variety of component for chain-link fences and gates from one source with resources to provide chain-link fences and gates of consistent quality in appearance and physical properties.

1.05 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall adhere to the requirements specified in Section 01650, Delivery, Storage, and Handling, for storing and protecting the items specified in this Section.

B. Delivery, storage, and handling shall be in accordance with the manufacturer's recommendations.

1.06 QUALIFICATIONS

A. Installer Qualifications: An experienced installer who has completed chain-link fences and gates similar in material, design, and extent to those indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

1.07 TESTING REQUIREMENTS

A. Testing Agency Qualifications: A testing agency as defined by OSHA in 29 CFR 1910.7 or a member company of the International Electrical Testing Association and that is acceptable to authorities having jurisdiction.

1. Testing Agency's Field Supervisor: A person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

1.08 PROJECT CONDITIONS

A. Field Measurements: The Contractor shall verify layout information for chain-link fences and gates shown on the Drawings in relation to the property survey and existing structures. Verify dimensions by field measurements.

1.09 DEFINITIONS

A. CLFMI: Chain Link Fence Manufacturers Institute.

PART 2 PRODUCTS

2.01 GENERAL (NOT USED)

2.02 CHAIN-LINK FENCE FABRIC

A. Steel Chain-Link Fence Fabric: The Contractor shall provide fabric fabricated in one-piece widths for the fencing height shown on the Drawings. Comply with CLFMI's *Product Manual* and with requirements indicated below:

1. Mesh and Wire Size: 2-inch mesh, 0.192 inch diameter.

2. Zinc-Coated Fabric: ASTM A392, with zinc coating applied to steel wire mesh fabric after weaving with the following minimum coating weight:

a. Class 2: Not less than 2 ounces/square foot (oz/sq.ft.) of uncoated wire surface.

3. Coat selvage ends of fabric that is metallic coated during the weaving process with manufacturer's standard clear protective coating.

B. Selvage: Twisted at top selvage and knuckled at bottom.

2.03 FENCE FRAMING

A. Round Steel Pipe: Standard weight, Schedule 40, galvanized steel pipe complying with ASTM F1083. Comply with ASTM F1043, Material Design Group IA, external and internal coating Type A, consisting of not less than 1.8-oz/sq.ft. zinc, and the following strength and stiffness requirements:

1. Line, End, Corner, and Pull Posts and Top Rail: In accordance with requirements for Heavy Industrial Fence.

B. Post Brace Rails: Match top rail for coating and strength and stiffness requirements. Provide brace rail with truss rod assembly for each gate, end, and pull post. Provide two brace rails extending in opposing directions, each with truss rod assembly, for each corner post and for pull posts. Provide rail ends and clamps for attaching rails to posts.

C. Top Rails: Fabricate top rail from lengths 21 feet or longer, with swedged-end or fabricated for expansion-type coupling, forming a continuous rail along the top of chain-link fabric.

D. Intermediate Rails: Match top rail for coating and strength and stiffness requirements.

E. Bottom Rails: Match top rail for coating and strength and stiffness requirements.

2.04 TENSION WIRE

A. General: The Contractor shall provide horizontal tension wire at the following locations:

1. Extended along top and bottom of fence fabric.

B. Metallic-Coated Steel Wire: 0.177 inch diameter, marcelled tension wire complying with ASTM A824 and the following:

1. Coating: Type II, zinc coated (galvanized) with the following minimum coating weight:

a. Matching chain-link fabric coating weight.

2.05 SWING GATES

A. General: Comply with ASTM F900 for the following swing-gate types:

1. Single gate.
2. Double gate.

B. Metal Pipe and Tubing: Galvanized steel. Comply with ASTM F1083 and ASTM F1043 for materials and protective coatings.

C. Frames and Bracing: Fabricate members from galvanized steel tubing with outside dimension and weight according to ASTM F900 fence height shown on the Drawings.

D. Frame Corner Construction: As follows:

1. Welded or assembled with corner fittings and 5/16 inch diameter adjustable truss rods for panels 5 feet wide or wider.

E. Gate Posts: Fabricate members from round galvanized steel pipe with outside dimension and weight according to ASTM F900 for the following gate fabric heights and leaf widths:

1. Gate Fabric Height by Leaf Width: Over 8 feet by over 18 feet but not over 24 feet.

F. Hardware: Latches permitting operation from both sides of the gate, hinges, and keepers. Fabricate latches with integral eye openings for padlocking; the padlock shall be accessible from both sides of the gate.

2.06 FITTINGS

The Contractor shall do the following:

A. General: Provide fittings for a complete fence installation, including special fittings for corners. Comply with ASTM F626.

B. Post and Line Caps: Hot-dip galvanized pressed steel or hot-dip galvanized cast iron. Provide weathertight closure cap for each post.

1. Provide line post caps with loop to receive or top rail.

C. Rail and Brace Ends: Hot-dip galvanized pressed steel or hot-dip galvanized cast iron. Provide rail ends or other means for attaching rails securely to each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:

1. Top Rail Sleeves: Hot-dip galvanized pressed steel or round steel tubing not less than 6 inches long.
2. Rail Clamps: Hot-dip galvanized pressed steel. Provide line and corner boulevard clamps for connecting bottom rails in the fence line to line posts.

E. Tension and Brace Bands: Hot-dip galvanized pressed steel.

F. Tension Bars: Hot-dip galvanized steel, length not less than 2 inches shorter than full height of chain-link fabric. Provide one bar for each gate and end post and two for each corner and pull post, unless fabric is integrally woven into post.

G. Truss Rod Assemblies: Hot-dip galvanized steel rod and turnbuckle or other means of adjustment.

H. Tie Wires, Clips, and Fasteners: Provide the following types according to ASTM F626:

1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:

a. Hot-Dip Galvanized Steel: 0.148 inch diameter wire; galvanized coating thickness matching coating thickness of chain-link fence fabric.

2. Power-driven fasteners.

3. Round Wire Hog Rings: Hot-dip galvanized steel for attaching chain-link fabric to horizontal tension wires.

I. Pipe Sleeves: For posts set into concrete, provide preset hot-dip galvanized steel pipe sleeves complying with ASTM A53/A53M, not less than 6 inches long with inside dimensions not less than 1/2 inch more than the outside dimension of the post and flat steel plate forming bottom closure.

2.07 CAST-IN-PLACE CONCRETE

A. General: The Contractor shall comply with ACI 301 for cast-in-place concrete.

B. Materials: Portland cement complying with ASTM C150, aggregates complying with ASTM C33/C33M, and potable water for ready-mixed concrete complying with ASTM C94.

1. Concrete Mixes: Normal-weight concrete with not less than 3,000 psi compressive strength (28 days), 3-inch slump, and 1 inch maximum size aggregate.

C. Materials: Dry-packaged concrete mix complying with ASTM C387 for normal-weight concrete mixed with potable water according to the manufacturer's written instructions.

2.08 FENCE GROUNDING

A. Conductors: Bare, copper solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.

B. Connectors and Ground Rods: Listed in UL 467:

1. Connectors for Below-Grade Use: Exothermic welded type.

2. Ground Rods: Copper-clad steel.

a. Size: 5/8 inch by 96 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. The Contractor shall examine areas and conditions with the installer present for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance.

1. Do not begin installation before final grading is completed.
2. Verify limits of existing wetlands to be traversed.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. The Contractor shall stake locations of fence lines, gates, and terminal posts. Locate all utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments within the proposed fencing and gate layout shown on the Drawings and report any interferences with these structures or utilities to the Engineer before beginning work.

3.03 INSTALLATION, GENERAL

The Contractor shall do the following:

A. General: Install chain-link fencing to comply with ASTM F567 and more stringent requirements specified.

1. Install fencing on established boundary lines inside property line.

B. Post Setting: Set posts in concrete footing. Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Verify that the posts are set plumb, aligned, and at the correct height and spacing, and hold the posts in position during placement and finishing operations until the concrete is sufficiently cured.

1. Dimensions and Profile: All posts shall be at least 8 feet tall and shall follow the alignment specified on the Drawings.
2. Exposed Concrete Footings: Extend concrete 2 inches above grade, smooth, and shaped to shed water.

3.04 CHAIN-LINK FENCE INSTALLATION

The Contractor shall do the following:

A. Terminal Posts: Locate terminal end, corner, and gateposts in accordance with ASTM F567 and terminal pull posts at changes in horizontal or vertical alignment of 15º or more.

B. Line Posts: Space line posts uniformly at 10 feet o.c.

C. Post Bracing Assemblies: Install according to ASTM F567, maintaining plumb position and alignment of fencing. Install braces at end and gate posts and at both sides of corner and pull posts. Locate horizontal braces at midheight of fabric on fences with top rail and at two-thirds fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

D. Tension Wire: Install according to ASTM F567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120 inch diameter hog rings of the same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric.

1. Bottom Tension Wire: Install tension wire within 6 inches of the bottom of the fabric and tie to each post with not less than the same gauge and type of wire.

E. Top Rail: Install according to ASTM F567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended by the fencing manufacturer.

F. Intermediate Rails: Install in one piece at post-height center span, spanning between posts, using fittings, special offset fittings, and accessories.

G. Bottom Rails: Install, spanning between posts, using fittings and accessories.

H. Chain-Link Fabric: Apply fabric to inside of enclosing framework. Leave 2 inches between finish grade or surface and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

I. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

J. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180º and attach the other end to chain-link fabric in accordance with ASTM F626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts 12 inches o.c. and to braces 24 inches o.c.

K. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.

3.05 GATE INSTALLATION

A. General: The Contractor shall install gates according to the manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric in the same way as fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.06 GROUNDING AND BONDING

The Contractor shall do the following:

A. Fences Enclosing Electrical Power Distribution Equipment: Ground as required by IEEE C2, unless otherwise indicated.

B. Grounding Method: At each grounding location, drive a ground rod vertically until the top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at the grounding location, including the following:

1. Each Barbed Wire Strand. Make grounding connections to barbed wire with wire-to-wire connectors designed for this purpose.

C. Bonding Method for Gates: Connect bonding jumper between the gate post and gate frame.

D. Connections: Make connections so the possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors,

and connection methods so metals in direct contact will be galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Coat and seal connections having dissimilar metals with inert material to pre-vent future penetration of moisture to contact surfaces.

3.07 FIELD QUALITY CONTROL

A. Ground-Resistance Testing Agency: The Contractor shall engage a qualified independent testing agency to perform field-quality control testing.

B. Ground-Resistance Tests: Subject completed grounding system to a megger test at each grounding location. Measure ground resistance not less than 2 full days after the last trace of precipitation, without the soil having been moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform tests by the two-point method according to IEEE 81.

C. Desired Maximum Grounding Resistance Value: 25 ohms.

D. Excessive Ground Resistance: If resistance to ground exceeds desired value, the Contractor shall provide recommendations to reduce ground resistance and a proposal to accomplish the recommended work.

E. Report: The Contractor shall prepare test reports, certified by the testing agency, of ground resistance at each test location. Include observations of weather and other phenomena that may affect test results.

3.08 ADJUSTING

A. Gate: The Contractor shall adjust the gate to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction throughout the entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

END OF SECTION

SECTION 02900
LANDSCAPE WORK

PART 1 GENERAL

This Section covers the requirements for landscape work.

1.01 SCOPE OF WORK

A. This Section includes provisions for the following items:

1. Trees.
2. Shrubs.
3. Groundcover.
4. Plant Material.
5. Fertilizers.
6. Erosion-Control Fabric.
7. Initial Maintenance of Landscape Materials.

1.02 SUBMITTALS

The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance:

A. Materials List:

1. The Contractor shall provide cutsheets of all products specified or required for all material specified. The cutsheets shall list the manufacturer's name, catalog name, and catalog number as well as the size, type, and illustration of the product to be supplied.

B. General: The Contractor shall submit the following in accordance with the Conditions of Contract and Division 1, General Requirements, sections:

1. Total quantities of the following items to the Engineer before installation:

a. Topsoil planting area.
b. Planting Soil.
c. Fertilizer.
d. Mulch.
e. Erosion-control fabric.

2. Samples for verification: A 5-pound (2.2-kg) sample of materials listed in labeled plastic bags.

3. Plant and Material Certifications and Shop Drawings: The manufacturer's certificate of compliance and shop drawings of material as specified and required. Indicate quantity, size, and type of materials. Provide the vendor a list of all plant material and status of availability. Refer to the Drawings and Specifications for materials.

4. The manufacturer’s or vendor’s certified analysis for soil amendments, pre-emergent herbicide, and fertilizer materials.

5. Material test reports: For existing surface soil and imported topsoil, submit the following:

    a. Topsoil Analysis: Furnish soil analysis by a qualified soil testing laboratory stating the percentage of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ration deleterious material; PH; and mineral and plant nutrient content of topsoil.
    b. Report the suitability of topsoil for plant growth. State the recommended quantities of nitrogen, phosphorus, and potash nutrients and the soil amendments to be added to produce satisfactory topsoil.

6. Submit to the Owner all fertilizer and root treatment bags/containers for proof of installation.

7. Certificates of inspection as required by governmental authorities: All required inspection certificates shall accompany the invoices. Required transportation documents are to be submitted with invoices as back up.

8. The manufacturer's or vendor's certified analysis for soil amendments, pre-emergent herbicide, and fertilizer materials.

9. Label data substantiating that plants, trees, shrubs, and planting materials comply with specified requirements.

10. Planting Schedule: Proposed planting schedule, indicating dates for each type of landscape work during normal seasons for such work in the area of the site. Correlate with specified maintenance periods to provide maintenance from date of substantial completion. Once accepted, revise dates only as approved in writing after documentation of reasons for delay.

11. Maintenance Instructions: Typewritten instructions recommending procedures to be established by the Owner for maintenance of landscape work for 1 full year.

1.03 WORK SEQUENCE

The Contractor shall do the following:

A. Planting Time: Proceed with and complete landscape work as rapidly as portions of the site become available.

B. Correlate planting with specified maintenance periods to provide maintenance from the date of substantial completion.

C. Coordination with Lawns: Plant trees, shrubs, and groundcover after final grades are established and before the planting of lawns, unless otherwise acceptable to the Engineer. If the planting of trees, shrubs, and groundcover occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

D. The work shall be coordinated with other trades to prevent conflicts. Coordinate the planting with the irrigation work to ensure availability of water and proper location of irrigation equipment and plant materials.

1.04 REFERENCE STANDARDS

A. Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. Where this Section differs from these documents, the requirements of this Section shall apply.

B. Nomenclature: Nomenclature shall conform to the names given in *Standardized Plant Names*, 1942 Edition, prepared by the American Joint Committee on Horticultural Nomenclature or by the Bureau of Plant Industry, State of Florida. Names of varieties not included in this work shall conform generally with names accepted in the nursery trade.

1.05 QUALITY ASSURANCE

A. The Contractor shall subcontract landscape work to a single firm specializing in landscape work. All planting shall be performed by personnel familiar with planting procedures and under the supervision of a qualified planting foreman. Except as otherwise specified, the Contractor's work shall conform to accepted horticultural practices as used in the trade.

B. General: The Contractor shall comply with applicable federal, state, county, and local codes, ordinances, and regulations governing landscape materials and work.

C. General: The Contractor shall ship landscape materials with certificates of inspection required by governing authorities. Comply with regulations applicable to landscape materials.

D. Substitutions will be permitted only upon submission of proof that any specified plant is not obtainable or suitable for the location as specified on the plan and upon written authorization of the Engineer.

E. Analysis and Standards: The Contractor shall package standard products with the manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.

F. Topsoil: Before the delivery of topsoil, the Contractor shall furnish the Engineer with a written statement giving the location of properties from which topsoil is to be obtained, the names and addresses of Owner, the depth to be stripped, and the crops grown during the past 2 years.

G. Trees, Shrubs, and Plants: The Contractor shall provide trees, shrubs, and plants of the quantity, size, genus, species, and variety shown and scheduled for landscape work. Provide healthy, vigorous stock grown in a recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, or disfigurement. All material shall be graded Florida No. 1 or better as outlined under new Grades and Standards for Nursery Plants, Division of Plant Industry, State of Florida, unless otherwise noted.

H. The Contractor shall provide, at no additional expense to the Owner, certification by an independent certified horticulturist, botanist, and/or agricultural laboratory that the ground covers, shrubs, trees and palms comply with specified genus, species, variety, grade, and standards at the Engineer's request.

I. The Contractor shall label at least one tree, shrub, and groundcover of each variety with a securely attached waterproof tag bearing legible designation of botanical and common name.

1. Where the formal arrangements or consecutive order of trees, shrubs, and groundcovers are shown, select stock for uniform height and spread and label with a number to ensure symmetry in planting.

J. Inspection: The Engineer may inspect trees, shrubs, and groundcover, either at the place of growth or at the site before planting, for compliance with requirements for genus, species, variety, size, and quality. The Engineer retains the right to further inspect trees, shrubs, and groundcover for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during the work. The Contractor shall remove rejected trees, shrubs, or groundcover immediately from the project site.

1.06 WARRANTIES

A. Warranties shall be in accordance with General Conditions, Supplementary Conditions, and Section 01780, Warranties and Bonds.

B. Warranty trees, shrubs, groundcovers, and palms for 1 year from final completion against defects including death and unsatisfactory growth, except for defects resulting from abuse or damage by others or unusual phenomena or incidents which are beyond the Contractor's control. The Contractor shall notify the Owner in writing 10 days before the expiration of the warranty period. The warranty period shall be continued until such written notification is received.

C. At the end of the guarantee period, the Owner will conduct an inspection. The Contractor shall remove from the site and immediately replace all plants that are dead or not in satisfactory growth, as determined by the Owner.

D. The Contractor shall remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition during the warranty period. Make replacements during growth season following the end of the warranty period. Replace trees, shrubs, and groundcovers that are in doubtful condition at the end of the warranty period unless, in the opinion of the Engineer, it is advisable to extend the warranty period for a full growing season. All replacements shall be plants of the same kind and size as specified in the Plant List. They shall be furnished and planted as specified at no additional cost to the Owner. All replacement shall be guaranteed for an additional 3 months.

1.07 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall adhere to the requirements specified in Section 01650, Delivery, Storage, and Handling, for storing and protecting the items specified in this Section.

B. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of the manufacturer. Protect materials from deterioration during delivery and while stored at the site.

C. Trees and Shrubs: Provide freshly dug trees and shrubs. Do not prune before delivery unless otherwise approved by the Engineer. Do not bend or bind-tie trees or shrubs so as to damage bark, break branches, or destroy natural shape. Provide protective covering during delivery. Do not drop balled and burlapped stock during delivery.

D. Deliver trees, shrubs, and groundcover after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set trees, shrubs, and groundcovers in shade; protect from weather and mechanical damage; and keep roots moist by irrigating all trees, shrubs, and groundcover until they have been planted.

E. Do not remove container-grown stock from containers until planting time.

1.08 JOB CONDITIONS

A. Utilities: Before preparing planting areas and plant pits, the Contractor shall ascertain the location of all electrical cables, conduits, utility lines, oil tanks, and supply lines so that proper precautions may be taken not to disturb or damage any sub-surface improvements. Properly maintain and protect existing utilities. Hand excavate as required. Maintain grade stakes set by others until parties concerned mutually agree upon removal.

B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify the Engineer before planting.

C. The Contractor shall take all necessary precautions to avoid damage to existing structures or utilities while installing plants. The Contractor shall be responsible for all damages to existing structures or utilities caused by the Contractor's operations.

D. The Contractor is required to have utility lines located and flagged before planting trees to avoid damage to utility lines during planting and to avoid planting trees directly above utility lines.

PART 2 PRODUCTS

2.01 TOPSOIL

A. Topsoil for landscape work is not available at the site and must be furnished as specified.

B. The Contractor shall provide new topsoil that is fertile, friable, natural loam, surface soil. The topsoil shall be reasonably free of subsoil, clay lumps, brush, weeds, and other litter and free of roots, stumps, and stones larger than 1/2 inch in any dimension and other extraneous or toxic matter harmful to plant growth. Topsoil shall be obtained from naturally drained sources and shall contain at least 25% organic matter. Acidity shall range from pH 5.5 to pH 6.5 inclusive. Topsoil shall be proportioned by volume rather than weight. No site mixing will be accepted. Topsoil shall be spread at a minimum depth of not less than 2-1/2 inches over all areas to be planted.

2.02 PLANTING SOIL

A. Planting soil shall consist of an evenly blended mixture of the following and according to the depth shown on the planting details provided in the Contract Documents:

1. 2/3 approved topsoil as specified in this Section.
2. 1/3 Sphagnum Peat Moss: Finely divided peat may be provided in granular form, free of hard lumps, and with pH range suitable for the intended use.

B. All topsoil, planting soil, and planting beds shall be treated with a pre-emergent herbicide before plant material is installed.

2.03 MULCHES

A. Organic Mulch: The Contractor shall provide a minimum of 3 inches of organic mulch free from deleterious materials and suitable for the top dressing of trees and consisting of Pine Bark.

B. In-organic Mulch: The Contractor shall provide a minimum of 4 inches of inorganic mulch consisting of River Jack Stone.

2.04 FERTILIZER

A. Commercial Fertilizer: The Contractor shall provide a complete fertilizer of neutral character, with some elements derived from organic sources. The fertilizer mixture shall contain minor elements suitable for the plants being used. The source of the nutrients shall be suitable for the various specific types of plants being used (acid or alkaline). All fertilizer is to be slow release.

1. All newly planted and relocated trees shall be treated with mycorrhizal fungi and biostimulants at the time of planting. Treat all trees as recommended by the manufacturer.

2. All trees and shrubs shall be fertilized with Agriform 20-10-5 Tablets at time of planting. Trees shall receive six tablets evenly spaced around the rootball. Shrubs shall receive three tablets evenly spaced around the rootball. Tablets shall be placed at the mid-depth point of the plant pit.
3. Fertilizer for ground cover beds shall be evenly applied to all newly planted areas at the rate of 1-1/2 pounds of actual nitrogen, 1-1/2 pounds of actual phosphorous and 1-1/2 pounds of actual potash per 1,000 square feet.

2.05 PLANT MATERIALS

A. Quality: All plant material shall be Florida #1 or better, as referenced in New Grades and Standards. The Contractor shall provide trees, shrubs, and other plants of the size, genus, species, and variety shown and scheduled for landscape work and complying with recommendations and requirements of New Grades and Standards. All plants shall have been transplanted or root pruned at least once in the 3 years before the contract date. Root-bound container plants will not be accepted. Collected plants shall not be used unless called for in the Specifications or approved in writing by the Engineer.

B. Quantities: In the event of a variation between the Plant List and the actual number of plants shown on the plans, the plans shall control.

C. Trees: The Contractor shall provide trees of the height and caliper scheduled or shown and with branching configuration recommended by New Grades and Standards for the type and species required. Provide single-stem trees except where special forms are shown or listed. The caliper of tree trunks is to be taken 1 foot above the ground level.

1. Provide container-grown trees unless otherwise indicated on the plans.
2. Balled and burlapped (B&B) trees will be acceptable in lieu of container-grown trees with the Engineer's written authorization.

D. Shrubs: Provide shrubs of the height shown or listed and with not less than the minimum number of canes required by New Grades and Standards for the type and height of shrub required.

1. Provide container-grown shrubs unless otherwise indicated on the plans.
2. Balled and burlapped (B&B) shrubs will be acceptable in lieu of container-grown shrubs with the Engineer's written authorization.

E. Anti-desiccants: Anti-desiccants for retarding excessive loss of plant moisture and inhibiting shall be sprayable, water insoluble, vinyl-vinyledine complex that will produce a moisture-retarding barrier not removable by rain. Wilt-pruf Formula

NCF as manufactured by Nursery Specialty Products, Greenwich, CT, or approved equal is required.

2.06 GROUND COVER

A. The Contractor shall provide plants established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by New Grades and Standards for the pot size shown or listed.

2.07 MISCELLANEOUS LANDSCAPE MATERIALS

A. Tree Support System: The Contractor shall provide pressure-treated timber of sound new hardwood or treated softwood, free of knotholes and other defects. Provide wire ties and guys of two-strand, twisted, pliable galvanized iron wire, not lighter than 12-gauge. Provide galvanized anchors with zinc-coated adjustable ratchet tensor and eyelets.

PART 3 EXECUTION

3.01 PREPARATION - GENERAL

A. Initial Site Preparation:

1. The Landscape Contractor shall verify that there is an adequate percolation rate of the soil. Provide new topsoil as indicated in Article 2.01.
2. After establishing finished grade and before planting, the Landscape Contractor shall roto-till any or all areas that have been compacted.

B. Finish Grade: The Landscape Contractor will grade the site to a finished grade for planting areas as required by the Specifications.

C. Lay out individual tree, shrub, and groundcover locations and areas for multiple plantings. Stake locations and outline areas and secure the Engineer's acceptance before starting planting work. Make minor adjustments as may be required.

D. Plants shall be protected upon arrival at the site by being thoroughly watered and properly maintained until planted. Plants shall not remain unprotected for more than 6 hours. Methods customary in good horticultural practice shall be exercised at all times.

E. The Contractor shall ensure that the existing irrigation system is coordinated and remains functional during construction. The new irrigation system must be fully functional before each area is planted.

F. The existence and locations of underground utilities, if shown on the Drawings, are not guaranteed, and the Contractor shall investigate and verify these in the field before starting work. Excavation in the vicinity of existing structures and utilities shall be carefully done.

G. If overhead or underground obstructions which interfere with plantings are encountered, the Engineer will select alternate locations.

3.02 PREPARATION OF PLANTING SOIL

The Contractor shall do the following:

A. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth.

B. Mix specified topsoil and fertilizers with existing topsoil at rates specified. Delay the mixing of fertilizer if planting will not follow the placing of planting soil within a few days.

C. For pit- and trench-type backfill, mix the planting soil before backfilling, and stockpile at the site.

D. For planting beds and lawns, mix planting soil either before planting or apply on the surface of topsoil and mix thoroughly before planting.

3.03 PREPARATION OF PLANTING BEDS

In preparing planting beds, the Landscape Contractor shall do the following:

A. Loosen the subgrade of planting bed areas to a minimum depth of 12 inches using a culti-mulcher or similar equipment. Remove stones measuring over 1-1/2 inches in any dimension. Remove sticks, stones, rubbish, and other extraneous matter. Where excessive soil compaction occurs, the Contractor shall loosen two-and-a-half times deeper than the specified depth as noted on the planting details in the Contract Documents.

B. Spread the planting soil mixture to the minimum depth required to meet lines, grades, and elevations shown, after light rolling and natural settlement, but not less than 12 inches deep. Place approximately one-half of the total amount of

planting soil required. Work into the top of the loosened subgrade to create a transition layer and then place the remainder of the planting soil.

C. Dig beds at least 12 inches deep.

D. Remove 12 inches of soil and replace with prepared planting soil mixture and fertilizers.

3.04 EXCAVATION FOR TREES AND PALMS

The Contractor shall do the following:

A. Excavate pits, beds, and trenches with vertical sides and with the bottom of the excavation compacted and raised to provide proper drainage and prevent settling. Loosen hard subsoil in the remaining bottom of the excavation. Where excessive soil compaction occurs, the Contractor shall loosen two-and-a-half times deeper than the specified depth as noted on the planting details in the Contract Documents.

1. Excavate planting pits for palms with vertical sides. Loosen compacted subsoil in the bottom of the excavation. Where excessive soil compaction occurs, the Contractor shall loosen subgrade two-and-a-half times deeper than the specified depth as noted on the planting details in the Contract Documents.

2. For bare root trees and shrubs, make excavations at least 12 inches wider than root spread and deep enough to allow for the setting of roots on a 6-inch minimum layer of compacted backfill and with the collar set at the same grade level as in the nursery but 1 inch below finished grade at the site.

    a. Allow for a 9-inch setting layer of planting soil mixture.

3. For balled and burlapped (B&B) trees and shrubs, make excavations at least half as wide as the ball diameter and equal to the ball depth, plus following allowance for the setting of the ball on a 6-inch minimum layer of compacted backfill:

    a. Allow for a 3-inch-thick setting layer of planting soil mixture.

4. For container-grown stock, excavate as specified for balled and burlapped stock adjusted to the container’s width and depth.

B. Dispose of subsoil removed from planting excavations. Do not mix with planting soil or use as backfill.

C. Fill excavations (planting pits) for trees and shrubs with water and allow water to percolate out before planting. If percolation problems exist, the Contractor shall suspend planting in the area and notify the Engineer immediately for resolution of the problem.

3.05 PLANTING TREES, PALMS, AND SHRUBS

The Contractor shall adhere to the following in planting trees, plants, and shrubs:

A. Set balled and burlapped (B&B) stock on a 6-inch layer of compacted planting soil mixture, plumb, and in the center of the pit or trench with the top of the ball at the same elevation as the adjacent finished landscape grades. Remove burlap from sides of balls; retain on bottoms. Remove completely any and all synthetic burlap or root ball covering before planting. When set, place additional backfill around the base and sides of the ball and work each layer to settle backfill and eliminate voids and air pockets. When the excavation is approximately two-thirds full, water thoroughly before placing the remainder of backfill. Repeat watering until no more is absorbed. Water again after placing the final layer of backfill.

B. Set bare rootstock on a cushion of planting soil mixture. Spread roots and carefully work backfill around roots by hand and puddle with water until backfill layers are completely saturated. Plumb before backfilling and maintain plumb while working backfill around roots and placing layers of soil mixture above roots. Set the collar 1 inch below the adjacent finish landscape grades. Spread out roots without tangling or turning up to surface. Cut injured roots clean; do not break.

C. Set container grown stock as specified for balled burlapped stock, except cut cans on two sides with an approved can cutter, and remove the bottoms of wooden boxes after partial backfilling so as not to damage the root balls.

D. Provide fertilizer and treatments as required according to the manufacturer's recommendations.

E. Dish the top of the backfill to allow for mulching.

F. Mulch pits, trenches, and planted areas. Provide not less than 4 inches minimum thickness of mulch in all areas specified and finish level with adjacent finish grades.

G. Prune, thin out, and shape trees and shrubs in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by the Engineer, do not cut tree leaders and remove only injured or dead branches from flowering trees, if any. Prune shrubs to retain natural character. Pruning shall occur only after planting under the direction of the Engineer.

H. Remove and replace excessively pruned or malformed stock resulting from improper pruning.

I. Wrap tree trunks with burlap at any point where wood baton braces will come in contact with the tree trunk.

J. Guy and stake trees immediately after planting as indicated on the planting details submitted by the Engineer. Alternative methods must be approved by the Engineer.

3.06 PLANTING GROUND COVER

A. Space ground cover plants as indicated or scheduled. Triangular spacing is to be used in all ground cover beds.

B. Excavate entire ground cover beds to allow for spreading of roots and backfill with planting soil. Work soil around the roots to eliminate air pockets and leave a slight saucer indentation around the plants to hold water. Water thoroughly after planting, taking care not to cover the crowns of plants with wet soil.

C. Mulch areas between ground cover plants as specified.

3.07 MAINTENANCE

A. Begin maintenance of plants upon delivery to the site. The Contractor shall maintain all plants until final acceptance or by special maintenance agreement as specified or indicated in the Contract Documents. Maintenance by the Contractor through Final Acceptance shall include all measures necessary to ensure a clean appearance and survivability of the plant material.

B. Maintain trees, palms, shrubs, and other plants by watering, pruning, cultivating, and weeding as required for healthy growth. The Contractor will be responsible for all landscape maintenance activities during this period including weeding, fertilizing, mowing and watering. The Contractor will be responsible for all costs associated with maintenance activities (including watering) during the maintenance period. The Contractor will be responsible for maintaining "weed free" planting areas, beds, and planters through final acceptance. All planting

areas must be weed-free at the time of final acceptance. Restore planting saucers. Tighten and repair stake and guy supports and reset trees and shrubs to proper grades of vertical position as required. Spray as required to keep trees and shrubs free of insects and disease.

3.08 CLEANUP AND PROTECTION

The Contractor shall do the following regarding cleanup and protection:

A. During landscape work, keep pavements clean and the work area in an orderly condition.

B. Protect landscape work and materials from damage due to landscape operations, operations by other contractors, trades, and trespassers. Maintain protection during the installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

C. The Contractor shall repair damage resulting from erosion, gullies, washouts, or other causes by filling with topsoil, tamping, re-fertilizing, and slope stabilizing.

3.09 INSPECTION AND ACCEPTANCE

A. When landscape work is substantially completed, the Engineer will, upon request, make an inspection to determine substantial completion acceptance. If all materials and workmanship are found to be acceptable, the Engineer will furnish written notification of substantial completion, thus beginning the stipulated maintenance periods.

B. Landscape work may be inspected for substantial completion in portions as agreeable to the Engineer provided each portion of the work offered for inspection is complete.

C. When inspected landscape work does not comply with requirements, the Contractor shall replace rejected work and continue specified maintenance until the work is re-inspected by the Engineer and found to be acceptable. The Contractor shall remove rejected plants and materials promptly from the project site.

END OF SECTION

SECTION 02920
SEEDING AND SODDING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall provide all materials, equipment, labor, and work to construct the project in accordance with the Contract Documents. No time extensions shall be given to the Contractor for not establishing a grass or sod cover during the "proper" planting season.

B. This work includes but is not limited to the following items specified in this Section:

1. Placing sod to provide grass as finished ground cover at all unpaved disturbed areas of the site, including the entire areas of the ponds shall be as indicated on the Contract Drawings.
2. Placing seed to provide grass as finished ground cover in areas (not designated to be sodded) that were disturbed by the work. Provide seed and topsoil for all areas not designated to be sodded that have been disturbed or are indicated on the Contract Drawings to be seeded.

1.02 SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Section 01330, Submittals and Acceptance.

1.03 REFERENCE STANDARDS

Reference standards and recommended practices referred to in this Section shall be the latest revision of any such document in effect at the bid time. The following documents are a part of this Section. Where this Section differs from these documents, the requirements of this Section shall apply.

A. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, latest edition:

1. FDOT Section 162—Prepared Soil Layer.
2. FDOT Section 570—Performance Turf.
3. FDOT Section 981—Turf Materials.
4. FDOT Section 982—Fertilizer.
5. FDOT Section 983—Water for Grassing.

1.04 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall adhere to the requirements specified in Section 01650, Delivery, Storage, and Handling, for storing and protecting the items specified in this Section.

B. Deliver, store, protect, and handle products to the site to prevent damage from wetness and weather conditions.

C. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

D. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of the manufacturer.

1.05 MAINTENANCE

A. Maintenance shall be as indicated under Part 3, Execution, of this Section.

1.06 DEFINITIONS

A. Weeds: Weeds include but are not limited to Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragqwort, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.07 REGULATORY REQUIREMENTS

A. The Contractor shall comply with regulatory agencies for fertilizer and herbicide composition.

PART 2 PRODUCTS

2.01 GENERAL (NOT USED)

2.02 MATERIALS

A. Topsoil

1. Top soil shall be supplied and installed in accordance with FDOT Standard Section 162.

B. Fertilizer

1. Fertilizer shall be a complete, commercial-grade mixture of 12-8-8 analysis.
2. Fertilizer shall conform to applicable state laws for the material used.
3. Commercial-grade mixture shall conform to FDOT Standards, Section 982.

C. Mulch

1. Mulch shall conform to FDOT Standards, Section 981.
2. Mulch shall be dry grain straw or hay, free of noxious weeds.
3. Mulch shall be thoroughly cured and dried before use.
4. Forest litter, pine needles, or Spanish Moss will not be acceptable.

D. Seed

1. All grass seed shall be the product of a reputable supplier and shall conform to the requirements of the State Department of Agriculture and Consumer Services and all applicable state laws.
2. Grass seed shall conform to FDOT Standards Section 981, with a minimum 80% purity and 80% germination with no noxious weeds.
3. Seed shall be Argentine Bahia applied at a minimum rate of 10 pounds per 1,000 square feet. A thick stand of grass shall be provided.

E. Sod

1. Sod shall conform to FDOT Standards Section 981. A thick stand of grass shall be provided at all locations.
2. Sod shall be Argentine Bahia.
3. Sod planted on private properties shall match the existing sod when practical.

F. Water

1. The water used to produce grass may be obtained from any approved source, in accordance with FDOT Section 983. The water shall be free of excess and harmful chemicals, acids, alkalies, and all substances which may be harmful to plant growth or obnoxious to traffic. Salt or brackish water shall not be used. The Contractor shall make arrangements to secure and pay for water. The Contractor shall make all provisions necessary to water until a thick stand of grass is established.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

A. The entire area to be seeded, as shown on the Drawings or required in this Section, shall be covered with a 6-inch layer of muck or suitable topsoil, carefully spread and disked lightly into the existing soil and finished to the grades indicated.

3.02 FERTILIZING

A. Fertilizer shall be applied uniformly on the surface of the ground at a minimum rate as specified in Section 570 of FDOT Specifications. It shall be mixed into the soil with a disk harrow, where practicable, or by hand-raking in areas of limited accessibility. Mixing shall be continued until the fertilizer is uniformly incorporated into the top 3 inches of soil.

3.03 MULCHING

A. After spreading and mixing the fertilizer, the Contractor shall apply approximately 2 inches, loose thickness, of the mulch material uniformly over the grassing area and cut into the soil to produce a loose mulch thickness of 3 to 4 inches, in accordance with Section 570 of FDOT Specifications. Care shall be exercised to prevent the mulch from being cut too deeply into the soil.

3.04 SEEDING

A. Seed which has become wet or moldy shall not be used. Soon after the mulch material has been cut into the soil and while the soil is still loose and moist, the seed shall be scattered uniformly over the grassing area. Application shall be in conformance with FDOT Standards, Section 570.

3.05 SODDING

A. Application shall be in accordance with FDOT Standards, Section 575.

3.06 WEED CONTROL

A. The Contractor shall apply herbicides as required and as recommended by the County Agricultural Agent. Herbicides shall only be applied as needed.

3.07 COMPACTION

A. Immediately after the seeding is complete, the entire grassed or mulched area shall be compacted with a light roller. Rolling shall be continued until the area is firmly but not tightly packed.

3.08 EQUIPMENT

A. All equipment used in the operation of grassing shall be adequate to produce the required results. Equipment for placing mulch material into the soil shall be suitable for cutting the specified materials uniformly into the soil and to the required controlled depth. Rollers shall have corrugated or notched surfaces and shall be at least 12 inches in diameter. Smooth surface rollers will not be permitted.

3.09 GROUND COVER DATA

A. Planting dates, types of seeds, seed mixtures, and rates of application shall be as set forth in this Section. No changes may be made in the ground cover type without the approval of the Engineer.

3.10 GROUND COVER ESTABLISHMENT

A. General Requirements

1. The Contractor shall provide ground cover (sod and seed) establishment of the specified permanent vegetation before final acceptance of the project with no dead areas of ground cover. Groundcover (sod and seed) establishment shall consist of necessary preserving and protecting to keep the grassed areas in a satisfactory condition. The Contractor shall water the grassed areas as long and as often as necessary to promote maximum practicable growth. At any time the Engineer may require replanting an area or portion of an area which, for any cause, shows unsatisfactory growth. Except as otherwise specified or permitted by the Engineer, the Contractor shall prepare areas to be replanted in accordance with the requirements of the Specifications as if such replanting were the initial planting. However, the type of fertilizer and the applicable rate of fertilizer to be furnished and applied by the Contractor as part of plant establishment occasioned by replanting shall be determined by soil tests or otherwise established.

B. Growth and Coverage

1. The Contractor shall be responsible for providing satisfactory growth and coverage as defined below. Growth and coverage shall be considered acceptable when all areas show a satisfactory visible growth with no bare spots larger than 1 square foot. Bare spots shall be scattered and the total bare areas should not comprise more than 1/100 of any given area.

3.11 EXTENT OF SOD/GRASS MAINTENANCE

A. The Contractor is responsible for all sod and grass maintenance until the date of final completion of the project. Sod and grass maintenance includes cutting, watering , fertilizing, re-seeding, and re-sodding as required to maintain the required coverage of healthy, vibrant grass and sod cover.

END OF SECTION

APPENDIX

REPORT OF A ROADWAY SOIL SURVEY – GSE ENGINEERING & CONSULTING, INC., APRIL 2022

ADDENDUM REPORT OF SPT BORINGS FOR DRAINAGE STRUCTURES – GSE ENGINEERING & CONSULTING, INC., JUNE 14, 2022

GSE Engineering & Consulting, Inc.

REPORT OF A
ROADWAY SOIL SURVEY

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA

GSE PROJECT No. 15529

Prepared For:

JONES EDMUNDS, INC.

APRIL 2022

GSE Engineering & Consulting, Inc.

April 27, 2022

Fred Hoyt, MBA, P.E.
Jones Edmunds, Inc.
730 NE Waldo Road
Gainesville, Florida 32641

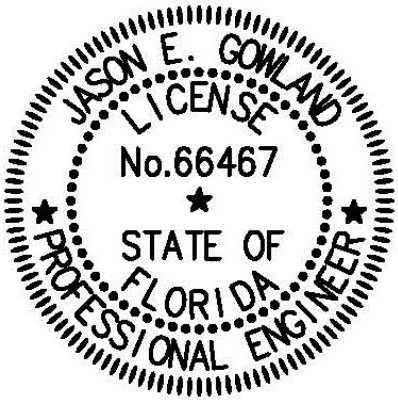
Subject: Report of a Roadway Soil Survey
Parnell Hills Roadway Improvements
Columbia County, Florida
GSE Project No. 15529

GSE Engineering & Consulting, Inc. (GSE) is pleased to submit this roadway soil survey report for the above referenced project. Presented herein are the findings and conclusions of our exploration.

We appreciate this opportunity to have assisted you on this project. If you have any questions or comments concerning this report, please contact us.

Sincerely,

GSE Engineering & Consulting, Inc.



This item has been digitally signed and sealed by

on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Angelina X. Liu, E.I.
Staff Engineer

Jason E. Gowland, P.E.
Senior Project Engineer
Florida Registration Number 66467

AXL/JEG:hmp
Q:\Projects\15529 Parnell Hills Roadway Improvements\15529.docx

Distribution: Addressee (1)
File (1)

GSE Engineering & Consulting, Inc.
5590 SW 64th Street, Suite B
Gainesville, Florida 32608
352-377-3233 Phone ◆ 352-377-0335 Fax
www.gseengineering.com

TABLE OF CONTENTS

LIST OF FIGURES ii

1.0 INTRODUCTION 1-1
1.1 General 1-1
1.2 Project Description 1-1
1.3 Purpose 1-1

2.0 FIELD AND LABORATORY TESTS 2-1
2.1 General Description 2-1
2.2 Auger Borings 2-1
2.3 Soil Laboratory Tests 2-1

3.0 FINDINGS 3-1
3.1 Surface Conditions 3-1
3.2 Subsurface Conditions 3-1
3.3 Review of Published Data 3-2
3.4 Laboratory Soil Analysis 3-5

4.0 EVALUATION AND RECOMMENDATIONS 4-1
4.1 General 4-1
4.2 Suitability of In-Situ Soils 4-1
4.3 Groundwater 4-1
4.4 Limerock Bearing Ratio Results Design Parameters 4-2

5.0 FIELD DATA 5-1
5.1 Roadway Soil Survey and Auger Boring Logs 5-2
5.2 Laboratory Results 5-3

6.0 LIMITATIONS 6-1
6.1 Auger Borings 6-1
6.2 Site Figures 6-1
6.3 Unanticipated Soil Conditions 6-1
6.4 Misinterpretation of Soil Engineering Report 6-1

LIST OF FIGURES

Figures

1. U.S.D.A. Site Soil Survey Vicinity Map
2. Site Plan Showing Approximate Location of Field Tests

1.0 INTRODUCTION

1.1 General

GSE Engineering & Consulting, Inc. (GSE) has completed this roadway soil survey to assist in the design of the paving of Parnell hills roadway improvements in Columbia County, Florida. Our exploration was performed in accordance with GSE Proposal No. 2022-010 dated January 11, 2022. You authorized our services on March 14, 2022.

1.2 Project Description

We understand that the existing dirt roads in the Parnell Hills area are being paved. The total project length is approximately 4.1 miles and consists of NW Honeysuckle Way, NW Bronco Ter, NW Pillsbury Dr, NW Silas Gln, NW Antelope Loop, NW Genell Loop, and NW Timber Way. You provided a site plan showing the locations of the roadway and a scope for Geotechnical services.

You also confirmed via email that you are requesting 5-feet deep auger borings at 500 feet spacing with 2 augers to a depth of 15 feet for each individual street. Swales will be used for drainage and there are no stormwater ponds proposed at the time of this report.

This report is only pertaining to the roadway soil survey. The report of SPT borings for the box culvert design will be issued under separate cover.

Jason E. Gowland, P.E., with GSE visited the site to determine access. GSE also reviewed aerial and street view photographs on Google Earth in preparation of this exploration and report.

1.3 Purpose

The purpose of this geotechnical exploration was to determine the general subsurface conditions along the proposed roadway alignment, evaluate these conditions with respect to the proposed construction, and prepare geotechnical recommendations to assist in the design of the asphalt pavement section.

2.0 FIELD AND LABORATORY TESTS

2.1 General Description

The procedures used for field sampling and testing are in general accordance with industry standards of care, established geotechnical engineering practices for this geographic region.

Our exploration consisted of performing thirty (30) auger borings to depths of 5 to 15 feet below land surface (bls) along the proposed roadway alignment and collecting five (5) Limerock Bearing Ratio (LBR) samples. The soil borings and LBR samples were conducted at the approximate locations as shown in Figure 2. We located the borings at the site using the provided site plan and obvious site features as reference. The locations shown on Figure 2 should be considered approximate. The soil borings were performed on March 28, 2022.

2.2 Auger Borings

The auger borings were performed in accordance with ASTM D 1452. The borings were performed with either hand or flight auger equipment that was rotated into the ground in a manner that reduces soil disturbance. After penetrating to the required depth, the auger was retracted and the soils collected in the bucket or on the auger flights were field classified and placed in sealed containers. Representative samples of each stratum were retained from the auger boring. Results from the auger borings are provided in Section 5.1.

2.3 Soil Laboratory Tests

The soil samples recovered from the soil borings were returned to our laboratory, and examined to confirm the field descriptions. Representative samples were then selected for laboratory testing. The laboratory tests consisted of five (5) full grain sieve analyses, ten (10) percent fines passing the No. 200-sieve determinations, ten (10) natural moisture content tests, two (2) corrosion tests, two (2) Atterberg limits tests, one (1) organic content test, and five (5) LBR tests. These tests were performed in order to aid in classifying the soils and to further evaluate their engineering properties. The laboratory results are indicated on the Roadway Soil Survey provided in Section 5.1. The complete laboratory report is provided in Section 5.2.

3.0 FINDINGS

3.1 Surface Conditions

The project site is currently an existing dirt roadway which appears to have been filled from native grades to raise the roadway. The total project length is approximately 4.1 miles and consists of NW Honeysuckle Way, NW Bronco Ter, NW Pillsbury Dr, NW Silas Gln, NW Antelope Loop, NW Genell Loop, and NW Timber Way. The existing roadways are, 2-lanes, unpaved, and approximately 20 feet wide with swales along the sides of the roadway.

The topography at the site is gently to moderately sloping down towards the center-north from both the west and the east. Regional topography is gently sloping. The Lake City West USGS Topographic Map indicates the ground surface elevations at the site are near 109 to 146 feet[1] NAVD 88.

3.2 Subsurface Conditions

Complete logs for the auger borings are provided in Section 5.1. Descriptions for the soils encountered are accompanied by the American Association of State Highway and Transportation Officials (AASHTO) classifications and are based on visual examination of the recovered soil samples and the laboratory tests performed. Stratification boundaries between the soil types should be considered approximate, as the actual transition between soil types may be gradual.

The roadway borings indicate that soil conditions across the project site are somewhat consistent. The auger borings generally encountered surficial sand, sand with silt, sand with clay, and silty sand (A-3, A-2-4) overlying clayey sand, very clayey sand, or clay-rich soils consisting of sandy clay, clay with sand, and clay (A-2-5/A-2-6/A-2-7, A-7-6) to the boring termination depths of 5 to 15 feet bls. Auger borings R-11, R-14, R-18, R-19, R-20 encountered clayey sand, very clayey sand, or clay-rich soils consisting of sandy clay, clay with sand, and clay (A-2-5/A-2-6/A-2-7, A-7-6) to the boring termination depths of 5 to 15 feet bls.

A total of four soil stratum layers were encountered in the auger borings. The following descriptions of the stratums were defined from the auger boring logs:

- Stratum 1 consists of poorly graded sand, sand with silt, and sand with clay (A-3).
- Stratum 2 consists of silty sand (A-2-4).
- Stratum 3 consists of clayey sand, and very clayey sand (A-2-5/A-2-6/A-2-7)
- Stratum 4 consists of sandy clay, clay with sand, and clay (A-7-6).

The groundwater table was encountered at depths of 0.8 to 3.7 feet below existing grade when encountered at the time of our exploration.

[1] United States Geological Survey, Lake City West Quadrangle, Florida, 2021.

3.3 Review of Published Data

The Soil Conservation Service (SCS) Soil Survey for Columbia[2] County maps six soil series in the general area where the borings were conducted. The following soil descriptions are from the Soil Survey.

Albany fine sand, 0 to 5 percent slopes – This is a somewhat poorly drained, nearly level to gently sloping soil in broad flats bordering poorly defined drainageways and in undulating areas. The areas of this soil range from about 4 to more than 200 acres.

Typically, the surface layer is grayish brown fine sand about 7 inches thick. The subsurface layer is fine sand and extends to a depth of 55 inches. In the upper 8 inches, it is pale brown; in the next 15 inches, it is pale brown mottled with yellow and white; and in the next 25 inches, it is white with brownish yellow mottles. The upper 10 inches of the subsoil is pale yellow loamy fine sand and has yellowish brown and white mottles. Below that, the subsoil is gray sandy clay loam with yellowish brown mottles to a depth of 80 inches or more.

Included with this soil in mapping are small areas of Blanton, Chipley, Ocilla, and Plummer soils. Also included are small areas of somewhat wetter soils that have deposits of colluvial material over the original surface layer. These soils make up less than 15 percent of the map unit.

This Albany soil has a water table at a depth of 12 to 30 inches for 1 to 4 months in most years. The water table is at a depth of 30 to 50 inches most of the time and below a depth of 50 inches in the dry months. The available water capacity is low in the subsurface layer and in the lower part of the subsoil. It is medium in the surface layer and in the upper part of the subsoil. Permeability is rapid in the surface and subsurface layers, moderately rapid in the upper part of the subsoil, and moderate in the lower part of the subsoil. The content of organic matter is moderate in the surface layer and low in the subsurface layer and subsoil.

Bonneau fine sand, 2 to 5 percent slopes – This is a moderately well drained, gently sloping soil on uplands and on knolls in the uplands. The areas of this soil range from 3 to 200 acres and are circular.

Typically, the surface layer is grayish brown fine sand about 7 inches thick. The subsurface layer is fine sand about 20 inches thick. In the upper 8 inches, it is yellowish brown, and below that, it is brownish yellow with very pale brown splotches. The subsoil extends to a depth of 80 inches. In the upper 9 inches, it is yellowish brown fine sandy loam; in the next 22 inches, it is very pale brown, yellowish red, and grayish brown sandy clay loam; in the next 16 inches, it is very pale brown, yellowish red, and grayish brown sandy clay loam with pockets of fine sandy loam; and in the lower part it is gray and pink sandy loam.

Included in this soil mapping are small areas of Lucy, Ocilla, Blanton, Goldsboro, and Ichetucknee soils. These soils make up less than 20 percent of the map unit.

[2] Soil Survey of Columbia County, Florida. Soil Conservation Service, U.S. Department of Agriculture.

This Bonneau soil has a water table at a depth of 48 to 72 inches for 1 or 2 months during rainy periods in most years. Otherwise, the water table is below a depth of 72 inches. The available water capacity is low in the surface and subsurface layers and upper part of the subsoil and medium in the lower part of the subsoil. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility is moderate. The organic matter content is low.

Hurricane fine sand – This is a somewhat poorly drained, nearly level soil on flats and in areas adjacent to depressions and poorly defined drainage ways. The areas range from 10 to 200 acres and are circular to elongated. The slope ranges from 0 to 2 percent.

Typically, the surface layer is very dark gray fine sand about 8 inches thick. The fine sand subsurface layer extends to a depth of 56 inches. The top 10 inches is grayish brown, the next 14 inches is pale brown, and the lower 24 inches is light gray. The subsoil is dark brown fine sand, about 9 inches thick, over black fine sand that extends to a depth of 80 inches or more. The black color of the subsoil is due to the organic matter coating the sand grains.

Included with this soil in mapping are small areas of Albany, Chipley, Leon, Plummer, and Sapelo soils. Also included are soils that are similar to the Hurricane soil but have a loamy subsurface layer. The included soils make up less than 15 percent of the map unit.

This Hurricane soil has a water table at a depth of 20 to 30 inches for 1 to 4 months during most years. Occasionally it rises above 20 inches for short periods. It recedes to a depth of 45 inches or more during dry periods. (See fig. 6, p. 21.) The available water capacity is low throughout. Permeability is rapid in the surface and subsurface layers and moderately rapid in the subsoil. Natural fertility is low. The organic matter content is medium in the surface layer, very low in the subsurface layer, and medium in the subsoil.

Mascotte fine sand – This is a poorly drained, nearly level soil around wet depressions on the uplands and throughout the flatwoods. The areas range from 3 to 1,000 acres and are irregularly elongated in shape. The slope ranges from 0 to 2 percent.

Typically, the surface layer is black fine sand about 6 inches thick. It has many uncoated sand grains. The subsurface layer is gray fine sand that extends to a depth of 15 inches. The upper part of the subsoil is fine sand that is coated with organic matter, and it extends to a depth of 25 inches. The upper 4 inches is black, and the next 6 inches is dark reddish brown. A 12-inch-thick layer of fine sand separates the upper and lower parts of the subsoil. It is yellowish brown in the upper 10 inches and black in the lower 2 inches. The lower part of the subsoil extends to a depth of 67 inches. The upper 18 inches is light brownish gray fine sandy loam with brownish yellow and yellowish brown mottles; the next 12 inches is gray fine sandy loam with reddish yellow mottles. Below that, the substratum is light olive gray loamy sand and extends to a depth of 80 inches or more.

Included with this soil in mapping are small areas of Leon, Ocilla, Olustee, Pelham, and Sapelo soils. These soils make up less than 20 percent of the map unit.

This Mascotte soil has a water table within a depth of 10 inches for 1 to 4 months during most years. The water table is at a depth of 10 to 40 inches for up to 6 months. It recedes to a depth of more than 40 inches during the driest seasons for 1 to 3 months. The available water capacity is low in the surface and subsurface layers, in the layer between the upper and lower parts of the subsoil, and in the substratum. It is high in the upper part of the subsoil and medium in the lower part. Permeability is rapid in the surface layer, moderate in the subsurface layer, and rapid in the upper part of the subsoil and in the layer between the upper and lower parts of the subsoil. It is moderate in the substratum and in the lower part of the subsoil. The organic matter content is moderately low, and the natural fertility is low.

Plummer muck, depressional – This is a nearly level, poorly drained soil in concave depressions and poorly defined drainageways. The areas range from 5 to 300 acres and are irregular in shape. The slope is less than 2 percent. This soil is similar to the Plummer fine sand soils in all characteristics, except that the dark colored surface layer is thicker than typical. This difference does not affect the use and behavior of the soil.

Typically, the surface later is covered with about 8 inches of partially decayed sphagnum moss and muck. This layer is many roots, leaves, and twigs. The muck is about 60 percent fiber. The mineral surface layer is black fine sand about 5 inches thick. The subsurface later is fine sand and extends to a depth of 55 inches. The upper 7 inches is light brownish gray. The next 43 inches is dark grayish brown. The subsoil is light brownish gray fine sandy loam and extends to a depth of 80 inches or more.

Included with this soil in mapping are small areas of Surrency, Pamlico, and Pelham soils. Also included are soils that are similar to the Plummer soil but some have a sandy texture to a depth of 80 inches or more or have an organic-stained subsurface layer. The included soils make up about 25 percent of the map unit.

This soil has a water table within a depth of 15 inches for periods up to 6 months during most years. The water table is ponded during the spring and summer. The available water capacity is high in the surface later, low in the subsurface layer, and medium in the subsoil. Permeability is moderately rapid to rapid in the surface and subsurface layers and moderately slow in the subsoil. Natural fertility is moderate.

Surrency fine sand – This is a very poorly drained, nearly level soil in depressions, near shallow ponds, and along drainageways. The areas range from 3·to 200 acres and are circular to elongated. Concave slopes are less than 1 percent.

Typically, the surface layer is fine sand about 16 inches thick. The upper 8 inches is black, and the lower 8 inches is very dark gray. The subsurface layer is gray fine sand about 22 inches thick. The subsoil is grayish brown sandy clay loam with yellowish brown mottles. It extends to a depth of 80 inches or more.

Included with this soil in mapping are small areas of Plummer, Pantego, and Pelham soils. Also included are small areas of soils that are similar to the Surrency soil but have.an organic surface layer less than 16 inches thick. The included soils make up abot.it 10 percent of the map unit.

This soil has a water table at or above the surface for most of the year, and ponding is common. The available water capacity is high in the surface layer, medium in the subsurface layer, and low in the subsoil. Permeability is moderately rapid to rapid in the surface and subsurface layers and moderate.in the subsoil. Natural fertility and the organic matter content are moderate.

3.4 Laboratory Soil Analysis

Selected soil samples recovered from the soil borings were analyzed for full grain sieve analysis, natural moisture content, percent fines passing the No. 200 sieve, corrosion, Atterberg limits, organic content, and LBR. Selected soil samples were collected from depths ranging from 0.5 to 9 feet below existing grade. These tests were performed to confirm visual soil classification and evaluate their engineering properties. The laboratory results are indicated on the Roadway Soil Survey provided in Section 5.1. The complete laboratory reports are provided in Section 5.2.

The laboratory tests indicate the near surface soils generally consist of silty sand, clayey sand, very clayey sand, fat sandy clay, clay with sand, and fat clay.

The tested sand with silt (A-3) had approximately 7 to 9 percent soil fines passing the No. 200 sieve.

The tested silty sand (A-2-4) had approximately 12 to 20 percent soil fines passing the No. 200 sieve and a natural moisture content of 16 percent.

The tested clayey sand, and very clayey sand (A-2-5/A-2-6/A-2-7) had 14 to 42 percent soil fines passing the No. 200 sieve and natural moisture contents of 13 to 28 percent. These materials are considered Plastic (P) according to FDOT Index 120-001.

The tested clay-rich soils (A-7-6) had approximately 67 to 85 percent soil fines passing the No. 200 sieve and natural moisture contents of 40 to 61 percent.

Atterberg Limits tests indicate the tested fat sandy clay, and fat clay (A-7-6) has Liquid Limit (LL) values of 75 to 117, Plastic Limit (PL) values of 16 to 29, and Plasticity Index (PI) values of 59 to 88. This corresponds to High Plastic (HP) according to FDOT Index 120-001.

The organic content determinations indicate the tested silty sand (SM) contains approximately 0.4 percent organic matter.

Two (2) sample collected from depths of approximately 6 to 8 feet bls was analyzed for corrosion series testing. Resistivity test results indicate resistivity values of 2,300 to 11,000 ohm-cm. Chloride content of the tested samples were below the detection limit (BDL). The sulfate content of the tested materials were below the detection limit (BDL) to 93 ppm. The pH of the tested soils were 6.24 to 7.59. The soils at the site are considered slightly to moderately aggressive for concrete and slightly to moderately aggressive for steel.

The Modified Proctor maximum dry density tests indicate the near surface grab samples have a maximum dry density ranging from 109 to 120.7 pounds per cubic foot and optimum moisture contents of 9.1 to 11.4. The LBR tests indicate these soils have LBR values ranging from 55 to 81.

Results of the Modified Proctor maximum dry density and LBR tests are included in the Roadway Soils Survey and in Section 5.2.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General

The soil conditions at the site are fairly consistent and generally encountered surficial sand, sand with silt, sand with clay, and silty sand (A-3, A-2-4) overlying clayey sand, very clayey sand, or clay-rich soils consisting of sandy clay, clay with sand, and clay (A-2-5/A-2-6/A-2-7, A-7-6) to the boring termination depths of 5 to 15 feet bls. Auger borings R-11, R-14, R-18, R-19, R-20 encountered clayey sand, very clayey sand, or clay-rich soils consisting of sandy clay, clay with sand, and clay (A-2-5/A-2-6/A-2-7, A-7-6) to the boring termination depths of 5 to 15 feet bls.

The following information is provided based upon our understanding of the proposed construction, a review of the attached soil borings and laboratory test data, and experience with similar projects and subsurface conditions. If plans or the location of proposed construction changes from those discussed previously, we request the opportunity to review and possibly amend our recommendations with respect to those changes.

4.2 Suitability of In-Situ Soils

Stratum 1 - This stratum consists of poorly graded sand, sand with silt, and sand with clay (A-3). This material is non plastic and contains no to trace amounts of organic matter. This material is suitable for re-use as stabilized subgrade when utilized in accordance with FDOT Index 120-001. It cannot be used as base material.

Stratum 2 - This stratum consists of silty sand (A-2-4). This material is non plastic and contains no organic matter. This material is suitable for use in the embankment when utilized in accordance with FDOT Index 120-001. It may be suitable as stabilized subgrade. It cannot be used as base material. Material from stratum 2 may retain excess moisture and be difficult to compact.

Stratum 3 - This stratum consists of clayey to very clayey sand (A-2-5/A-2-6/A-2-7). This material is plastic and unsuitable as subgrade. It should be removed if encountered in accordance with FDOT Index 120-002. It may be used within the project limits as indicated in Index 120-001 only when excavated within the project limits and is not to be used when obtained from outside the project limits.

Stratum 4 - This stratum consists of sandy clay, clay with sand, and clay (A-7-6). This material is highly plastic and unsuitable as subgrade. It should be removed if encountered in accordance with FDOT Index 120-002. It may be used within the project limits as indicated in Index 120-001 only when excavated within the project limits and is not to be used when obtained from outside the project limits.

4.3 Groundwater

Groundwater was encountered at depths ranging from approximately 0.8 to 3.7 feet below existing grade when encountered at the time of our exploration. The anticipated seasonal high groundwater table is indicated on the logs for each individual boring location.

4.4 Limerock Bearing Ratio Results Design Parameters

The LBR test results indicate the LBR values range from 55 to 81 or an average value of 65. However, a maximum LBR value of 40 should be used for roadway design. This corresponds to a resilient modulus of approximately 12,000 psi using Table 5.1 from the FDOT *Flexible Pavement Design Manual*, March 2021.

5.0 FIELD DATA

5.1 Roadway Soil Survey and Auger Boring Logs

JONES EDMUNDS, INC.

DATE OF SURVEY : 03/28/2022
SURVEY MADE BY : GSE ENGINEERING
SUBMITTED BY : JASON E. GOWLAND, P.E.

PROJECT NAME : Parnell Hills Roadway Improvements
GSE PROJECT NUMBER : 15529
FINANCIAL PROJECT ID : N/A

DISTRICT : N/A
ROAD NO : N/A
COUNTY : COLUMBIA

CROSS SECTION SOIL SURVEY FOR ROADWAY DESIGN

SURVEY BEGINS STA. : N/A SURVEY ENDS STA.: N/A
REFERENCE : BASELINE SURVEY

	MOISTURE CONTENT		SIEVE ANALYSIS RESULTS % PASS					ATTERBERG LIMITS (%)						ORGANIC CONTENT		MODIFIED PROCTOR DENSITY			LIMEROCK BEARING RATIO		CORROSION TEST RESULTS				
STRATUM NO.	NO. OF TESTS	MOISTURE CONTENT	NO. OF TESTS	No. 4 SIEVE	No. 10 SIEVE	No. 40 SIEVE	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	AASHTO GROUP	DESCRIPTION	NO. OF TESTS	CONTENT (%)	NO. OF TESTS	DENSITY (PCF)	OPTIMUM MOISTURE (%)	NO. OF TESTS	LBR	NO. OF TESTS	pH	RESISTIVITY ohms-cm	CHLORIDE	SULFATES
1	–	–	2	100	–	–	7–9	–	–	–	–	A–3	PALE GRAY, GRAY, PALE BROWN, BROWN, AND ORANGE POORLY GRADED SAND, SAND WITH SILT, AND SAND WITH CLAY	–	–	2	114.4–109	9.1–10.4	2	60–67	–	–	–	–	–
2	1	16	4	100	–	–	12–20	–	–	–	–	A–2–4	DARK BROWN, AND DARK GRAY SILTY SAND	1	0.4	3	117.4–120.7	10.2–11.4	3	55–81	–	–	–	–	–
3	5	13–28	5	–	–	–	14–42	–	–	–	–	A–2–5/ A–2–6/ A–2–7	GRAY, BROWN, AND ORANGE CLAYEY SAND, CLAYEY SAND WITH TRACE LIMESTONE, AND VERY CLAYEY SAND	–	–	–	–	–	–	–	1	7.59	11,000	BDL	93
4	4	40–61	4	–	–	–	67–85	2	75–117	16–29	59–88	A–7–6	BROWN, GRAY, ORANGE, GREEN, AND RED SANDY CLAY, CLAY WITH SAND, CLAY, CLAY WITH TRACE LIMESTONE	–	–	–	–	–	–	–	1	6.24	2,300	BDL	BDL

EMBANKMENT AND SUBGRADE MATERIAL AND EXCAVATION FOR STRUCTURES AND PIPE
STRATA BOUNDARIES ARE APPROXIMATE MAKE FINAL CHECK AFTER GRADING

NOTES

1. STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY. ANY SUBSOIL CONNECTING LINES SHOWN ARE FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED.
2. GROUNDWATER LEVEL SHOWN AS ▼ WHERE ENCOUNTERED. GROUNDWATER NOT ENCOUNTERED AS "GNE".
3. STRATA 1 AND 2 SHALL BE TREATED AS SELECT (S) IN ACCORDANCE WITH INDEX 505.
4. STRATUM 2 MAY REMAIN EXCESS MOISTURE AND MAY BE DIFFICULT TO DRY AND COMPACT.
5. THE MATERIAL FROM STRATUM 3 ARE PLASTIC (P) AND SHALL BE REMOVED IN ACCORDANCE WITH INDEX 120–002.
6. THE MATERIAL FROM STRATUM 4 ARE HIGH PLASTIC (H) AND SHALL BE REMOVED IN ACCORDANCE WITH INDEX 120–002.

LEGEND

A–3	AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW
A–2–4	AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW
A–2–5/A–2–6/A–2–7	AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW
A–7–6	AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW
LIMESTONE	AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW
▼	GROUNDWATER TABLE
GNE	GROUNDWATER NOT ENCOUNTERED
B.T.	BORING TERMINATED
NP	NOT PLASTIC
BDL	BELOW DETECTION LIMIT

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

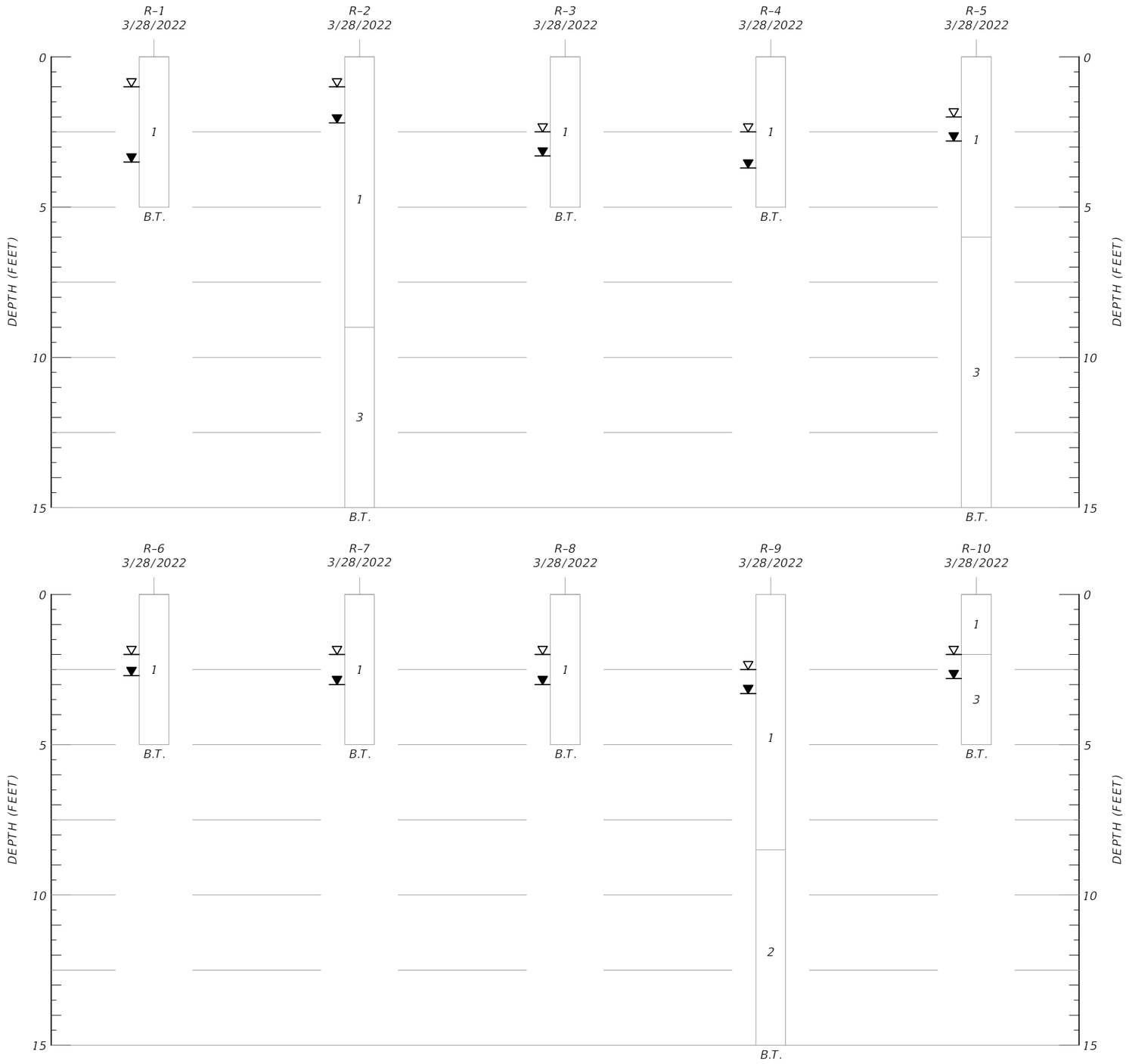
JASON E. GOWLAND, P.E. 66467
GSE ENGINEERING & CONSULTING, INC.

JONES EDMUNDS, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
N/A	COLUMBIA	N/A

ROADWAY SOIL SURVEY

SHEET NO. 1



LEGEND

1. *(A-3)*
   PALE GRAY, GRAY, PALE BROWN, BROWN, AND ORANGE POORLY GRADED SAND, SAND WITH SILT, AND SAND WITH CLAY

2. *(A-2-4)*
   DARK BROWN, AND DARK GRAY SILTY SAND

3. *(A-2-5/A-2-6/A-2-7)*
   GRAY, BROWN, AND ORANGE CLAYEY SAND, CLAYEY SAND WITH TRACE LIMESTONE, AND VERY CLAYEY SAND

4. *(A-7-6)*
   BROWN, GRAY, ORANGE, GREEN, AND RED SANDY CLAY, CLAY WITH SAND, CLAY, CLAY WITH TRACE LIMESTONE

A-3	*AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW*
▼	*GROUNDWATER TABLE*
▽	*ESTIMATED PERCHED SEASONAL HIGH GROUNDWATER TABLE*
*	*ESTIMATED SEASONAL HIGH GROUNDWATER IS DEEPER THAN BORING DEPTH IF NOT SHOWN.*
GNE	*GROUNDWATER NOT ENCOUNTERED*
B.T.	*BORING TERMINATED*

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

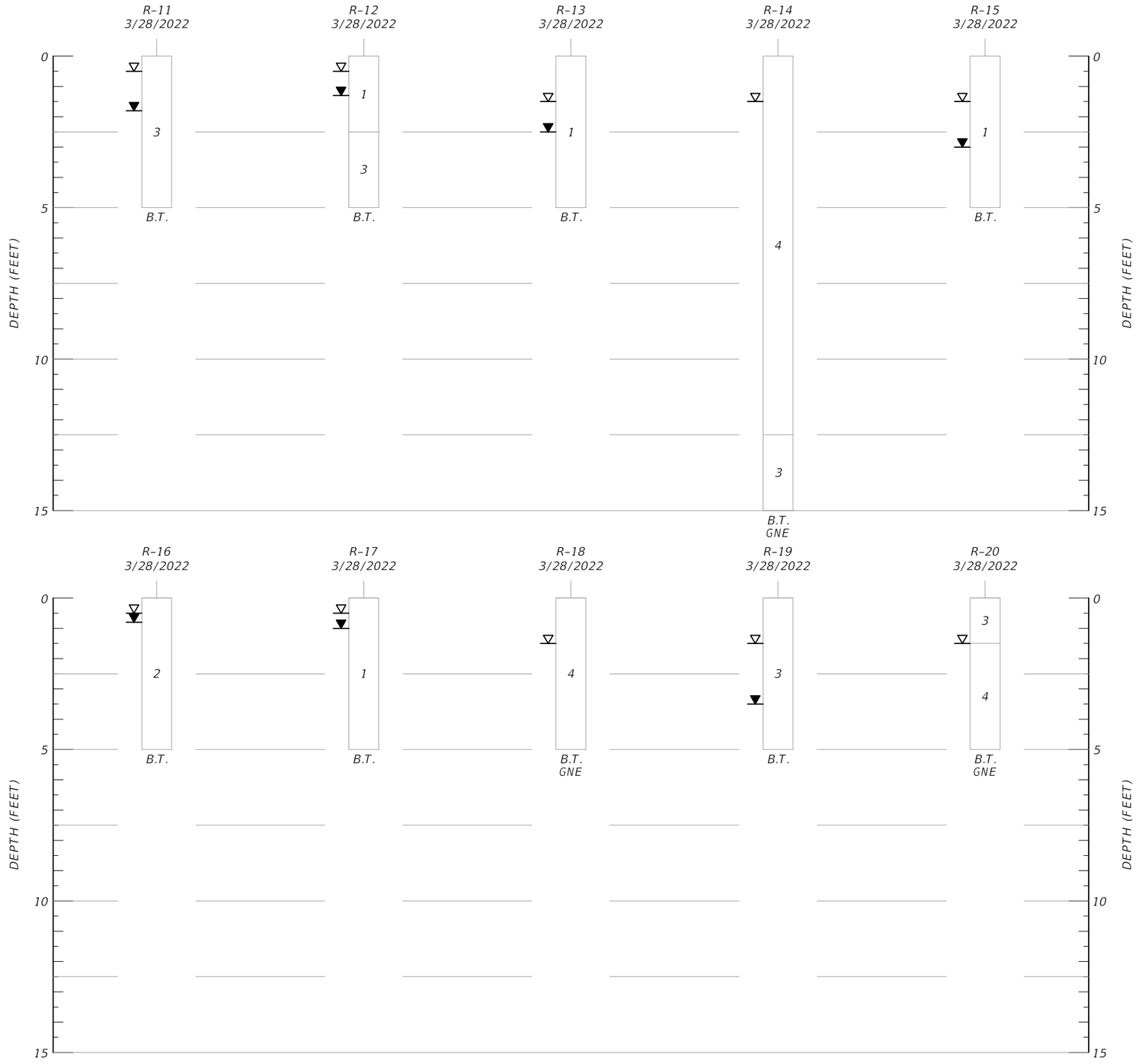
JASON E. GOWLAND, P.E. 66467
GSE ENGINEERING & CONSULTING, INC.

JONES EDMUNDS, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NA	COLUMBIA	N/A

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529

SHEET NO. 2



LEGEND

1. *(A-3)*
   PALE GRAY, GRAY, PALE BROWN, BROWN, AND ORANGE POORLY GRADE SAND, SAND WITH SILT, AND SAND WITH CLAY
2. *(A-2-4)*
   DARK BROWN, AND DARK GRAY SILTY SAND
3. *(A-2-5/A-2-6/A-2-7)*
   GRAY, BROWN, AND ORANGE CLAYEY SAND, CLAYEY SAND WITH TRACE LIMESTONE, AND VERY CLAYEY SAND
4. *(A-7-6)*
   BROWN, GRAY, ORANGE, GREEN, AND RED SANDY CLAY, CLAY WITH SAND, CLAY, CLAY WITH TRACE LIMESTONE

A-3	*AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW*
▼	*GROUNDWATER TABLE*
▽	*ESTIMATED PERCHED SEASONAL HIGH GROUNDWATER TABLE*
*	*ESTIMATED SEASONAL HIGH GROUNDWATER IS DEEPER THAN BORING DEPTH IF NOT SHOWN.*
GNE	*GROUNDWATER NOT ENCOUNTERED*
B.T.	*BORING TERMINATED*

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

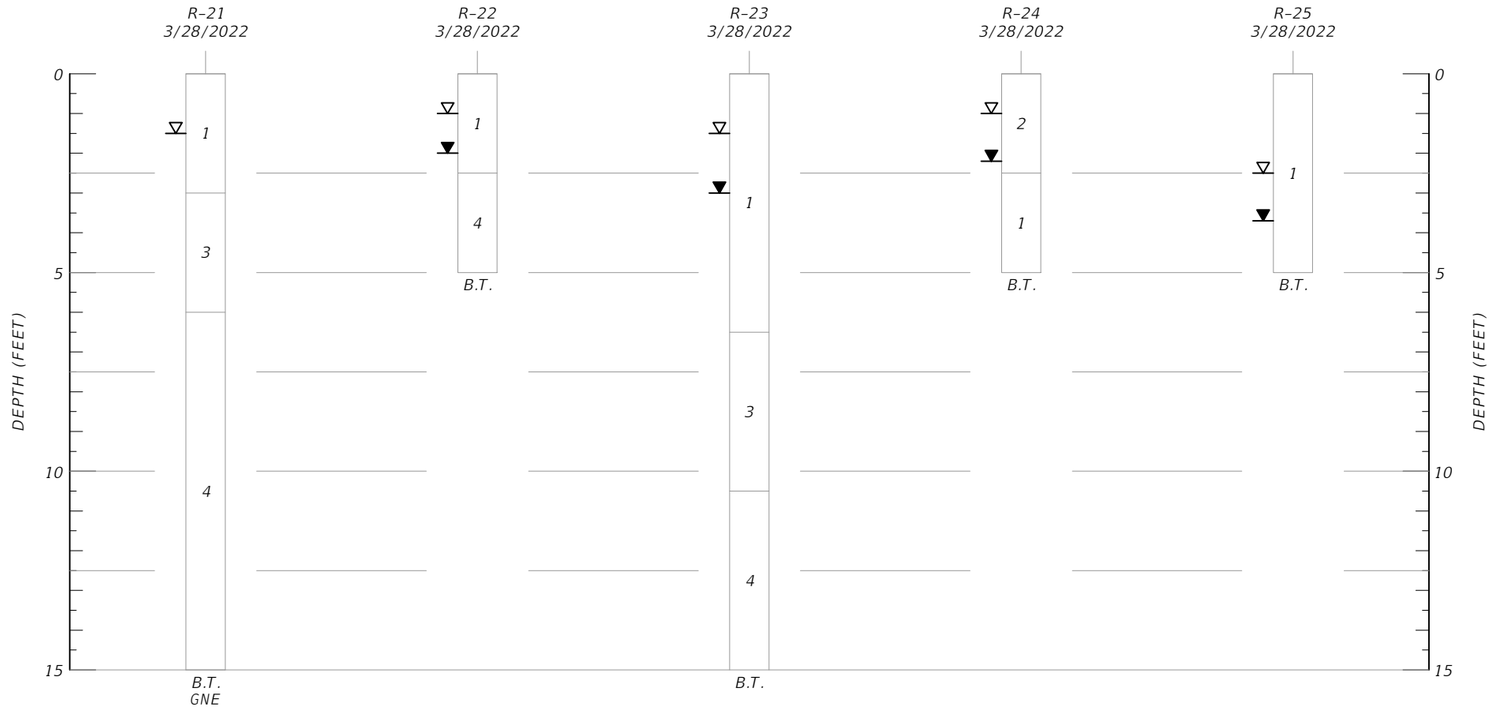
JASON E. GOWLAND, P.E. 66467
GSE ENGINEERING & CONSULTING, INC.

JONES EDMUNDS, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NA	COLUMBIA	N/A

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529

SHEET NO. 3



LEGEND

1. *(A-3)*
   PALE GRAY, GRAY, PALE BROWN, BROWN, AND ORANGE POORLY GRADE SAND, SAND WITH SILT, AND SAND WITH CLAY

2. *(A-2-4)*
   DARK BROWN, AND DARK GRAY SILTY SAND

3. *(A-2-5/A-2-6/A-2-7)*
   GRAY, BROWN, AND ORANGE CLAYEY SAND, CLAYEY SAND WITH TRACE LIMESTONE, AND VERY CLAYEY SAND

4. *(A-7-6)*
   BROWN, GRAY, ORANGE, GREEN, AND RED SANDY CLAY, CLAY WITH SAND, CLAY, CLAY WITH TRACE LIMESTONE

A-3 *AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW*

GROUNDWATER TABLE

ESTIMATED PERCHED SEASONAL HIGH GROUNDWATER TABLE

* *ESTIMATED SEASONAL HIGH GROUNDWATER IS DEEPER THAN BORING DEPTH IF NOT SHOWN.*

GNE *GROUNDWATER NOT ENCOUNTERED*

B.T. *BORING TERMINATED*

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JASON E. GOWLAND, P.E. 66467
GSE ENGINEERING & CONSULTING, INC.

JONES EDMUNDS, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NA	COLUMBIA	N/A

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529

SHEET NO. 4

5.2 Laboratory Results

GSE Engineering & Consulting, Inc.

SUMMARY REPORT OF LABORATORY TEST RESULTS

Project Number: 15529

Project Name: Parnell Hills Roadway Improvements

Boring Number	Depth (ft)	Soil Description	Natural Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Percent Passing No. 200 Sieve	Organic Content (%)	pH	Resistivity (ohm-cm)	Chloride Content (ppm)	Sulfate Content (ppm)	Unified Soil Classification
R-5	6-8	Brown and gray clayey SAND	23				14		7.59	11000	BDL	93	A-2-5 to A-2-7
R-21	6-8	Brown, gray, and orange CLAY with sand	44				78		6.24	2300	BDL	BDL	A-7-6
R-6	1-1.5	Gray, brown, and orange clayey SAND	13				21						A-2-5 to A-2-7
R-9	9-9.5	Dark brown silty SAND	16				20	0.4					A-2-4
R-11	1-1.5	Brown, gray, and orange clayey SAND	20				23						A-2-5 to A-2-7
R-14	6.5-7	Green and orange fat CLAY	61	117	29	88	85						A-7-6
R-18	1-1.5	Green and orange fat sandy CLAY	40	75	16	59	67						A-7-6
R-19	1-1.5	Brown and orange clayey SAND	16				23						A-2-5 to A-2-7
R-20	2-2.5	Green CLAY with sand	44				73						A-7-6
R-29	12-12.5	Green very clayey SAND with trace limestone	28				42						A-2-5 to A-2-7

GSE Engineering & Consulting, Inc.

5590 SW 64th Street, Suite B
Gainesville, FL 32608
Phone: (352) 377 - 3233
Fax: (352) 377 - 0335

Project Name: 15529

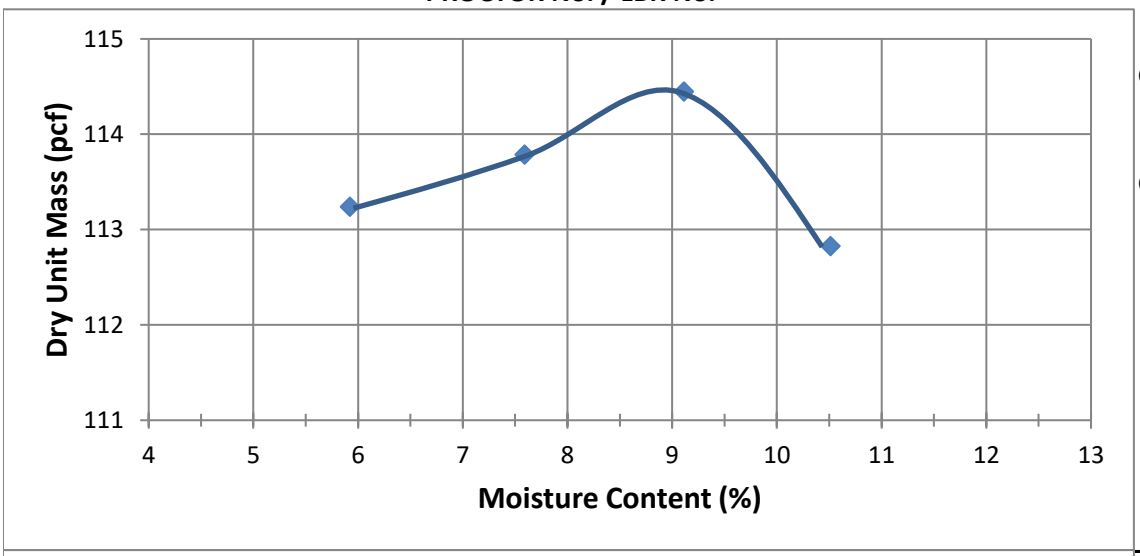
GSE Project No. Parnell Hills Roadway Improvements

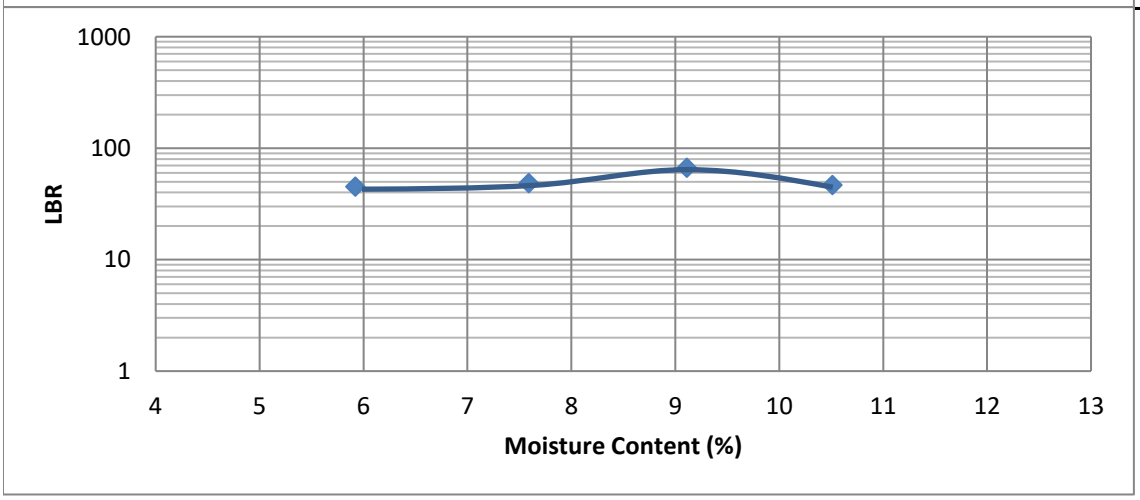
Project Location: Columbia County, Florida

Contractor: Jones Edmunds, Inc.

Date: 4/21/2022

PROCTOR No. / LBR No.





PROCTOR DATA

Modified Proctor (ASTM D1557/AASHTO T180)	X
Standard Proctor (ASTM D698/AASHTO T99)	
Maximum Dry Density (pcf)	114.4
Optimum Moisture Content (%)	9.1
LBR (FM 5-515)	67

Sieve Analysis (Percent Passing)

2" Sieve (%)	100
3/4" Sieve (%)	100
No. 4 Sieve (%)	100
No. 200 Sieve (%)	9
Liquid Limit:	NT
Plastic Limit:	NT
Plasticity Index:	NT
Hammer Type:	Mech.

*NT: Not Tested
*NP: Non-Plastic

Sample Description: Pale brown SAND with silt (A-3)

Sample Location: LBR-1

Proposed Use: Not Provided

Sampled By: GSE

Sample Date: 4/12/2022

Tested By: E. Timberlake

Test Date: 4/15/22-4/18/22

This report may not be reproduced without permission except in full.

GSE Engineering & Consulting, Inc.

5590 SW 64th Street, Suite B
Gainesville, FL 32608
Phone: (352) 377 - 3233
Fax: (352) 377 - 0335

Project Name: 15529

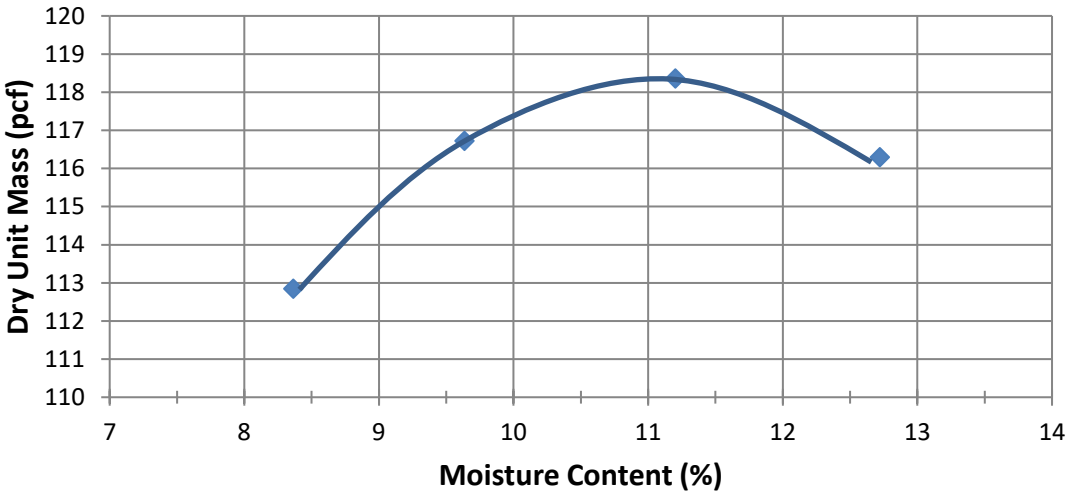
GSE Project No. Parnell Hills Roadway Improvements

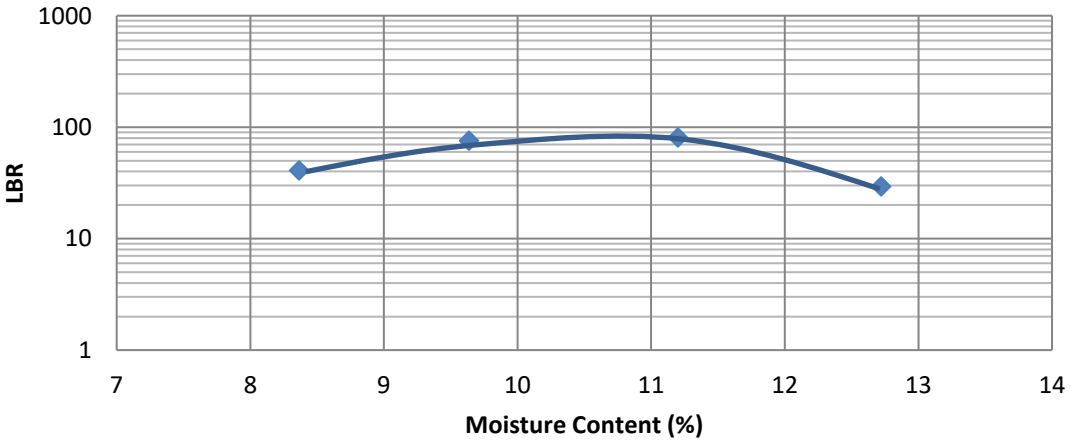
Project Location: Columbia County, Florida

Contractor: Jones Edmunds, Inc.

Date: 4/21/2022

PROCTOR No. / LBR No.





PROCTOR DATA

Modified Proctor (ASTM D1557/AASHTO T180)	X
Standard Proctor (ASTM D698/AASHTO T99)	
Maximum Dry Density (pcf)	118.4
Optimum Moisture Content (%)	11.2
LBR (FM 5-515)	81

Sieve Analysis (Percent Passing)

2" Sieve (%)	100
3/4" Sieve (%)	100
No. 4 Sieve (%)	100
No. 200 Sieve (%)	19
Liquid Limit:	NT
Plastic Limit:	NT
Plasticity Index:	NT
Hammer Type:	Mech.

*NT: Not Tested
*NP: Non-Plastic

Sample Description: Gray Silty SAND (A-2-4)

Sample Location: LBR-2

Proposed Use: Not Provided

Sampled By: GSE

Sample Date: 4/12/2022

Tested By: E. Timberlake

Test Date: 4/15/22-4/18/22

This report may not be reproduced without permission except in full.

Engineering & Consulting, Inc.

5590 SW 64th Street, Suite B
Gainesville, FL 32608
Phone: (352) 377 - 3233
Fax: (352) 377 - 0335

Project Name: 15529

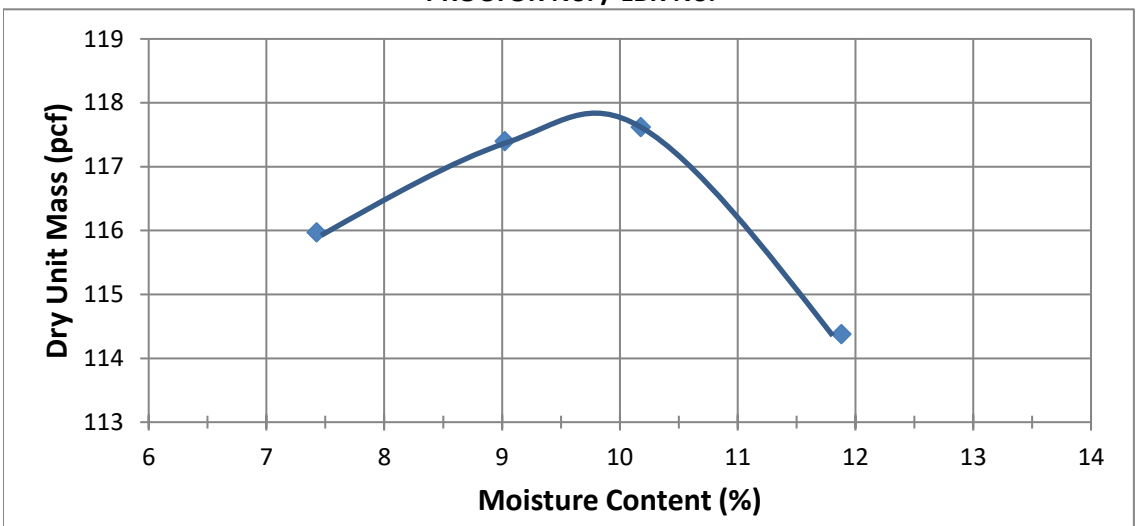
GSE Project No. Parnell Hills Roadway Improvements

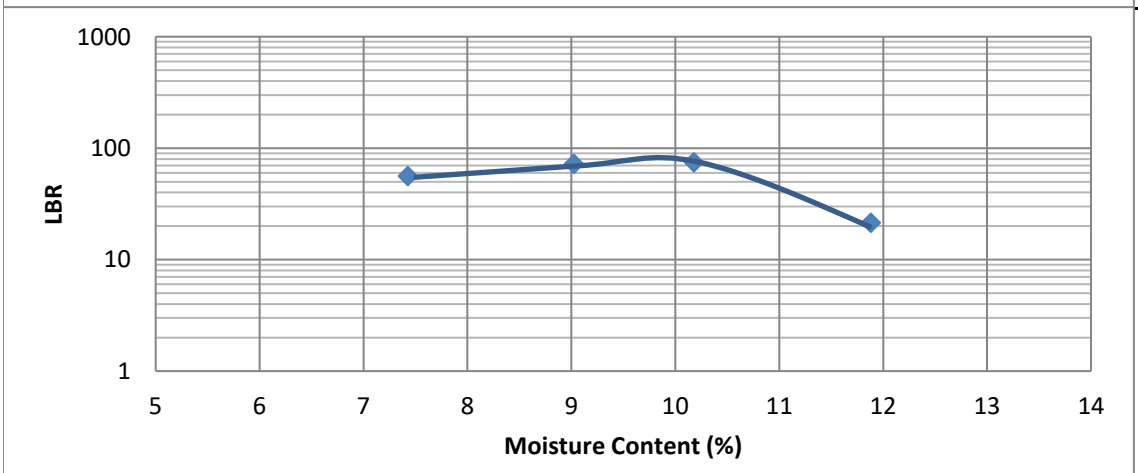
Project Location: Columbia County, Florida

Contractor: Jones Edmunds, Inc.

Date: 4/21/2022

PROCTOR No. / LBR No.





PROCTOR DATA

Modified Proctor (ASTM D1557/AASHTO T180)	**X**
Standard Proctor (ASTM D698/AASHTO T99)	
Maximum Dry Density (pcf)	**117.6**
Optimum Moisture Content (%)	**10.2**
LBR (FM 5-515)	**75**

Sieve Analysis (Percent Passing)

2" Sieve (%)	**100**
3/4" Sieve (%)	**100**
No. 4 Sieve (%)	**100**
No. 200 Sieve (%)	**12**

Liquid Limit:	**NT**
Plastic Limit:	**NT**
Plasticity Index:	**NT**
Hammer Type:	Mech.

*NT: Not Tested
*NP: Non-Plastic

Sample Description: Gray Silty SAND (A-2-4)

Sample Location: LBR-3

Proposed Use: Not Provided

Sampled By: GSE

Sample Date: 4/12/2022

Tested By: E. Timberlake

Test Date: 4/15/22-4/18/22

This report may not be reproduced without permission except in full.

GSE Engineering & Consulting, Inc.

5590 SW 64th Street, Suite B
Gainesville, FL 32608
Phone: (352) 377 - 3233
Fax: (352) 377 - 0335

Project Name: 15529

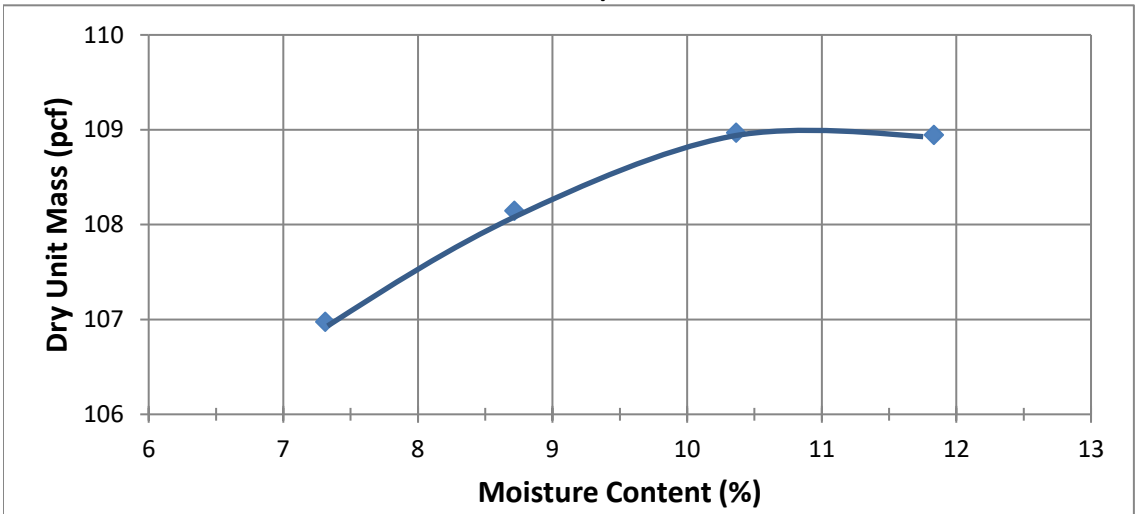
GSE Project No. Parnell Hills Roadway Improvements

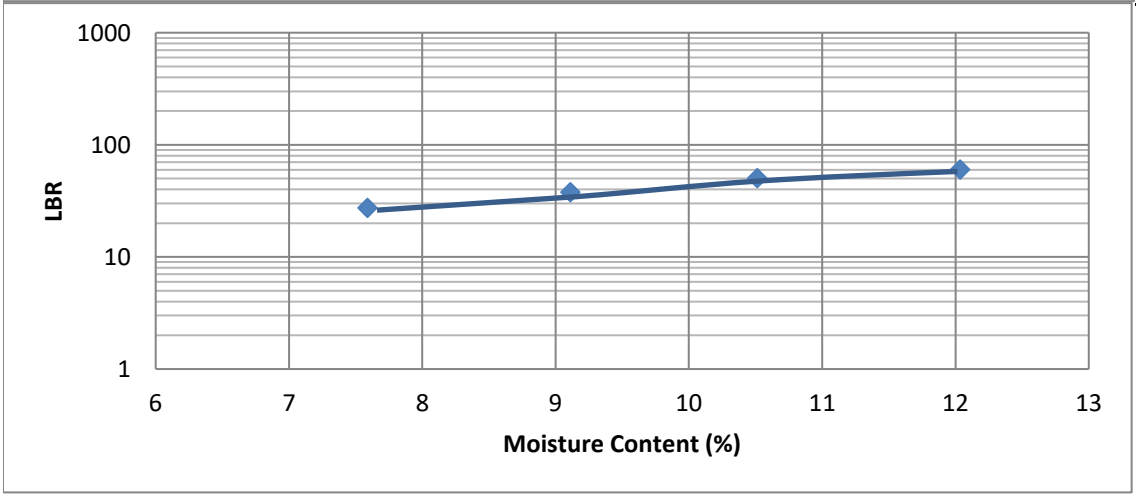
Project Location: Columbia County, Florida

Contractor: Jones Edmunds, Inc.

Date: 4/21/2022

PROCTOR No. / LBR No.





PROCTOR DATA

Modified Proctor (ASTM D1557/AASHTO T180)	X
Standard Proctor (ASTM D698/AASHTO T99)	
Maximum Dry Density (pcf)	109
Optimum Moisture Content (%)	10.4
LBR (FM 5-515)	60

Sieve Analysis (Percent Passing)

2" Sieve (%)	100
3/4" Sieve (%)	100
No. 4 Sieve (%)	100
No. 200 Sieve (%)	7
Liquid Limit:	NT
Plastic Limit:	NT
Plasticity Index:	NT
Hammer Type:	Mech.

*NT: Not Tested
*NP: Non-Plastic

Sample Description: Brown SAND with silt (A-3)

Sample Location: LBR-4

Proposed Use: Not Provided

Sampled By: GSE

Sample Date: 4/12/2022

Tested By: E. Timberlake

Test Date: 4/15/22-4/18/22

This report may not be reproduced without permission except in full.

GSE Engineering & Consulting, Inc.

5590 SW 64th Street, Suite B
Gainesville, FL 32608
Phone: (352) 377 - 3233
Fax: (352) 377 - 0335

Project Name: 15529

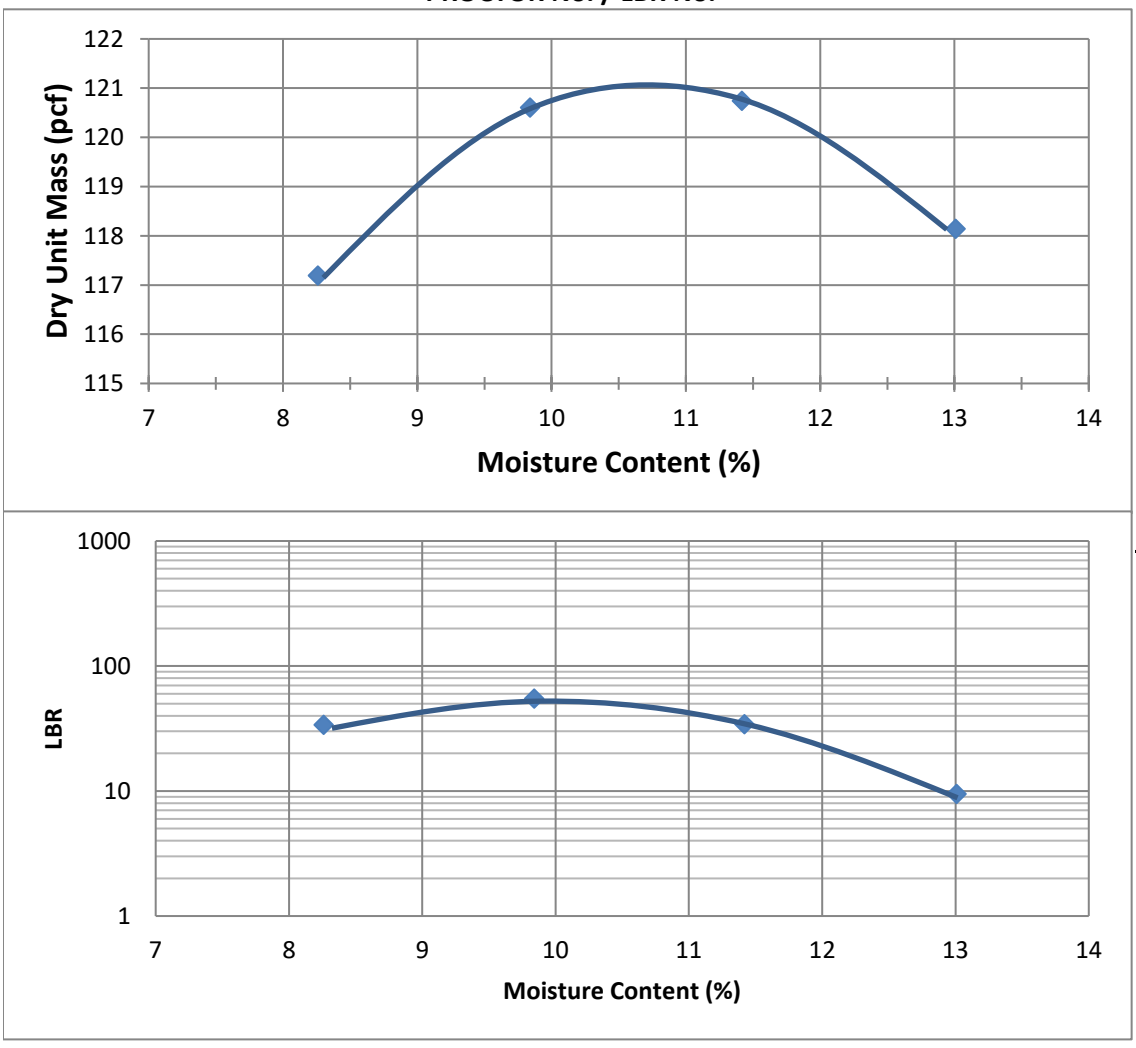
GSE Project No. Parnell Hills Roadway Improvements

Project Location: Columbia County, Florida

Contractor: Jones Edmunds, Inc.

Date: 4/21/2022

PROCTOR No. / LBR No.



PROCTOR DATA

Modified Proctor (ASTM D1557/AASHTO T180)	X
Standard Proctor (ASTM D698/AASHTO T99)	
Maximum Dry Density (pcf)	120.7
Optimum Moisture Content (%)	11.4
LBR (FM 5-515)	55

Sieve Analysis (Percent Passing)

2" Sieve (%)	100
3/4" Sieve (%)	100
No. 4 Sieve (%)	100
No. 200 Sieve (%)	20

Liquid Limit:	NT
Plastic Limit:	NT
Plasticity Index:	NT
Hammer Type:	Mech.

*NT: Not Tested
*NP: Non-Plastic

Sample Description: Gray Silty SAND (A-2-4)

Sample Location: LBR-5

Proposed Use: Not Provided

Sampled By: GSE

Sample Date: 4/12/2022

Tested By: E. Timberlake

Test Date: 4/15/22-4/18/22

This report may not be reproduced without permission except in full.

6.0 LIMITATIONS

6.1 Auger Borings

The determination of soil type and conditions was performed from the ground surface to the maximum depth of the borings, only. Any changes in subsurface conditions that occur between or below the borings would not have been detected or reflected in this report.

Soil classifications that were made in the field are based upon identifiable textural changes, color changes, changes in composition or changes in resistance to penetration in the intervals from which the samples were collected. Abrupt changes in soil type, as reflected in boring logs and/or cross sections may not actually occur, but instead, be transitional.

Depth to the water table is based upon observations made during the performance of the borings. This depth is an estimate and does not reflect the annual variations that would be expected in this area due to fluctuations in rainfall and rates of evapotranspiration.

6.2 Site Figures

The measurements used for the preparation of the figures in this report were made with a fiberglass tape and by estimating distances from existing structures and site features. Figures in this report were not prepared by a licensed land surveyor and should not be interpreted as such. Some of the boring locations were surveyed after completion. It is possible that the staked locations that were surveyed were not representative of the actual boring location and should be considered for estimating purposes.

6.3 Unanticipated Soil Conditions

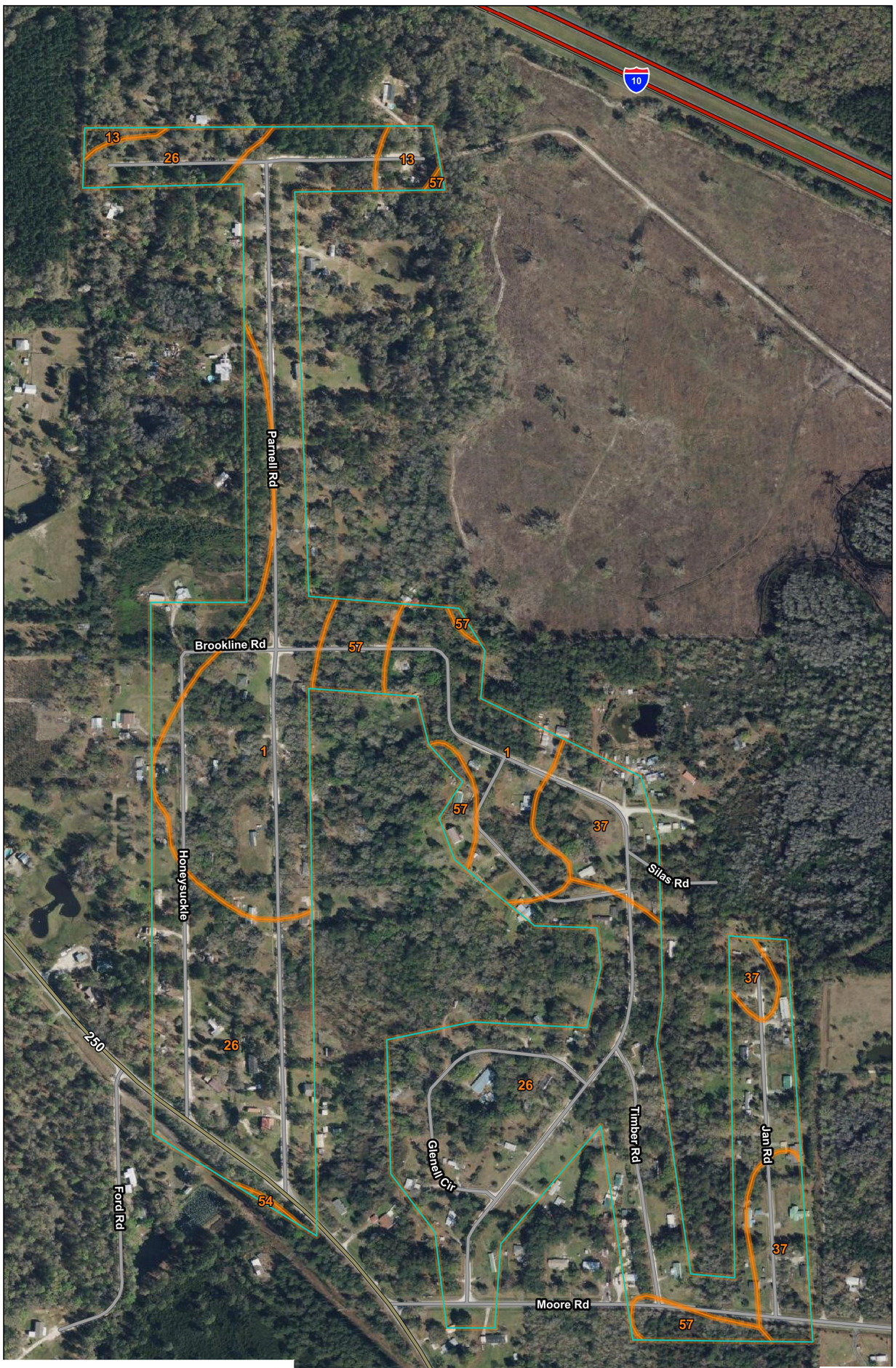
The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations that may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

6.4 Misinterpretation of Soil Engineering Report

GSE Engineering & Consulting, Inc. is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If others make the conclusions or recommendations based upon the data presented, those conclusions or recommendations are not the responsibility of GSE.

FIGURES



LEGEND:

1. ALBANY FINE SAND, 0 TO 5 PERCENT SLOPES
13. BONNEAU FINE SAND, 2 TO 5 PERCENT SLOPES
26. HURRICANE FINE SAND
37. MASCOTTE FINE SAND
54. PLUMMER MUCK, DEPRESSIONAL
57. SURRENCY FINE SAND

NORTH

0 450'

SCALE: 1 " = 450 ' APPROX.

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529

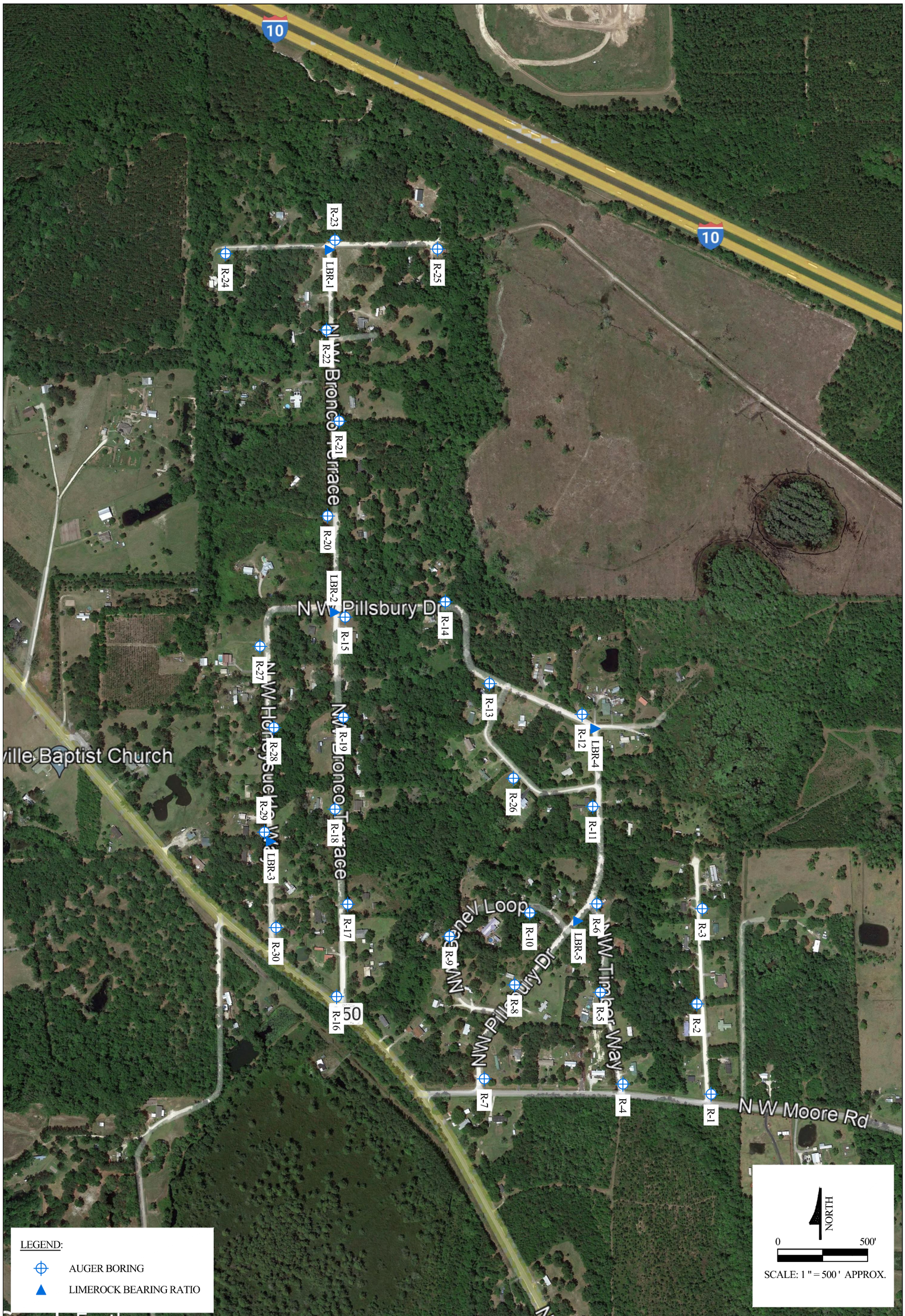
U.S.A.D. SITE SOIL SURVEY VICINITY MAP

DESIGNED BY : JEG
CHECKED BY : KLH
DRAWN BY : AXL

GSE Engineering & Consulting, Inc.

FIGURE

1



AERIAL PHOTOGRAPH SHOWING APPROXIMATE LOCATIONS OF FIELD TESTS

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529

DESIGNED BY: JEG
CHECKED BY : KLH
DRAWN BY : AXL

GSE Engineering & Consulting, Inc.

FIGURE
2

GSE Engineering & Consulting, Inc.

June 14, 2022

Fred Hoyt, MBA, P.E.
Jones Edmunds, Inc.
730 NE Waldo Road
Gainesville, Florida 32641

Subject: Addendum Report of SPT Borings for Drainage Structures
Parnell Hills Roadway Improvements
Columbia County, Florida
GSE Project No. 15529A

GSE Engineering & Consulting, Inc. (GSE) is pleased to submit this Addendum Report of SPT Borings for Drainage Structures to provide wing wall design recommendations for the Parnell Hills Roadway Improvements Project at the referenced project site.

BACKGROUND INFORMATION

GSE previously completed a geotechnical exploration at the site in order to provide geotechnical recommendations for roadway design (GSE project No. 15529). Our findings and recommendations were presented in our *Report of a Roadway Soil Survey* dated April 27, 2022. Please refer to this report for additional background information as it relates to the proposed construction. We are providing this Addendum Report of SPT Borings for Drainage Structures and wing wall design recommendations to address the site conditions encountered for the proposed construction.

General Description

The procedures used for field sampling and testing are in general accordance with industry standards of care and established geotechnical engineering practices for this geographic region. This exploration consisted of performing two (2) Standard Penetration Test (SPT) borings to depths of 15 feet below land surface (bls) within the drainage structure areas.

The soil borings were performed at the approximate locations as shown on Figure 2. The borings were located at the site using the provided site layout, Global Positioning System (GPS) coordinates, and obvious site features as reference. The boring locations should be considered approximate. The soil borings were performed on June 3, 2022.

Standard Penetration Test Borings

The soil borings were performed with a drill rig employing flight auger drilling techniques and Standard Penetration Testing (SPT) in accordance with ASTM D1586. The SPTs were performed continuously to 10 feet and at 5-foot intervals thereafter. Soil samples were obtained at the depths where the SPTs were performed. The soil samples were classified in the field, placed in sealed containers, and returned to our laboratory for further evaluation.

After drilling to the sampling depth and flushing the borehole, the standard two-inch O.D. split-barrel sampler was seated by driving it 6 inches into the undisturbed soil. The sampler was then driven an additional 12 inches by blows of a 140-pound hammer falling 30 inches. The number of blows required to produce the next 12 inches of penetration were recorded as the penetration resistance (N-value). These values and the complete SPT boring logs are attached.

Upon completion of the sampling, the boreholes were abandoned in accordance with Water Management District guidelines.

Subsurface Conditions

Cassie Smallwood, E.I. visited the site to observe the site conditions and mark the boring locations on May 17, 2022.

The locations of the SPT borings are provided on Figure 2. Complete logs for the borings are attached. Descriptions for the soils encountered are accompanied by the Unified Soil Classification System symbol (SM, SP-SM, etc.) and are based on visual examination of the recovered soil samples and the laboratory tests performed. Stratification boundaries between the soil types should be considered approximate, as the actual transition between soil types may be gradual.

SPT boring B-1 located in the northern drainage structure area initially encountered 1 foot of limestone overlying silty sand with trace limestone (SM) to a depth of 8.5 feet. This was underlain by clayey sand, and sand with clay (SC, SP-SC) to the explored depth of 15 feet bls.

SPT boring B-2 located in the eastern drainage structure area initially encountered 7 feet of poorly graded sand, and sand with silt (SP, SP-SM), overlying silty clayey sand (SM-SC) to a depth of 8.5 feet. This was underlain by fat clay (CH) to the explored depth of 15 feet bls.

The sandy soils (SP, SP-SM, SM, SP-SC, SC) are generally in a very loose to dense condition with N-values ranging from 2 to 35 blows per foot. The deeper fat clay (CH) layers are generally in a firm to very stiff condition with N-values ranging from 7 to 27 blows per foot.

Groundwater

Groundwater was encountered at depths ranging from approximately 4.3 to 6.8 feet below existing grade when encountered at the time of our exploration. The anticipated seasonal high groundwater table is indicated on the logs for each individual boring location.

Laboratory Soil Analysis

The soil samples recovered from the soil borings were returned to our laboratory, and examined to confirm the field descriptions. Representative samples were then selected for laboratory testing. The laboratory tests consisted of four (4) percent soil fines passing the No. 200 sieve determinations, four (4) natural moisture content determinations, two (2) corrosion tests, and one (1) Atterberg Limits test. These tests were performed in order to aid in classifying the soils and to further evaluate their engineering properties.

Samples selected for laboratory testing were collected at depths ranging from 4 to 10 feet bls. The complete laboratory report is attached.

The laboratory tests indicate the tested soils consist of silty sand with trace limestone (SM), and fat clay (CH). The tested silty sand with trace limestone (SM) contains approximately 14 to 15 percent soil fines passing the No. 200 sieve with natural moisture contents of about 13 to 22 percent. The tested fat clay (CH), contains approximately 91 percent soil fines passing the No. 200 sieve with a natural moisture content of about 71 percent.

Atterberg Limits test indicate the tested fat clay (CH) has a Liquid Limit (LL) value of 135, Plastic Limit (PL) value of 45, and Plasticity Index (PI) value of 90. This corresponds to a material with high potential ($60 \leq LL$ and $35 \leq PI$) for expansive behavior[1].

Two (2) samples collected from depths of approximately 2 to 4 feet bls were analyzed for corrosion series testing. Resistivity test results indicate resistivity values of 4,500 to 5,800 ohm-cm. Chloride content of the tested samples were below the detection limit (BDL). The sulfate content of the tested materials were below the detection limit (BDL) to 33 ppm. The pH of the tested soils were 7.89 to 9.06. The soils at the site are considered slightly aggressive for concrete, and slightly to moderately aggressive for steel.

Wing Wall Recommendations

GSE assumes that the drainage structures will consist of wing walls utilizing concrete end-walls with concrete foundations. The end-walls will be lightly loaded and generally support the weight of the concrete walls and the lateral loads exerted by the fill. Considering an 8-inch thick concrete foundation extending 4-inches on either side of an 8-inch thick concrete wall embedded approximately 1.5 feet with a minimum 1.5 feet cover, GSE anticipates an allowable bearing capacity of 1,500 psf be used for design of the concrete end-wall foundation. The minimum modulus of subgrade reaction in the table below of 20 pounds per cubic inch (pci) may be used. The end-walls/retaining walls must be designed to resist the lateral stress of the fill soils. We anticipate the retaining walls will be cantilever-type walls. For this condition, we recommend the retaining walls be designed assuming the retained soil will exert a lateral stress equivalent to a fluid having a unit weight of 38 pcf. This assumes a soil unit weight of 110 pcf, and a coefficient of lateral earth pressure for the active condition, K_a, of 0.34. Lateral loads may be resisted using a coefficient of friction for sliding of 0.40. Total estimated settlement for the end wall concrete foundations should be less than 1 inch.

Construction Considerations

Footings should have adequate cover to protect from scour. Any loose or disturbed soils encountered at foundation elevation should be removed and replaced with compacted backfill. It may be desired to place a layer of washed gravel in the bottom of the excavation in order to provide a working platform in wet conditions. Foundation excavation should be observed by the geotechnical engineer to confirm the subsurface conditions and foundation recommendations.

[1] U.S. Department of the Army USA, 1983, Foundations in Expansive Soils, TM 5-818-7, p. 4-1.

Excavation may extend below the existing water level. The Contractor should determine actual groundwater levels at the time of construction. It is anticipated that the presence of groundwater will require dewatering to control groundwater during construction. The design and implementation of a dewatering system is recommended to maintain a dry, undisturbed subgrade. To avoid disturbing the subgrade, the groundwater elevation should be maintained at least 2 feet below the subgrade level and over-excavation areas during the entire period of exaction, compaction and fill placement. Dewatering should consist of pumps, wells or well points capable of lowering the groundwater below the lowest level of the exaction. It may be necessary to divert the flow of water from upstream to some location downstream away from the proposed construction area. This should also be considered by the Contractor. Detailed design of dewatering systems may require additional subsurface testing and determination of subsurface hydraulic conductivity and should be performed by a Florida registered engineer.

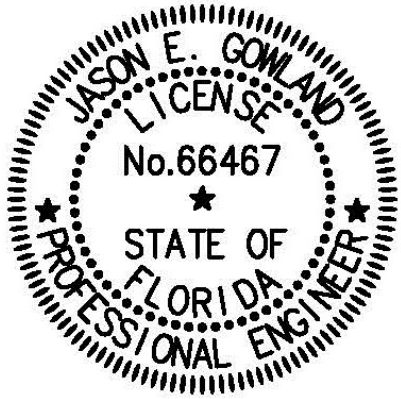
Removal of grass, roots, sediments, and organic material located within the proposed construction area shall be considered as standard clearing and grubbing in accordance with FDOT Standard Specifications.

CLOSING

GSE appreciates the opportunity to have assisted you on this project. If you have any questions or comments concerning this letter or if we may be of further assistance, please contact us.

Sincerely,

GSE Engineering & Consulting, Inc.



This item has been digitally signed and sealed by

on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Angelina X. Liu, E.I.
Staff Engineer

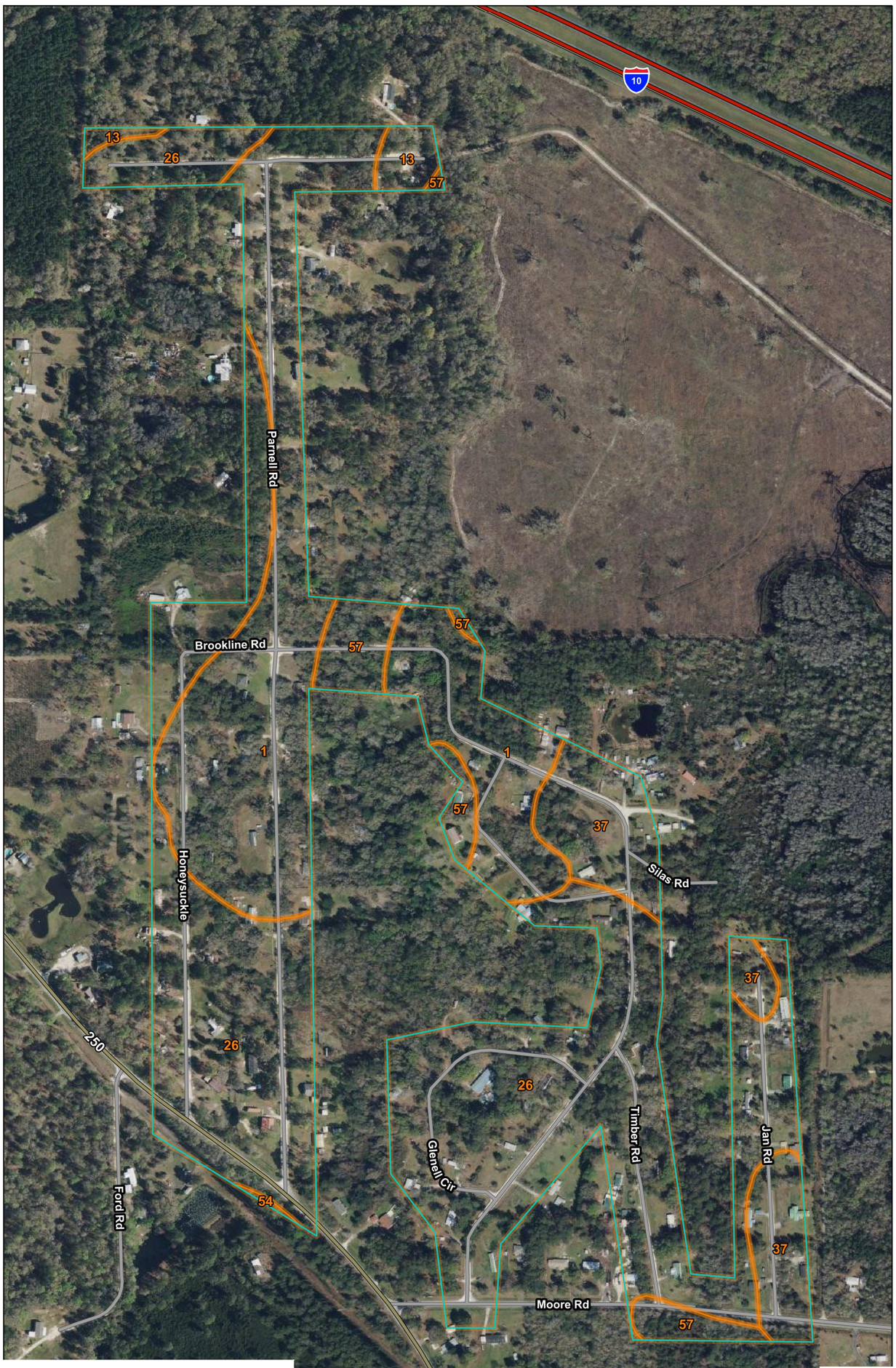
Jason E. Gowland, P.E.
Senior Engineer
Florida Registration Number 66467

AXL/JEG:hmp
Q:\Projects\15529A Parnell Hills Roadway Improvements\15529A Addendum.docx

Distribution: Addressee (1)
File (1)

Attachments: Figure 1 – U.S.D.A. Site Soil Survey Vicinity Map
Figure 2 – Site Plan Showing Approximate Location of Field Tests
Report of SPT Borings
Laboratory Results

ATTACHMENTS



LEGEND:

1. ALBANY FINE SAND, 0 TO 5 PERCENT SLOPES
13. BONNEAU FINE SAND, 2 TO 5 PERCENT SLOPES
26. HURRICANE FINE SAND
37. MASCOTTE FINE SAND
54. PLUMMER MUCK, DEPRESSIONAL
57. SURRENCY FINE SAND

NORTH

0 450'

SCALE: 1 " = 450 ' APPROX.

PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529A

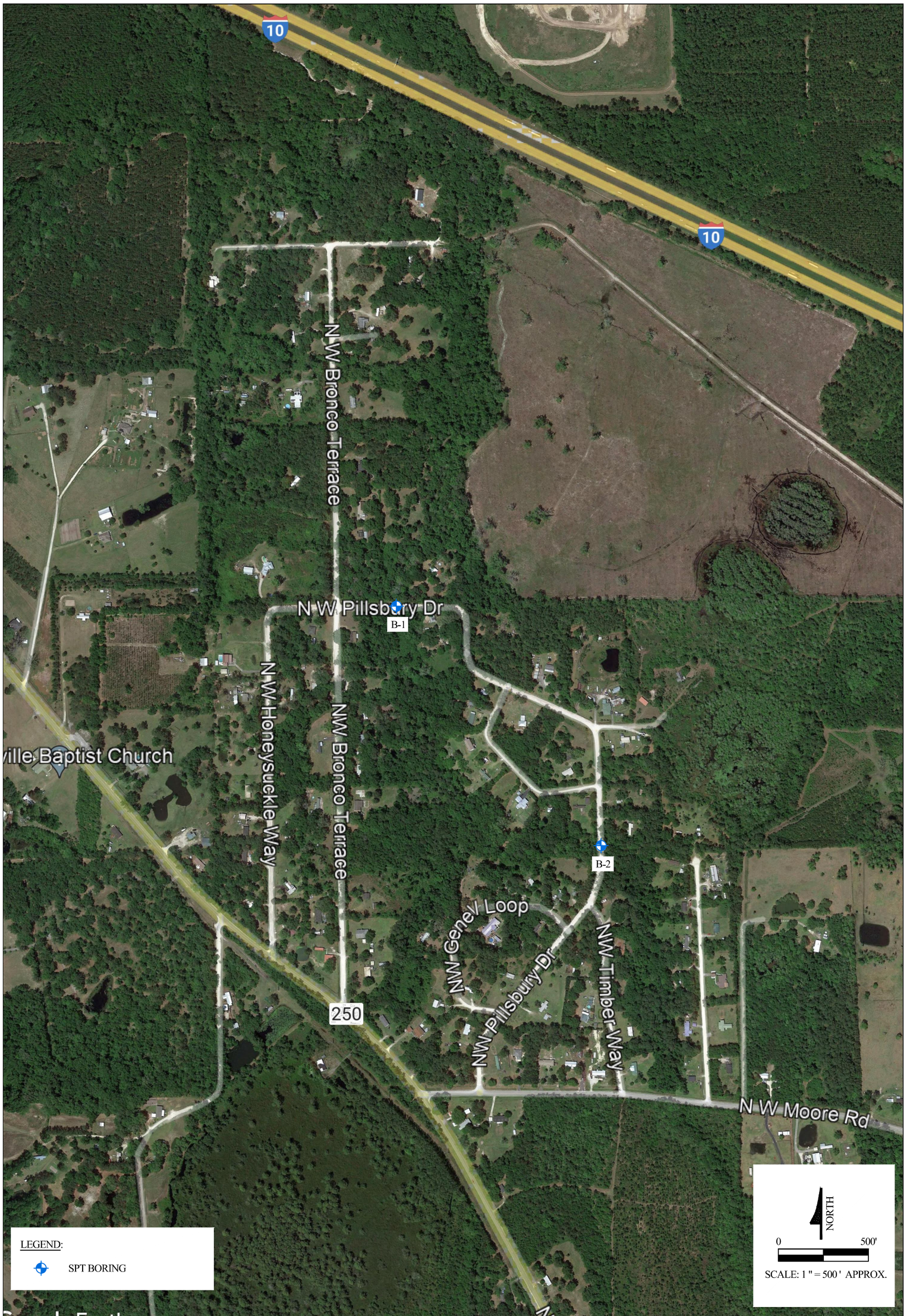
U.S.A.D. SITE SOIL SURVEY VICINITY MAP

DESIGNED BY: JEG
CHECKED BY : KLH
DRAWN BY : AXL

GSE Engineering & Consulting, Inc.

FIGURE

1



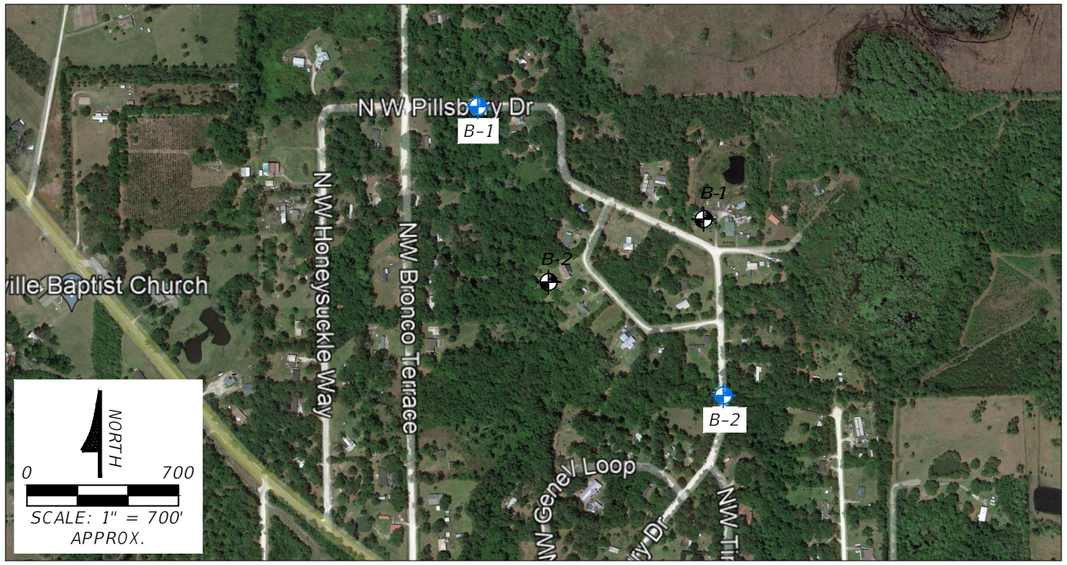
PARNELL HILLS ROADWAY IMPROVEMENTS
COLUMBIA COUNTY, FLORIDA
GSE PROJECT NO. 15529A

AERIAL PHOTOGRAPH SHOWING APPROXIMATE LOCATIONS OF FIELD TESTS

DESIGNED BY: JEG
CHECKED BY : KLH
DRAWN BY : AXL

GSE Engineering & Consulting, Inc.

FIGURE
2



LEGEND:

SPT BORING

LEGEND

HA	HAND AUGER
MC	MOISTURE CONTENT (%)
-200	PERCENT PASSING THE No. 200 SIEVE
LL	LIQUID LIMIT
PL	PLASTIC LIMIT
PI	PLASTICITY INDEX
ORG	ORGANIC CONTENT
NP	NOT PLASTIC
N	STANDARD PENETRATION RESISTANCE (BLOWS / FOOT)
WOH	WEIGHT-OF-HAMMER
▽	ESTIMATED SEASONAL HIGH GROUNDWATER
▼	ENCOUNTERED GROUNDWATER TABLE
GNE	GROUNDWATER NOT ENCOUNTERED
▶	100% LOSS OF CIRCULATION
*	* - CORROSION SERIES TEST
pH	$-LOG_{10}(a_H)$
R	RESSISTIVITY (OHM-CM)
Cl	CHLORIDE CONTENT (PPM)
S	SULFATE CONTENT (PPM)
BDL	BELOW DETECTABLE LIMITS
B.T.	BORING TERMINATED

(SP) SAND

(SC) CLAYEY TO VERY CLAYEY SAND

(SM) SILTY SAND

(SP-SC) SAND WITH CLAY

(SP-SM) SAND WITH SILT

(ML) SILT

(SM-SC) SILTY SAND WITH CLAY

(CH) CLAY

(CH) SANDY CLAY

(CH) CLAY WITH SAND

LIMESTONE

ENGINEERING CLASSIFICATION

GRANULAR MATERIALS

No. OF BLOWS, N	RELATIVE DENSITY
0 - 4	VERY LOOSE
5 - 10	LOOSE
11 - 30	MEDIUM DENSE
31 - 50	DENSE
OVER 50	VERY DENSE

SILTS AND CLAYS

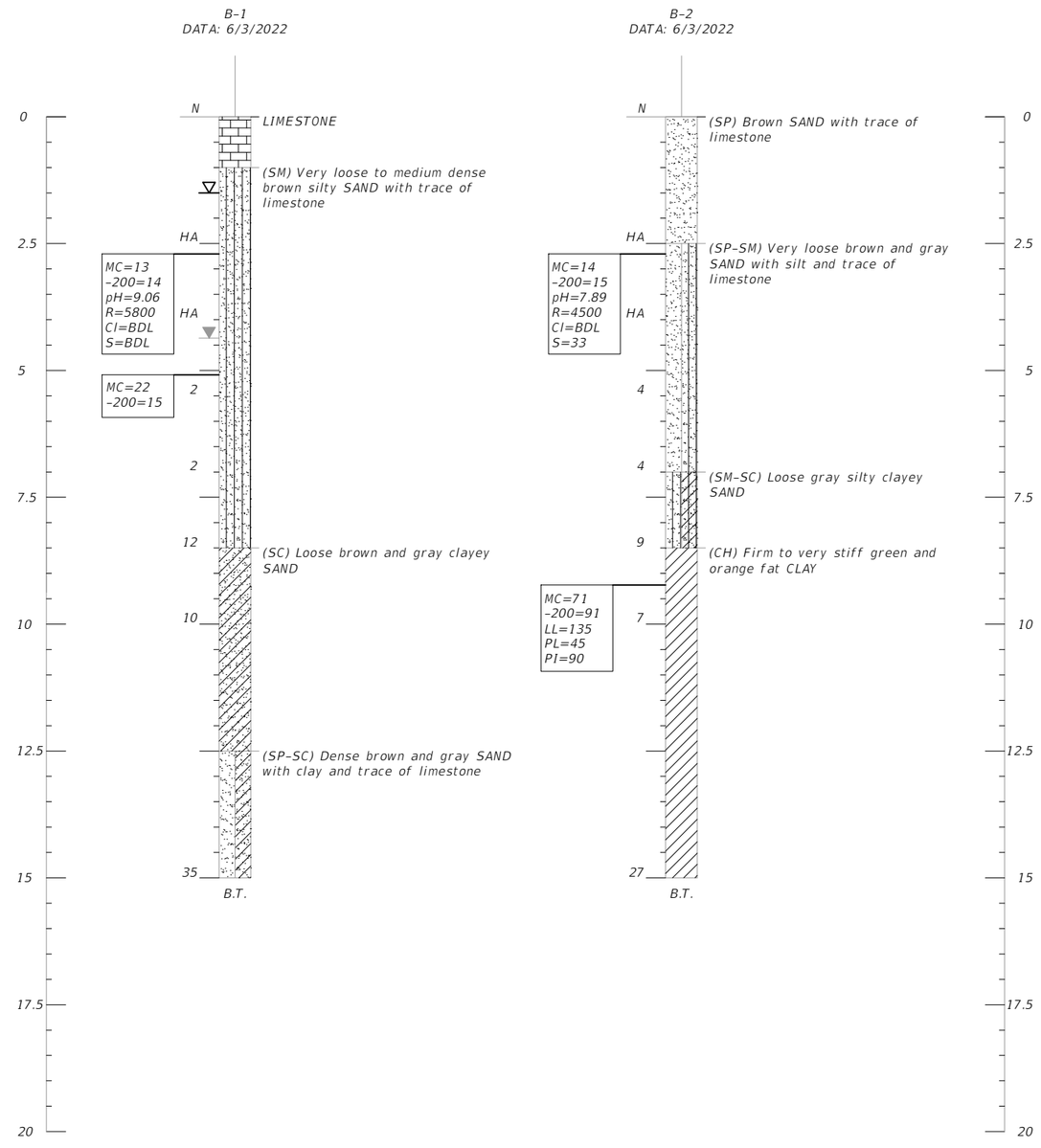
No. OF BLOWS, N	CONSISTENCY
0 - 2	VERY SOFT
3 - 4	SOFT
5 - 8	FIRM
9 - 15	STIFF
16 - 30	VERY STIFF
31 - 50	HARD
OVER 50	VERY HARD

LIMESTONE

No. OF BLOWS, N	CONSISTENCY
0 - 8	VERY SOFT
9 - 18	SOFT
19 - 32	MODERATELY HARD
33 - 50	HARD
OVER 50	VERY HARD

ENVIRONMENTAL CLASSIFICATION

SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE
SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JASON E. GOWLAND P.E. 66467
GSE ENGINEERING & CONSULTING, INC.
5590 SW 64TH STREET, SUITE B
GAINESVILLE, FLORIDA 32608

JONES EDMUNDS & ASSOCIATES, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NA	COLUMBIA	NA

REPORT OF SPT BORINGS

SHEET NO. 1

GSE Engineering & Consulting, Inc.

SUMMARY REPORT OF LABORATORY TEST RESULTS

Project Number: 15529A

Project Name: Parnell Hills Roadway Improvements

Boring Number	Depth (ft)	Soil Description	Natural Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Percent Passing No. 200 Sieve	pH	Resistivity (ohm-cm)	Chloride Content (ppm)	Sulfate Content (ppm)	Unified Soil Classification
B-1	2-4	Brown silty SAND with trace limestone	13				14	9.06	5800	BDL	BDL	SM
B-2	2-4	Brown and gray silty SAND with trace limestone	14				15	7.89	4500	BDL	33	SM
B-1	4-5.5	Brown silty SAND with trace limestone	22				15					SM
B-2	8.5-10	Green and orange fat CLAY	71	135	45	90	91					CH

PATH=Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G100.DWG

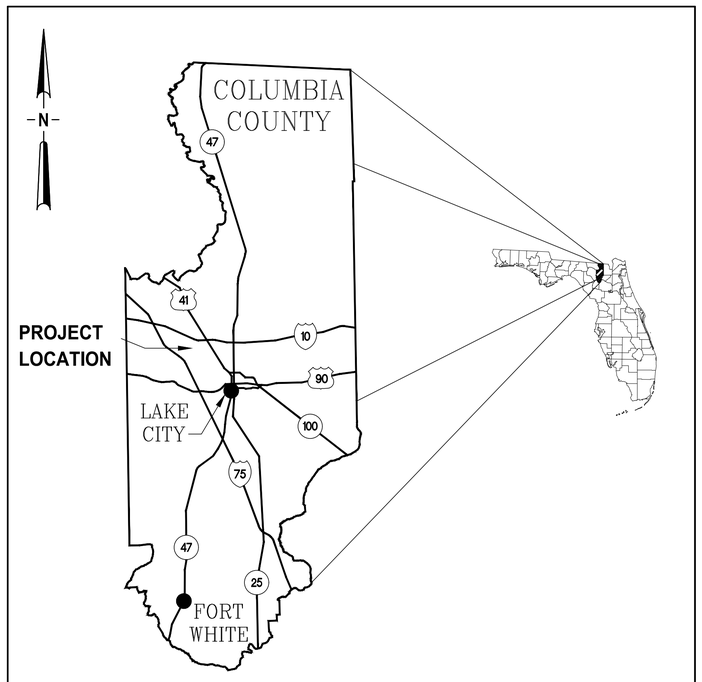
© Jones Edmunds 2234

22x34

PARNELL HILLS RESIDENTIAL SUBDIVISION

PAVING AND DRAINAGE

COLUMBIA COUNTY, FLORIDA



SITE VICINITY MAP

NTS

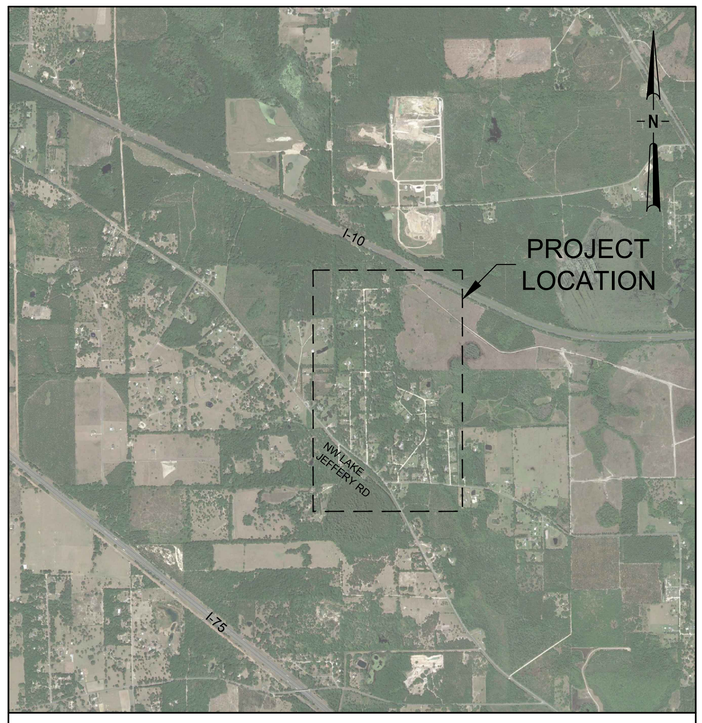
COLUMBIA COUNTY
FLORIDA'S GATEWAY SINCE 1832

COMMISSIONERS

RON WILLIAMS	DISTRICT 1
ROCKY FORD	DISTRICT 2
ROBBY HOLLINGSWORTH (CHAIRMAN)	DISTRICT 3
EVERETT PHILLIPS	DISTRICT 4
TIM MURPHY	DISTRICT 5

PREPARED BY:

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821



PROJECT LOCATION

NTS

PROJECT No. 03780-002-01

BRIAN A. THOMAS
P.E. # 85414

MARCH 2024

BID DOCUMENTS

LAST SAVED: 3/22/2024 3:11 PMBY:RMARTIN PLOTTED:3/22/2024 03:32 PMBY:RASAHN MARTIN, EI

PLOTTED: 3/22/2024 03:32 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

DRAWING INDEX

SHEET NUMBER	SHEET TITLE
GENERAL	
G100	COVER
G101	DRAWING INDEX
G102	ABBREVIATIONS, DESIGNATIONS, AND LEGENDS
G103	GENERAL NOTES
G104	KEY MAP
G105	DRAINAGE STRUCTURE TABLE
G106	DRAINAGE STRUCTURE TABLE
G107	DRAINAGE STRUCTURE TABLE
G108	DRAINAGE PIPE TABLE
G109	DRAINAGE PIPE TABLE
G110	TYPICAL DRIVEWAY DETAIL
CIVIL	
C100	NW HONEYSUCKLE WAY TYPICAL SECTION
C101	NW HONEYSUCKLE WAY PLAN AND PROFILE
C102	NW HONEYSUCKLE WAY PLAN AND PROFILE
C103	NW HONEYSUCKLE WAY PLAN AND PROFILE
C104	NW HONEYSUCKLE WAY PLAN AND PROFILE
C105	NW HONEYSUCKLE WAY CROSS SECTIONS
C200	NW BRONCO TERRACE TYPICAL SECTION
C201	NW BRONCO TERRACE PLAN AND PROFILE
C202	NW BRONCO TERRACE PLAN AND PROFILE
C203	NW BRONCO TERRACE PLAN AND PROFILE
C204	NW BRONCO TERRACE PLAN AND PROFILE
C205	NW BRONCO TERRACE PLAN AND PROFILE
C206	NW BRONCO TERRACE PLAN AND PROFILE
C207	NW BRONCO TERRACE PLAN AND PROFILE
C208	NW BRONCO TERRACE PLAN AND PROFILE
C209	NW BRONCO TERRACE PLAN AND PROFILE
C210	NW BRONCO TERRACE CROSS SECTIONS
C211	NW BRONCO TERRACE CROSS SECTIONS
C212	NW BRONCO TERRACE CROSS SECTIONS
C300	NW PILLSBURY DRIVE TYPICAL SECTION
C301	NW PILLSBURY DRIVE PLAN AND PROFILE
C302	NW PILLSBURY DRIVE PLAN AND PROFILE
C303	NW PILLSBURY DRIVE PLAN AND PROFILE
C304	NW PILLSBURY DRIVE PLAN AND PROFILE
C305	NW PILLSBURY DRIVE PLAN AND PROFILE
C306	NW PILLSBURY DRIVE PLAN AND PROFILE
C307	NW PILLSBURY DRIVE PLAN AND PROFILE
C308	NW PILLSBURY DRIVE PLAN AND PROFILE
C309	NW PILLSBURY DRIVE PLAN AND PROFILE
C310	NW PILLSBURY DRIVE PLAN AND PROFILE
C311	NW PILLSBURY DRIVE CROSS SECTIONS
C312	NW PILLSBURY DRIVE CROSS SECTIONS
C313	NW PILLSBURY DRIVE CROSS SECTIONS
C400	NW TIMBER WAY TYPICAL SECTION
C401	NW TIMBER WAY PLAN AND PROFILE
C402	NW TIMBER WAY PLAN AND PROFILE
C403	NW TIMBER WAY PLAN AND PROFILE
C404	NW TIMBER WAY CROSS SECTIONS
C500	NW JAN COURT TYPICAL SECTION
C501	NW JAN COURT PLAN AND PROFILE
C502	NW JAN COURT PLAN AND PROFILE
C503	NW JAN COURT PLAN AND PROFILE
C504	NW JAN COURT CROSS SECTIONS
C600	NW HOGLE PLACE TYPICAL SECTION
C601	NW HOGLE PLACE PLAN AND PROFILE
C602	NW HOGLE PLACE PLAN AND PROFILE
C603	NW HOGLE PLACE PLAN AND PROFILE
C604	NW HOGLE PLACE CROSS SECTIONS
C700	NW SILAS GLEN TYPICAL SECTION
C701	NW SILAS GLEN PLAN AND PROFILE
C702	NW SILAS GLEN CROSS SECTIONS
C800	NW GENELL LOOP TYPICAL SECTION
C801	NW GENELL LOOP PLAN AND PROFILE
C802	NW GENELL LOOP PLAN AND PROFILE
C803	NW GENELL LOOP PLAN AND PROFILE
C804	NW GENELL LOOP PLAN AND PROFILE
C805	NW GENELL LOOP CROSS SECTIONS
C900	NW ANTELOPE LOOP TYPICAL SECTION
C901	NW ANTELOPE LOOP PLAN AND PROFILE
C902	NW ANTELOPE LOOP PLAN AND PROFILE
C903	NW ANTELOPE LOOP PLAN AND PROFILE
C904	NW ANTELOPE LOOP CROSS SECTIONS
C1000	PROPOSED JURISDICTIONAL SURFACE WATER AND WETLAND IMPACTS
C1001	STORMWATER POLLUTION PREVENTION NOTES
C1002	STORMWATER POLLUTION PREVENTION PLAN
C1003	STORMWATER POLLUTION PREVENTION DETAILS

BID DOCUMENTS

SAVED: 2/16/2024 8:52 AM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G101.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

DRAWING INDEX

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

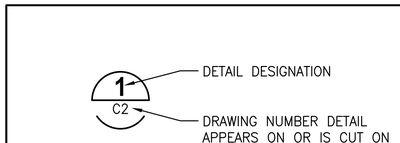
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G101

PLOTTED: 3/22/2024 03:32 PM RASAHN MARTIN, EI

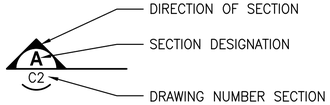
© Jones Edmunds 2234

ABBREVIATIONS

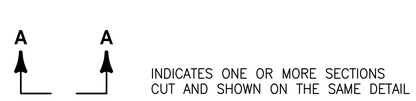
ø	DIAMETER
&	AND
@	AT
A.D.	ALGEBRAIC DIFFERENCE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
B/L	BASE LINE
BOA	BLOW OFF ASSEMBLY
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
℄	CENTERLINE
CIP	CAST IRON PIPE
C.GRATE	CENTER GRATE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONN	CONNECT, CONNECTED, CONNECTION
CR	COUNTY ROAD
CY	CUBIC YARD
DB	DITCH BLOCK
DBI	DITCH BOTTOM INLET
DBL	DITCH BLOCK LEFT
DBR	DITCH BLOCK RIGHT
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E:	EASTING
E	EAST
EA	EACH
ELEV	ELEVATION
ELB	ELBOW
EOP	EDGE OF PAVEMENT
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FES	FLARED END SECTION
FH	FIRE HYDRANT
FIN	FINISHED
FT	FOOT
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
ID	INSIDE DIAMETER
IN	INCHES
INV	INVERT
K	K VALUE
LB	POUNDS
LBR	LIMEROCK BEARING RATIO
LF	LINEAR FEET
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MES	MITERED END SECTION
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
N:	NORTHING
N	NORTH
N/F	NOW OR FORMER OWNER
NIC	NOT IN CONTRACT
No	NUMBER
NOM	NOMINAL
N.RIM	NORTH RIM
NTS	NOT TO SCALE
#	NUMBER DESIGNATION
OC	ON CENTER
OD	OUTSIDE DIAMETER
O.R.	OFFICIAL RECORD BOOK
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P/L	PROPERTY LINE
PE	PLAIN END
PG.	PAGE
POJ	PUSH-ON JOINT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RT	RIGHT
ROW	RIGHT OF WAY
S	SOUTH
SAN	SANITARY SEWER
SF	SQUARE FEET
SHLDR	SHOULDER
SHT	SHEET
SQ	SQUARE
SR	STATE ROAD
STA	STATION
STD	STANDARD
STL	STEEL
SY	SQUARE YARD
TGSP	THREADED GALVANIZED STEEL PIPE
THRD	THREADED
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
VCP	VITRIFIED CLAY PIPE
VC	VERTICAL CURVE
W	WEST
W/	WITH
WM	WATER MAIN
WT	WEIGHT



DETAIL DESIGNATION



SECTION DESIGNATION



SECTION DESIGNATION

GENERAL LEGEND

- MATCHLINE
- RIGHT–OF–WAY BOUNDARY
- PROPERTY BOUNDARY
- EASEMENT BOUNDARY
- TOP OF BANK
- TOE OF SLOPE
- CENTERLINE
- SF — SF — SILT FENCE
- TB — TB — TURBIDITY BARRIER
- TBM — BENCHMARK SET
- BORING LOCATION
- G — G — EXISTING UNDERGROUND GAS LINE
- UGT — UGT — EXISTING UNDERGROUND TELEPHONE LINE
- OE — OE — OE — EXISTING OVERHEAD ELECTRIC WIRES
- UGW — EXISTING UNDERGROUND WATER LINE
- SAN — EXISTING UNDERGROUND SANITARY SEWER LINE
- FOC — FOC — EXISTING UNDERGROUND FIBER OPTIC LINE
- X — X — X — X — EXISTING FENCE
- UGTV — UGTV — UNDERGROUND CABLE LINE
- EXISTING STORM GRATE
- EXISTING STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- SV — EXISTING SANITARY SEWER VALVE
- CO — EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- IRV — EXISTING IRRIGATION VALVE
- WV — EXISTING WATER VALVE
- W — EXISTING UNDERGROUND WATER MARKER
- W — EXISTING WATER METER
- EXISTING WATER SPIGOT
- F — EXISTING DIRECTION OF FLOW
- EXISTING SIGN
- MB — EXISTING MAILBOX OR EXISTING NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNIT
- EXISTING GUY WIRE
- EXISTING WOOD LIGHT POLE
- EXISTING WOOD POWER POLE
- EB — EXISTING ELECTRIC BOX
- FO — EXISTING UNDERGROUND FIBER OPTIC MARKER
- EXISTING TELEPHONE PEDESTAL
- GTE — EXISTING TELEPHONE BOX
- TP — EXISTING TELEPHONE POLE
- M — EXISTING UNDERGROUND TELEPHONE MARKER
- G — EXISTING GAS METER
- EXISTING TREE
- EXISTING SHRUB
- EXISTING GRASS LANDSCAPE AREA
- EXISTING BOLLARD
- NAIL SET
- (RCF) REBAR & CAP FOUND
- (IRF) IRON ROD FOUND
- (CMF) CONCRETE MONUMENT FOUND
- (OPF) OPEN PIPE FOUND
- (NDF) NAIL & DISK FOUND
- (NTF) NAIL & TAB FOUND

CIVIL LEGEND

- 90 — EXISTING CONTOURS
- 90 — PROPOSED CONTOURS
- F — F — LIMITS OF CONSTRUCTION IN FILL
- C — C — LIMITS OF CONSTRUCTION IN CUT
- NIC — NIC — LIMITS OF CONSTRUCTION NIC
- PROPOSED DITCH BOTTOM
- WL — WETLAND LIMITS
- + 100.00 — SPOT ELEVATION
- REINFORCED CONCRETE PIPE (RCP)
- S-1 — MITERED END SECTION W/ STRUCTURE DESIGNATION
- S-1 — FLARED END SECTION W/ STRUCTURE DESIGNATION
- S-1 — DITCH BOTTOM INLET W/ STRUCTURE DESIGNATION
- COORDINATE POINT
- FULL DEPTH ASPHALT
- DEMOLITION
- CONCRETE
- RIP–RAP
- LIMEROCK
- STABILIZATION
- COMPACTED SOIL
- TREE REMOVAL
- PROPOSED SIGN

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

ABBREVIATIONS, DESIGNATIONS, AND LEGENDS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G102

SAVED: 8/22/2023 10:35 AM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G102.DWG

PLOTTED: 3/22/2024 03:33 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GENERAL NOTES

1. TOPOGRAPHIC SURVEY PROVIDED BY DEREN LAND SURVEYING, SURVEY BASED ON FIELDWORK PERFORMED FROM MARCH 29, 2022 THROUGH MAY 05, 2022. (352) 331-0010.
2. HORIZONTAL DATUM IS BASED ON NAD83, FLORIDA STATE PLANE, NORTH ZONE, U.S. FOOT AS ESTABLISHED BY FLORIDA DEPARTMENT OF TRANSPORTATION HORIZONTAL CONTROL MONUMENT 2909005GPS1 LOCATED AT NORTHING: 433307.310 EASTING: 2547784.320, USING TRIMBLE "VRS NOW" GPS SURVEY NETWORK.
3. VERTICAL DATUM IS BASED ON NAVD88 AS ESTABLISHED BY FLORIDA DEPARTMENT OF TRANSPORTATION VERTICAL CONTROL MONUMENT 2909005GPS1 AT ELEVATION 159.76', USING TRIMBLE "VRS NOW" GPS SURVEY NETWORK.
4. ALL STATIONING AND OFFSETS ARE REFERENCED TO THE CONSTRUCTION BASELINE.
5. NAIL AND DISCS AND MONUMENTS WERE INSTALLED, AS SHOWN ON THE DRAWINGS, TO PROVIDE HORIZONTAL AND VERTICAL CONTROL FOR CONSTRUCTION. CONTRACTOR SHALL VERIFY THE ACCURACY OF THE PROVIDED SURVEY INFORMATION TO HIS/HER SATISFACTION. CONTRACTOR IS SOLELY RESPONSIBLE FOR PROPER VERTICAL AND HORIZONTAL ALIGNMENT OF CONSTRUCTED FACILITIES, PIPELINES, AND FINISHED GRADE. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR RESTORING PROPERTY CORNERS AND LAND MARKERS WHICH MAY BE DISTURBED BY CONSTRUCTION. ALL STAKING SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.
6. CONTRACTOR SHALL RETAIN ON THE WORK SITE COPIES OF ANY PERMITS REQUIRED FOR CONSTRUCTION.
7. ALTHOUGH MEASUREMENTS MAY BE SHOWN ON THE DRAWINGS, CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL MATERIAL QUANTITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. CONTRACTOR SHALL PROVIDE A "RECORD DRAWING" SURVEY FOR MODIFICATIONS MADE DURING CONSTRUCTION.
9. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED DURING WORK.
10. FIELD CONDITIONS MAY NECESSITATE SLIGHT ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED IMPROVEMENTS TO AVOID OBSTACLES, AS REQUIRED. CONTRACTOR SHALL CONSTRUCT THE PROPOSED FACILITIES TO THE REQUIRED DEVIATION AS APPROVED BY THE OWNER WITHOUT INCREASE IN THE CONTRACT PRICE OR TIME.
11. NO DISTURBANCE SHALL BE ALLOWED OUTSIDE OF THE ROADWAY RIGHT-OF-WAYS OR THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS UNLESS APPROVED BY THE OWNER, OR SPECIFICALLY NOTED ON THE PLANS.
12. ALL REFERENCED FDOT STANDARD INDEX DRAWINGS CAN BE FOUND AT WWW.FDOT.GOV/DESIGN/STANDARDPLANS/CURRENT/DEFAULT.SHTM
13. FDOT INDICES SHALL REFER TO THE "FY 2022-23 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS INDEX."
14. ALL WORK AND THE QUALITY OF MATERIALS SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE "2022 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION."
15. IT IS THE RESPONSIBILITY OF CONTRACTOR TO BECOME FAMILIAR WITH THE OSHA EXCAVATION SAFETY STANDARDS AND TO ABIDE BY THEM AS COVERED UNDER THE FLORIDA TRENCH SAFETY ACT (LAWS OF FLORIDA 90-96) EFFECTIVE OCTOBER 1, 1990.
16. EXISTING DRAINAGE STRUCTURES AND CULVERTS WITHIN CONSTRUCTION LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED. WHERE MITERED END SECTIONS ARE BEING CONSTRUCTED EXISTING HEADWALLS SHALL BE REMOVED.
17. ALL AREAS INSIDE AND OUTSIDE THE PROJECT LIMITS, WHICH ARE DISTURBED AS A RESULT OF THE PROJECT CONSTRUCTION, SHALL BE RESTORED TO ORIGINAL OR DESIGN GRADE AS APPLICABLE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE APPROVED BY THE COUNTY. THE CONTRACTOR SHALL REPLACE ALL EXISTING PAVING, STABILIZED EARTH, PIPING, DITCHING, FENCES, SIGNS AND OTHER IMPROVEMENTS WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED OR DAMAGED DURING CONSTRUCTION, AS A RESULT OF CONSTRUCTION, OR AS DIRECTED BY THE COUNTY WITHOUT INCREASE IN THE CONTRACT PRICE OR TIME.
18. CONTRACTOR SHALL COMPLETELY SOD ALL DISTURBED AREAS. SOD VARIETY SHALL MATCH ADJACENT UNDISTURBED AREAS AND BE CERTIFIED WEED-FREE. ALL SOD ON SLOPES GREATER THAN 3:1 SHALL BE STAKED. CONTRACTOR SHALL FERTILIZE AND THOROUGHLY WATER ALL SOD AT TIME OF PLANTING AND UNTIL MATERIAL IS ESTABLISHED.
19. CONTRACTOR SHALL CLEAR ALL EXCAVATION AND FILL AREAS AND REMOVE ALL UNSATISFACTORY MATERIAL IN ACCORDANCE WITH FDOT STD INDEX 120. UNSUITABLE MATERIAL FROM WITHIN THE PROJECT SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SUITABILITY OF ANY SOIL TO BE USED AS EMBANKMENT MATERIAL IN ACCORDANCE WITH FDOT STD INDEX 120. SUITABLE MATERIAL FROM WITHIN THE PROJECT SHALL BE USED FOR FILL AS SHOWN ON CROSS SECTIONS.
21. CONTRACTOR SHALL CLEAR AND GRUB CONSTRUCTION AREAS BEFORE FILL IS PLACED. ALL AREAS TO RECEIVE FILL SHALL BE STRIPPED OF ALL VEGETATION AND TOPSOIL PRIOR TO PLACING CLEAN FILL.
22. CONTRACTOR IS RESPONSIBLE TO PROVIDE NEW CONCRETE AND SHALL REMOVE AND REPLACE ALL NEW CONCRETE DAMAGED BY VANDALISM OR ANY OTHER CAUSE PRIOR TO ACCEPTANCE OF THE WORK.
23. ALTHOUGH EXISTING UTILITIES WERE INVESTIGATED DURING DESIGN, THERE IS NO GUARANTEE THAT ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES WERE DISCOVERED AND SHOWN ON THE PLANS. CONTRACTOR SHALL FIELD LOCATE AND VERIFY EXISTING UTILITIES, (SIZE, MATERIAL OF CONSTRUCTION, ELEVATION, ETC.) ESPECIALLY AT CONNECTING POINTS, PRIOR TO SHOP DRAWING PREPARATION AND SUBMITTAL. CONTRACTOR SHALL INCLUDE CONSIDERATION OF SUCH UTILITIES IN PLANNING AND PRIOR TO EXECUTION OF WORK. CONTRACTOR SHALL INCLUDE FIELD MEASUREMENTS ON SHOP DRAWINGS.
24. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE DRAWINGS BUT ARE NOT PURPORTED TO BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC WHICH ARE WITHIN THE PROJECT AREA. CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE DRAWINGS) AFFECTING THE PROPOSED WORK.
25. CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH "SUNSHINE STATE ONE CALL OF FLORIDA, INC." (1-800-432-4770) AT LEAST TWO BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, STRUCTURES, AND PROPERTY ON AND ADJACENT TO THE SITE CAUSED BY CONSTRUCTION ACTIVITIES.
27. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH INDIVIDUAL COMPANIES CONCERNING RELOCATION OF UTILITIES AND ANY ADDITIONAL RELOCATIONS RESULTING FROM CONFLICTS NOT DELINEATED ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, RELOCATING, AND/OR BYPASSING OF ALL PUBLIC OWNED UTILITIES PER THE BID DOCUMENTS.
28. CONTRACTOR IS RESPONSIBLE FOR BRACING, SHORING, OR PROVIDING OTHER MEANS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES EXPOSED OR UNEXPOSED DURING CONSTRUCTION. IN ORDER TO COMPLETE WORK THE CONTRACTOR SHALL DEWATER, HAND EXCAVATE, SHORE-UP TRENCHES, STABILIZE UTILITIES INCLUDING UTILITY POLES, AND PROVIDE SHEET PILING AT NO ADDITIONAL COST TO THE OWNER.
29. CONTRACTOR SHALL HAND EXCAVATE WHEN CONSTRUCTION IS WITHIN 2 FEET OF EXISTING UTILITIES.
30. THE CONTRACTOR IS HEREBY MADE RESPONSIBLE FOR THE SAFE MAINTENANCE OF PEDESTRIAN AND VEHICULAR TRAFFIC AT ALL TIMES DURING THE DURATION OF THE PROJECT.
31. CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE TO FDOT STANDARD INDEX 102 SERIES, THE TECHNICAL SPECIFICATIONS, AND MUTCD. ONE TRAFFIC LANE MUST BE MAINTAINED AT ALL TIMES WITH USE OF FLAGGER IF NECESSARY. DRIVEWAY ACCESS MUST BE COORDINATED WITH PROPERTY OWNERS. ALL TRAFFIC LANES MUST BE OPEN FOR TRAFFIC AT THE CLOSE OF WORKDAYS. ALL SIGNING, BARRICADES, LIGHTING, AND FLAGGERS SHALL BE INCLUDED IN THE LUMP SUM COST. ALL WORK IS TO BE CARRIED OUT MONDAY THROUGH FRIDAY 7 A.M. TO 7 P.M., WITH NO WEEKEND OR HOLIDAY WORK WITHOUT APPROVAL BY THE COUNTY.
32. ALL PAVEMENT MARKINGS SHALL MEET CURRENT MUTCD STANDARDS, AND SHALL BE PAINT UNLESS OTHERWISE NOTED. IF CHIP SEAL IS SELECTED AS CONSTRUCTION OPTION ALL PAVEMENT MARKINGS ON CHIP SEAL SHALL BE PAINT.
33. ALL PAVEMENT MARKINGS AT CONNECTION POINTS SHALL MATCH IN TERMS OF COLOR AND ALIGNMENT.
34. PAVEMENT STRIPING SHALL BE PROVIDED IN ACCORDANCE WITH FDOT SPI 711-001.
35. CONTRACTOR SHALL RELOCATE INDIVIDUAL RESIDENT MAILBOXES PER FDOT SPI 110-200.
36. EXISTING FEATURES ARE SHOWN LIGHT-LINED AND/OR SCREENED AND PROPOSED FEATURES ARE SHOWN HEAVY-LINED.
37. ALL EXISTING SIGNS SHALL BE RELOCATED TO MEET 6' CLEARANCE FROM EDGE OF PAVEMENT.
38. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III WITH COVER CONFORMING TO FDOT STANDARD SPECIFICATION 430.
39. ALL MITERED END SECTIONS SERVICING CROSS DRAINS SHALL BE IN ACCORDANCE WITH FDOT SPI 430-021 AND ALL MITERED END SECTIONS SERVICING SIDE DRAINS SHALL BE IN ACCORDANCE WITH FDOT SPI 430-022. ALL MITERED END SECTIONS SHALL HAVE A 4:1 SLOPE.
40. ALL PIPE JOINTS AND PIPE PLUGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT SPI 430-001.
41. PIPE TRENCHES SHALL HAVE BACKFILL AND BASE REPLACEMENT PER FDOT SPI 125-001.
42. FEATURES SUCH AS FENCES, LANDSCAPE ROCKS, AND SATELLITE DISHES, ETC, WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED AFTER COORDINATION WITH HOMEOWNER.
43. UNSUITABLE MATERIALS SHALL BE REMOVED TO A DEPTH OF 24" BELOW BOTTOM OF BASE MATERIAL.
44. STATION BOARDS ARE REQUIRED AT 200' INTERVALS. 2. GRADE STAKES ARE REQUIRED EVERY 100' IN TANGENT SECTIONS AND EVERY 50' IN SUPERELEVATED SECTIONS. INSTALL OFFSET STAKES ON EACH SIDE OF THE ROADWAY WITH THE OFFSET FOOTAGE FROM THE EDGE OF PAVEMENT SHOWN MARKED ON THE STAKE ALONG WITH THE CENTERLINE PROFILE GRADE MARKED ON THE STAKE, SO A STRING LINE CAN BE PULLED TRANSVERSE ACROSS THE ROADWAY TO GRADES ON THE STABALIZED SUBGRADE AND BASE.

EROSION CONTROL NOTES

1. ALL EXISTING STORMWATER DRAINAGE PATTERNS AND CHANNELS ARE TO BE MAINTAINED. CONTRACTOR SHALL NOTIFY THE OWNER IF THE WORK APPEARS TO INTERRUPT AN EXISTING STORMWATER DRAINAGE PATTERN. CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION AND SHALL USE WHATEVER MEANS NECESSARY TO MANAGE STORMWATER SUCH THAT THE IMPACT TO CONSTRUCTION AND/OR SURROUNDING FACILITIES IS MINIMIZED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EROSION, SEDIMENT TRANSPORT, DISTURBED FOUNDATIONS, IMPACT TO STRUCTURES, AND ANY OTHER DAMAGE CAUSED DURING CONSTRUCTION.
2. CONTRACTOR SHALL PREVENT THE DISCHARGE OF SEDIMENT INTO DRAINAGE DITCHES DUE TO CONSTRUCTION OPERATIONS. APPROVED EROSION CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED WITH BEST MANAGEMENT PRACTICES TO PREVENT DISCHARGE OF SEDIMENT INTO A DRY OR WET WATERCOURSE. EROSION CONTROL SHALL CONSIST OF ANCHORED HAY BALES, MULCH AND NETTING, FILTER CLOTH BARRIERS OR OTHER EROSION CONTROL METHODS APPROVED BY THE OWNER OR COUNTY REPRESENTATIVE. SILT FENCE SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE FDOT STANDARD SPECIFICATIONS SECTION 104.
3. CONTRACTOR SHALL COMPLY WITH THE TURBIDITY CONTROL REQUIREMENTS OF THE SRWMD, WHICH AT A MINIMUM MAY INCLUDE USING TURBIDITY CURTAINS. THE CONTRACTOR SHALL PREVENT INCREASES IN TURBIDITY IN EXCESS OF WATER QUALITY STANDARDS.
4. DRAINAGE STRUCTURES AND CULVERTS SHALL REMAIN FREE OF SEDIMENTATION AT ALL TIMES DURING CONSTRUCTION.

BID DOCUMENTS

SAVED: 2/14/2024 9:17 AM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G103.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

GENERAL NOTES

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G103

PLOTTED: 3/22/2024 03:33 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



N

GRAPHIC SCALE

0 150 300 600

SCALE IN FEET

BID DOCUMENTS

SAVED: 2/14/2024 9:35 AM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G104.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

KEY MAP

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G104

© Jones Edmunds 2234

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	STRUCTURE TYPE	FDOT INDEX	INVERT ELEVATION (FT)	GRATE/RIM/TOP ELEVATION (FT)
S-100	15" HDPE FES	430-020	147.29	–
S-101	15" HDPE FES	430-020	146.80	–
S-102	15" HDPE FES	430-020	145.51	–
S-103	15" HDPE FES	430-020	144.93	–
S-104	15" HDPE FES	430-020	144.58	–
S-105	15" HDPE FES	430-020	143.97	–
S-106	15" HDPE FES	430-020	143.39	–
S-107	15" HDPE FES	430-020	142.79	–
S-108	15" HDPE FES	430-020	141.12	–
S-109	15" HDPE FES	430-020	140.34	–
S-110	15" HDPE FES	430-020	140.17	–
S-111	15" HDPE FES	430-020	139.33	–
S-112	15" HDPE FES	430-020	138.83	–
S-113	15" HDPE FES	430-020	137.82	–
S-114	15" HDPE FES	430-020	138.26	–
S-115	15" HDPE FES	430-020	136.49	–
S-116	D INLET	425-052	128.25	133.00
S-117	36" MES	430-021	128.00	–
S-118	15" HDPE FES	430-020	131.80	–
S-119	15" HDPE FES	430-020	131.85	–
S-120	15" HDPE FES	430-020	132.09	–
S-121	15" HDPE FES	430-020	132.49	–
S-122	15" HDPE FES	430-020	132.29	–
S-123	C INLET	425-052	132.50 S, 133.00 N	133.19
S-124	15" HDPE FES	430-020	133.09	–
S-125	15" HDPE FES	430-020	134.43	–
S-126	15" HDPE FES	430-020	134.78	–
S-127	15" HDPE FES	430-020	145.51	–
S-128	15" HDPE FES	430-020	144.92	–
S-129	15" HDPE FES	430-020	133.24	–
S-130	15" HDPE FES	430-020	132.15	–
S-131	15" HDPE FES	430-020	131.95	–
S-132	15" HDPE FES	430-020	131.67	–
S-200	15" HDPE FES	430-020	144.17	–
S-201	15" HDPE FES	430-020	144.11	–
S-202	15" HDPE FES	430-020	144.16	–
S-203	15" HDPE FES	430-020	144.08	–
S-204	15" HDPE FES	430-020	142.76	–
S-205	15" HDPE FES	430-020	142.07	–
S-206	15" HDPE FES	430-020	142.38	–
S-207	15" HDPE FES	430-020	141.30	–
S-208	C INLET	425-052	130.10	132.61
S-209	24" MES	430-021	130.00	–
S-210	15" HDPE FES	430-020	131.58	–
S-211	15" HDPE FES	430-020	130.78	–
S-212	15" HDPE FES	430-020	125.73	–
S-213	15" HDPE FES	430-020	124.12	–
S-214	15" HDPE FES	430-020	122.31	–
S-215	15" HDPE FES	430-020	121.32	–
S-216	15" HDPE FES	430-020	121.98	–
S-217	15" HDPE FES	430-020	121.05	–
S-218	15" HDPE FES	430-020	121.00	–
S-219	15" HDPE FES	430-020	120.05	–
S-220	C INLET	425-052	117.60	119.00
S-221	18" MES	430-021	117.50	–
S-222	C INLET	425-052	117.60	119.00
S-223	18" MES	430-021	117.50	–
S-224	15" HDPE FES	430-020	118.38	–
S-225	15" HDPE FES	430-020	117.86	–
S-226	15" HDPE FES	430-020	117.64	–
S-227	15" HDPE FES	430-020	117.15	–
S-228	15" HDPE FES	430-020	117.33	–
S-229	15" HDPE FES	430-020	116.83	–
S-230	30" MES	430-021	114.50	–
S-231	D INLET	425-052	114.60	117.44
S-232	15" HDPE FES	430-020	117.27	–
S-233	15" HDPE FES	430-020	118.37	–
S-234	E INLET	430-022	114.86	121.36
S-235	E INLET	430-022	113.69	118.64
S-236	15" HDPE FES	430-020	120.67	–
S-237	15" HDPE FES	430-020	121.31	–
S-238	15" HDPE FES	430-020	121.07	–
S-239	15" HDPE FES	430-020	121.74	–
S-240	15" HDPE FES	430-020	125.78	–
S-241	15" HDPE FES	430-020	127.35	–
S-242	15" HDPE FES	430-020	129.71	–
S-243	15" HDPE FES	430-020	130.67	–
S-244	15" HDPE FES	430-020	129.99	–
S-245	15" HDPE FES	430-020	129.06	–
S-246	15" HDPE FES	430-020	127.26	–
S-247	15" HDPE FES	430-020	126.92	–
S-248	15" HDPE FES	430-020	126.41	–
S-249	15" HDPE FES	430-020	126.09	–
S-250	C INLET	425-052	122.50	126.00
S-251	24" MES	430-021	122.00	–
S-252	C INLET	425-052	122.50	126.00
S-253	24" MES	430-021	122.00	–
S-254	15" HDPE FES	430-020	126.49	–
S-255	15" HDPE FES	430-020	127.28	–
S-256	15" HDPE FES	430-020	127.15	–
S-257	15" HDPE FES	430-020	127.91	–
S-258	15" HDPE FES	430-020	130.44	–
S-259	15" HDPE FES	430-020	130.77	–
S-260	15" HDPE FES	430-020	130.19	–
S-261	15" HDPE FES	430-020	129.71	–
S-262	15" HDPE FES	430-020	144.09	–
S-263	15" HDPE FES	430-020	143.81	–
S-264	15" HDPE FES	430-020	129.38	–
S-265	15" HDPE FES	430-020	127.79	–
S-266	15" HDPE FES	430-020	134.37	–
S-267	15" HDPE FES	430-020	132.88	–
S-300	15" HDPE FES	430-020	147.45	–
S-301	15" HDPE FES	430-020	147.26	–
S-302	15" HDPE FES	430-020	147.44	–
S-303	15" HDPE FES	430-020	147.23	–
S-304	15" HDPE FES	430-020	146.75	–
S-305	15" HDPE FES	430-020	146.49	–
S-306	15" HDPE FES	430-020	143.83	–
S-307	15" HDPE FES	430-020	143.25	–
S-308	15" HDPE FES	430-020	142.62	–
S-309	15" HDPE FES	430-020	142.04	–
S-310	15" HDPE FES	430-020	140.68	–
S-311	15" HDPE FES	430-020	140.09	–
S-312	15" HDPE FES	430-020	140.51	–
S-313	15" HDPE FES	430-020	139.93	–
S-314	C INLET	425-052	135.79	138.00
S-315	24" MES	430-021	135.69	–
S-316	CONCRETE ENDWALLS	430-030	124.00	132.00

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

DRAINAGE STRUCTURE TABLE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G105

SAVED: 3/22/2024 3:13 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G105.DWG

PLOTTED: 3/22/2024 03:33 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	STRUCTURE TYPE	FDOT INDEX	INVERT ELEVATION (FT)	GRATE/RIM/TOP ELEVATION (FT)
S-317	CONCRETE ENDWALLS	430-030	123.00	132.00
S-318	15" HDPE FES	430-020	134.23	–
S-319	15" HDPE FES	430-020	136.86	–
S-320	15" HDPE FES	430-020	137.69	–
S-321	15" HDPE FES	430-020	139.95	–
S-322	15" HDPE FES	430-020	141.65	–
S-323	15" HDPE FES	430-020	141.97	–
S-324	15" HDPE FES	430-020	142.78	–
S-325	15" HDPE FES	430-020	142.64	–
S-326	15" HDPE FES	430-020	142.27	–
S-327	15" HDPE FES	430-020	142.14	–
S-328	C INLET	452-052	136.50	139.00
S-329	24" MES	430-021	136.00	–
S-330	15" HDPE FES	430-020	134.41	–
S-331	15" HDPE FES	430-020	132.58	–
S-332	15" HDPE FES	430-020	120.67	–
S-333	15" HDPE FES	430-020	118.77	–
S-334	CONCRETE ENDWALLS	430-030	112.00	117.00
S-335	CONCRETE ENDWALLS	430-030	112.00	117.00
S-336	15" HDPE FES	430-020	122.05	–
S-337	15" HDPE FES	430-020	124.08	–
S-338	15" HDPE FES	430-020	125.04	–
S-339	15" HDPE FES	430-020	127.32	–
S-340	15" HDPE FES	430-020	133.50	–
S-341	15" HDPE FES	430-020	135.50	–
S-342	15" HDPE FES	430-020	142.00	–
S-343	15" HDPE FES	430-020	142.29	–
S-344	15" HDPE FES	430-020	138.25	–
S-345	15" HDPE FES	430-020	137.55	–
S-346	15" HDPE FES	430-020	136.49	–
S-347	15" HDPE FES	430-020	135.54	–
S-348	15" HDPE FES	430-020	119.83	–
S-349	15" HDPE FES	430-020	117.81	–
S-400	15" HDPE FES	430-020	143.54	–
S-401	15" HDPE FES	430-020	143.36	–
S-402	15" HDPE FES	430-020	143.05	–
S-403	15" HDPE FES	430-020	142.88	–
S-404	15" HDPE FES	430-020	142.63	–
S-405	15" HDPE FES	430-020	142.46	–
S-406	15" HDPE FES	430-020	142.39	–
S-407	15" HDPE FES	430-020	142.22	–
S-408	15" HDPE FES	430-020	142.31	–
S-409	15" HDPE FES	430-020	142.13	–
S-410	15" HDPE FES	430-020	141.62	–
S-411	15" HDPE FES	430-020	141.09	–
S-412	15" HDPE FES	430-020	141.11	–
S-413	15" HDPE FES	430-020	140.60	–
S-414	15" HDPE FES	430-020	139.97	–
S-415	15" HDPE FES	430-020	139.44	–
S-416	15" HDPE FES	430-020	138.85	–
S-417	15" HDPE FES	430-020	138.34	–
S-500	15" HDPE FES	430-020	142.61	–
S-501	15" HDPE FES	430-020	142.55	–
S-502	15" HDPE FES	430-020	142.53	–
S-503	15" HDPE FES	430-020	142.47	–
S-504	15" HDPE FES	430-020	142.40	–
S-505	15" HDPE FES	430-020	142.34	–
S-506	15" HDPE FES	430-020	142.35	–
S-507	15" HDPE FES	430-020	142.29	–
S-508	15" HDPE FES	430-020	141.77	–
S-509	15" HDPE FES	430-020	141.60	–
S-510	15" HDPE FES	430-020	141.65	–
S-511	15" HDPE FES	430-020	141.48	–
S-512	C INLET	425-052	139.80	141.95
S-513	D INLET	425-052	139.60 W, 139.70 E, 139.70 N	141.95
S-514	24" MES	430-021	139.50	–
S-515	15" HDPE FES	430-020	141.59	–
S-516	15" HDPE FES	430-020	141.70	–
S-517	15" HDPE FES	430-020	141.75	–
S-518	15" HDPE FES	430-020	141.87	–
S-519	15" HDPE FES	430-020	141.93	–
S-520	15" HDPE FES	430-020	141.95	–
S-521	15" HDPE FES	430-020	142.12	–
S-522	15" HDPE FES	430-020	142.15	–
S-523	C INLET	430-022	142.20	143.80
S-524	15" HDPE FES	430-020	142.50	–
S-525	15" HDPE FES	430-020	142.55	–
S-526	15" HDPE FES	430-020	142.73	–
S-600	15" HDPE FES	430-020	124.50	–
S-601	15" HDPE FES	430-020	124.77	–
S-602	15" HDPE FES	430-020	125.37	–
S-603	15" HDPE FES	430-020	125.62	–
S-604	15" HDPE FES	430-020	126.41	–
S-605	15" HDPE FES	430-020	126.72	–
S-606	15" HDPE FES	430-020	128.37	–
S-607	15" HDPE FES	430-020	129.25	–
S-608	15" HDPE FES	430-020	116.03	–
S-609	15" HDPE FES	430-020	114.09	–
S-610	15" HDPE FES	430-020	114.54	–
S-611	15" HDPE FES	430-020	114.00	–
S-612	15" HDPE FES	430-020	125.70	–
S-613	15" HDPE FES	430-020	126.00	–
S-700	15" HDPE FES	430-020	143.15	–
S-701	15" HDPE FES	430-020	143.15	–
S-702	15" HDPE FES	430-020	143.20	–
S-703	15" HDPE FES	430-020	143.34	–
S-704	15" HDPE FES	430-020	143.53	–
S-705	15" HDPE FES	430-020	143.68	–
S-706	15" HDPE FES	430-020	143.17	–
S-707	15" HDPE FES	430-020	143.31	–
S-800	C INLET	425-052	142.60	145.00
S-801	18" MES	425-022	142.50	–
S-804	15" HDPE FES	430-020	144.03	–
S-805	15" HDPE FES	430-020	143.40	–
S-806	15" HDPE FES	430-020	138.11	–
S-807	15" HDPE FES	430-020	137.22	–
S-808	C INLET	425-052	134.60	136.75
S-809	24" MES	430-021	134.50	–
S-810	15" HDPE FES	430-020	136.52	–
S-811	15" HDPE FES	430-020	135.99	–
S-812	C INLET	425-052	133.10	135.62
S-813	24" MES	430-021	133.00	–
S-814	15" HDPE FES	430-020	136.16	–
S-815	15" HDPE FES	430-020	136.69	–
S-816	15" HDPE FES	430-020	137.61	–
S-817	15" HDPE FES	430-020	138.08	–
S-818	15" HDPE FES	430-020	138.11	–
S-819	15" HDPE FES	430-020	139.50	–
S-820	15" HDPE FES	430-020	135.50	–
S-821	15" HDPE FES	430-020	134.50	–
S-822	15" HDPE FES	430-020	135.33	–
S-823	15" HDPE FES	430-020	135.86	–
S-824	15" HDPE FES	430-020	135.35	–
S-825	15" HDPE FES	430-020	135.87	–

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

DRAINAGE STRUCTURE TABLE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G106

SAVED: 3/22/2024 3:15 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G106.DWG

© Jones Edmunds 2234

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	STRUCTURE TYPE	FDOT INDEX	INVERT ELEVATION (FT)	GRATE/RIM/TOP ELEVATION (FT)
S-900	15" HDPE FES	430-020	141.27	–
S-901	15" HDPE FES	430-020	141.15	–
S-902	15" HDPE FES	430-020	141.23	–
S-903	15" HDPE FES	430-020	141.12	–
S-904	15" HDPE FES	430-020	140.91	–
S-905	15" HDPE FES	430-020	140.80	–
S-906	C INLET	425-052	138.60	141.29
S-907	24" MES	430-021	138.50	–
S-908	15" HDPE FES	430-020	140.95	–
S-909	15" HDPE FES	430-020	141.24	–
S-910	15" HDPE FES	430-020	141.97	–
S-911	15" HDPE FES	430-020	141.72	–
S-912	15" HDPE FES	430-020	141.44	–
S-913	15" HDPE FES	430-020	139.00	–
S-914	C INLET	425-052	139.10	141.47
S-915	24" MES	430-021	140.94	–
S-916	15" HDPE FES	430-020	141.03	–
S-917	15" HDPE FES	430-020	141.12	–
S-918	15" HDPE FES	430-020	141.15	–
S-919	15" HDPE FES	430-020	140.00	–

BID DOCUMENTS

SAVED: 3/22/2024 2:44 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G107.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

DRAINAGE STRUCTURE TABLE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G107

PLOTTED: 3/22/2024 03:34 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

DRAINAGE PIPING TABLE

PIPE NO.	STRUCTURE U/S	STRUCTURE D/S	LENGTH (FT)	DIAMETER (IN)	MATERIAL
P-100	S-100	S-101	28	15	HDPE
P-101	S-102	S-103	28	15	HDPE
P-102	S-104	S-105	28	15	HDPE
P-103	S-106	S-107	28	15	HDPE
P-104	S-108	S-109	28	15	HDPE
P-105	S-110	S-111	28	15	HDPE
P-106	S-112	S-113	28	15	HDPE
P-107	S-114	S-115	28	15	HDPE
P-108	S-116	S-117	42	36	RCP
P-109	S-119	S-118	28	15	HDPE
P-110	S-121	S-120	28	15	HDPE
P-111	S-123	S-122	28	15	HDPE
P-112	S-124	S-123	28	15	HDPE
P-113	S-126	S-125	28	15	HDPE
P-114	S-127	S-128	28	15	HDPE
P-115	S-129	S-130	28	15	HDPE
P-116	S-131	S-132	28	15	HDPE
P-200	S-200	S-201	28	15	HDPE
P-201	S-202	S-203	28	15	HDPE
P-202	S-204	S-205	28	15	HDPE
P-203	S-206	S-207	28	15	HDPE
P-204	S-208	S-209	43	24	RCP
P-205	S-210	S-211	28	15	HDPE
P-206	S-212	S-213	28	15	HDPE
P-207	S-214	S-215	28	15	HDPE
P-208	S-216	S-217	28	15	HDPE
P-209	S-218	S-219	28	15	HDPE
P-210	S-221	S-220	41	18	RCP
P-211	S-223	S-222	41	18	RCP
P-212	S-224	S-225	40	30	RCP
P-213	S-226	S-227	28	15	HDPE
P-214	S-228	S-229	70	48	RCP
P-215	S-231	S-230	40	30	RCP
P-216	S-233	S-232	40	15	HDPE
P-217	S-234	S-235	70	48	RCP
P-218	S-237	S-236	28	15	HDPE
P-219	S-239	S-238	28	15	HDPE
P-220	S-241	S-240	28	15	HDPE
P-221	S-243	S-242	28	15	HDPE
P-222	S-244	S-245	28	15	HDPE
P-223	S-246	S-247	28	15	HDPE
P-224	S-248	S-249	28	15	HDPE
P-225	S-250	S-251	46	24	RCP
P-226	S-252	S-253	46	24	RCP
P-227	S-255	S-254	28	15	HDPE
P-228	S-257	S-256	28	15	HDPE
P-229	S-259	S-258	28	15	HDPE
P-230	S-260	S-261	28	15	HDPE
P-231	S-262	S-263	28	15	HDPE
P-232	S-264	S-265	28	15	HDPE
P-233	S-266	S-267	28	15	HDPE
P-300	S-300	S-301	28	15	HDPE
P-301	S-302	S-303	28	15	HDPE
P-302	S-304	S-305	28	15	HDPE
P-303	S-306	S-307	28	15	HDPE
P-304	S-308	S-309	28	15	HDPE
P-305	S-310	S-311	28	15	HDPE
P-306	S-312	S-313	28	15	HDPE
P-307	S-314	S-315	76	24	RCP
P-308	S-316	S-317	56	48	RCP
P-309	S-316	S-317	56	48	RCP
P-310	S-319	S-318	28	15	HDPE
P-311	S-321	S-320	28	15	HDPE
P-312	S-323	S-322	28	15	HDPE
P-313	S-324	S-325	28	15	HDPE
P-314	S-326	S-327	28	15	HDPE
P-315	S-329	S-328	40	24	RCP
P-316	S-330	S-331	43	18	CMP
P-317	S-332	S-333	28	15	HDPE
P-318	S-334	S-335	40	3X5	BOX CULVERT
P-319	S-334	S-335	40	3X5	BOX CULVERT
P-320	S-337	S-336	28	15	HDPE
P-321	S-339	S-338	28	15	HDPE
P-322	S-341	S-340	28	15	HDPE
P-323	S-343	S-342	28	15	HDPE
P-324	S-344	S-345	28	15	HDPE
P-325	S-346	S-347	28	15	HDPE
P-326	S-348	S-349	28	15	HDPE
P-400	S-400	S-401	28	15	HDPE
P-401	S-402	S-403	28	15	HDPE
P-402	S-404	S-405	28	15	HDPE
P-403	S-406	S-407	28	15	HDPE
P-404	S-408	S-409	28	15	HDPE
P-405	S-410	S-411	28	15	HDPE
P-406	S-412	S-413	28	15	HDPE
P-407	S-414	S-415	28	15	HDPE
P-408	S-416	S-417	28	15	HDPE
P-500	S-500	S-501	28	15	HDPE
P-501	S-502	S-503	28	15	HDPE
P-502	S-504	S-505	28	15	HDPE
P-503	S-506	S-507	28	15	HDPE
P-504	S-508	S-509	28	15	HDPE
P-505	S-510	S-511	28	15	HDPE
P-506	S-512	S-513	36	15	RCP
P-507	S-513	S-514	12	24	RCP
P-508	S-515	S-513	28	15	HDPE
P-509	S-518	S-516	28	15	HDPE
P-510	S-519	S-517	28	15	HDPE
P-511	S-521	S-520	28	15	HDPE
P-512	S-523	S-522	32	15	HDPE
P-513	S-524	S-523	62	15	HDPE
P-514	S-526	S-525	28	15	HDPE
P-600	S-601	S-600	28	15	HDPE
P-601	S-603	S-602	28	15	HDPE
P-602	S-605	S-604	28	15	HDPE
P-603	S-607	S-606	28	15	HDPE
P-604	S-609	S-608	28	15	HDPE
P-605	S-611	S-610	28	15	HDPE
P-606	S-613	S-612	28	15	HDPE
P-700	S-701	S-700	28	15	HDPE
P-701	S-703	S-702	28	15	HDPE
P-702	S-705	S-704	28	15	HDPE
P-703	S-707	S-706	28	15	HDPE
P-800	S-801	S-800	42	18	RCP
P-802	S-804	S-805	28	15	HDPE
P-803	S-806	S-807	28	15	HDPE
P-804	S-808	S-809	74	24	RCP
P-805	S-810	S-811	28	15	HDPE
P-806	S-813	S-812	37	24	RCP
P-807	S-815	S-814	28	15	HDPE

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

DRAINAGE PIPE TABLE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G108

SAVED: 3/22/2024 3:12 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G108.DWG

PLOTTED: 3/22/2024 03:34 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

DRAINAGE PIPING TABLE

PPE NO.	STRUCTURE U/S	STRUCTURE D/S	LENGTH (FT)	DIAMETER (IN)	MATERIAL
P-808	S-817	S-816	28	15	HDPE
P-809	S-819	S-818	28	15	HDPE
P-810	S-820	S-821	28	15	HDPE
P-811	S-823	S-822	28	15	HDPE
P-812	S-825	S-824	28	15	HDPE
P-900	S-900	S-901	28	15	HDPE
P-901	S-902	S-903	28	15	HDPE
P-902	S-904	S-905	28	15	HDPE
P-903	S-907	S-906	40	24	RCP
P-904	S-909	S-908	28	15	HDPE
P-905	S-910	S-911	28	15	HDPE
P-906	S-912	S-913	28	15	HDPE
P-907	S-914	S-915	45	24	RCP
P-908	S-917	S-916	23	15	HDPE
P-909	S-918	S-919	28	15	HDPE

BID DOCUMENTS

SAVED: 3/22/2024 2:14 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G109.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

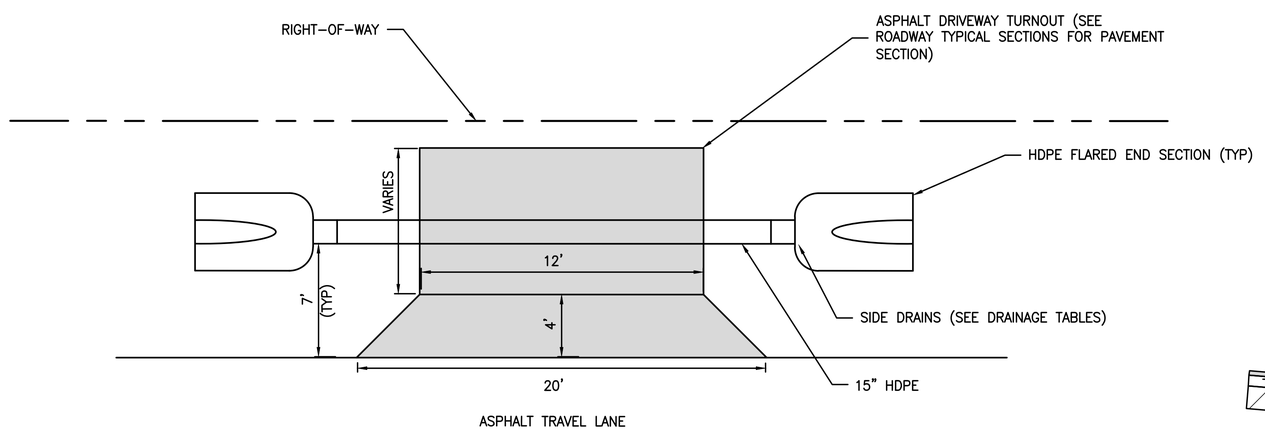
DRAINAGE PIPE TABLE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

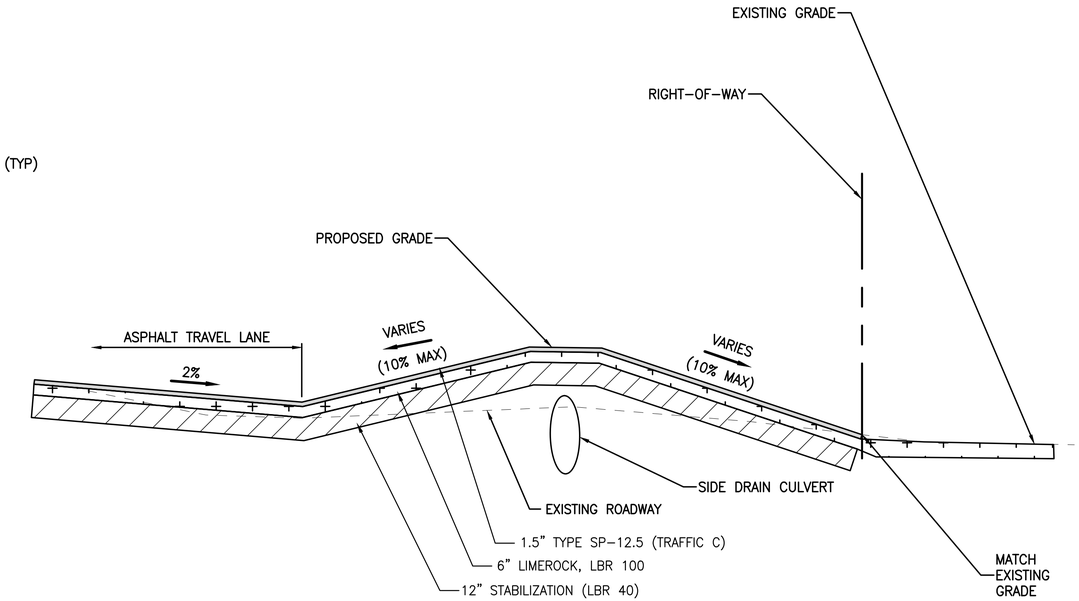
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G109

PLOTTED: 3/22/2024 03:34 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



PLAN VIEW



PROFILE VIEW

NOTE:
SIDE DRAIN INVERTS MAY NEED TO BE ADJUSTED PER FIELD CONDITIONS TO ENSURE ADEQUATE COVER UNDER DRIVEWAYS. CONTRACTOR SHALL LOWER SIDE DRAINS AS REQUIRED TO MEET COVER REQUIREMENTS.

TYPICAL DRIVEWAY DETAIL

NTS

BID DOCUMENTS

SAVED: 3/21/2024 7:05 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\GENERAL\03780002-G110.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

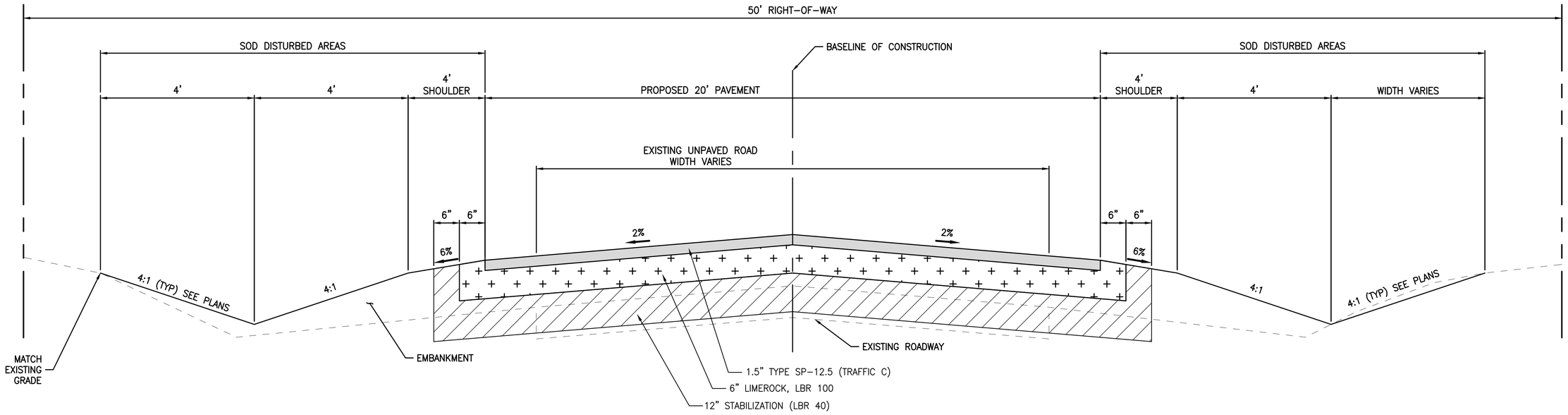
TYPICAL DRIVEWAY DETAIL

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: G110

PLOTTED: 3/22/2024 03:34 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

SAVED: 3/21/2024 6:59 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C100.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

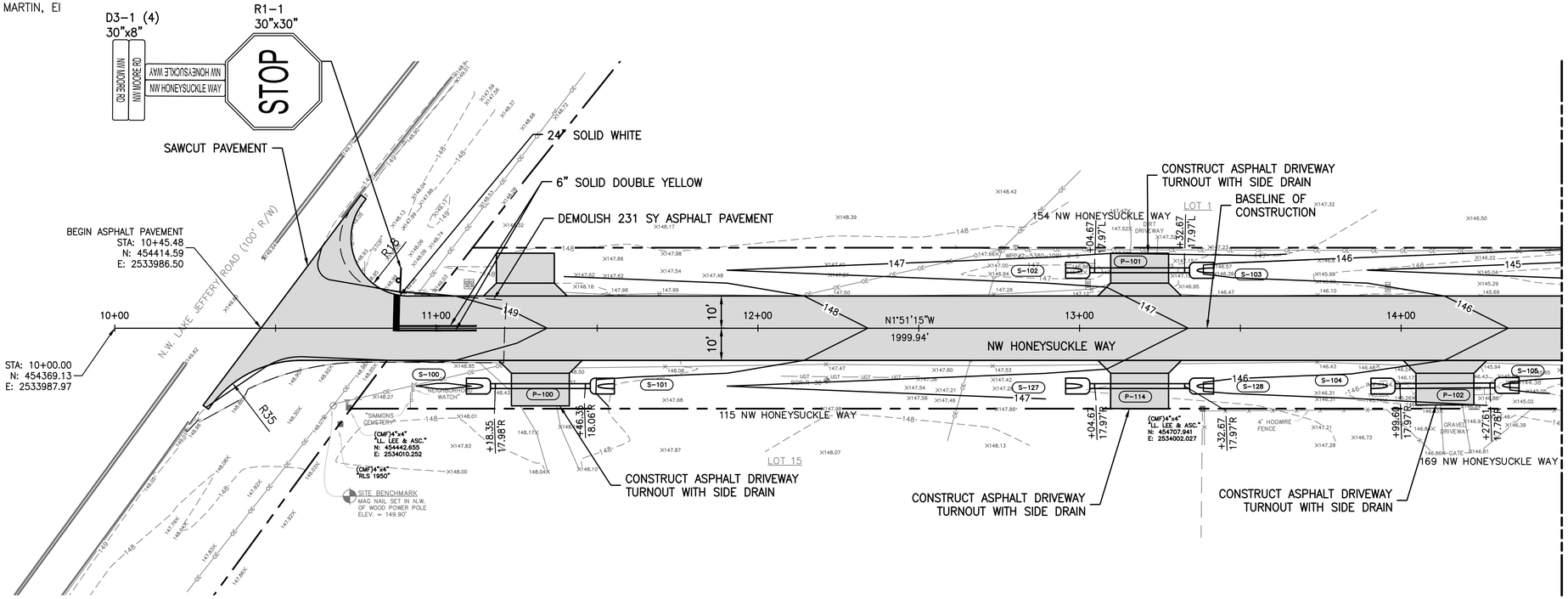
NW HONEYSUCKLE WAY TYPICAL SECTION

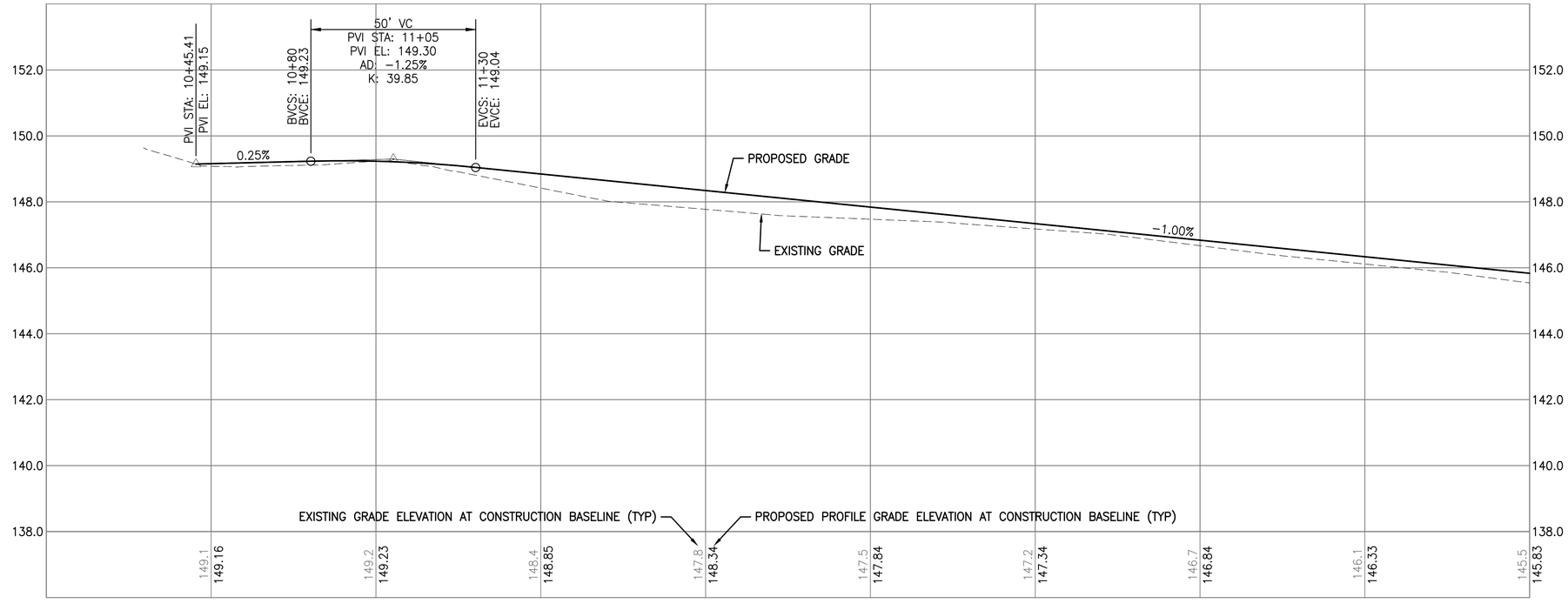
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C100

PLOTTED: 3/22/2024 04:20 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW HONEYSUCKLE WAY PLAN AND PROFILE

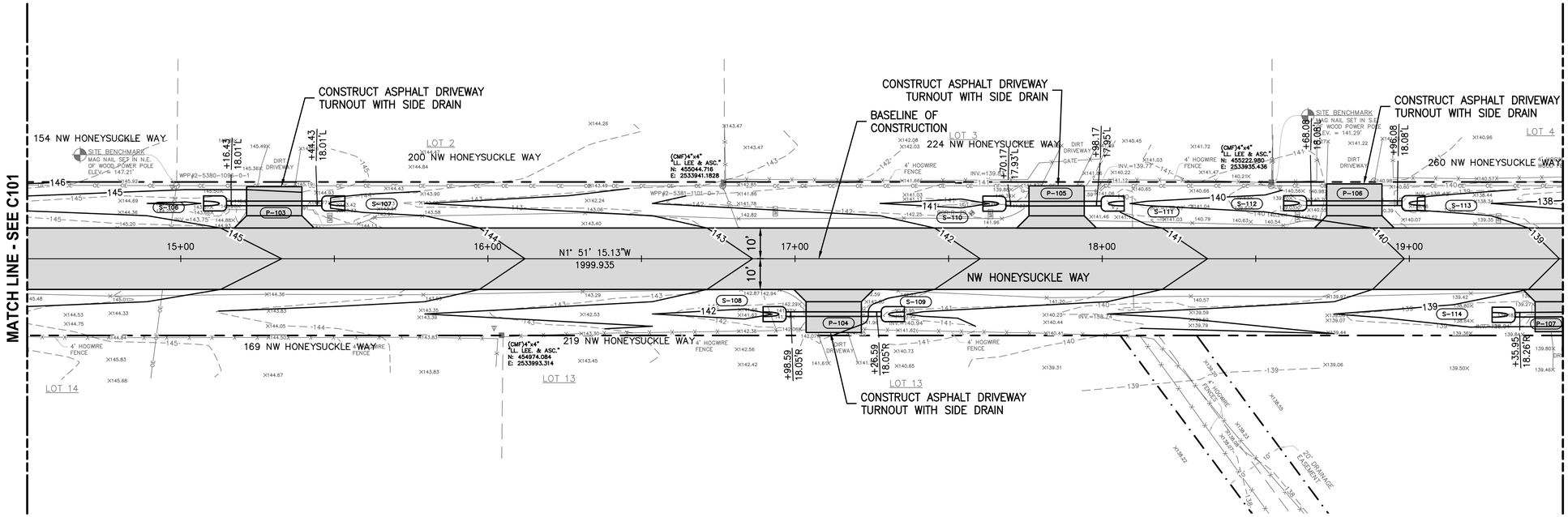
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

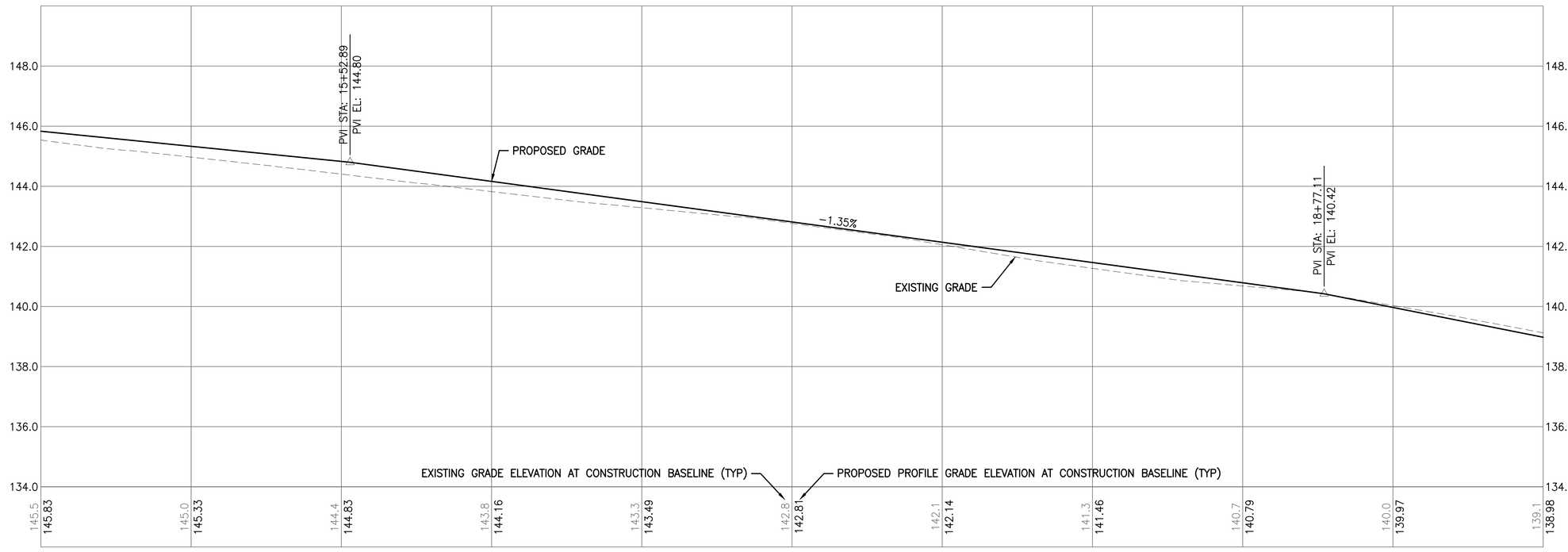
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C101

SAVED: 3/22/2024 4:15 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C101.DWG

PLOTTED: 3/22/2024 03:35 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

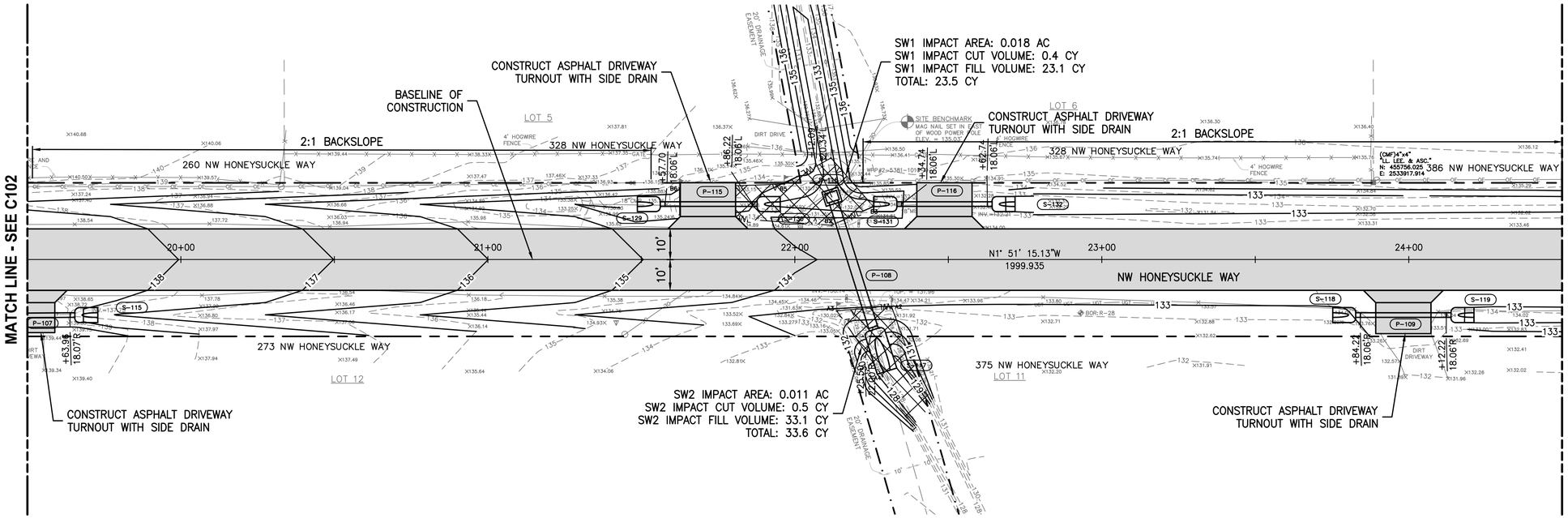
NW HONEYSUCKLE WAY PLAN AND PROFILE

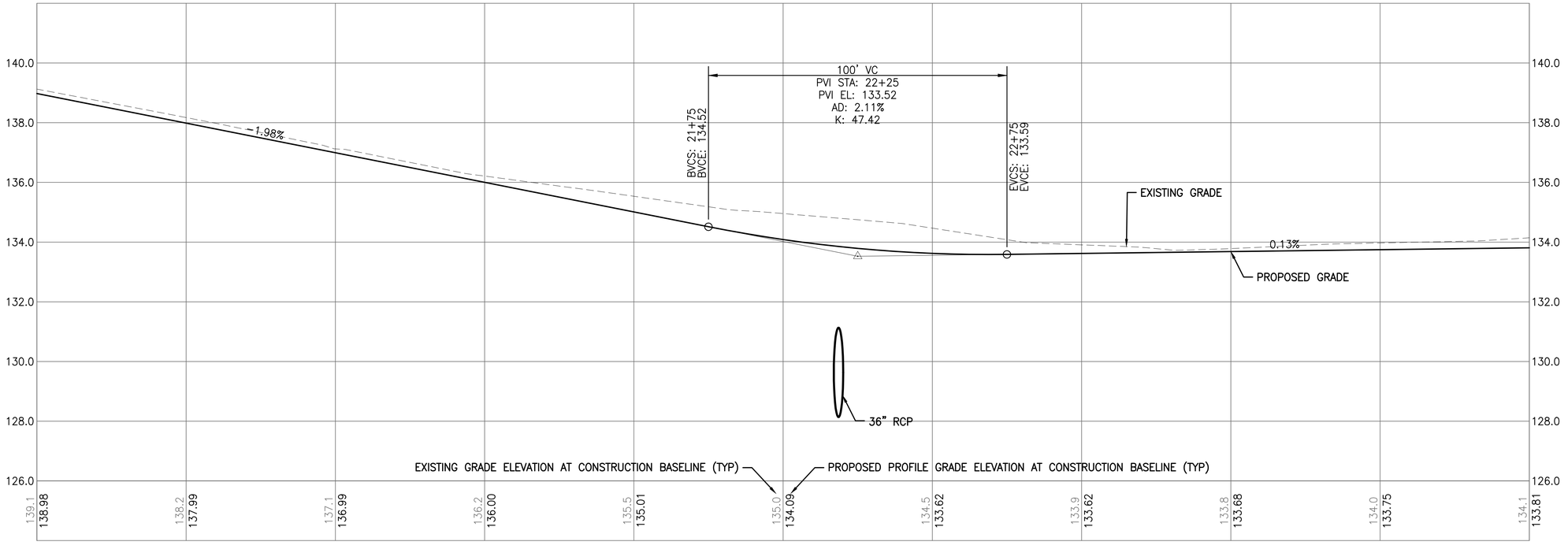
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C102

SAVED: 3/22/2024 12:54 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C102.DWG

PLOTTED: 3/22/2024 03:36 PM RASAHN MARTIN, EI
© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

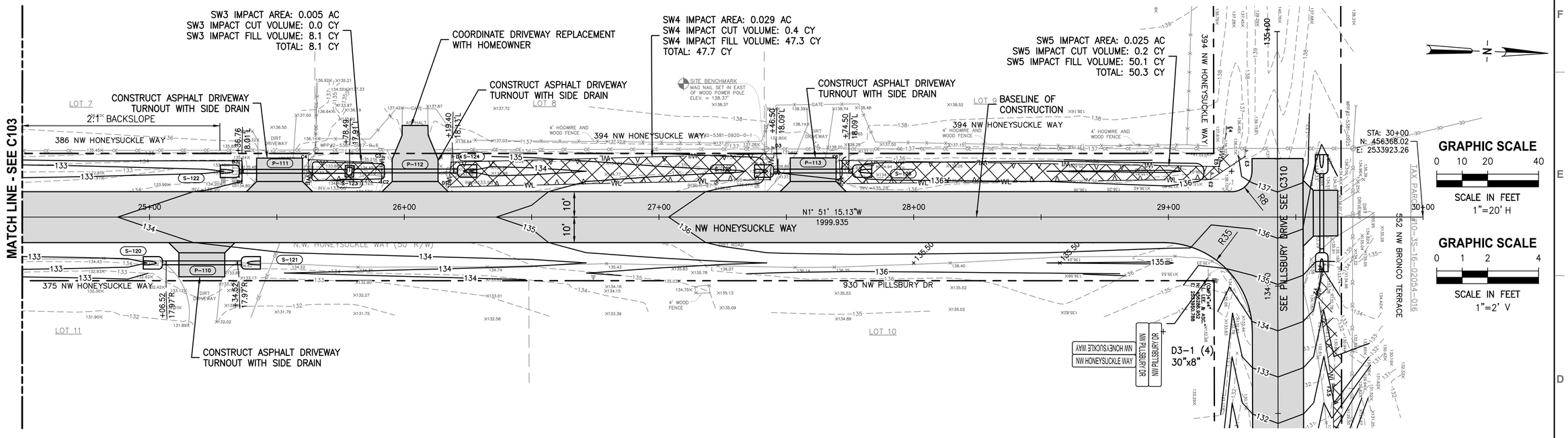
NW HONEYSUCKLE WAY PLAN AND PROFILE

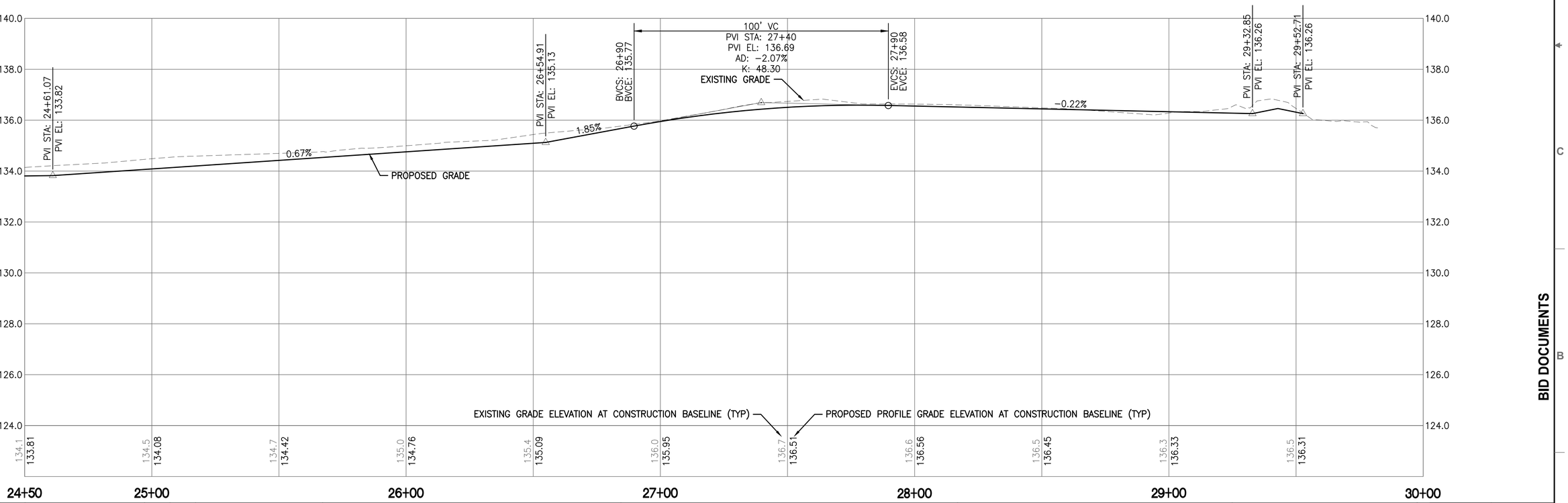
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C103

SAVED: 3/22/2024 1:06 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C103.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW HONEYSUCKLE WAY PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C104

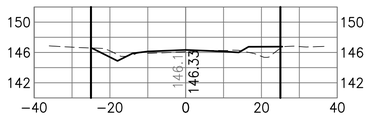
SAVED: 3/22/2024 1:03 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C104.DWG

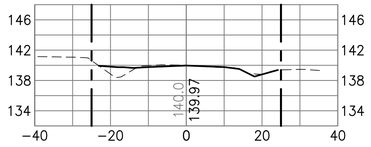
PLOTTED: 3/22/2024 03:37 PM RASAHN MARTIN, EI

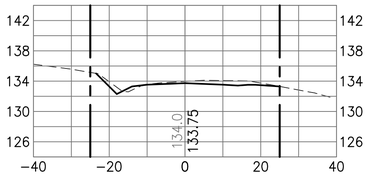
© Jones Edmunds 2234

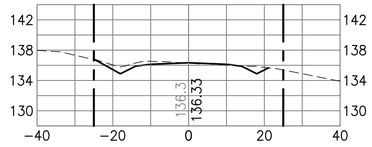
GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

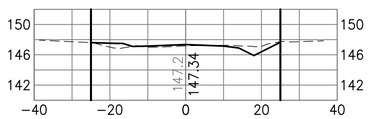
GRAPHIC SCALE
0 5 10 20
SCALE IN FEET
1"=10' V

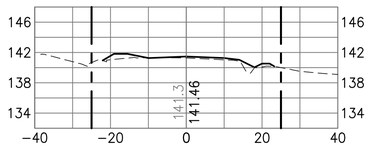
14+00


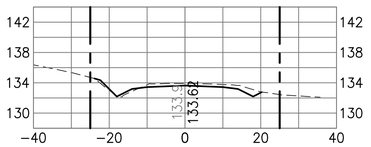
19+00


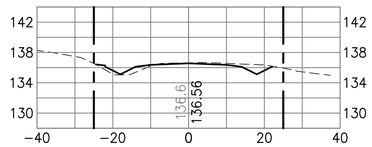
24+00


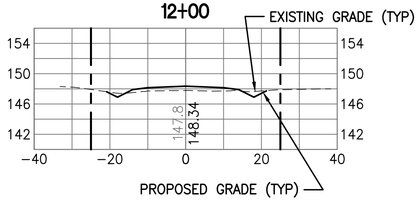
29+00


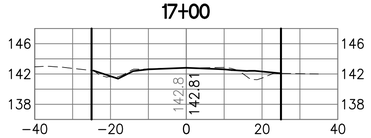
13+00


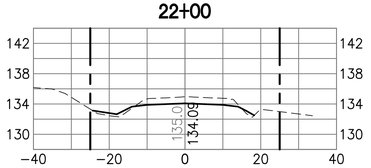
18+00


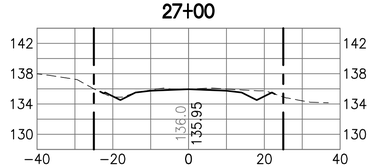
23+00


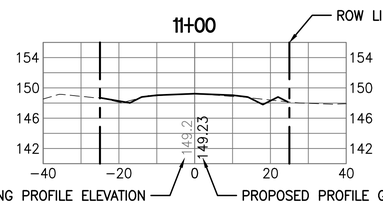
28+00


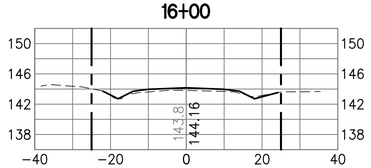
12+00


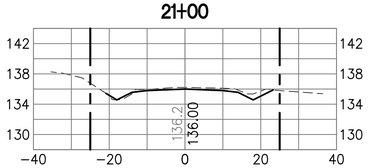
17+00


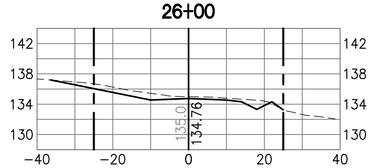
22+00


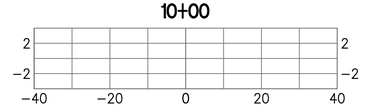
27+00


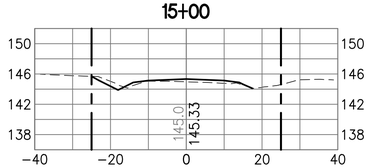
11+00


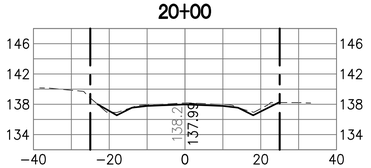
16+00


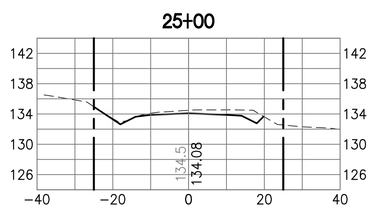
21+00


26+00


10+00


15+00


20+00


25+00


BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW HONEYSUCKLE WAY CROSS SECTIONS

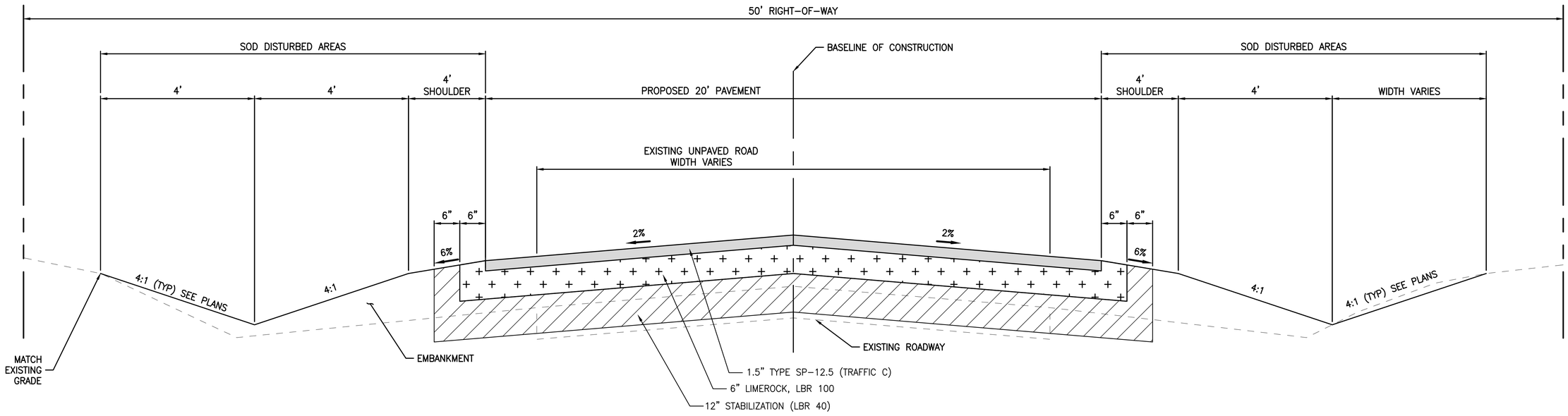
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C105

SAVED: 1/5/2024 12:17 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C105.DWG

PLOTTED: 3/22/2024 03:37 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

SAVED: 1/24/2023 1:03 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C200.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

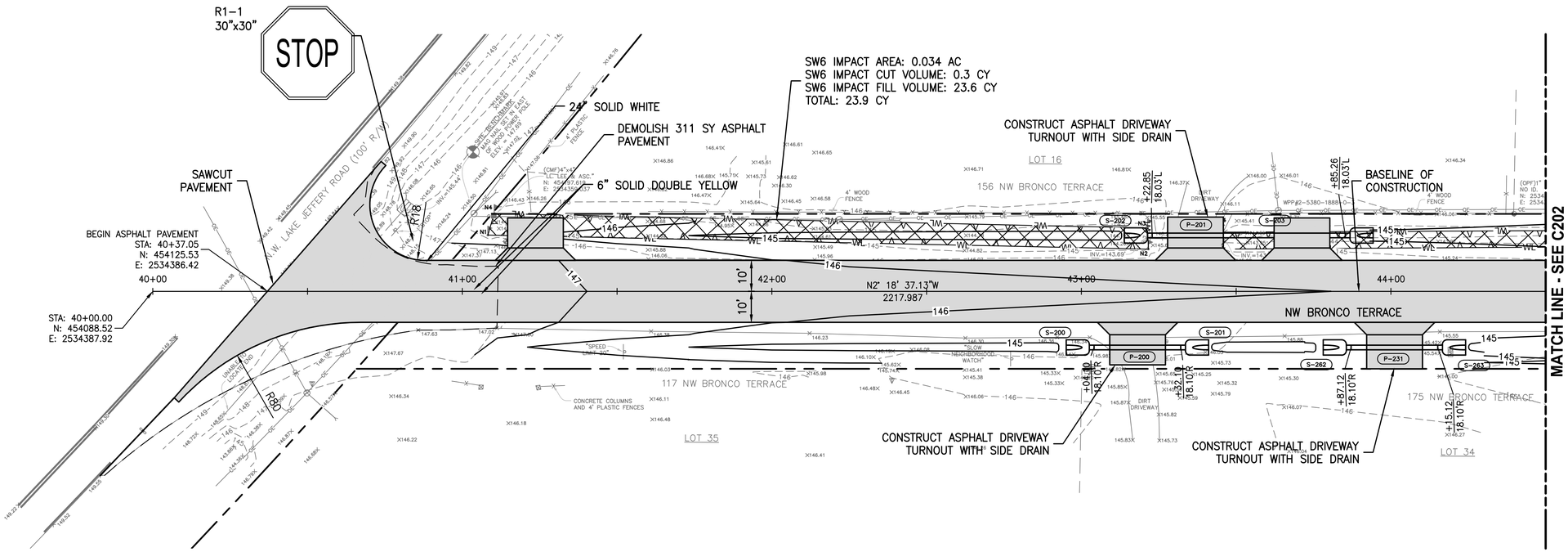
NW BRONCO TERRACE TYPICAL SECTION

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C200

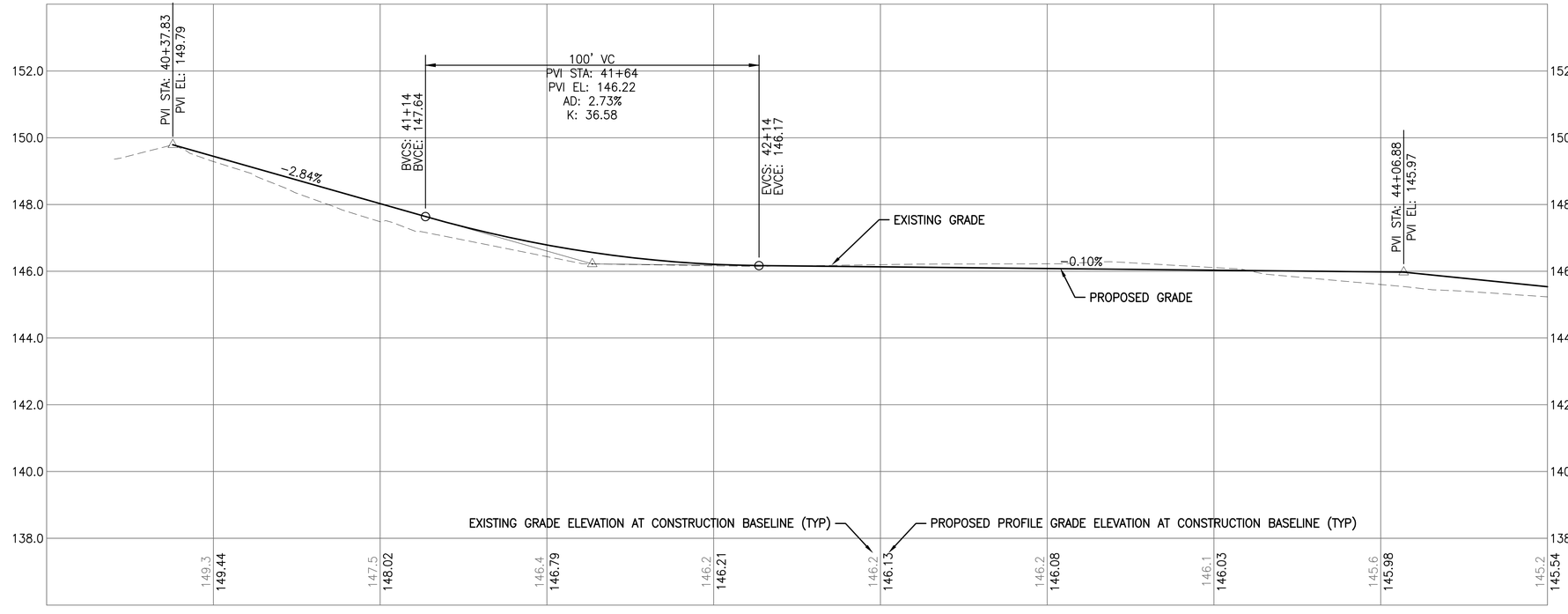
PLOTTED: 3/22/2024 03:38 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

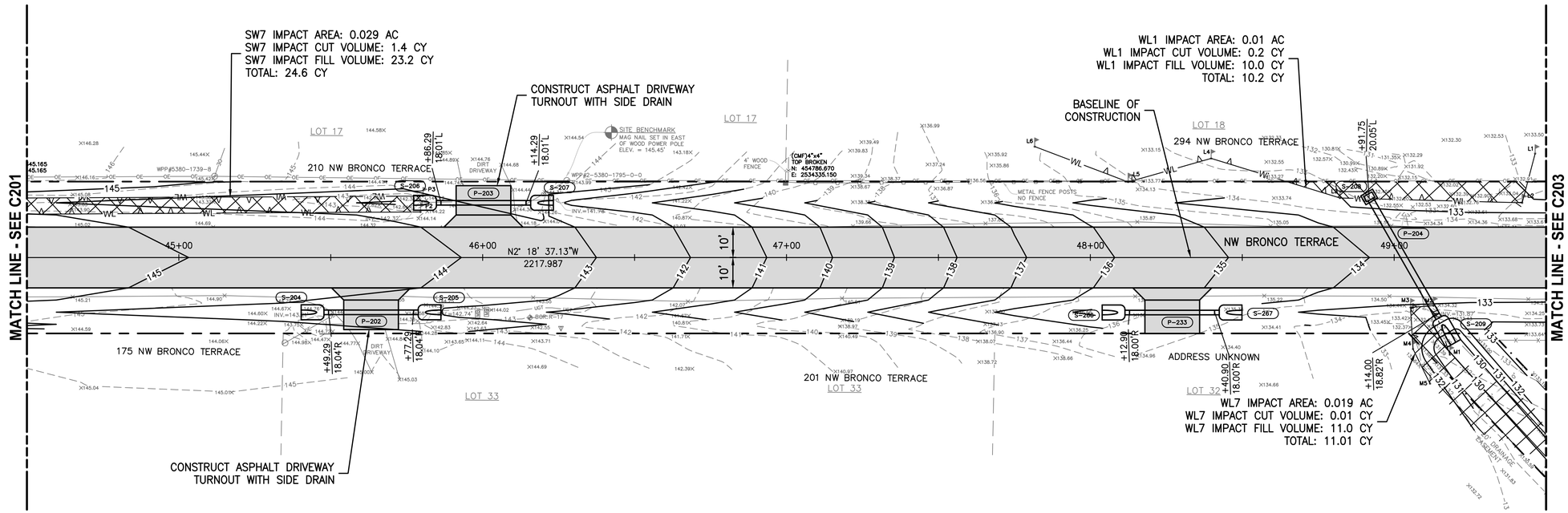
NW BRONCO TERRACE PLAN AND PROFILE

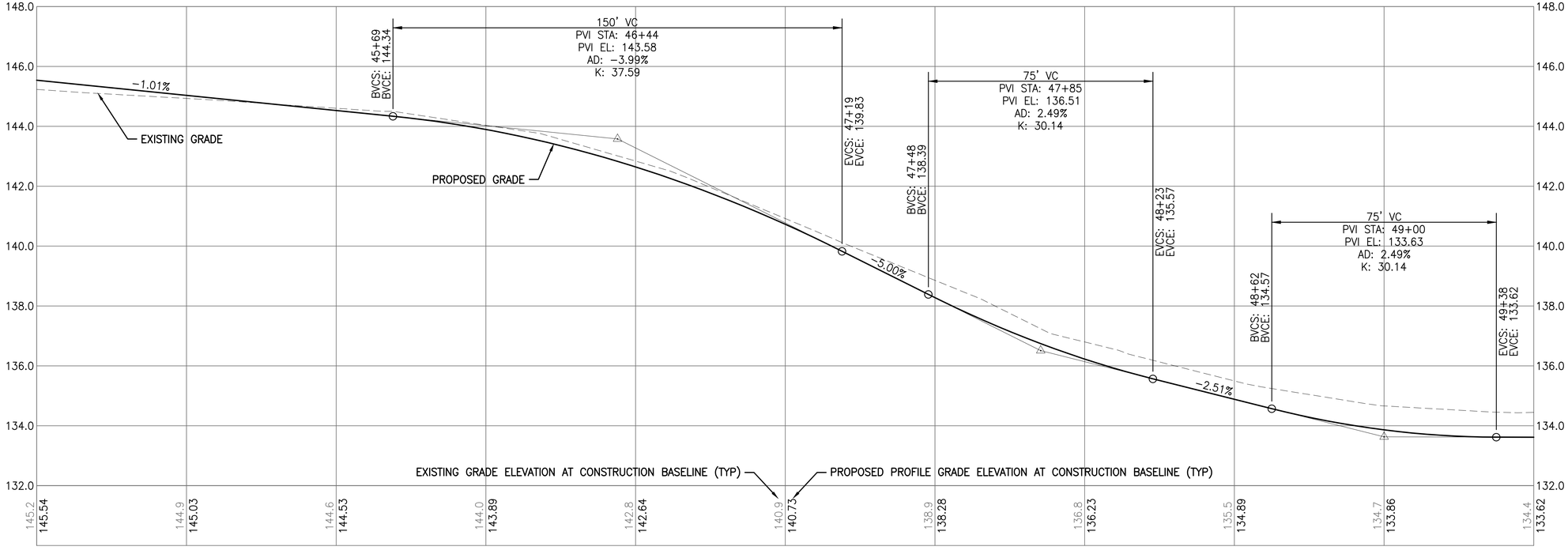
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C201

SAVED: 3/22/2024 1:12 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C201.DWG

PLOTTED: 3/22/2024 03:39 PM RASAHN MARTIN, EI
© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

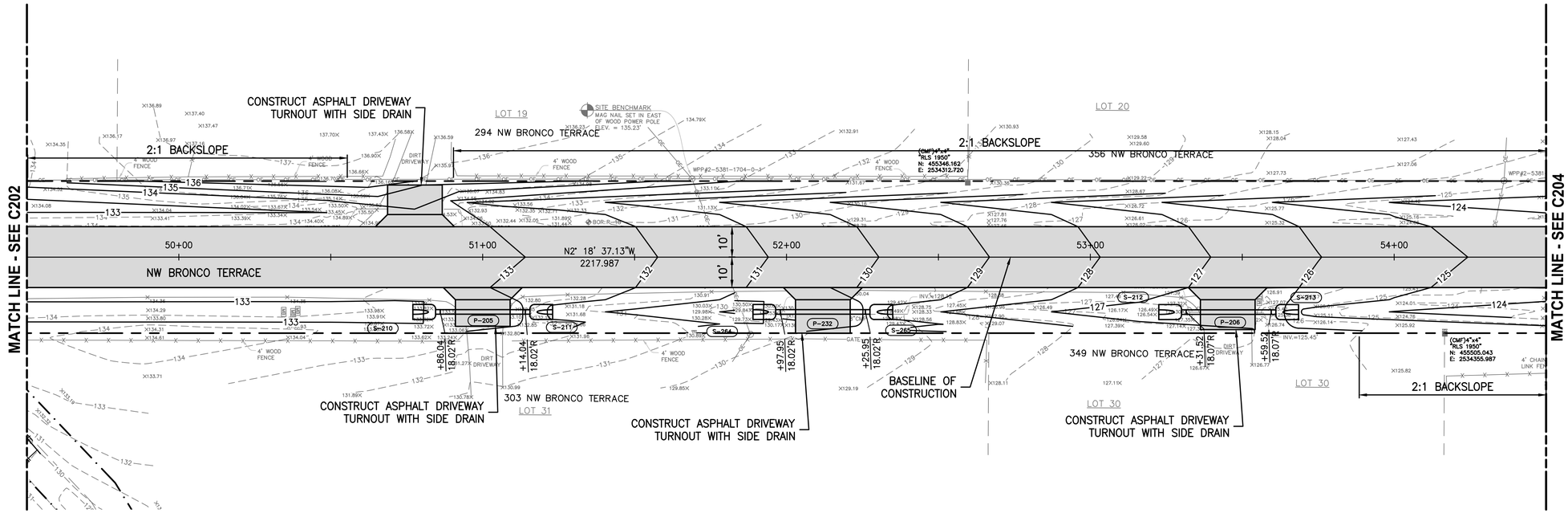
NW BRONCO TERRACE PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C202

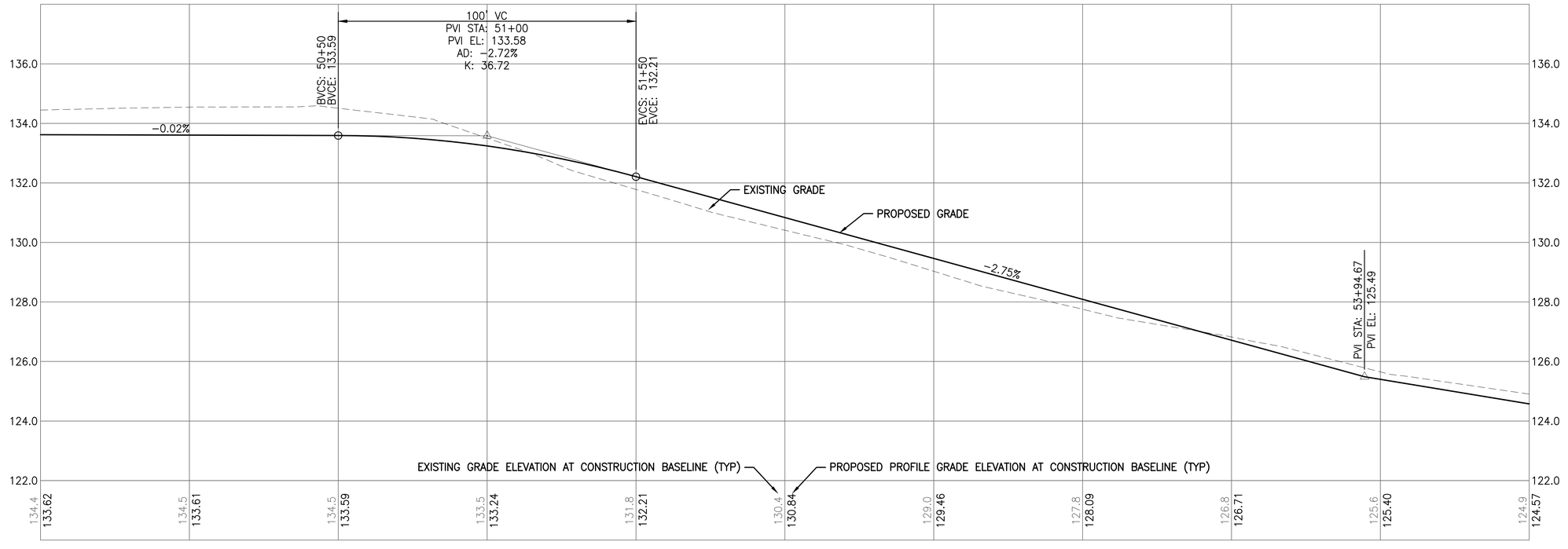
SAVED: 3/22/2024 3:16 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C202.DWG

© Jones Edmunds 2234



GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW BRONCO TERRACE PLAN AND PROFILE

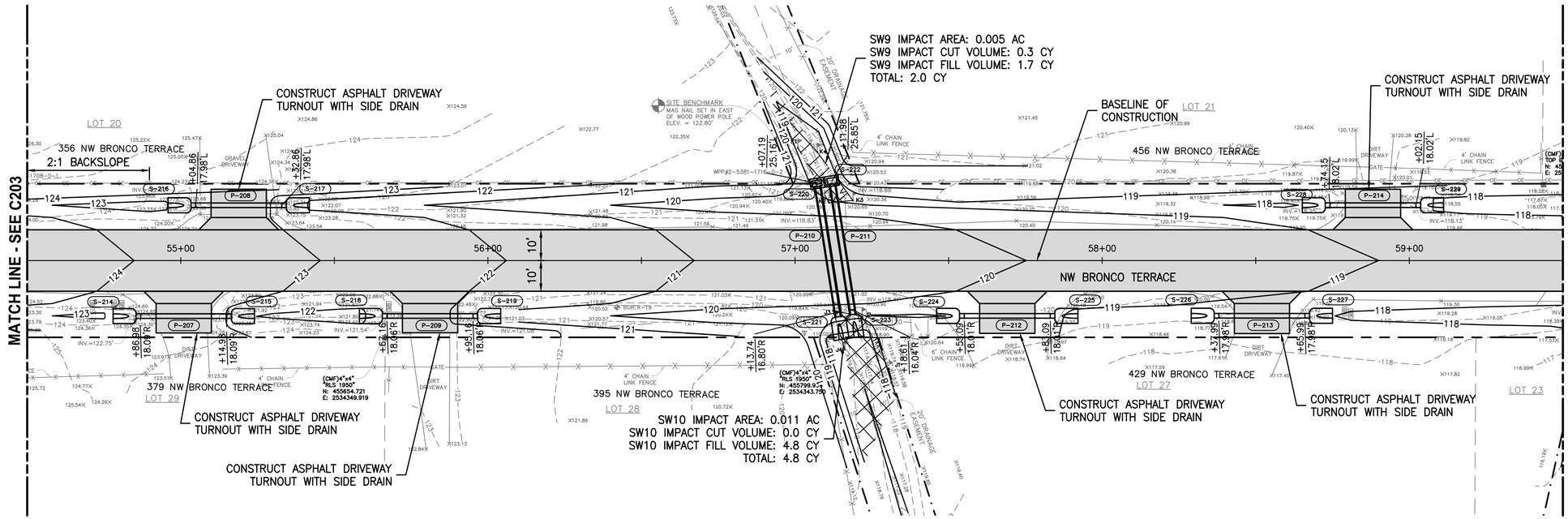
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

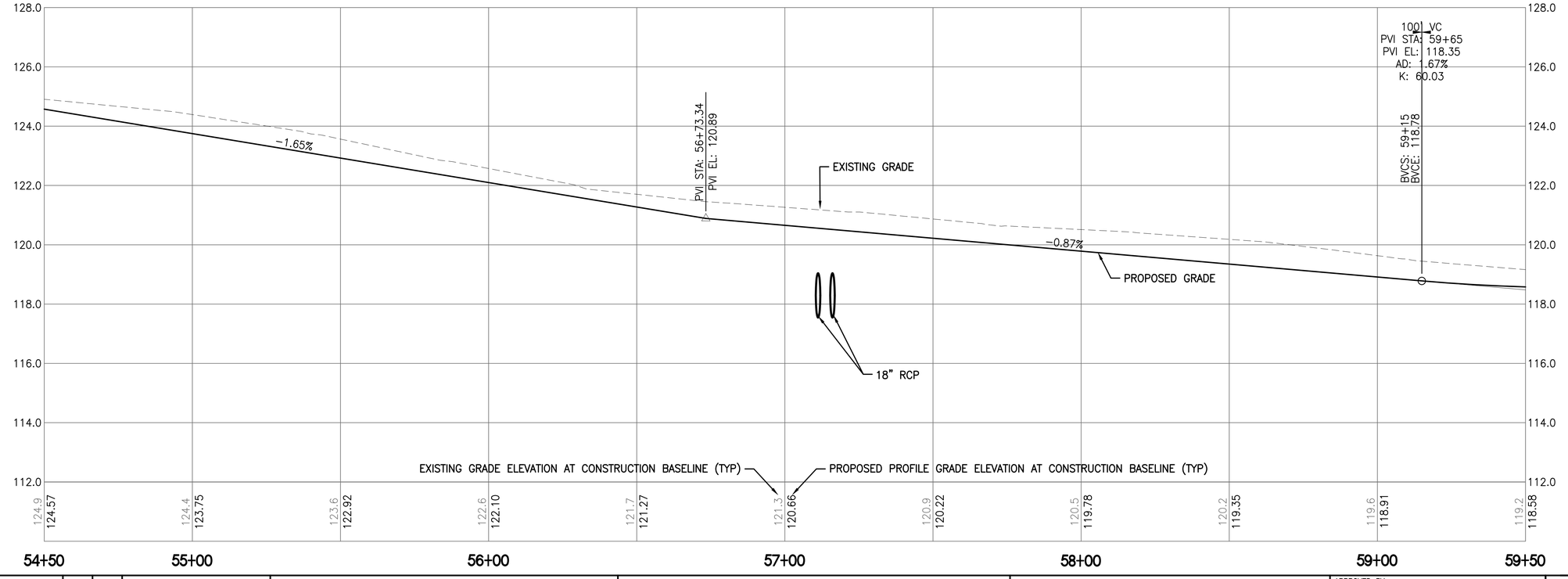
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C203

SAVED: 3/22/2024 1:51 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C203.DWG

PLOTTED: 3/22/2024 03:40 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

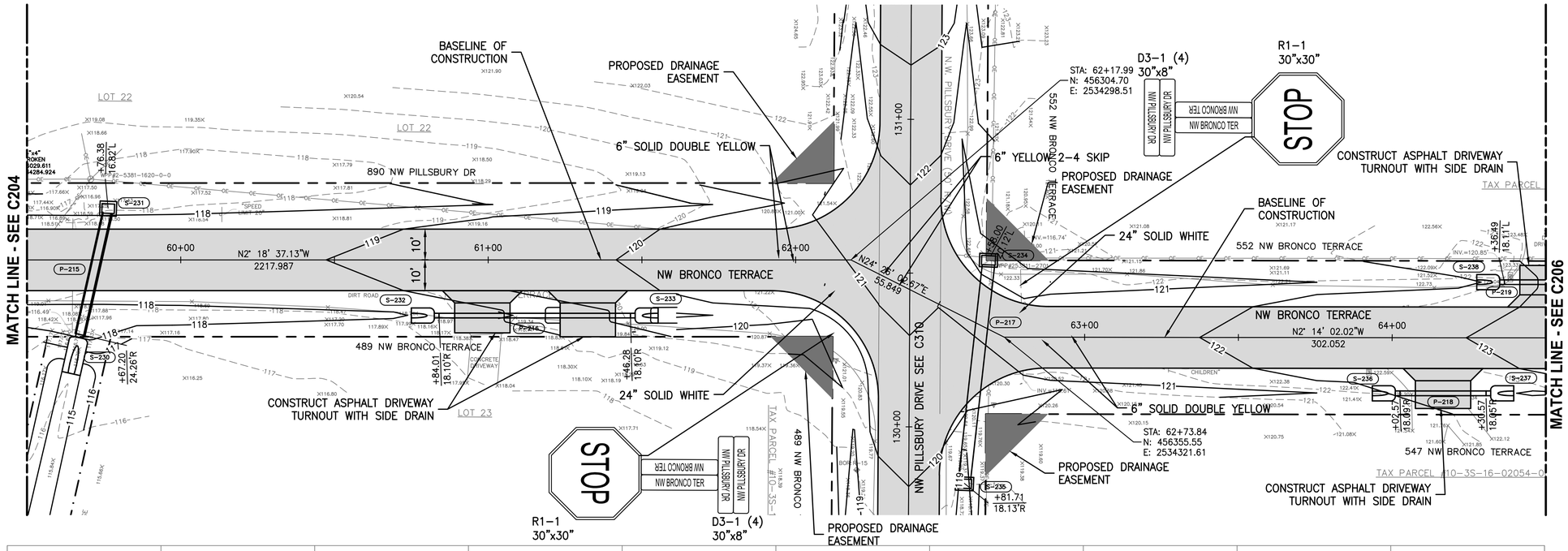
NW BRONCO TERRACE PLAN AND PROFILE

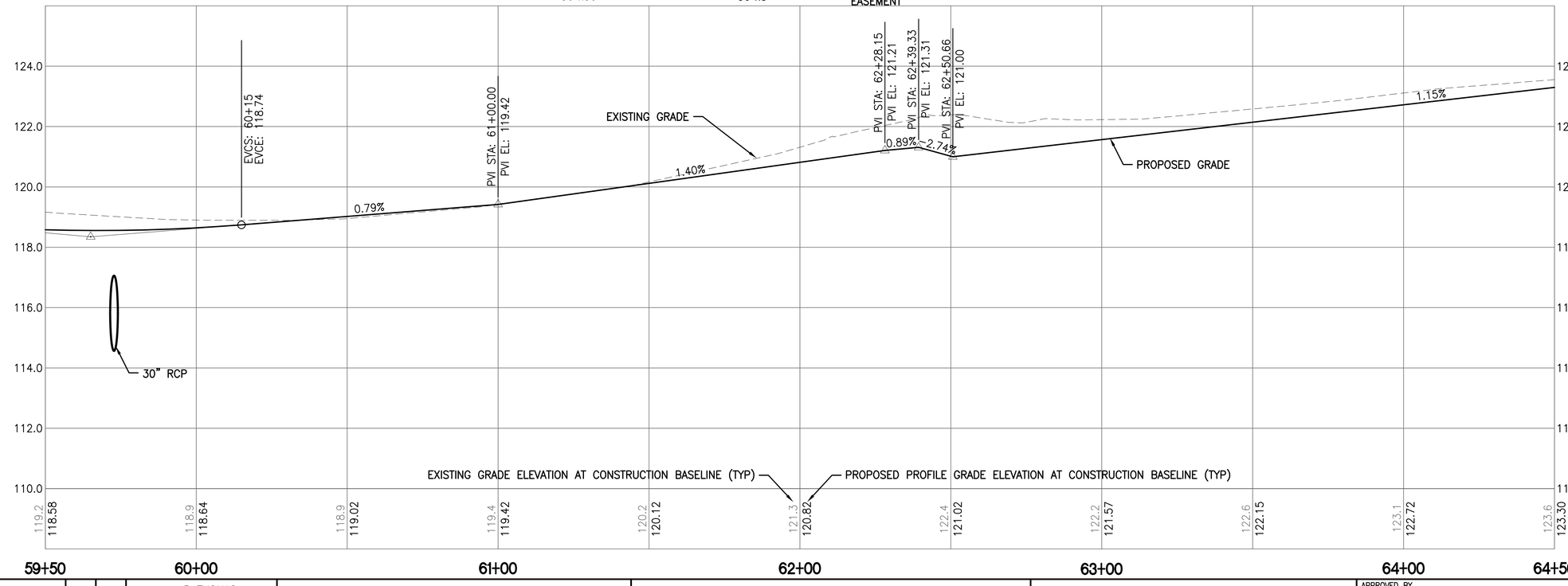
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C204

SAVED: 3/22/2024 1:37 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C204.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW BRONCO TERRACE PLAN AND PROFILE

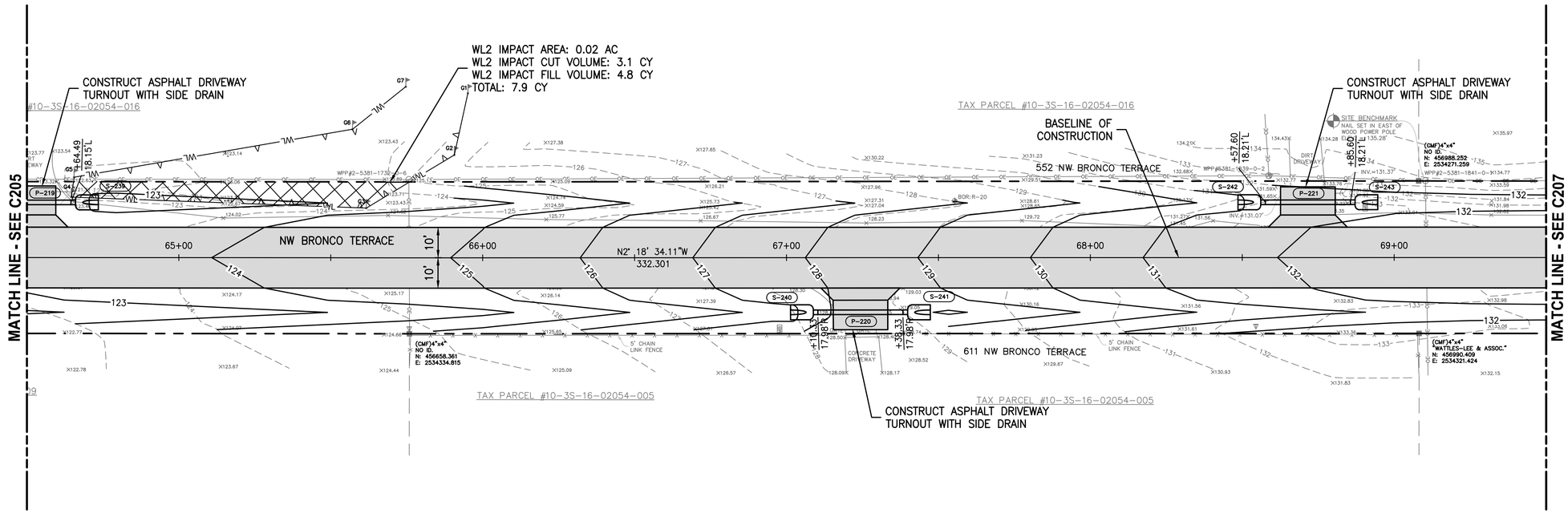
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C205

SAVED: 3/22/2024 1:40 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C205.DWG

PLOTTED: 3/22/2024 03:41 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



GRAPHIC SCALE

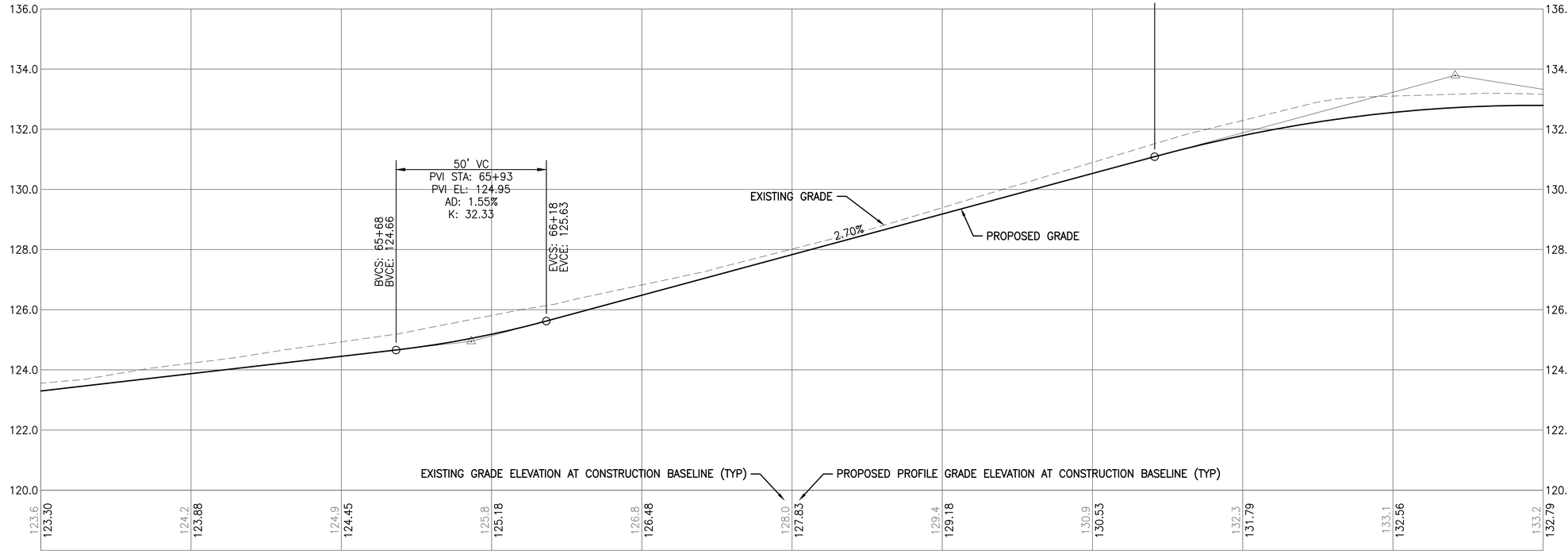
0 10 20 40

SCALE IN FEET
1"=20' H

GRAPHIC SCALE

0 1 2 4

SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW BRONCO TERRACE PLAN AND PROFILE

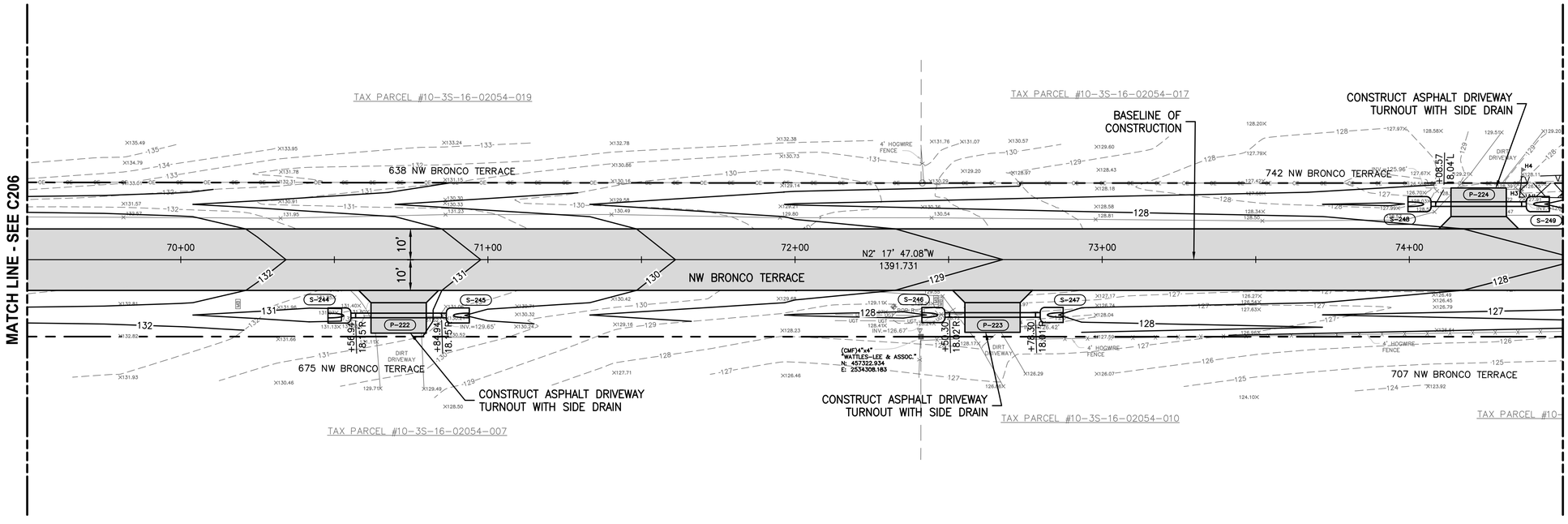
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

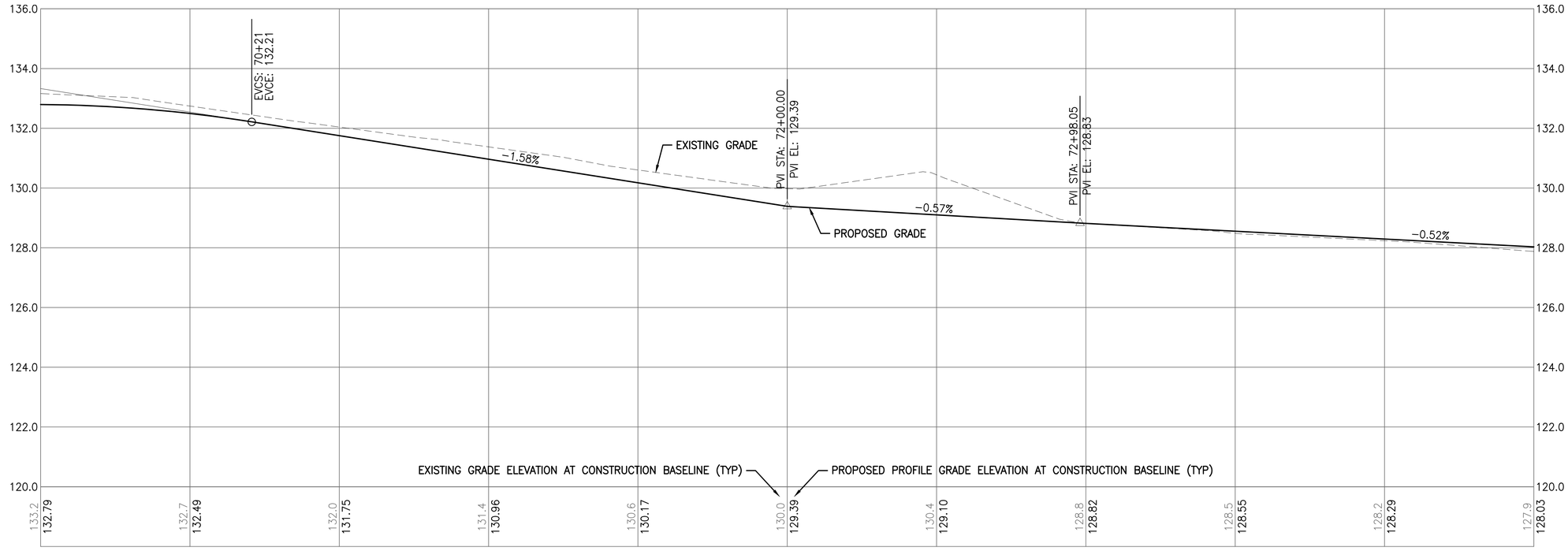
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C206

SAVED: 3/22/2024 1:42 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C206.DWG

PLOTTED: 3/22/2024 03:42 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

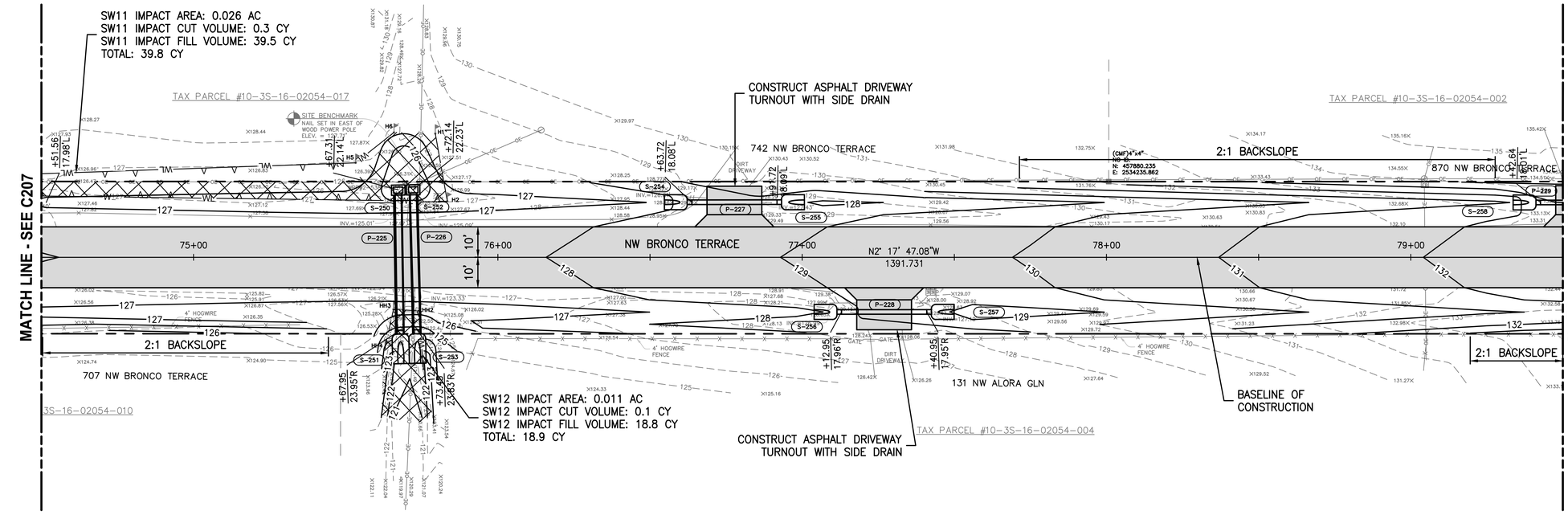
NW BRONCO TERRACE PLAN AND PROFILE

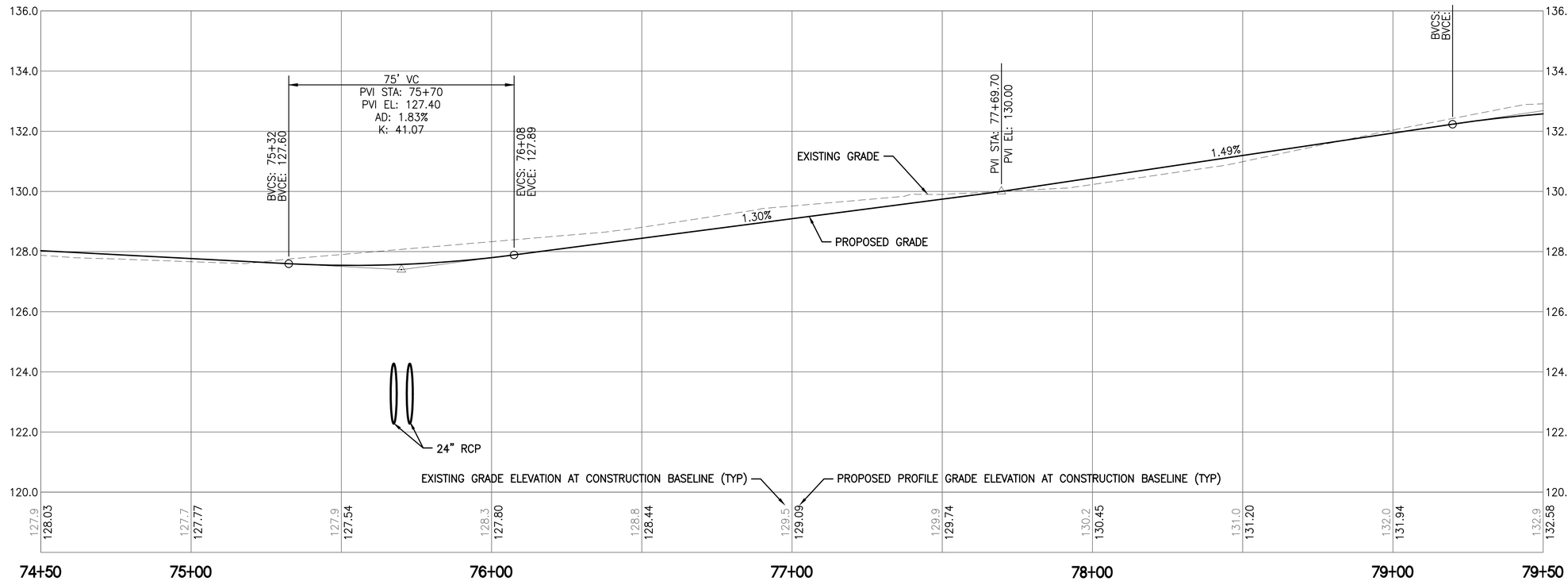
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C207

SAVED: 3/22/2024 1:44 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C207.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

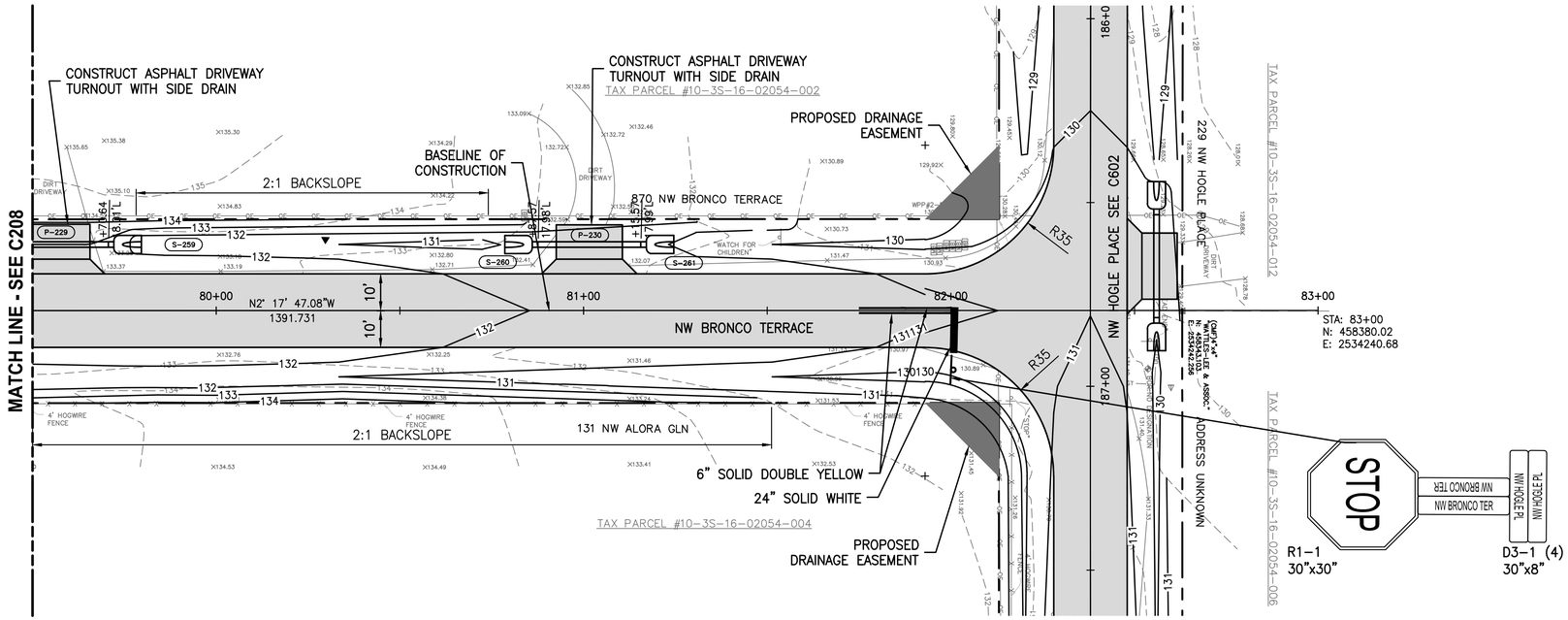
NW BRONCO TERRACE PLAN AND PROFILE

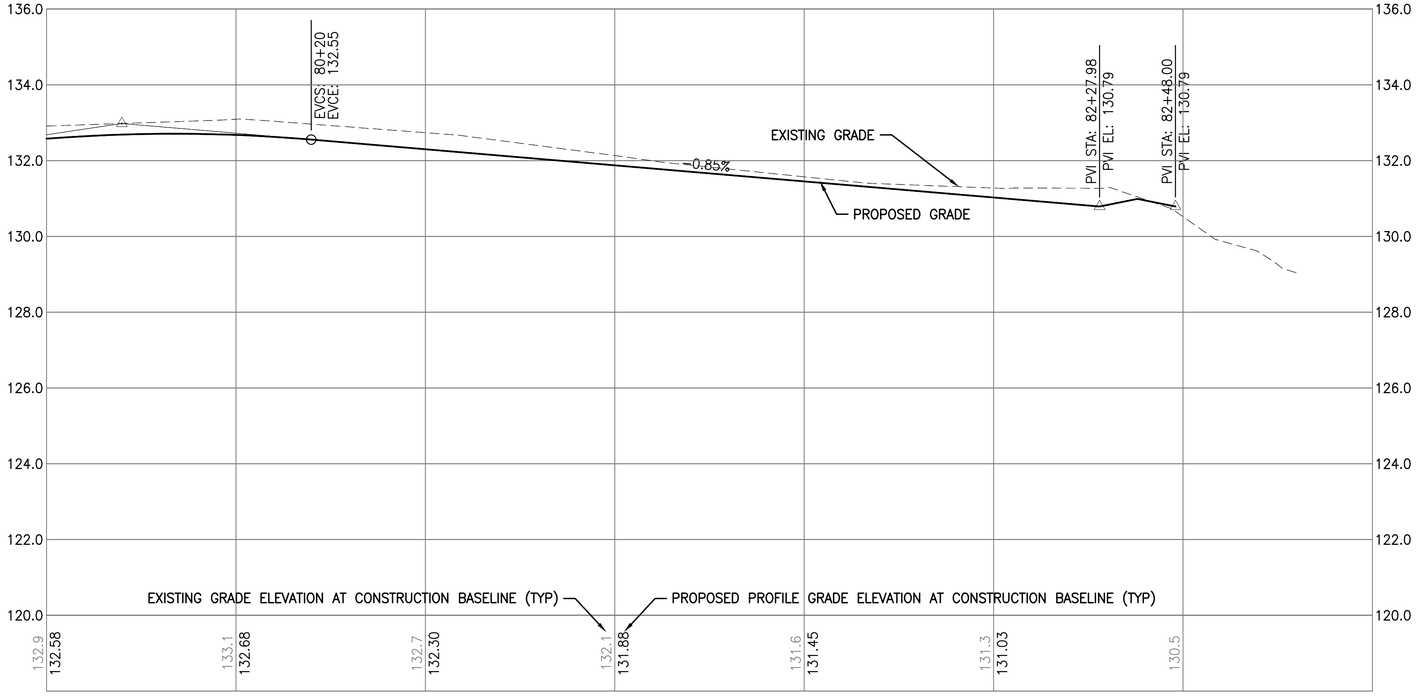
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C208

SAVED: 3/22/2024 1:47 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C208.DWG

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW BRONCO TERRACE PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C209

SAVED: 3/22/2024 1:49 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C209.DWG

PLOTTED: 3/22/2024 03:44 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

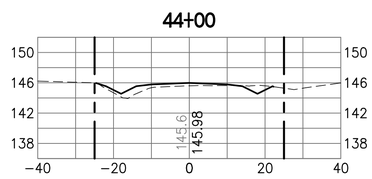
0 10 20 40

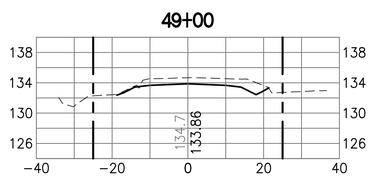
SCALE IN FEET
1"=20' H

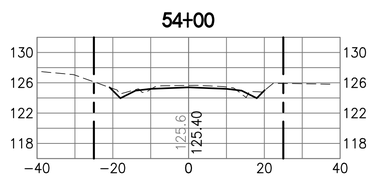
GRAPHIC SCALE

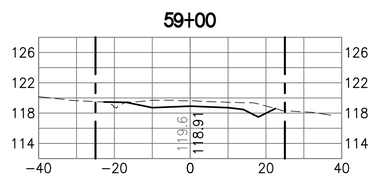
0 5 10 20

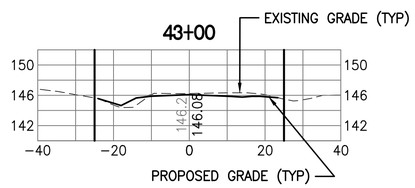
SCALE IN FEET
1"=10' V

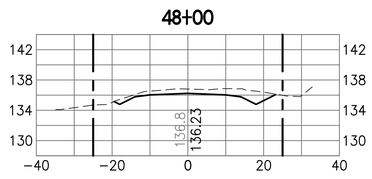


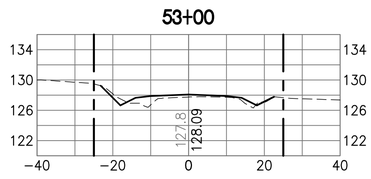


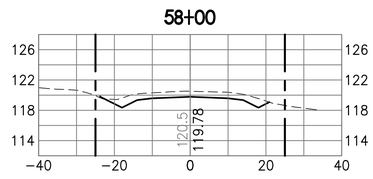


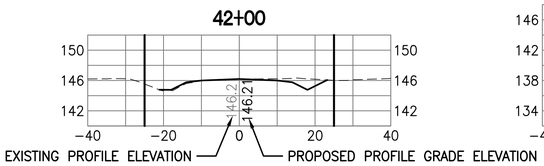


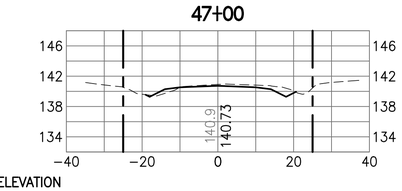


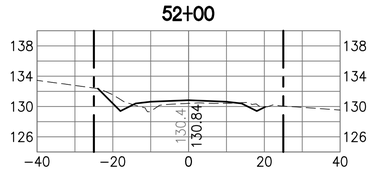


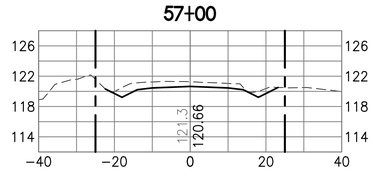


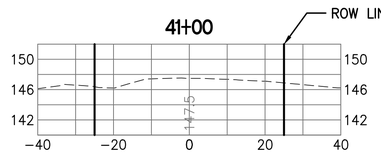


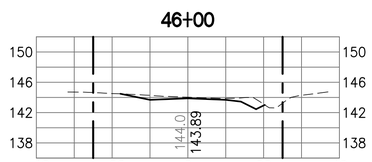


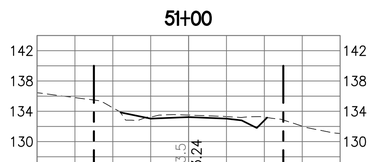


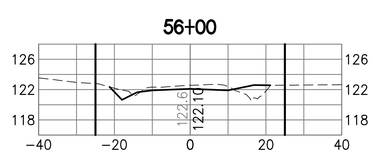


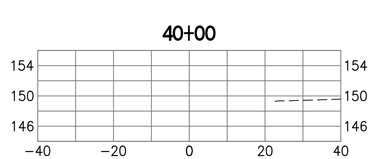


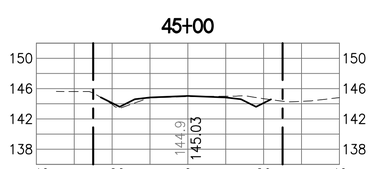


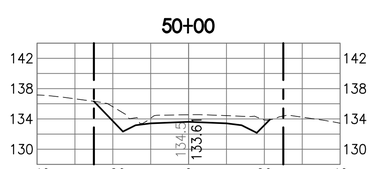


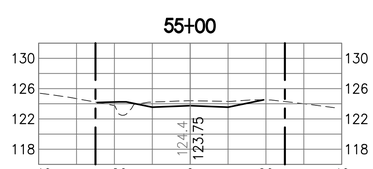












BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW BRONCO TERRACE CROSS SECTIONS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C210

SAVED: 1/19/2023 11:37 AM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C210.DWG

PLOTTED: 3/22/2024 03:44 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

0 10 20 40

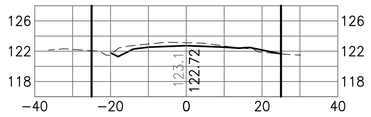
SCALE IN FEET
1"=20' H

GRAPHIC SCALE

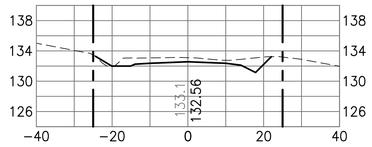
0 5 10 20

SCALE IN FEET
1"=10' V

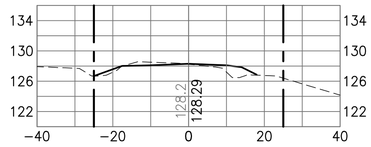
64+00



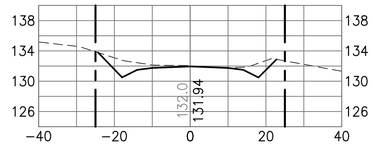
69+00



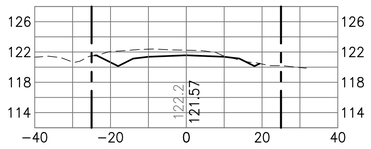
74+00



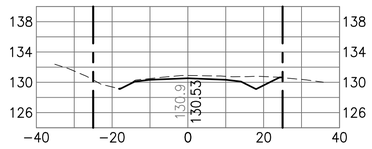
79+00



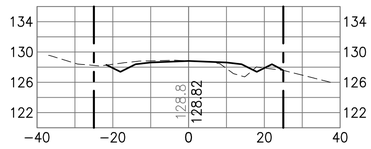
63+00



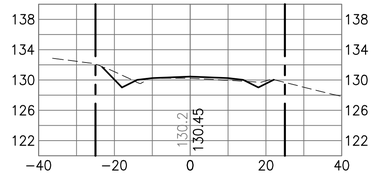
68+00



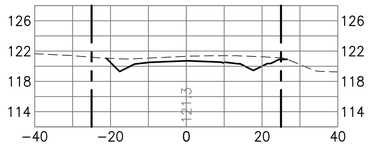
73+00



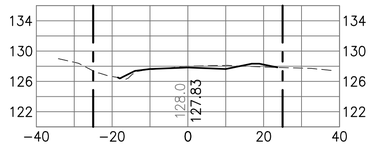
78+00



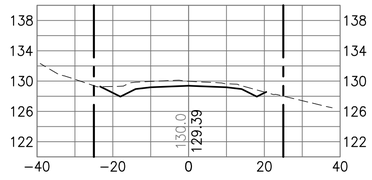
62+00



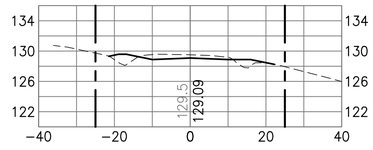
67+00



72+00

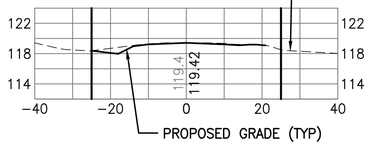


77+00



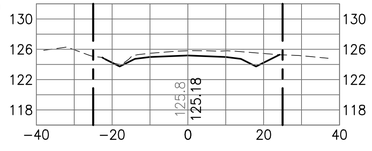
61+00

EXISTING GRADE (TYP)

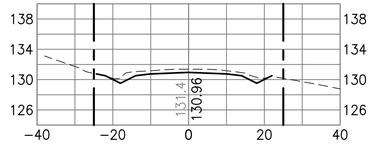


PROPOSED GRADE (TYP)

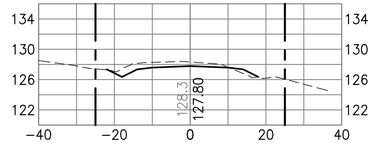
66+00



71+00

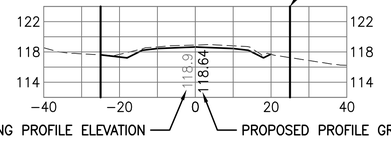


76+00



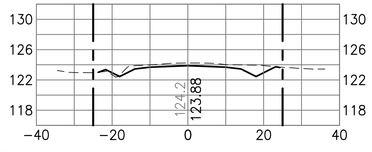
60+00

ROW LINE (TYP)

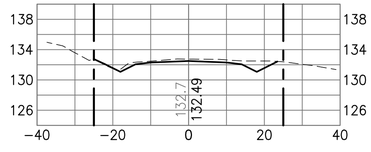


EXISTING PROFILE ELEVATION — PROPOSED PROFILE GRADE ELEVATION

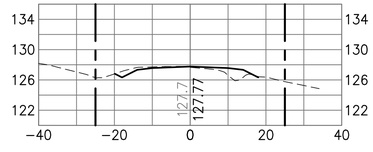
65+00



70+00



75+00



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW BRONCO TERRACE CROSS SECTIONS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C211

SAVED: 9/28/2022 2:31 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C211.DWG

PLOTTED: 3/22/2024 03:44 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

0 10 20 40

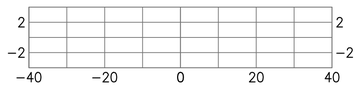
SCALE IN FEET
1"=20' H

GRAPHIC SCALE

0 5 10 20

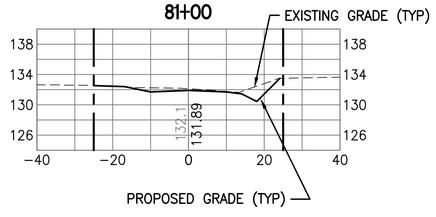
SCALE IN FEET
1"=10' V

83+00

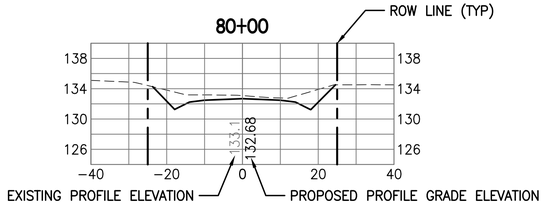


82+00

81+00



80+00



SAVED: 9/28/2022 2:31 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C212.DWG

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

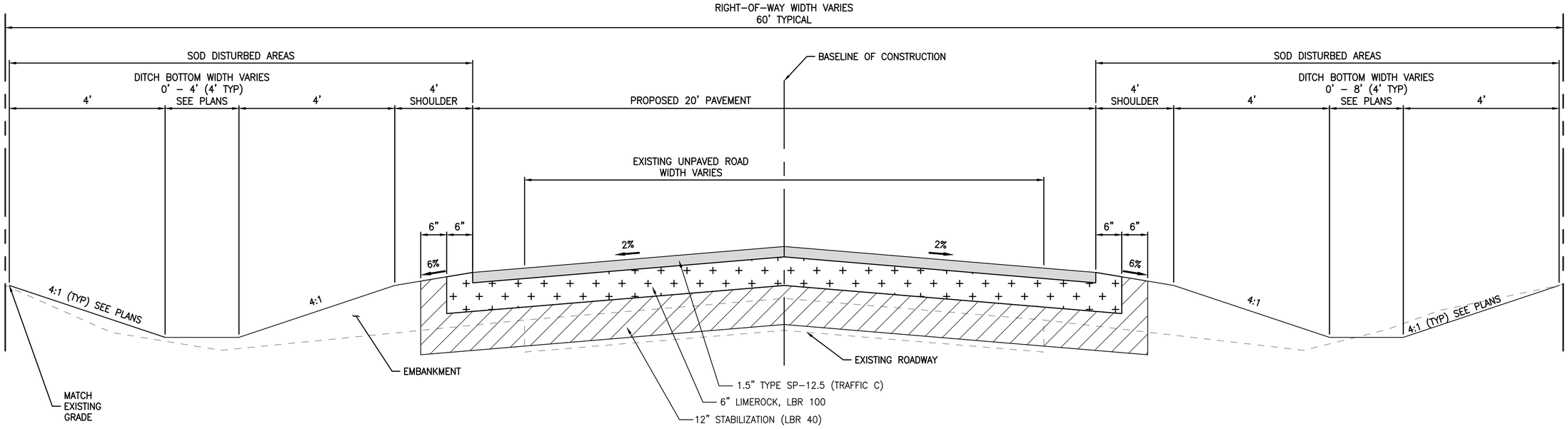
NW BRONCO TERRACE CROSS SECTIONS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C212

PLOTTED: 3/22/2024 03:45 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

SAVED: 1/24/2023 1:03 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C300.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

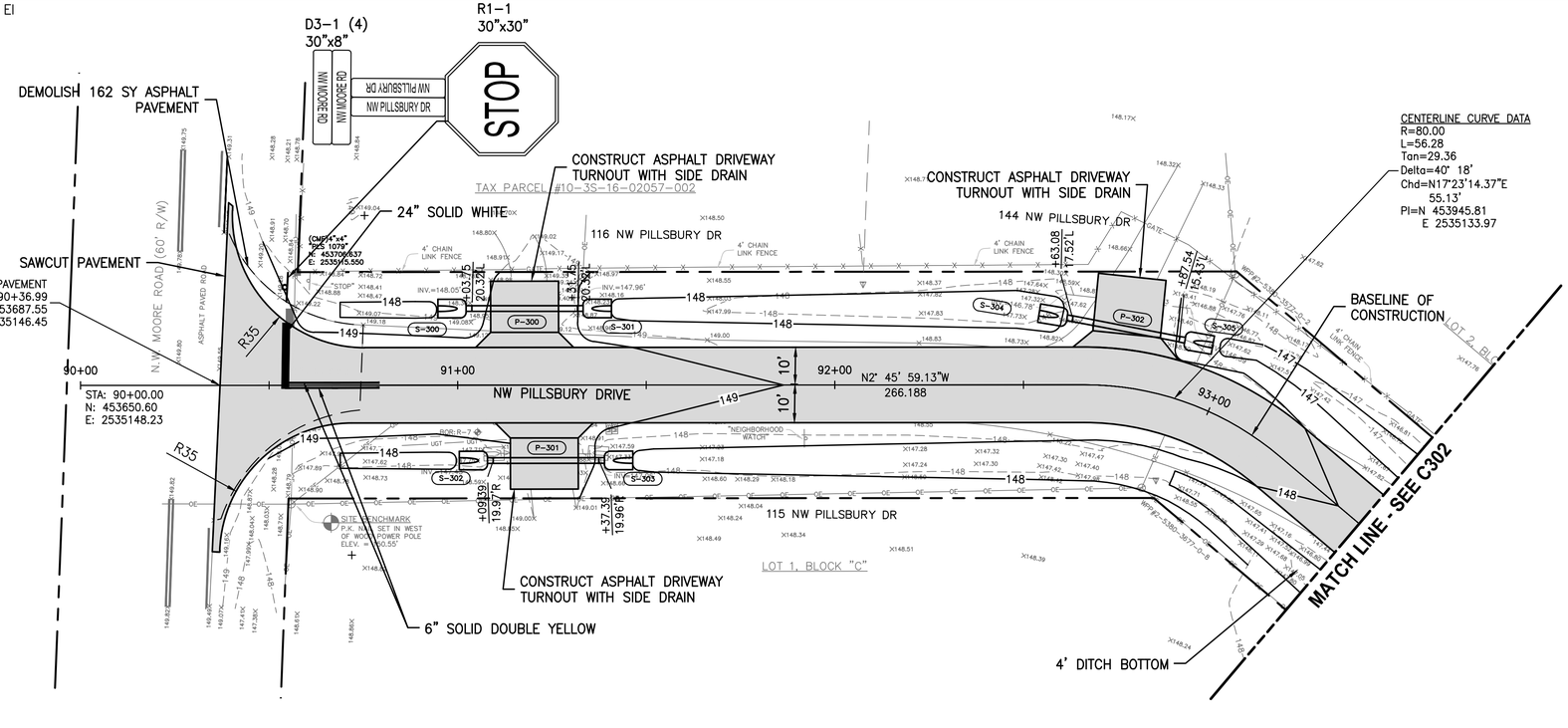
NW PILLSBURY DRIVE TYPICAL SECTION

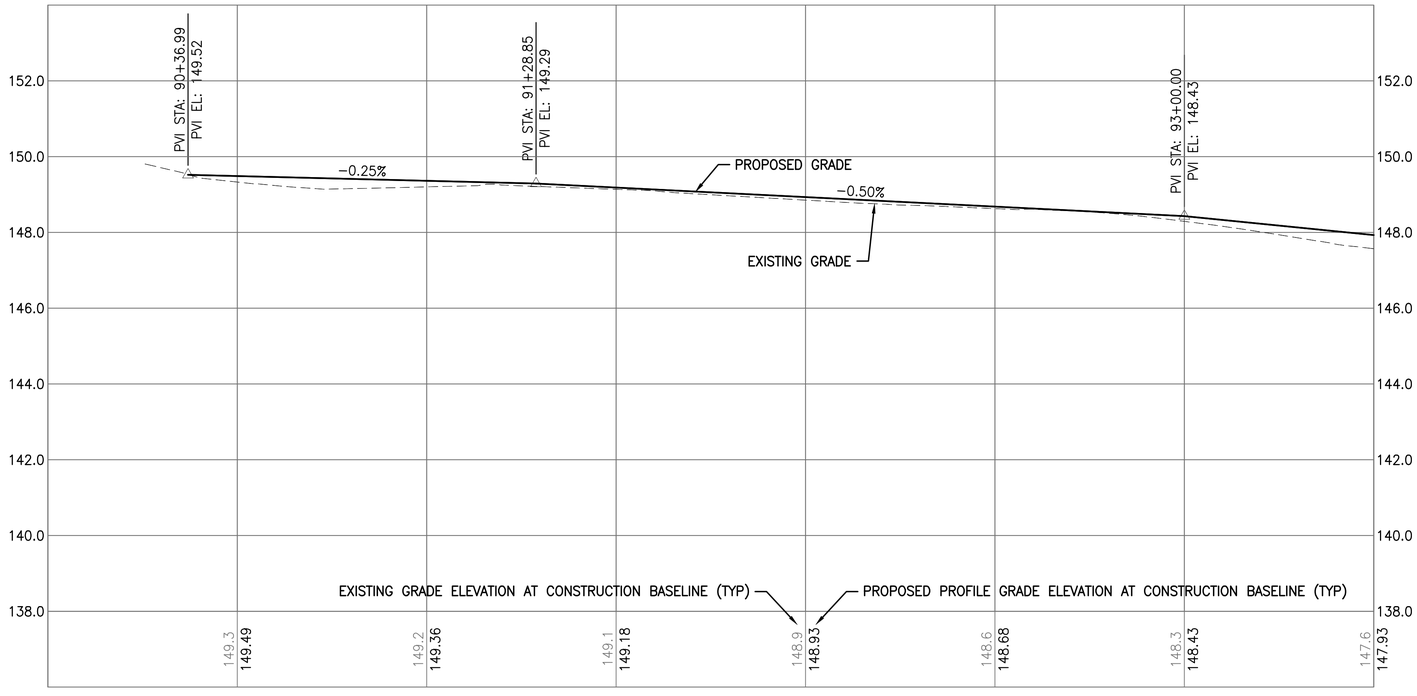
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C300

PLOTTED: 3/22/2024 03:45 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE PLAN AND PROFILE

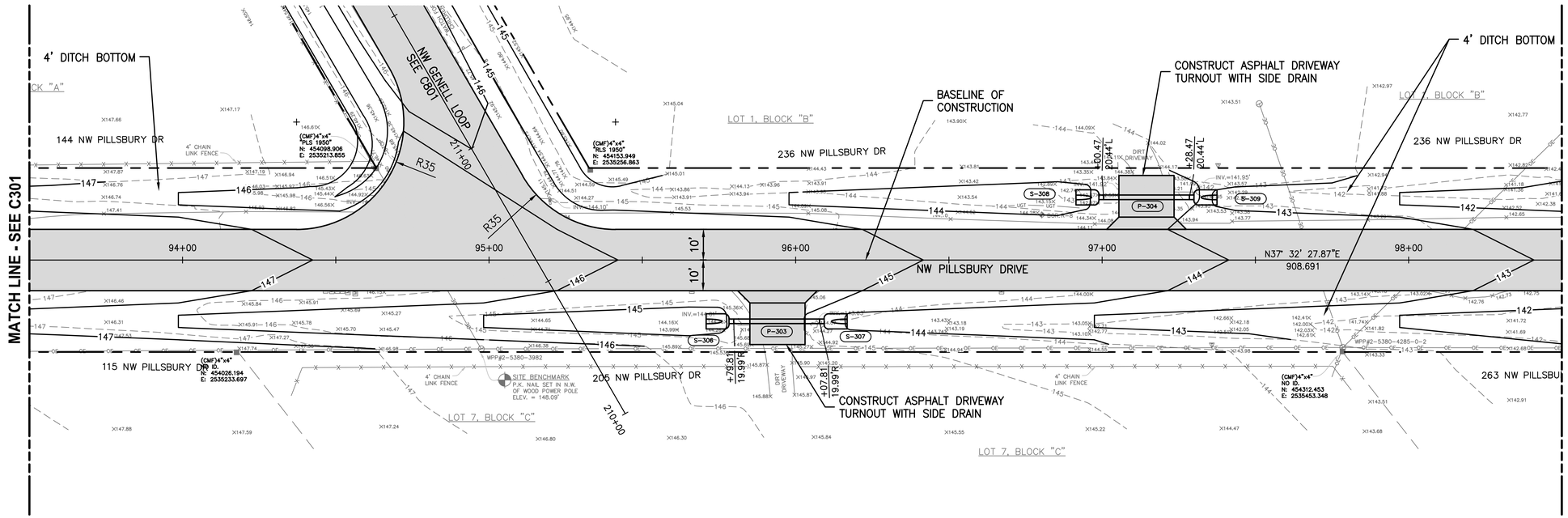
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

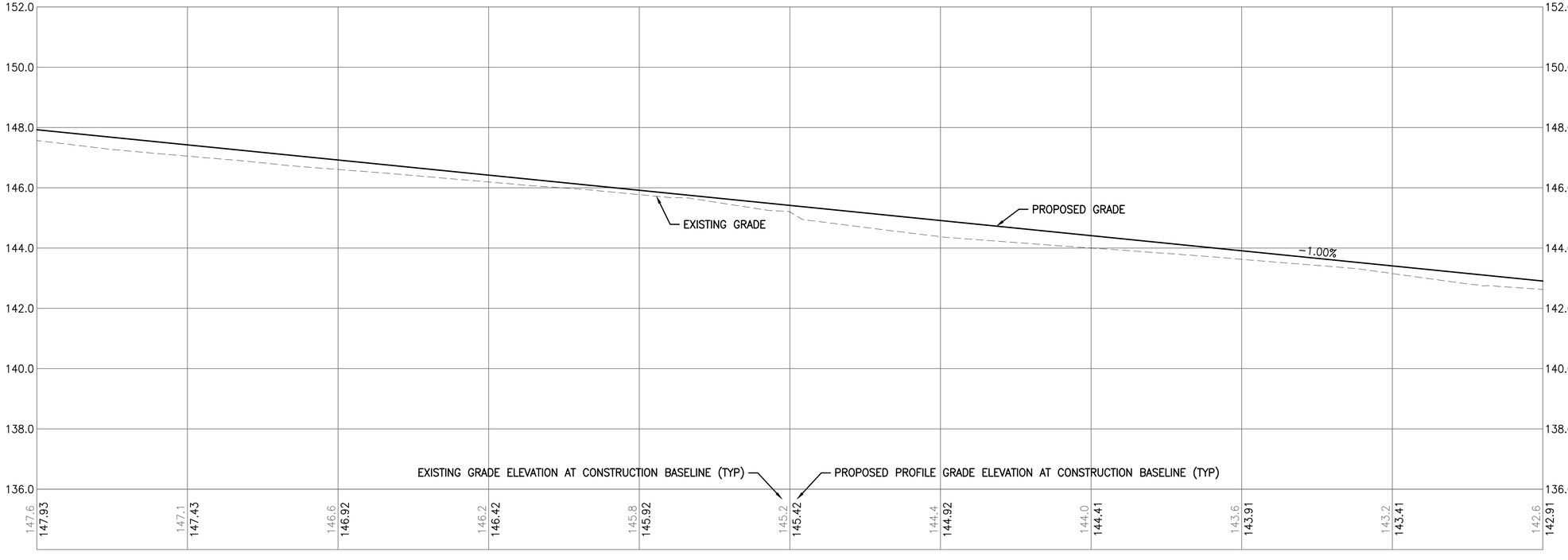
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C301

SAVED: 3/22/2024 1:56 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C301.DWG

PLOTTED: 3/22/2024 03:46 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

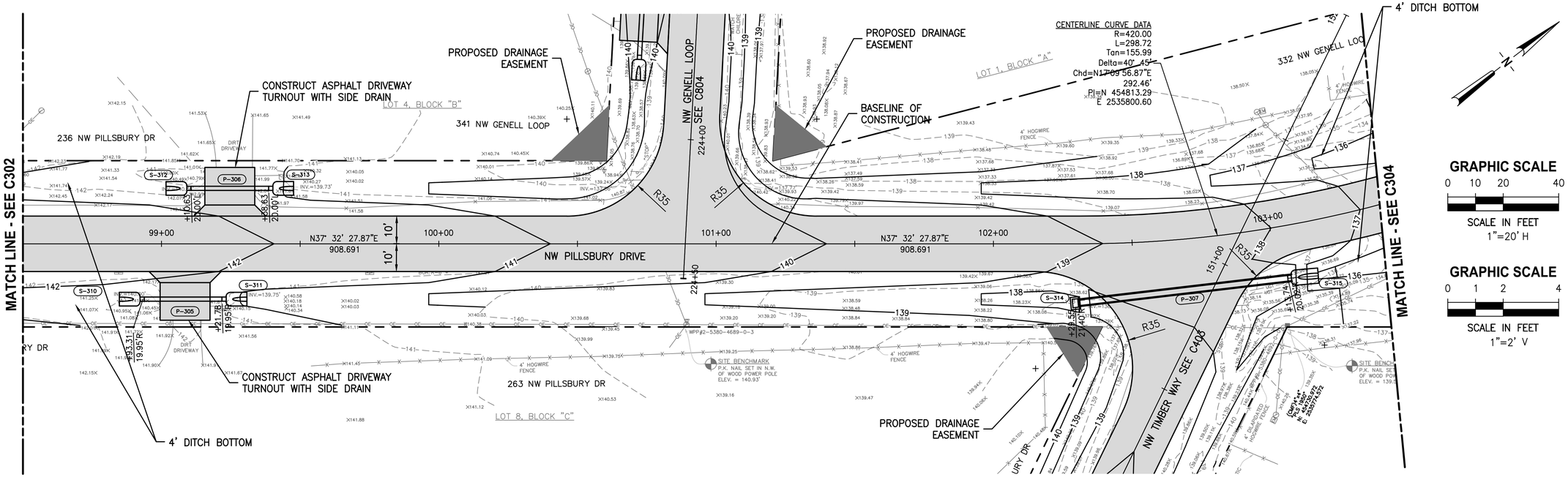
NW PILLSBURY DRIVE PLAN AND PROFILE

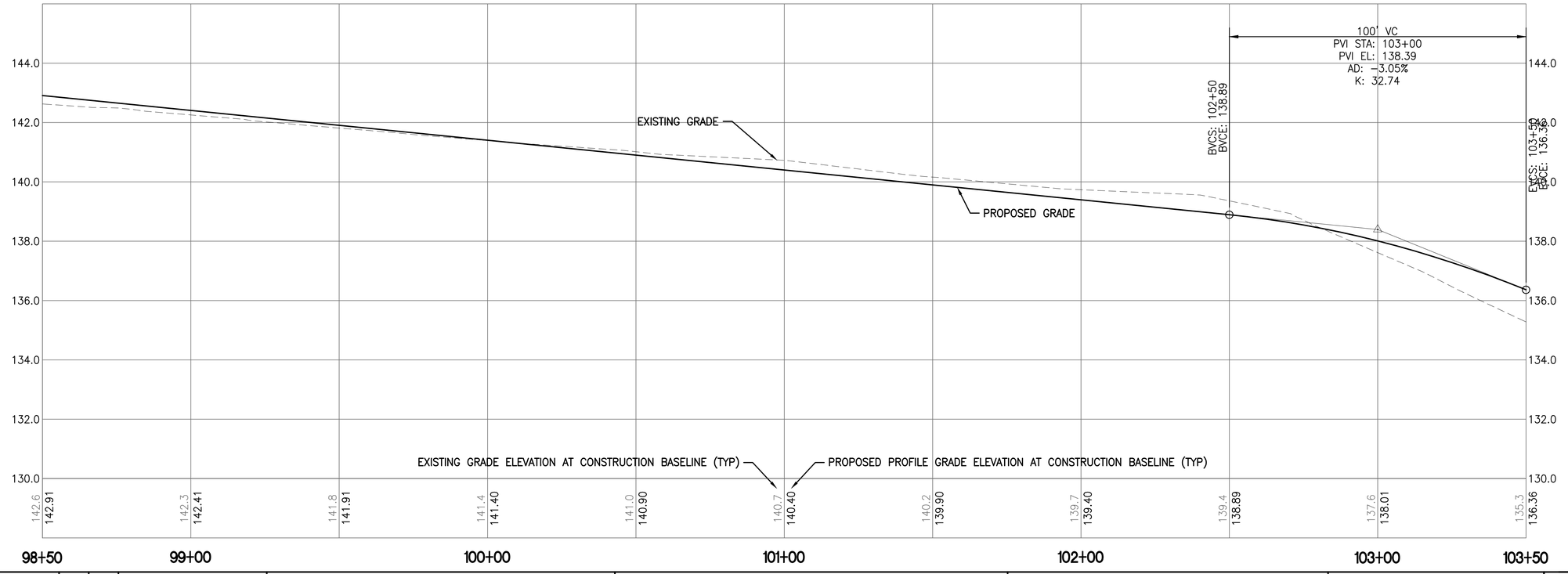
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C302

SAVED: 3/22/2024 1:58 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C302.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

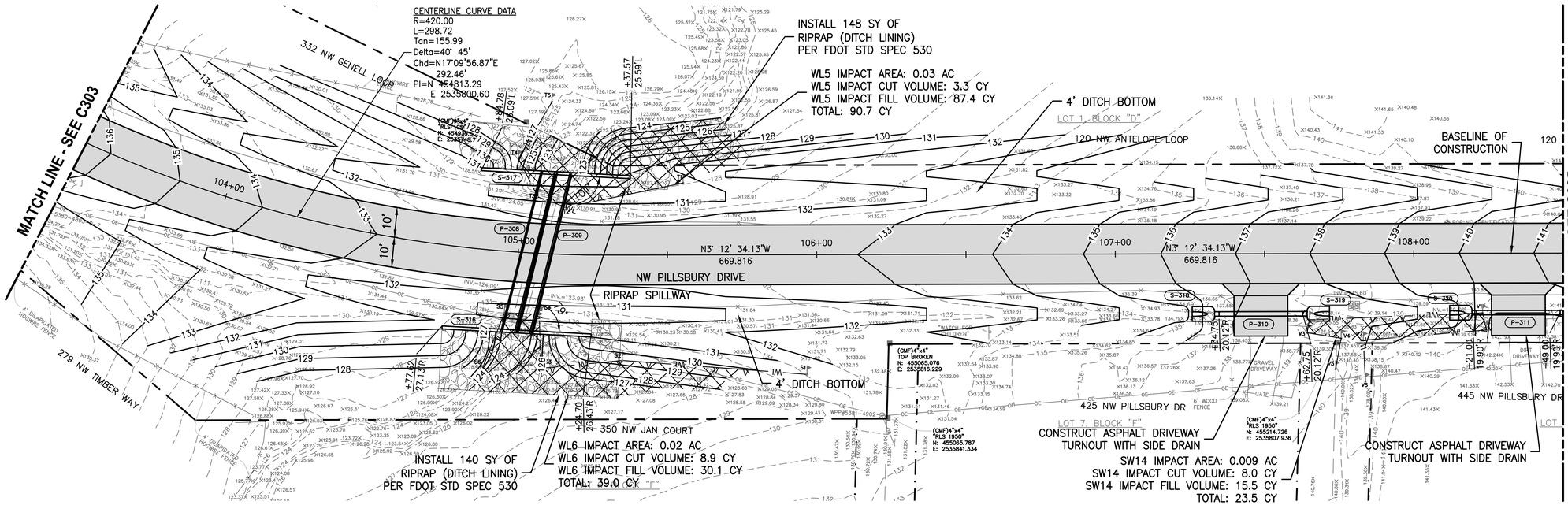
NW PILLSBURY DRIVE PLAN AND PROFILE

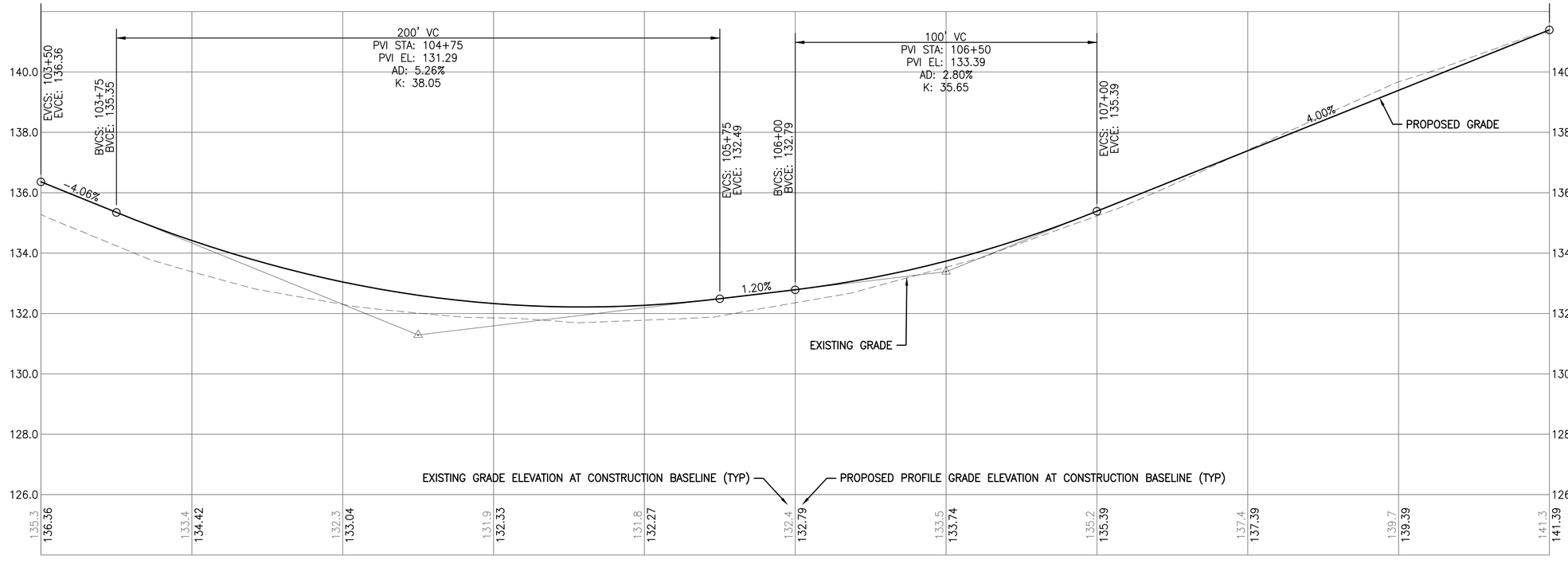
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C303

SAVED: 3/22/2024 2:01 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C303.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE PLAN AND PROFILE

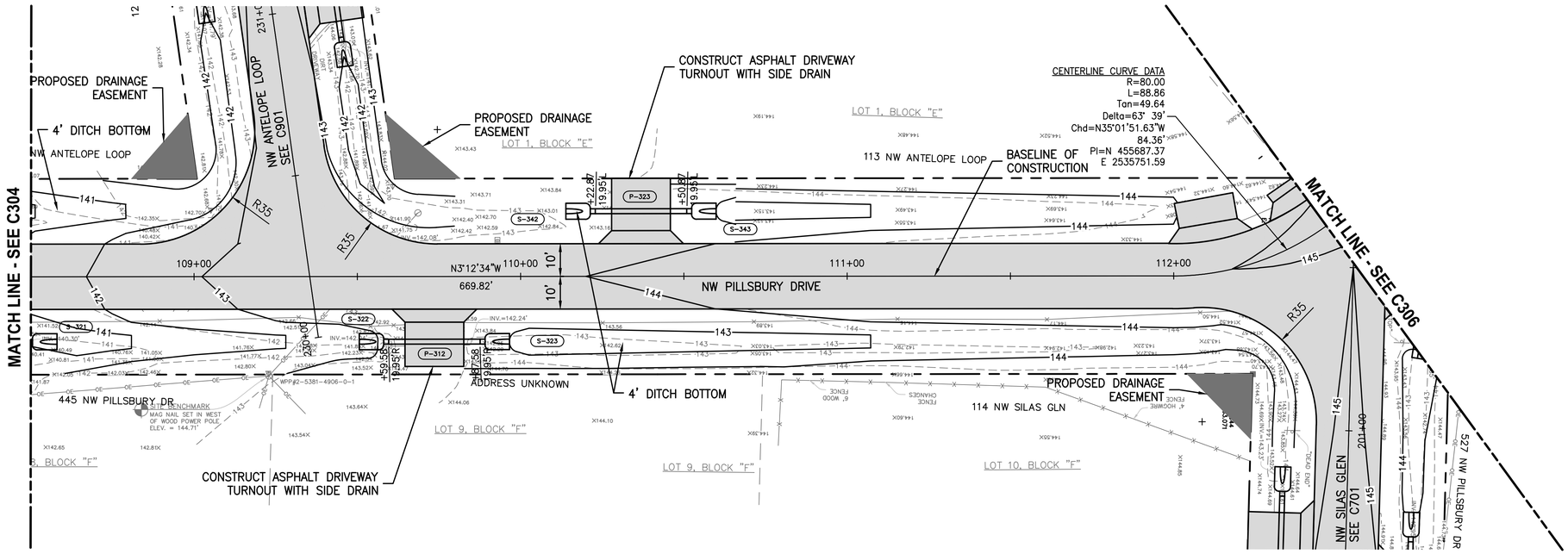
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C304

SAVED: 3/22/2024 2:07 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C304.DWG

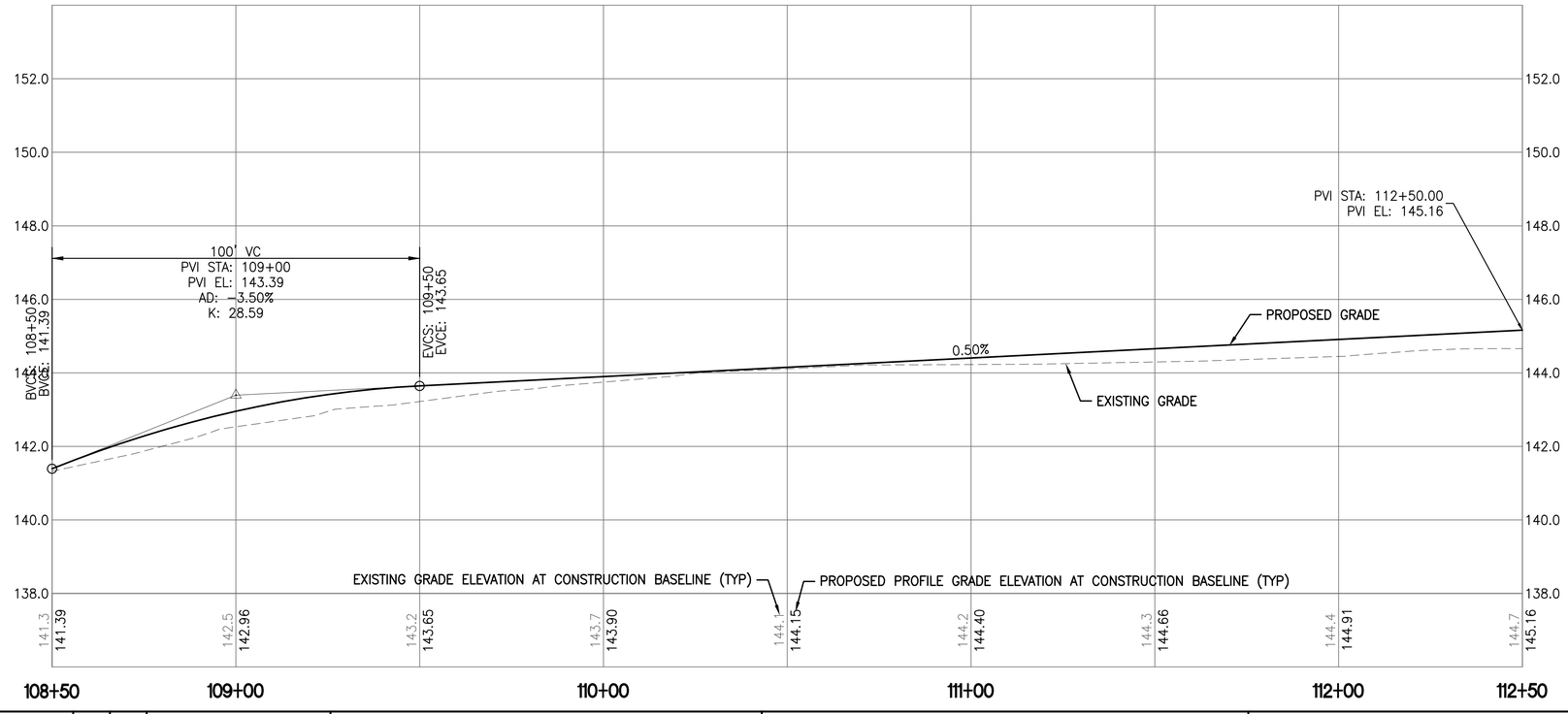
PLOTTED: 3/22/2024 03:48 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

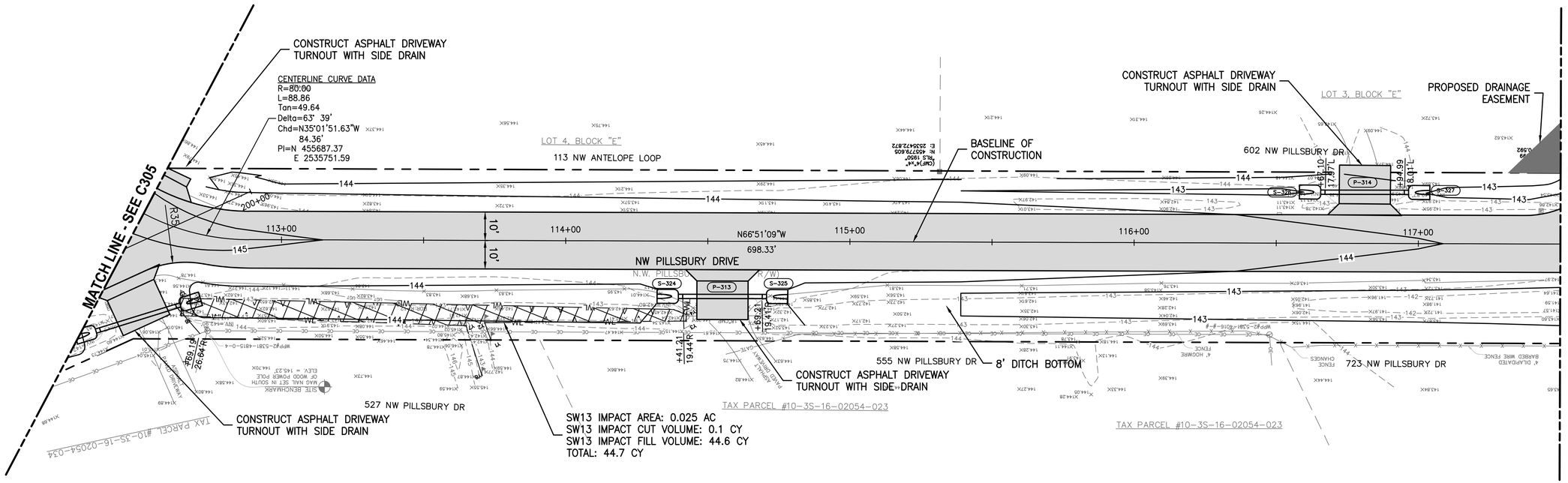
NW PILLSBURY DRIVE PLAN AND PROFILE

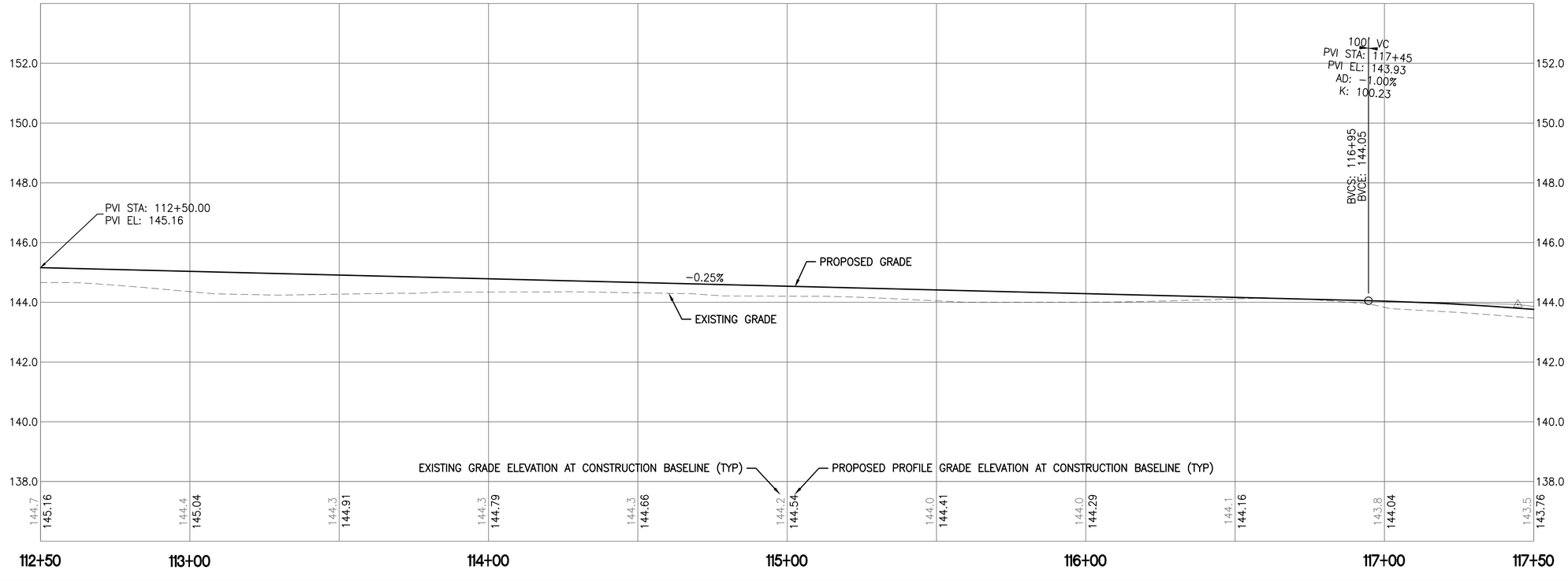
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C305

SAVED: 3/22/2024 2:08 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C305.DWG

PLOTTED: 3/22/2024 03:49 PM RASAHN MARTIN, EI
© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE PLAN AND PROFILE

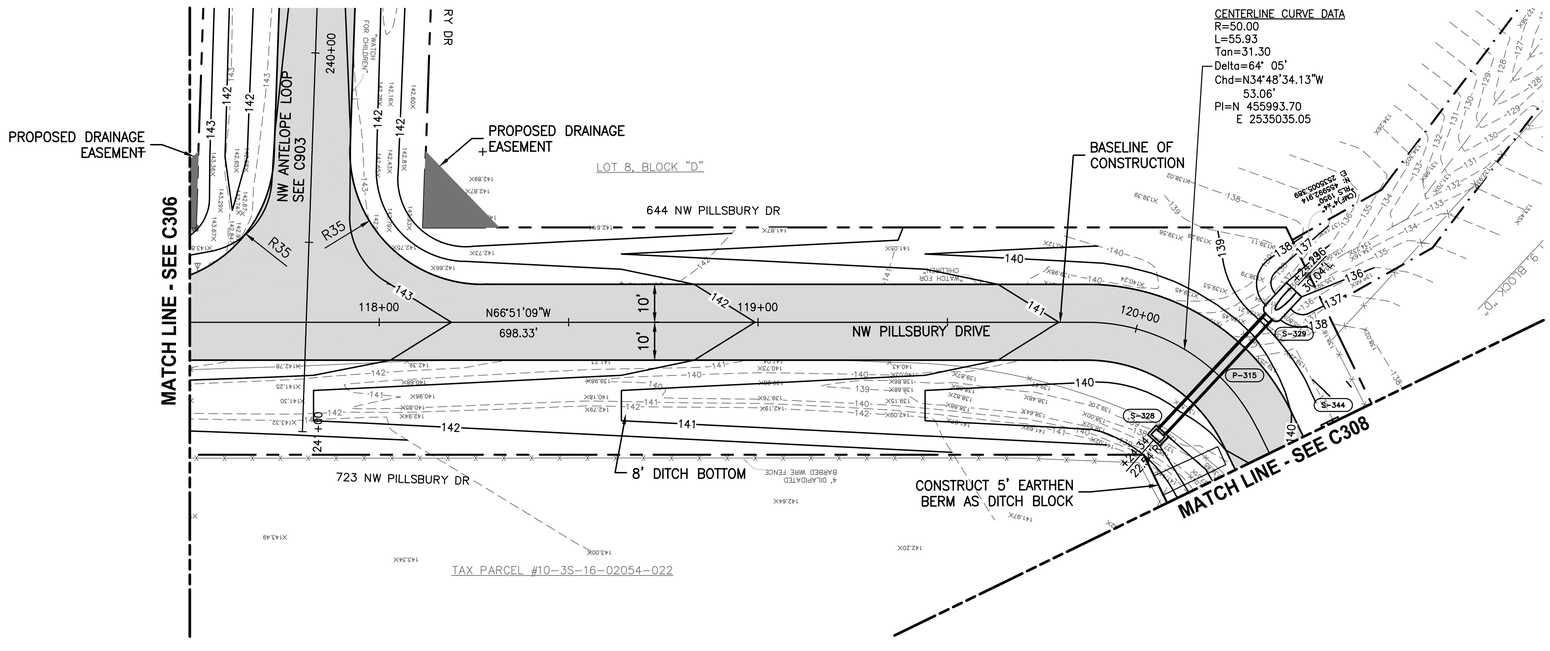
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

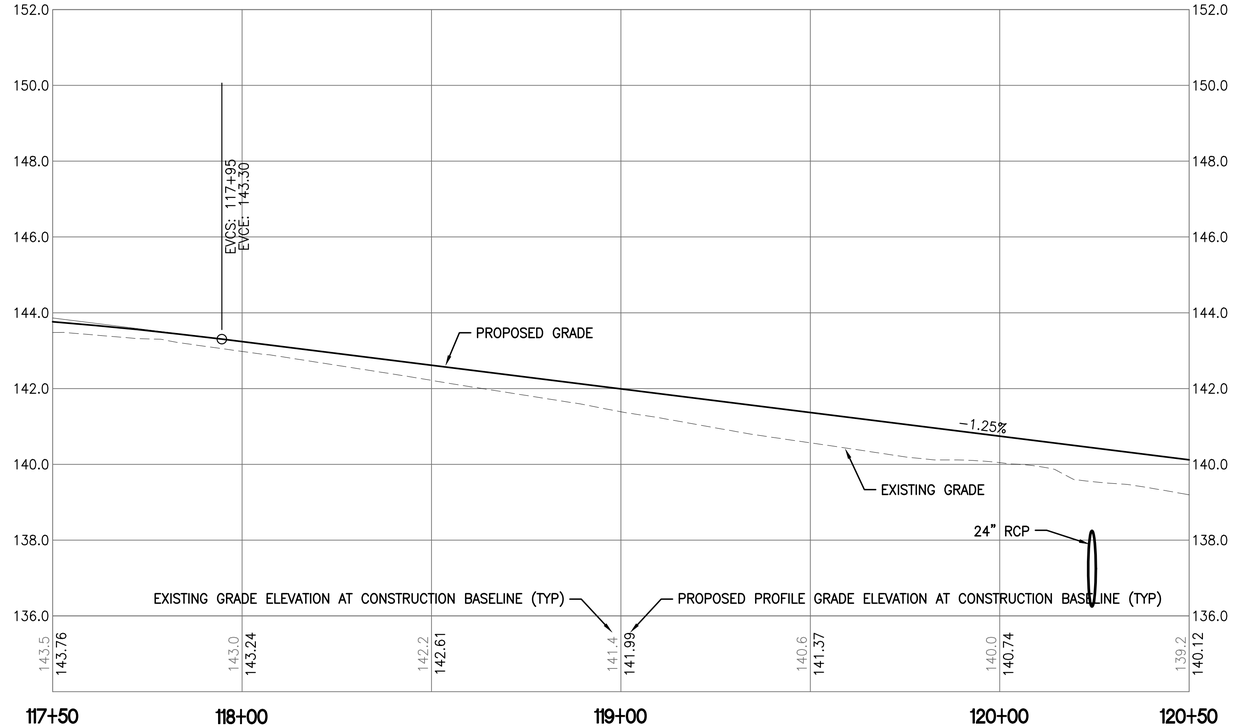
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C306

SAVED: 3/22/2024 2:11 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C306.DWG

PLOTTED: 3/22/2024 03:49 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

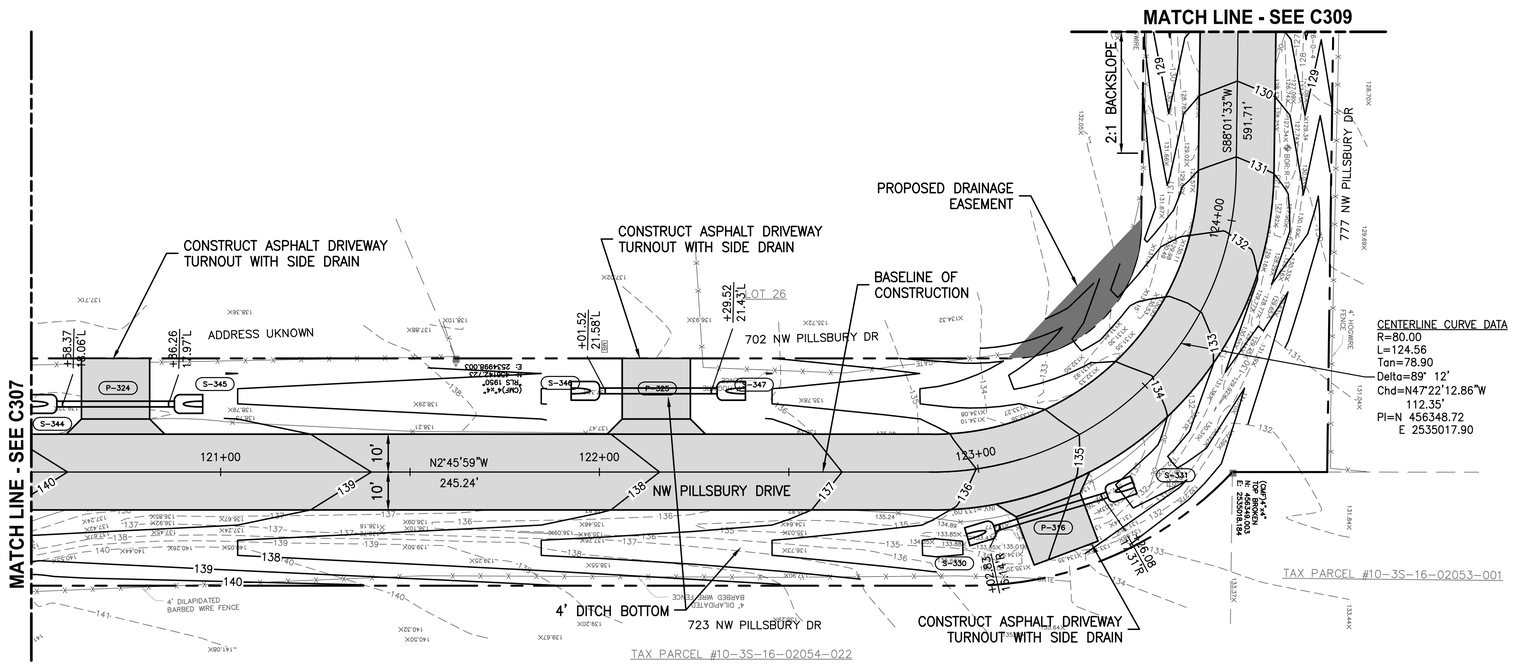
NW PILLSBURY DRIVE PLAN AND PROFILE

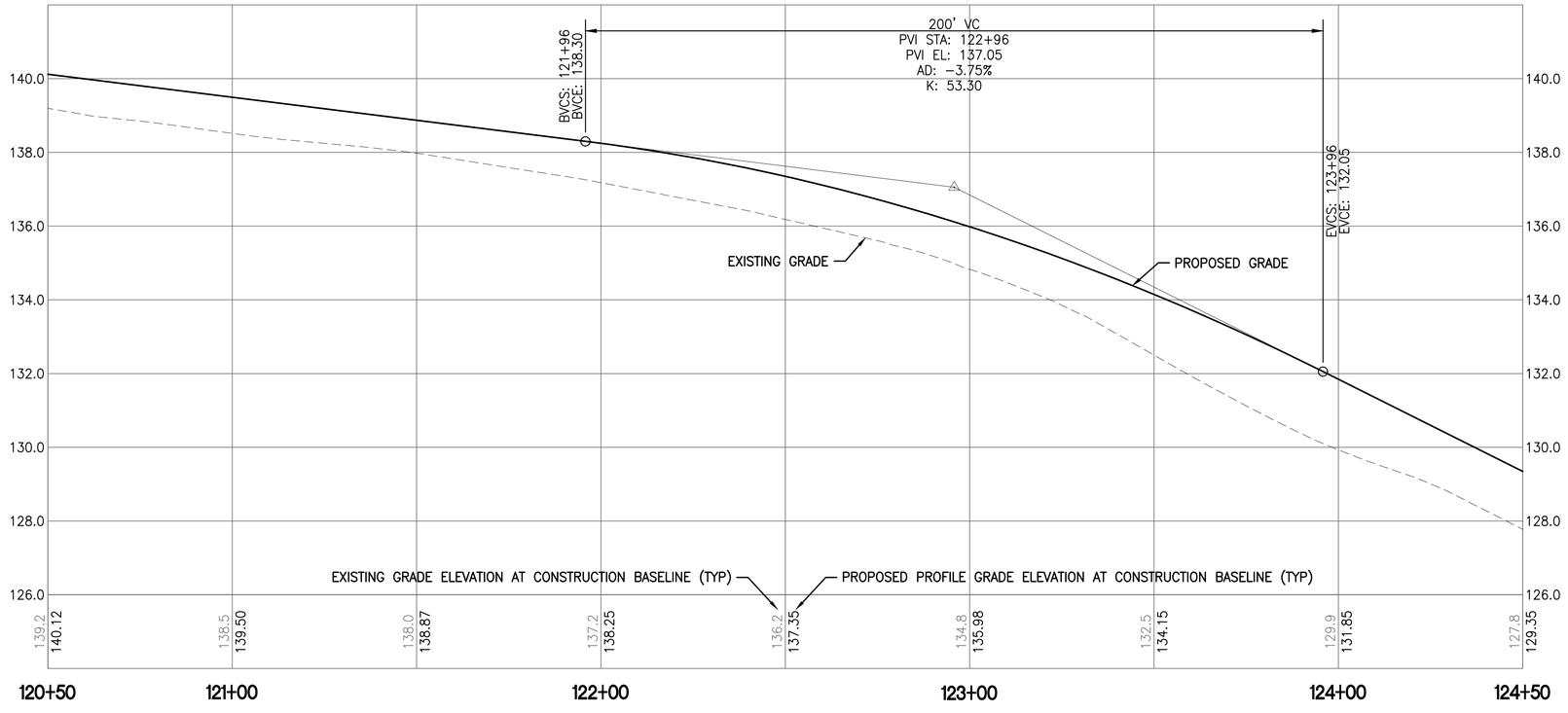
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C307

SAVED: 3/22/2024 2:08 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C307.DWG

PLOTTED: 3/22/2024 03:50 PM RASAHN MARTIN, EI
© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE PLAN AND PROFILE

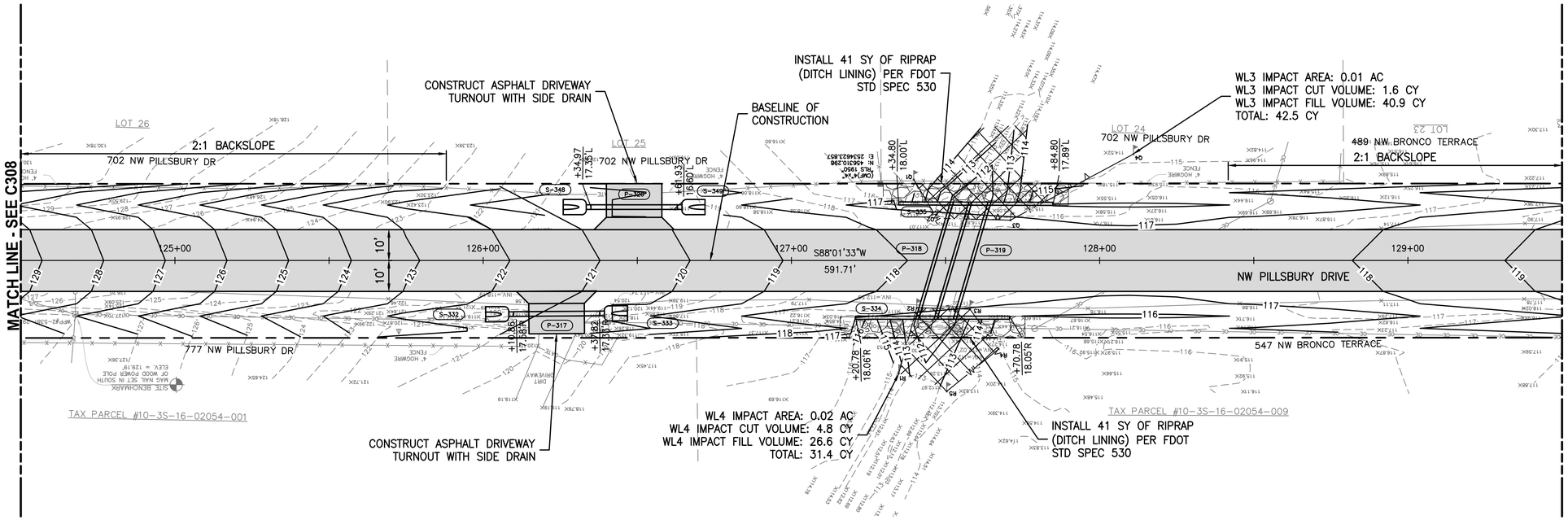
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

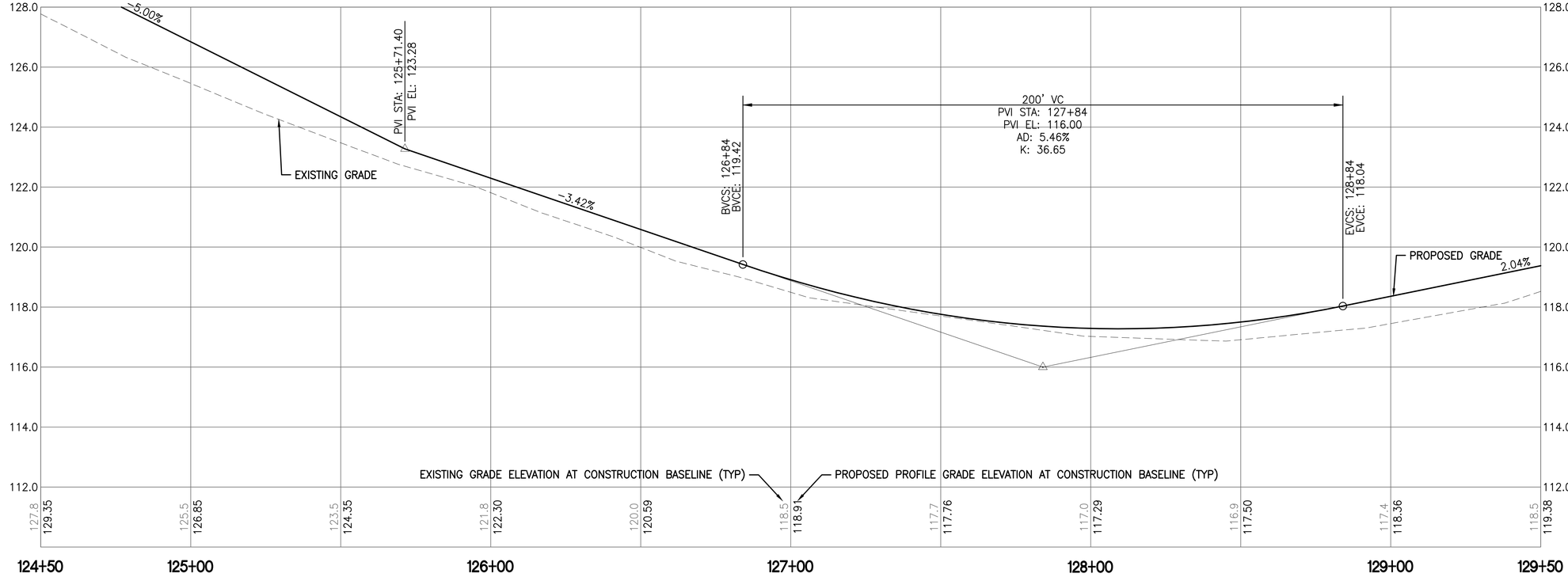
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C308

SAVED: 3/22/2024 2:08 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C308.DWG

PLOTTED: 3/22/2024 03:51 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

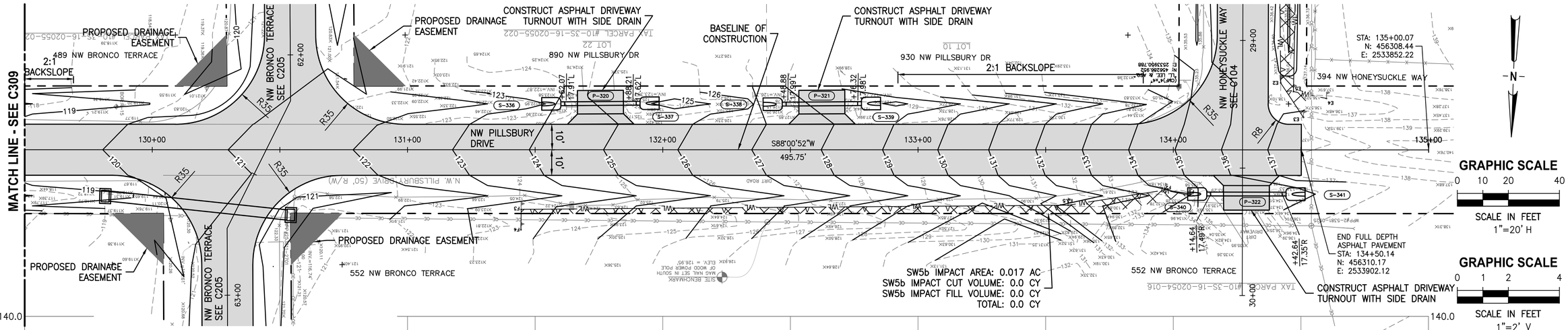
NW PILLSBURY DRIVE PLAN AND PROFILE

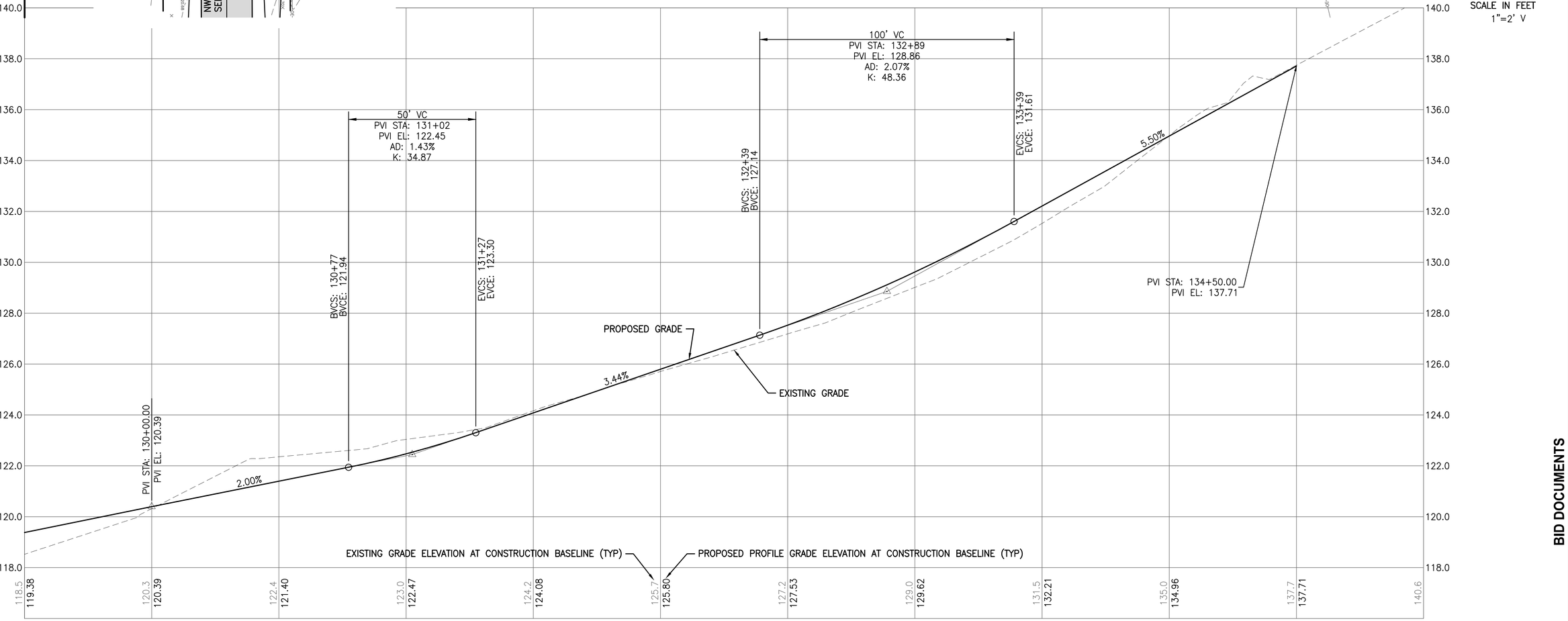
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C309

SAVED: 3/22/2024 2:06 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C309.DWG

PLOTTED: 3/22/2024 03:51 PM RASAHN MARTIN, EI
© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C310

SAVED: 3/22/2024 2:05 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C310.DWG

PLOTTED: 3/22/2024 03:52 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

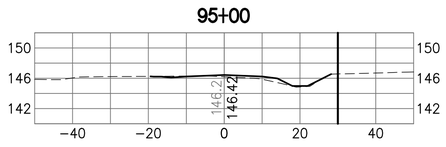
0 10 20 40

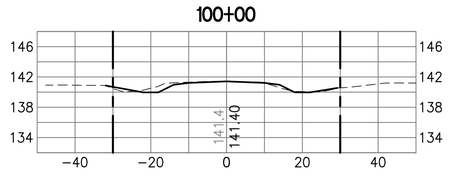
SCALE IN FEET
1"=20' H

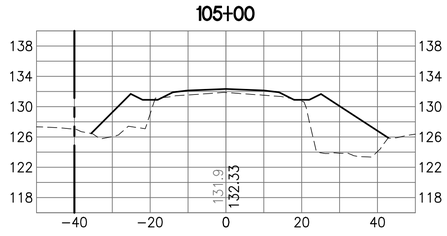
GRAPHIC SCALE

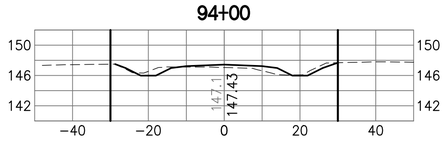
0 5 10 20

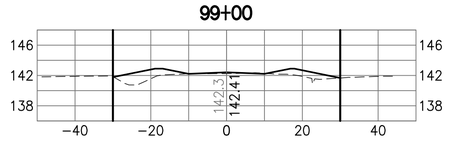
SCALE IN FEET
1"=10' V

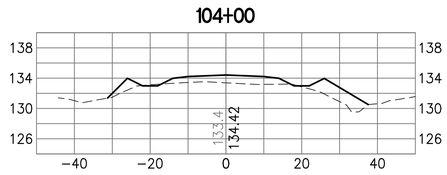


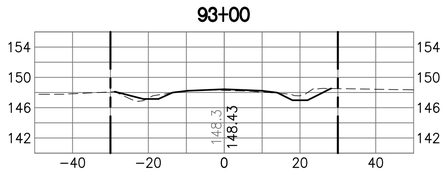


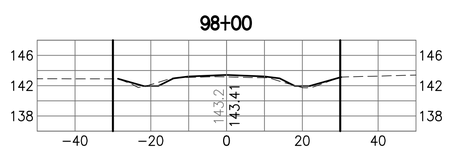


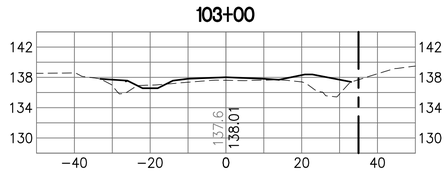


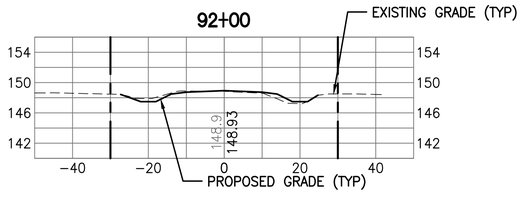


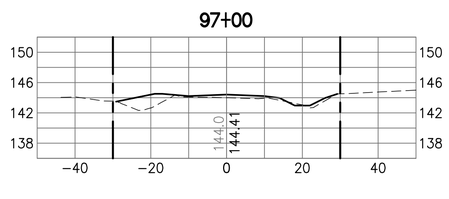


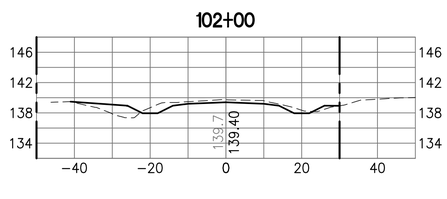


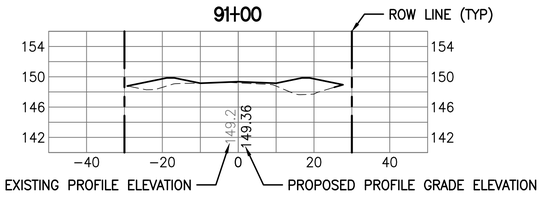


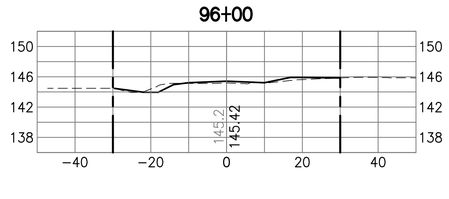


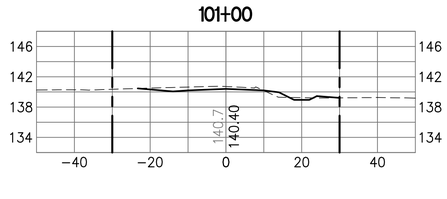












BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE CROSS SECTIONS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C311

SAVED: 1/5/2024 12:35 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C311.DWG

PLOTTED: 3/22/2024 03:52 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

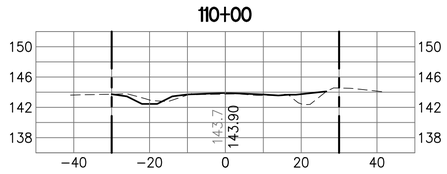
0 10 20 40

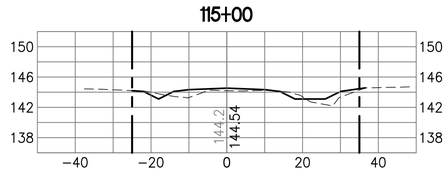
SCALE IN FEET
1"=20' H

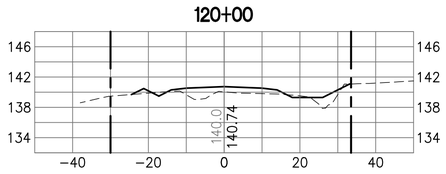
GRAPHIC SCALE

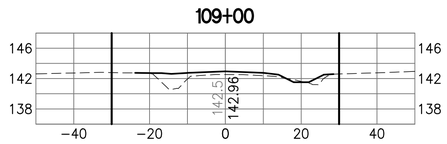
0 5 10 20

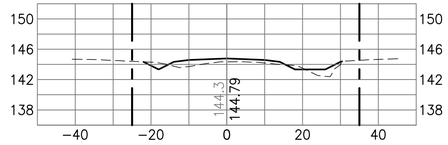
SCALE IN FEET
1"=10' V

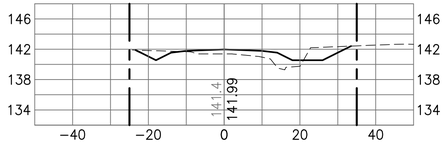


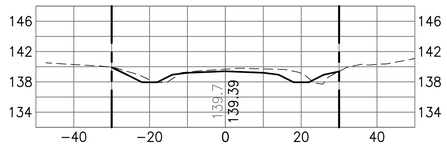


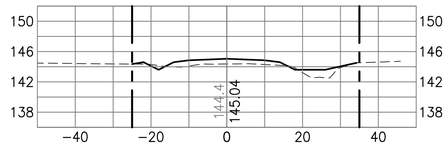


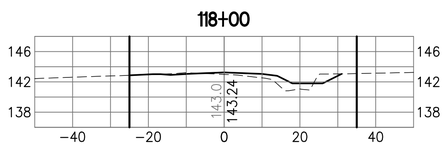


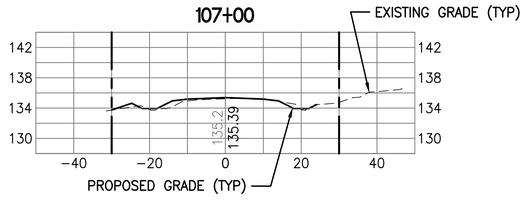


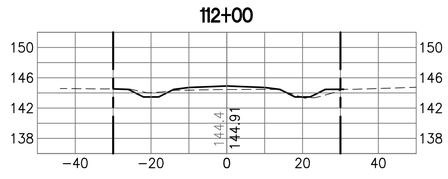


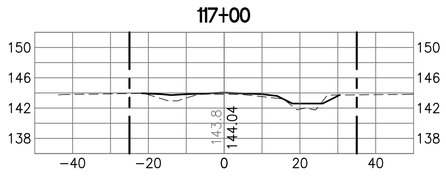


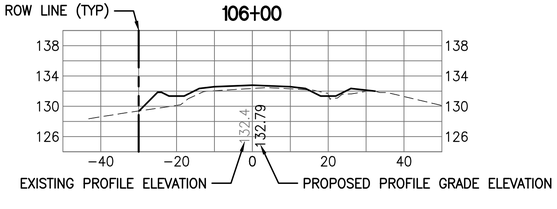


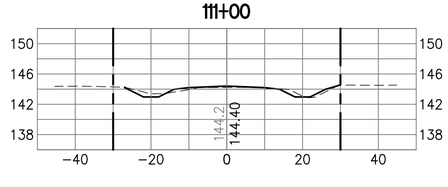


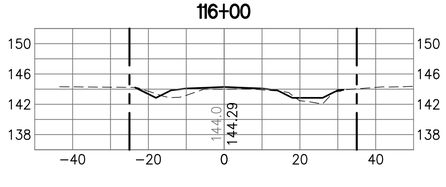












BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE CROSS SECTIONS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C312

SAVED: 1/5/2024 12:35 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C312.DWG

PLOTTED: 3/22/2024 03:52 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

0 10 20 40

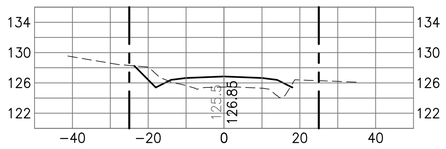
SCALE IN FEET
1"=20' H

GRAPHIC SCALE

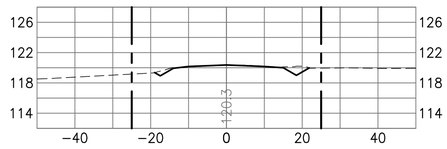
0 5 10 20

SCALE IN FEET
1"=10' V

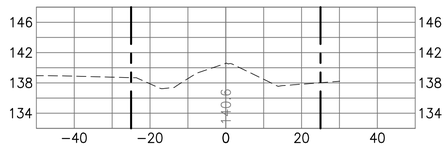
125+00



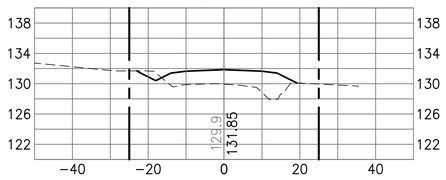
130+00



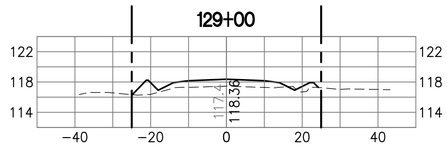
135+00



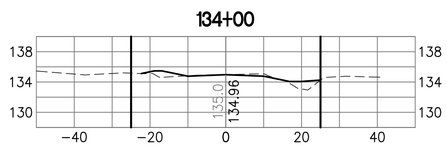
124+00



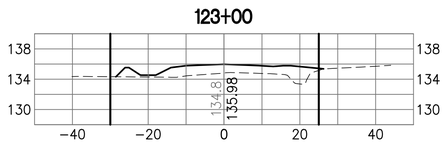
129+00



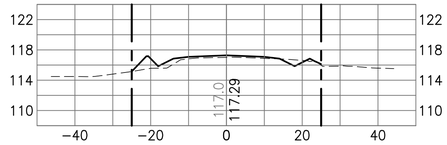
134+00



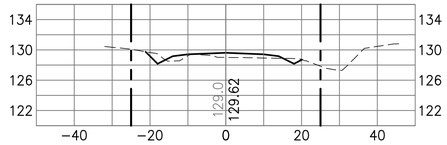
123+00



128+00

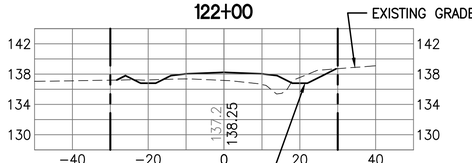


133+00



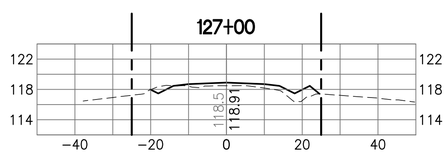
122+00

EXISTING GRADE (TYP)

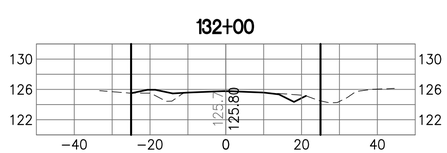


PROPOSED GRADE (TYP)

127+00

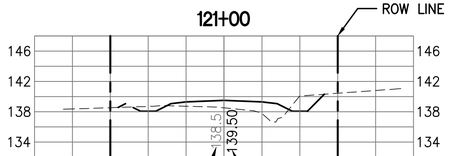


132+00



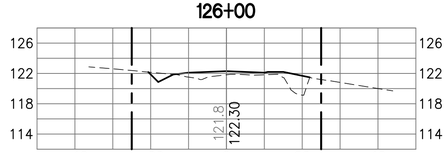
121+00

ROW LINE (TYP)

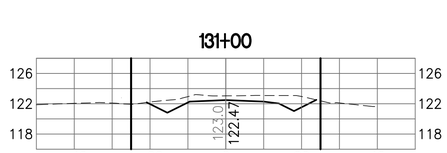


EXISTING PROFILE ELEVATION — PROPOSED PROFILE GRADE ELEVATION

126+00



131+00



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW PILLSBURY DRIVE CROSS SECTIONS

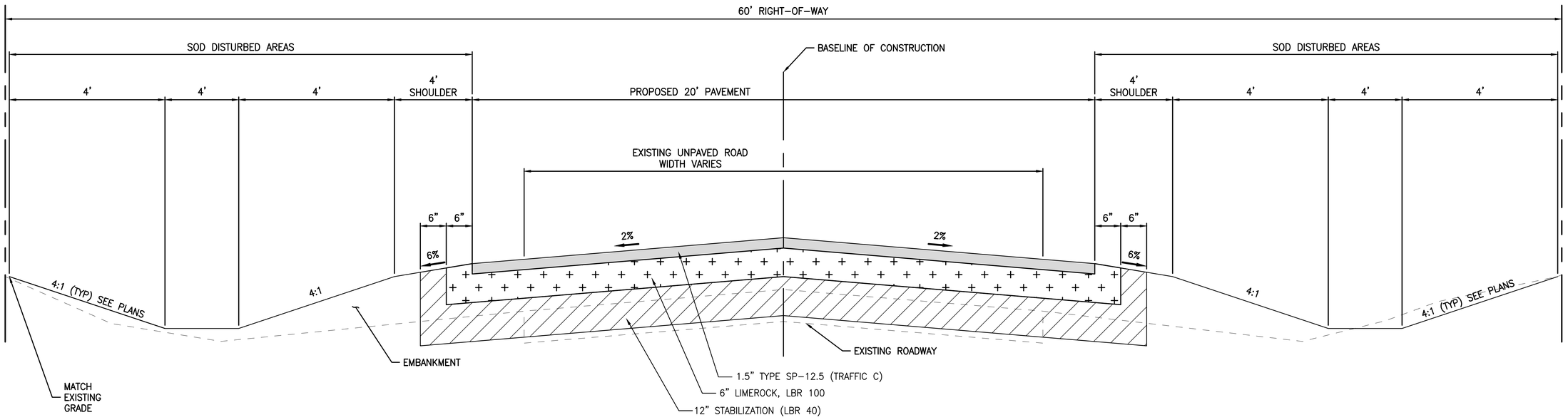
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C313

SAVED: 1/5/2024 12:35 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C313.DWG

PLOTTED: 3/22/2024 03:53 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

SAVED: 1/24/2023 1:04 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C400.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

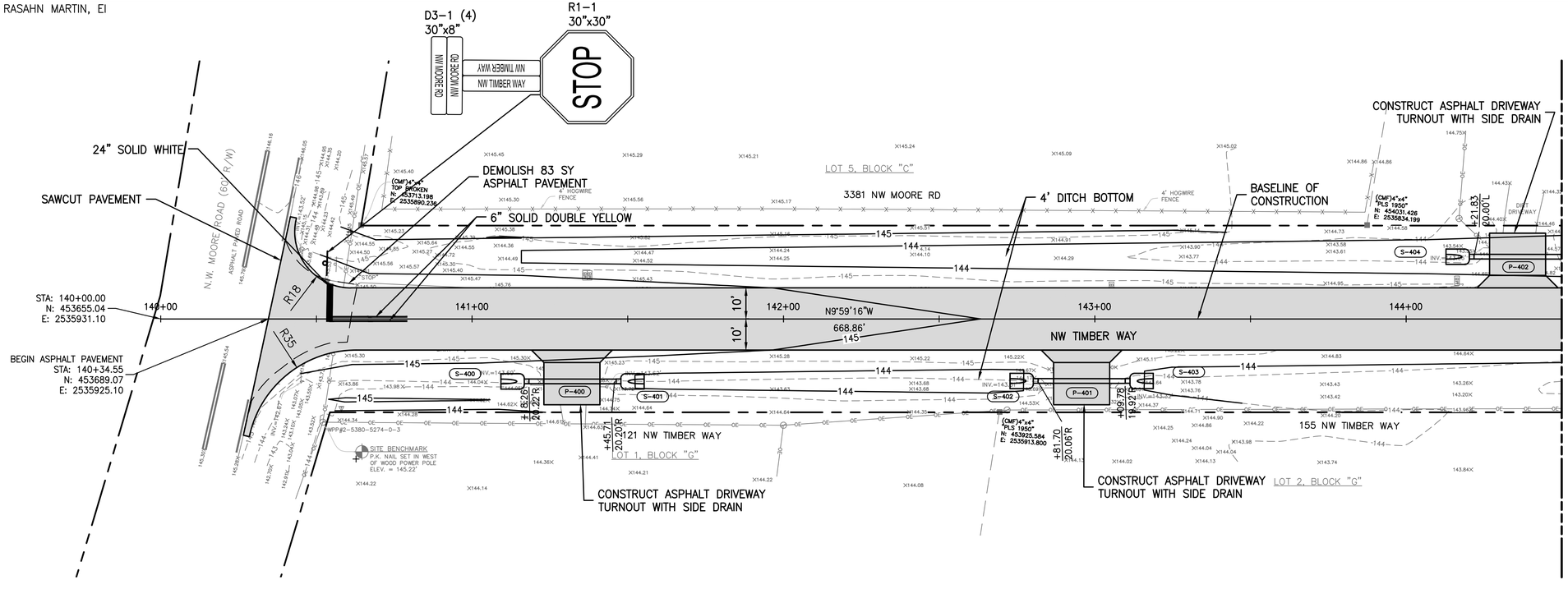
NW TIMBER WAY TYPICAL SECTION

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C400

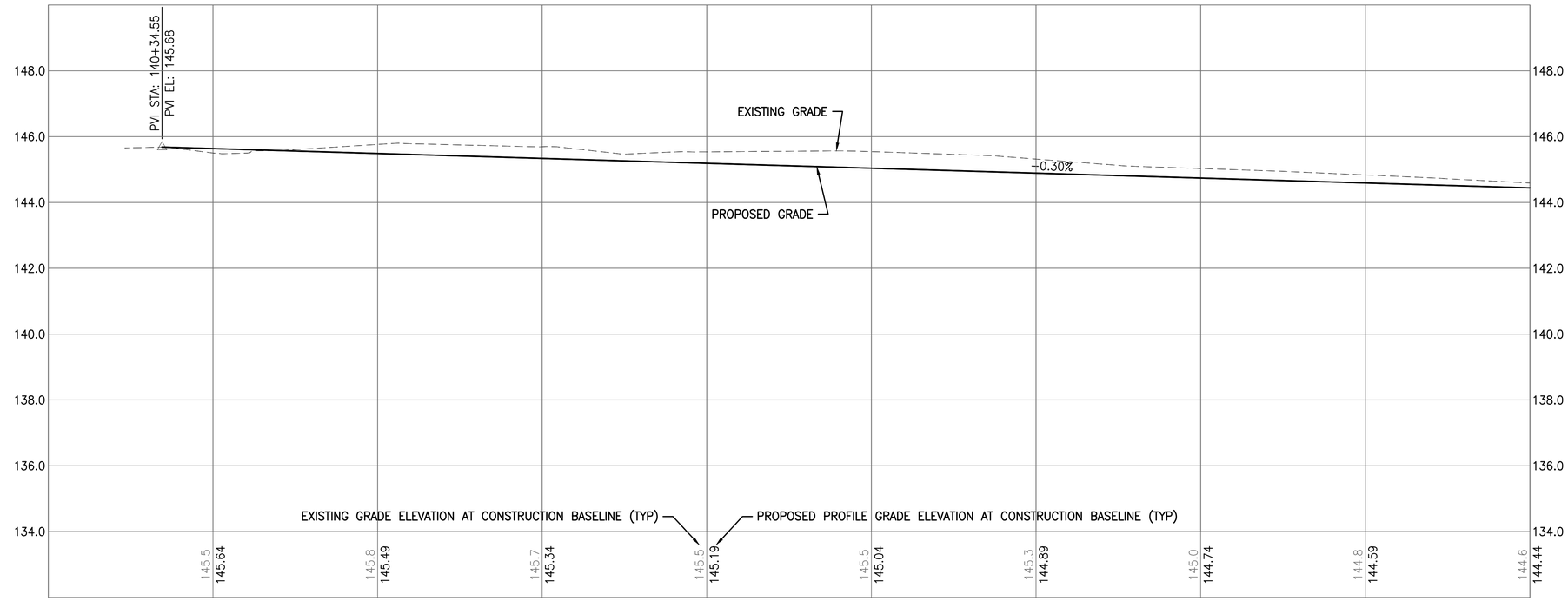
PLOTTED: 3/22/2024 03:53 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW TIMBER WAY PLAN AND PROFILE

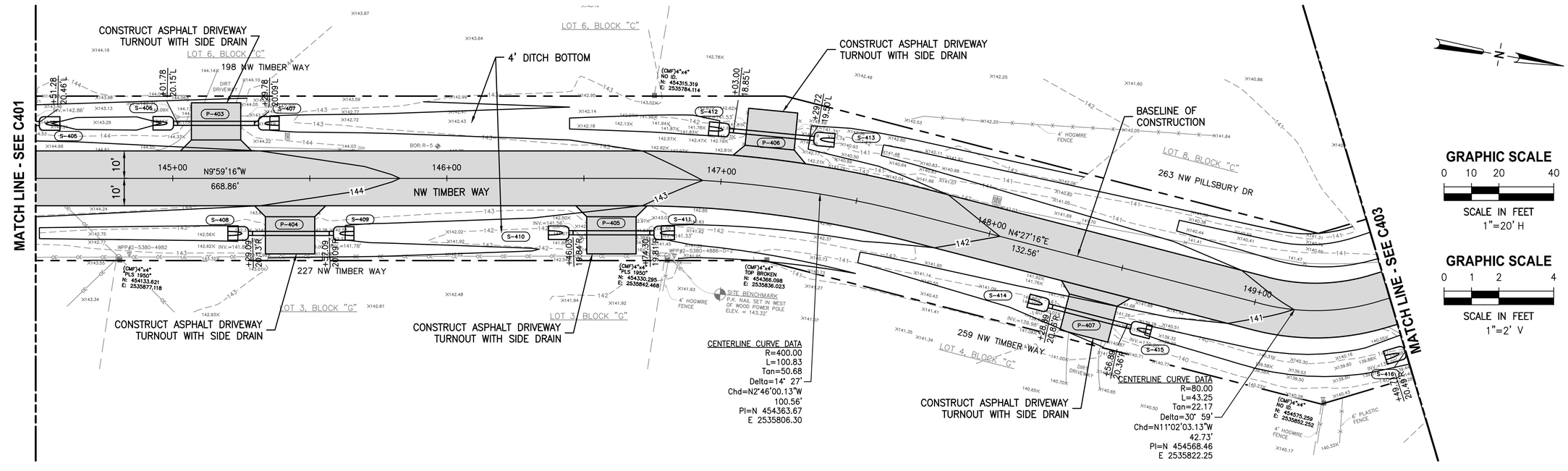
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C401

SAVED: 3/22/2024 2:01 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C401.DWG

PLOTTED: 3/22/2024 03:54 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



GRAPHIC SCALE

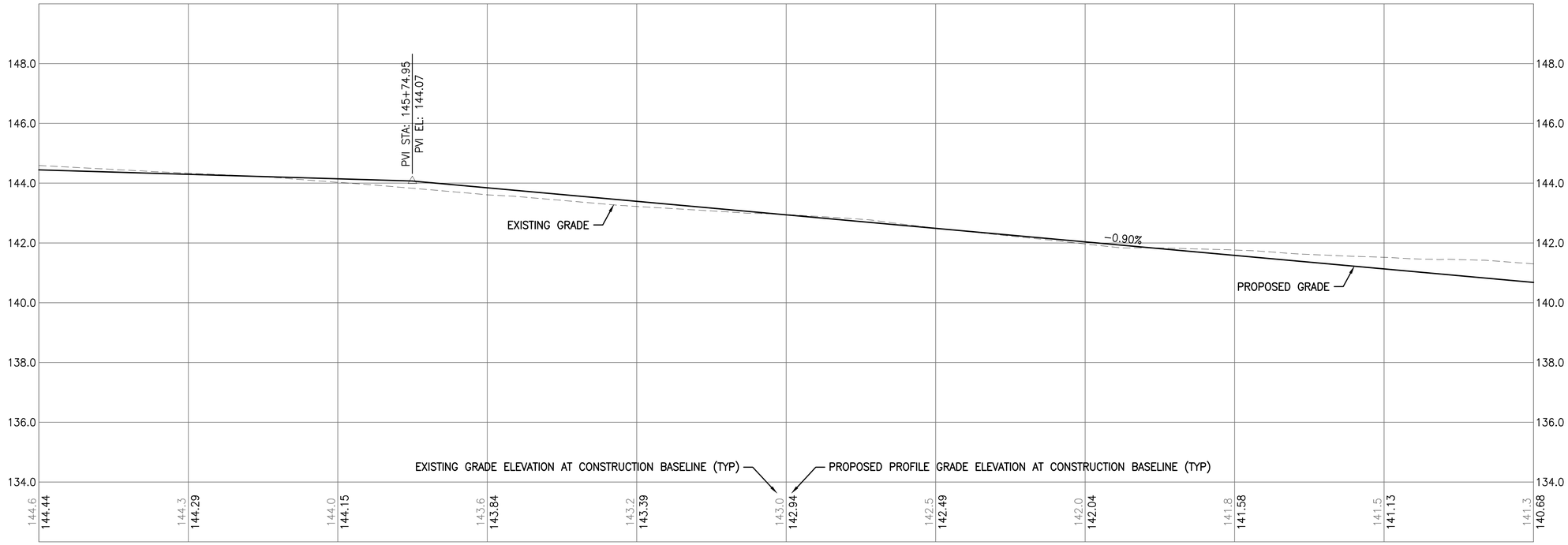
0 10 20 40

SCALE IN FEET
1"=20' H

GRAPHIC SCALE

0 1 2 4

SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW TIMBER WAY PLAN AND PROFILE

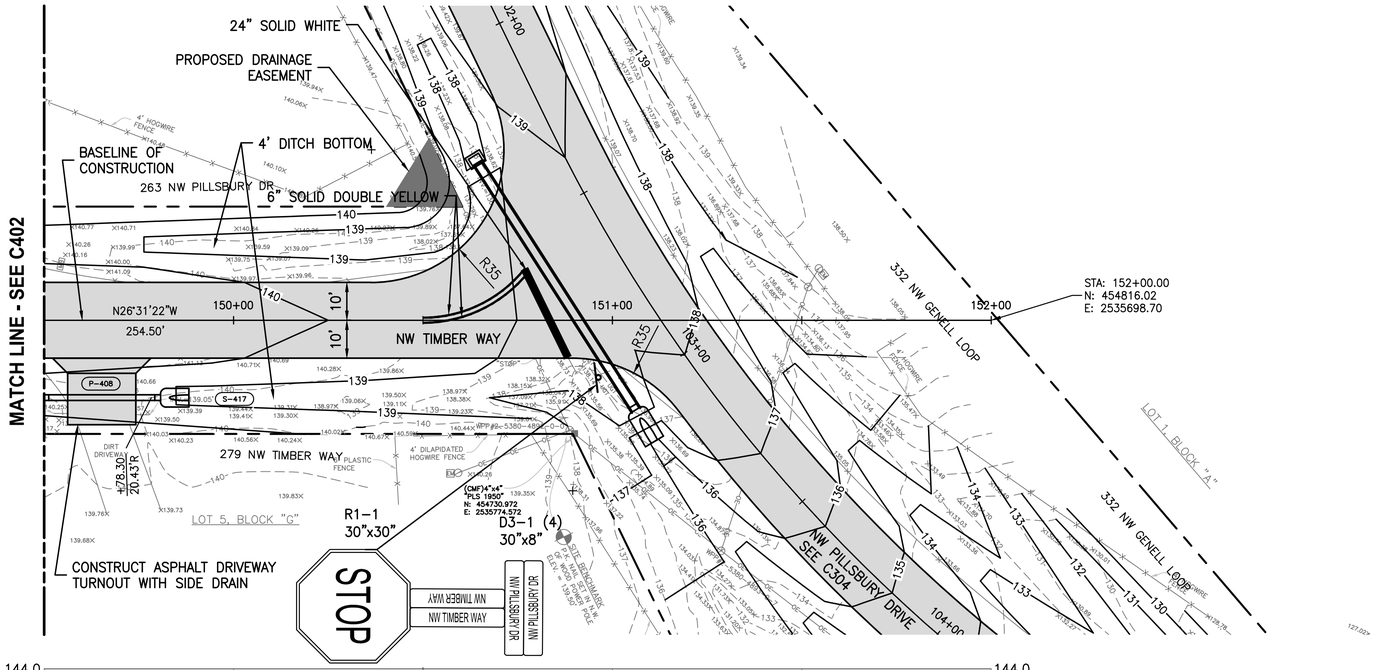
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

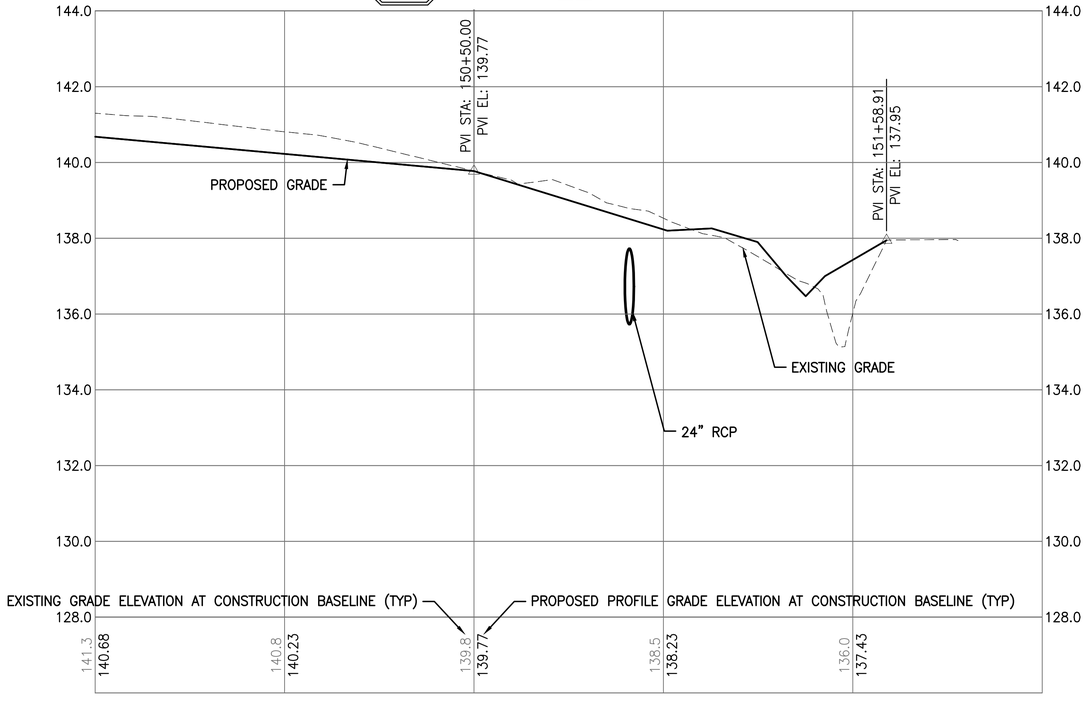
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C402

SAVED: 3/22/2024 1:59 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C402.DWG

PLOTTED: 3/22/2024 03:55 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW TIMBER WAY PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C403

SAVED: 3/22/2024 1:57 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C403.DWG

PLOTTED: 3/22/2024 03:55 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

0 10 20 40

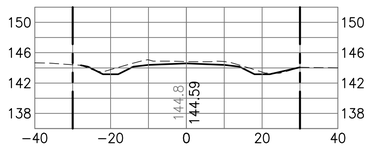
SCALE IN FEET
1"=20' H

GRAPHIC SCALE

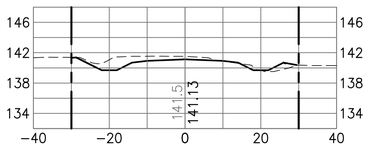
0 5 10 20

SCALE IN FEET
1"=10' V

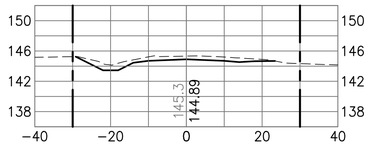
144+00



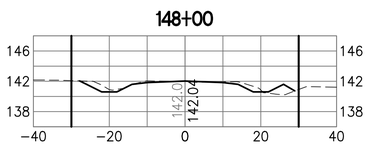
149+00



143+00

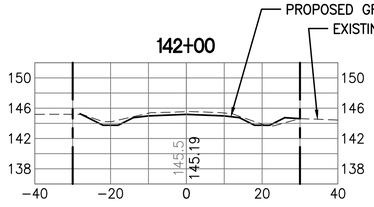


148+00

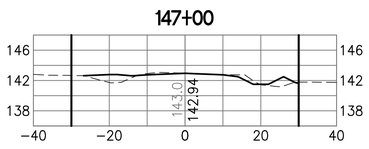


142+00

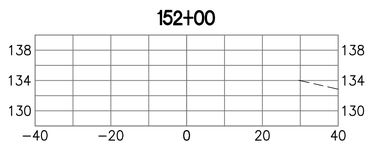
PROPOSED GRADE (TYP)
EXISTING GRADE (TYP)



147+00

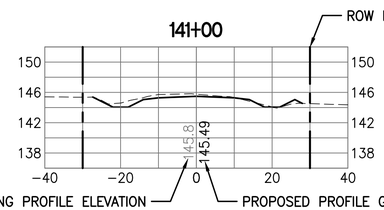


152+00



141+00

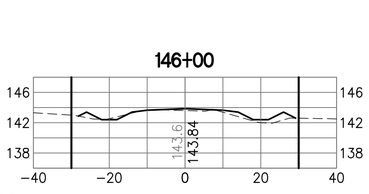
ROW LINE (TYP)



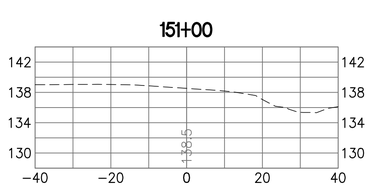
EXISTING PROFILE ELEVATION

PROPOSED PROFILE GRADE ELEVATION

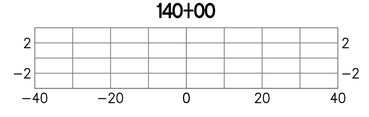
146+00



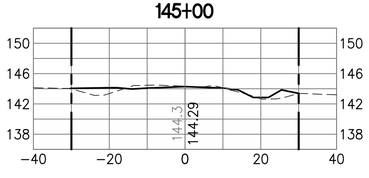
151+00



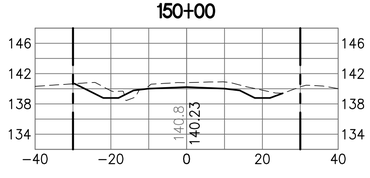
140+00



145+00



150+00



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW TIMBER WAY CROSS SECTIONS

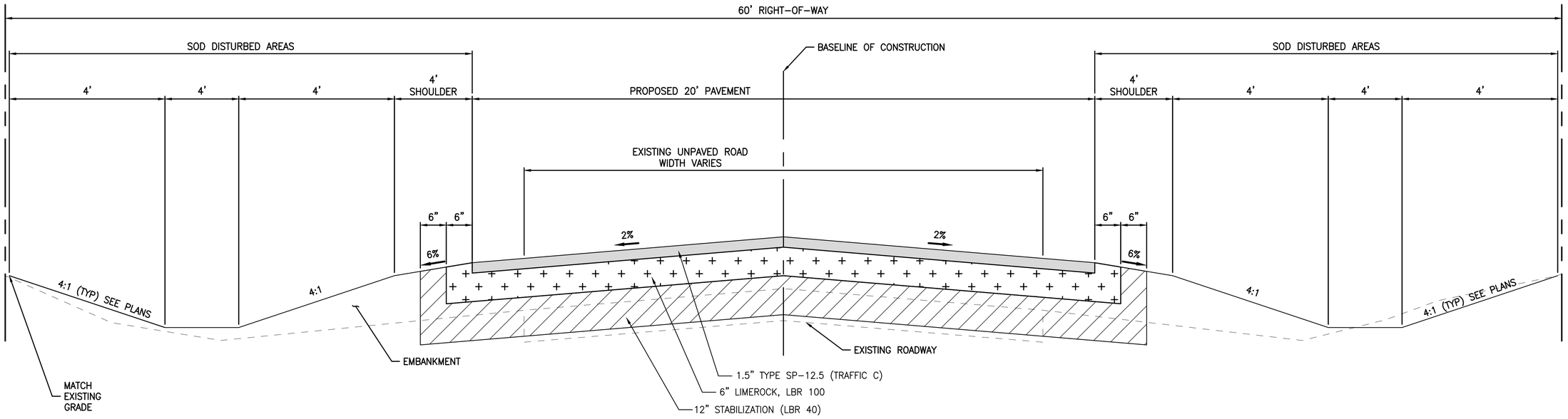
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C404

SAVED: 1/5/2024 12:35 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C404.DWG

PLOTTED: 3/22/2024 03:55 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW JAN COURT TYPICAL SECTION

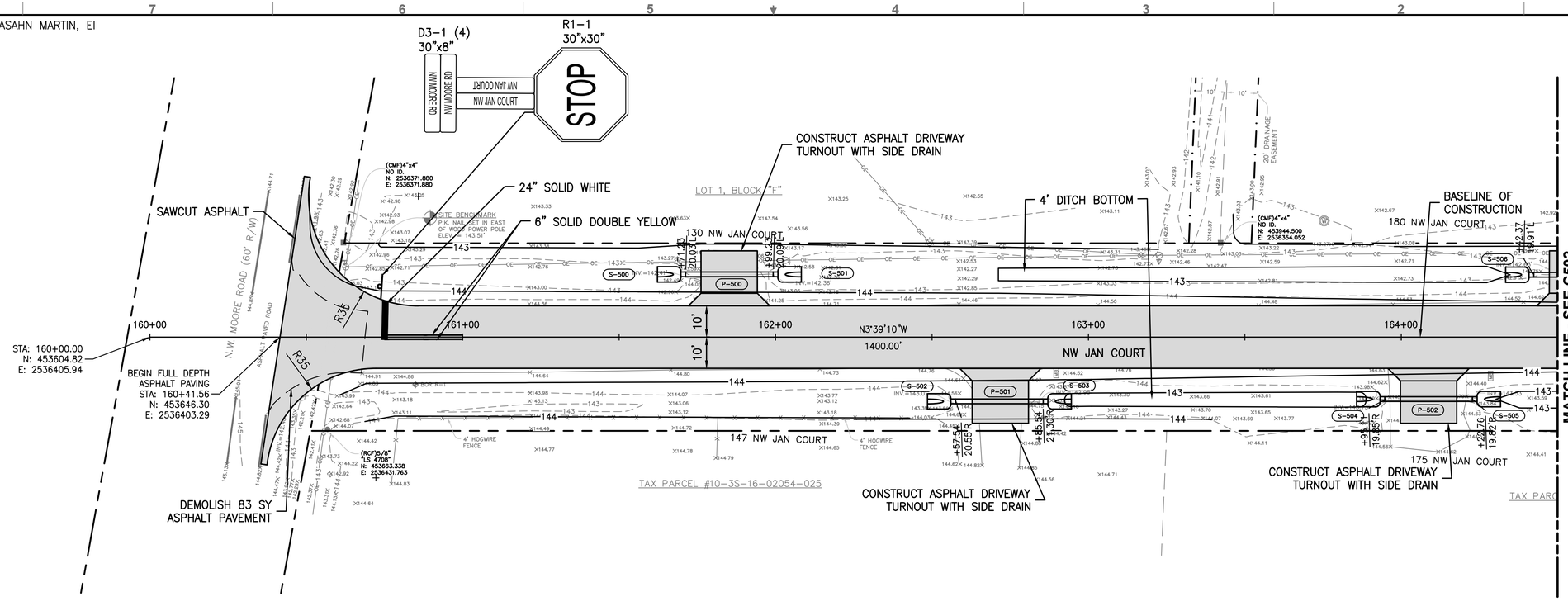
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

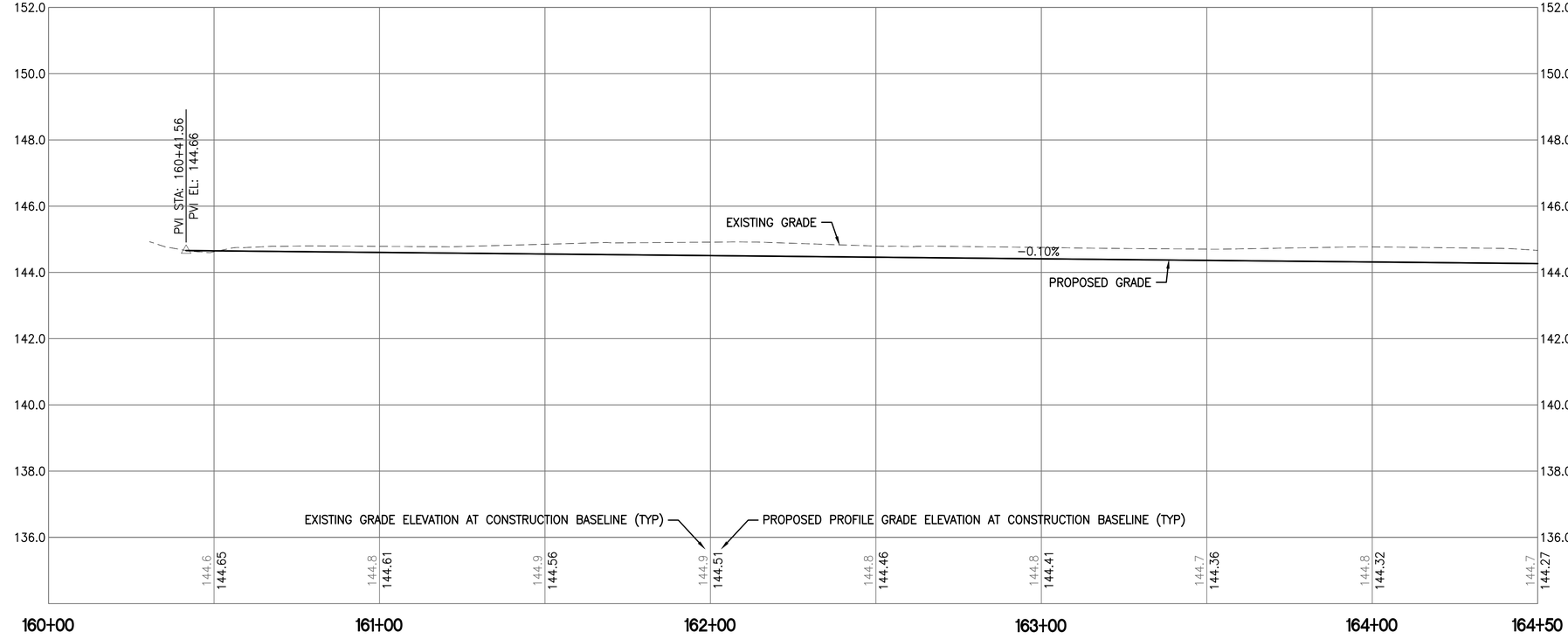
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C500

SAVED: 1/24/2023 1:05 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C500.DWG

PLOTTED: 3/22/2024 03:56 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

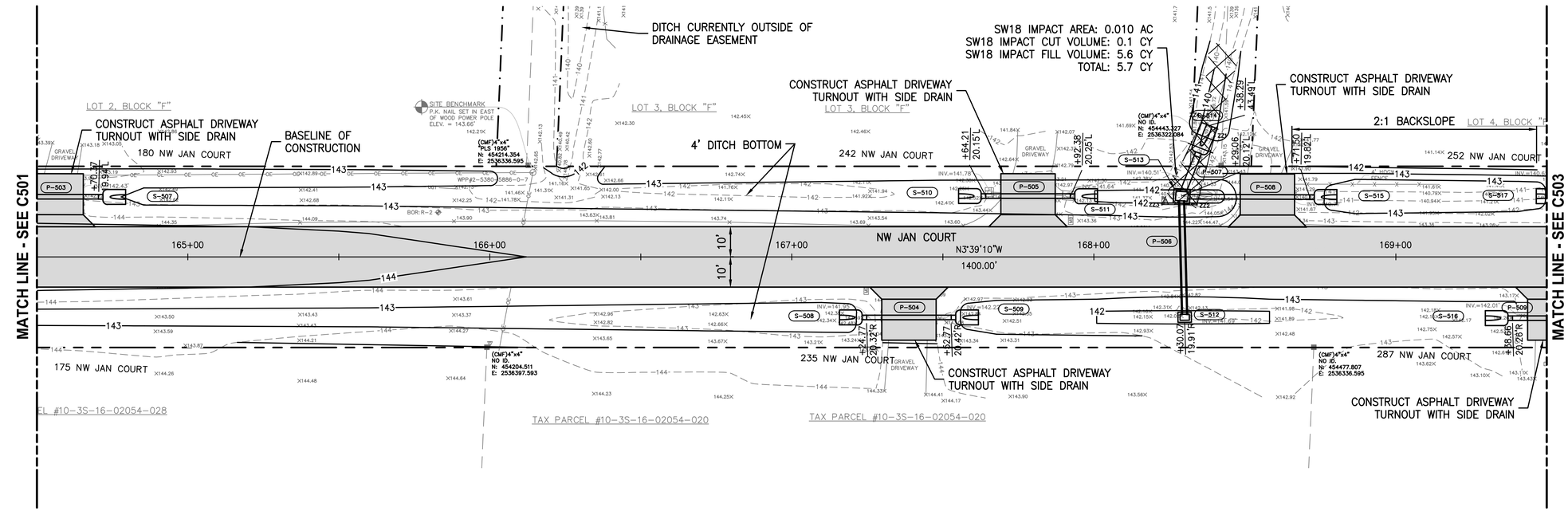
NW JAN COURT PLAN AND PROFILE

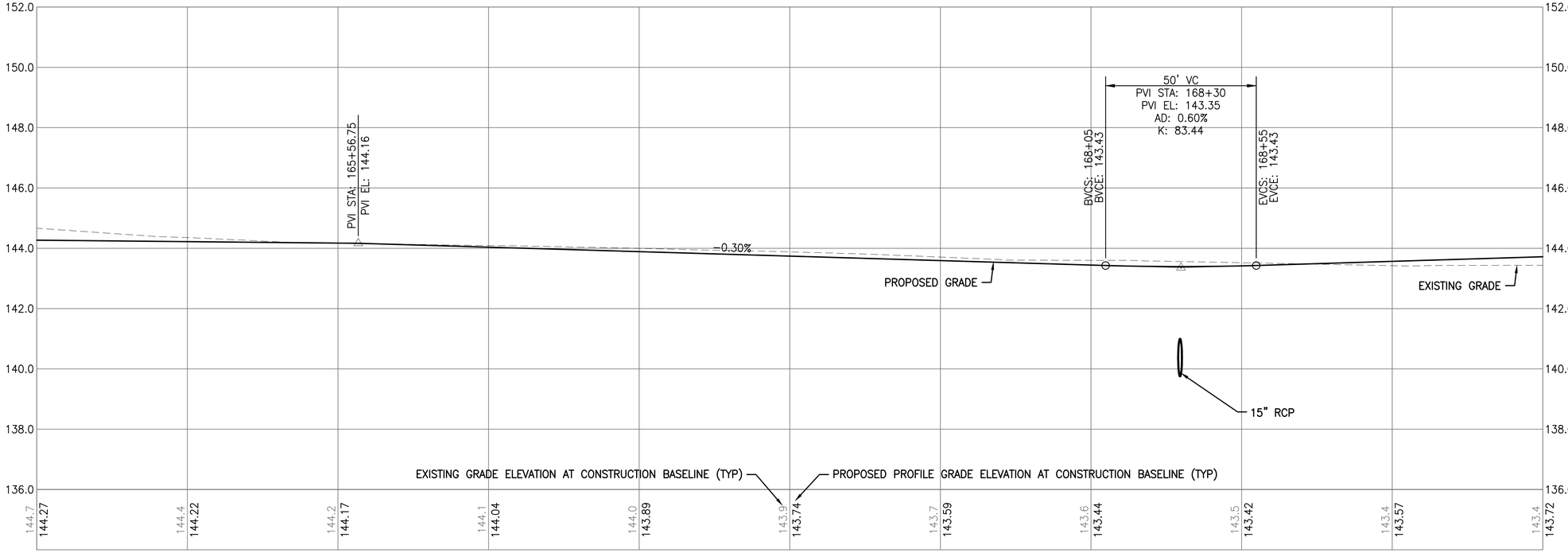
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C501

SAVED: 3/22/2024 1:50 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C501.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

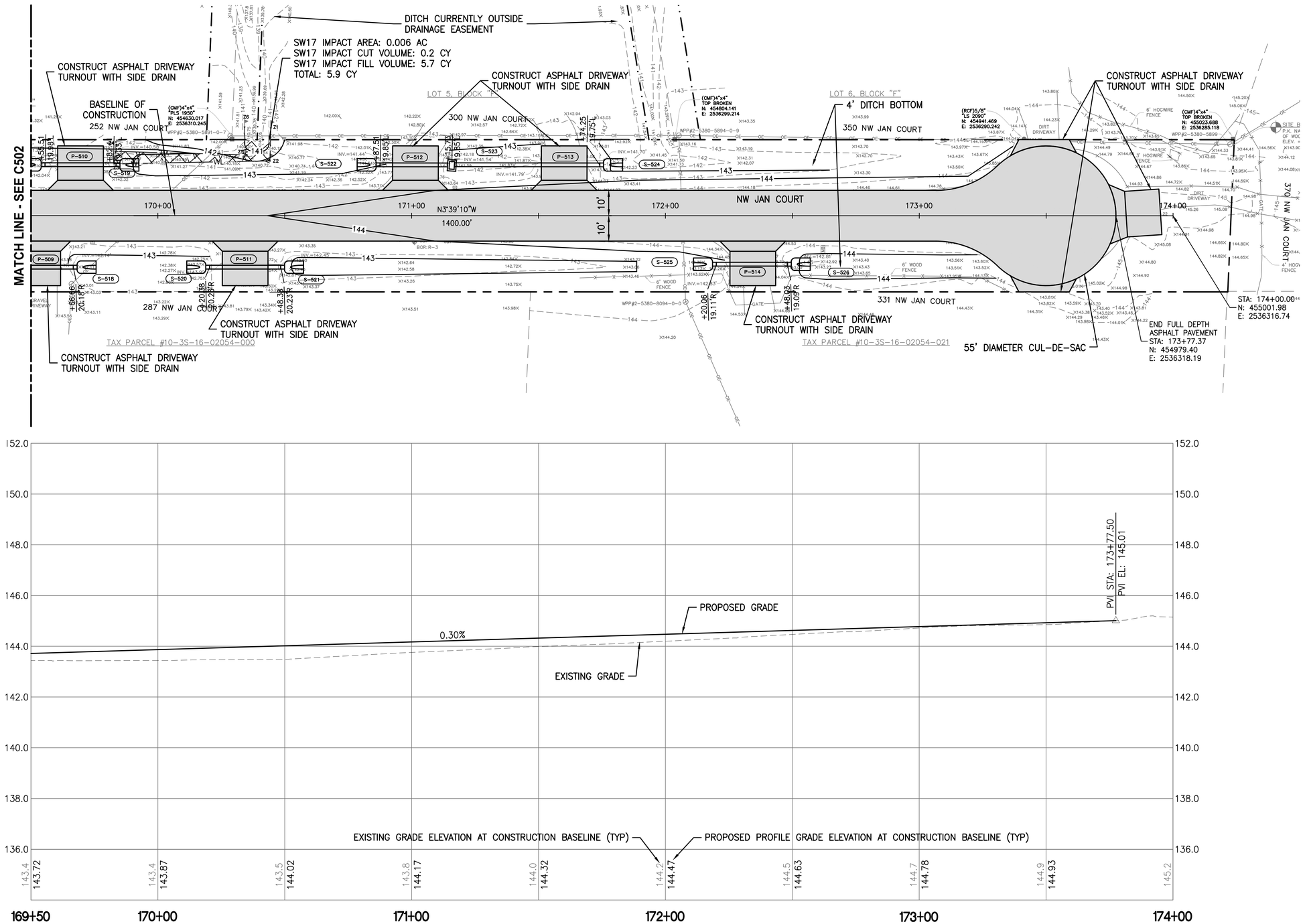
NW JAN COURT PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C502

SAVED: 3/22/2024 1:49 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C502.DWG

© Jones Edmunds 2234



GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW JAN COURT PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C503

SAVED: 3/22/2024 1:47 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C503.DWG

PLOTTED: 3/22/2024 03:58 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

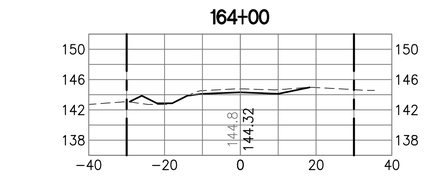
0 10 20 40

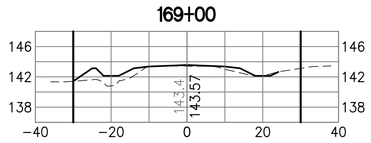
SCALE IN FEET
1"=20' H

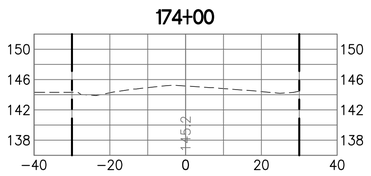
GRAPHIC SCALE

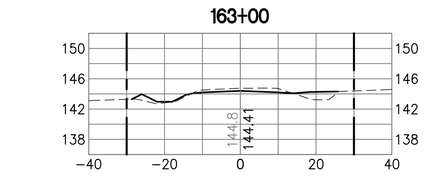
0 5 10 20

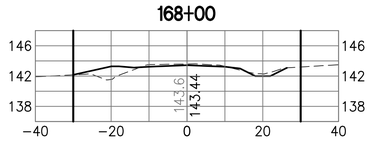
SCALE IN FEET
1"=10' V

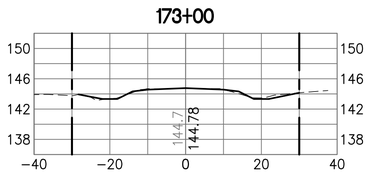


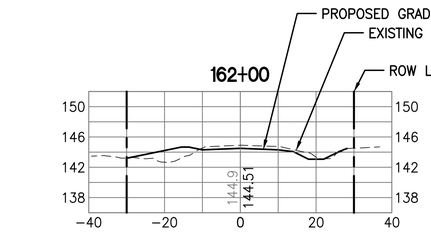


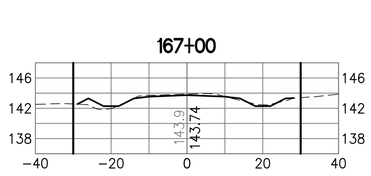


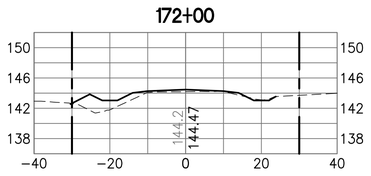


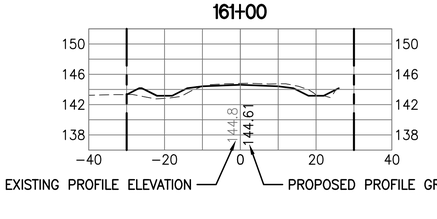


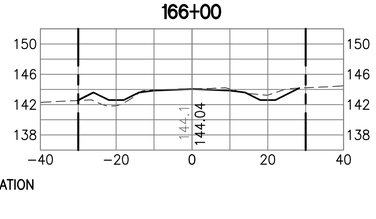


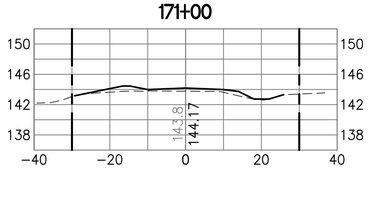


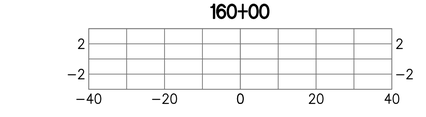


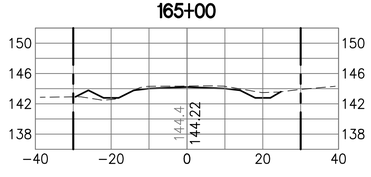


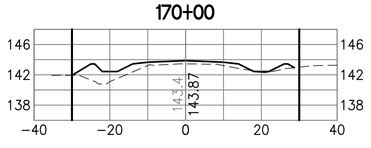












BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW JAN COURT CROSS SECTIONS

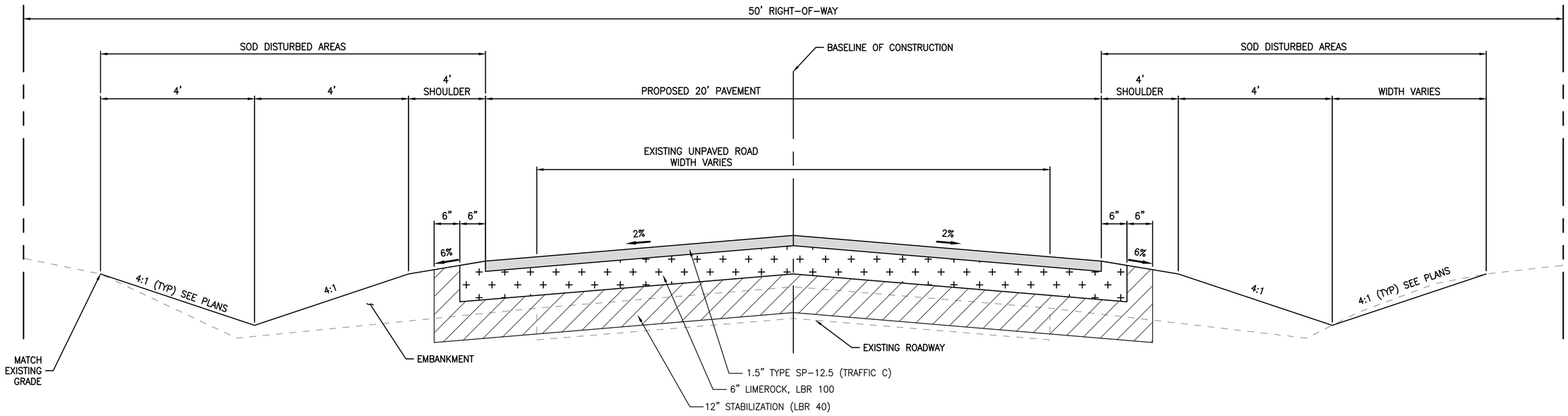
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C504

SAVED: 1/5/2024 12:34 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C504.DWG

PLOTTED: 3/22/2024 03:58 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

SAVED: 1/24/2023 1:06 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C600.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

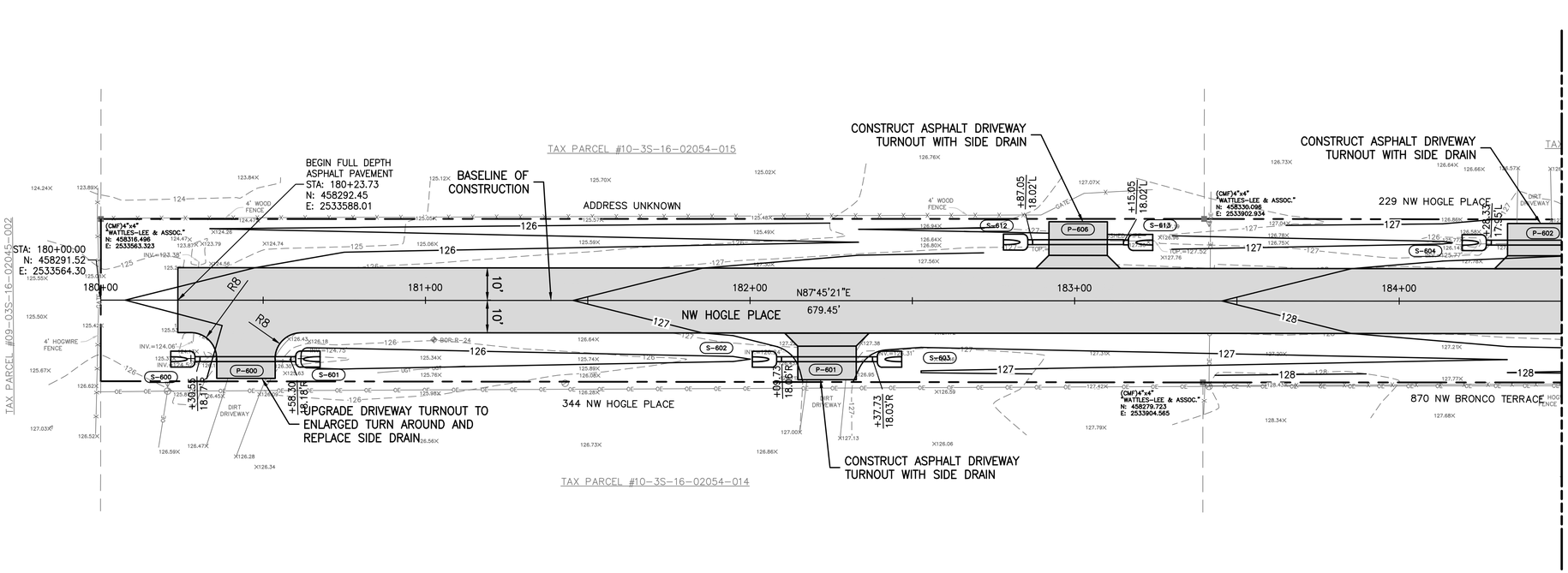
NW HOGLE PLACE TYPICAL SECTION

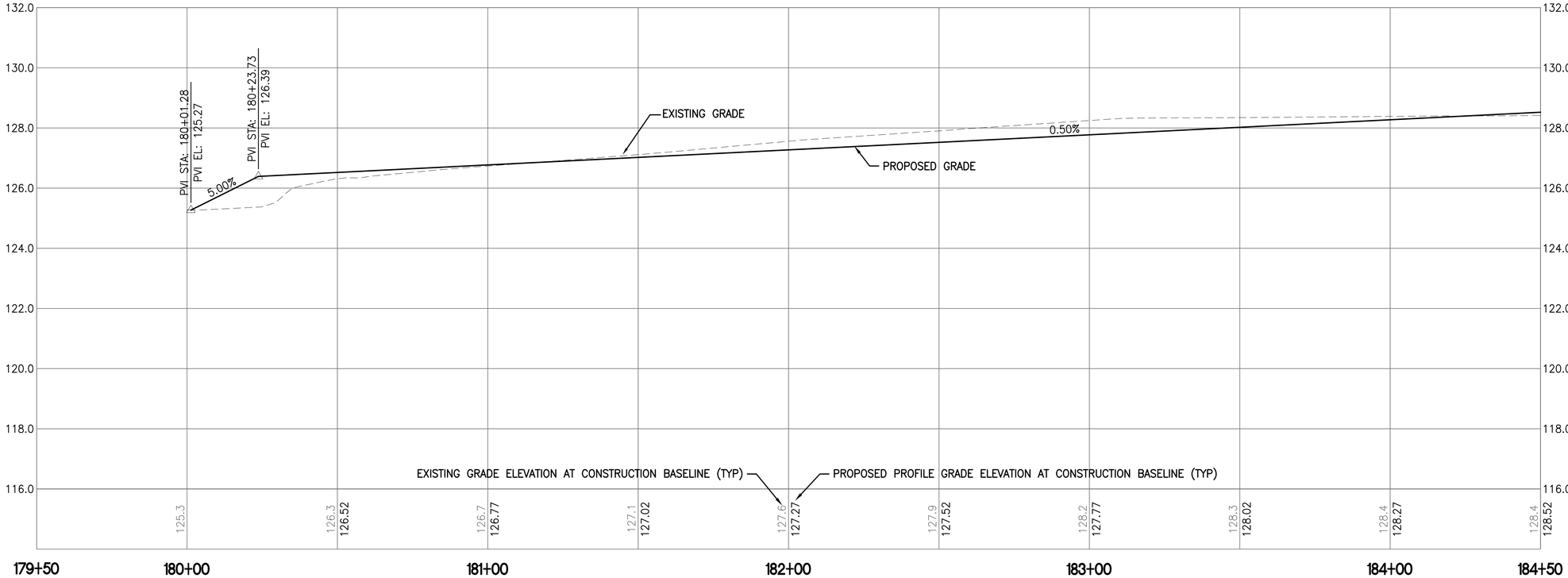
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C600

PLOTTED: 3/22/2024 03:58 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

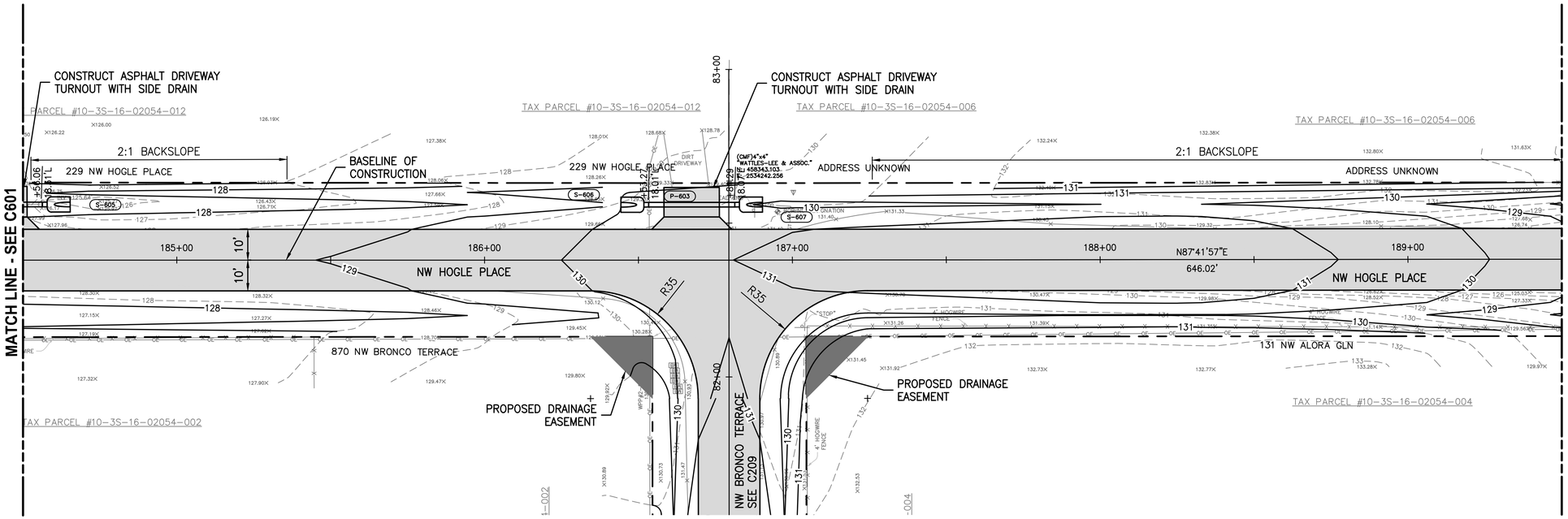
NW HOGLE PLACE PLAN AND PROFILE

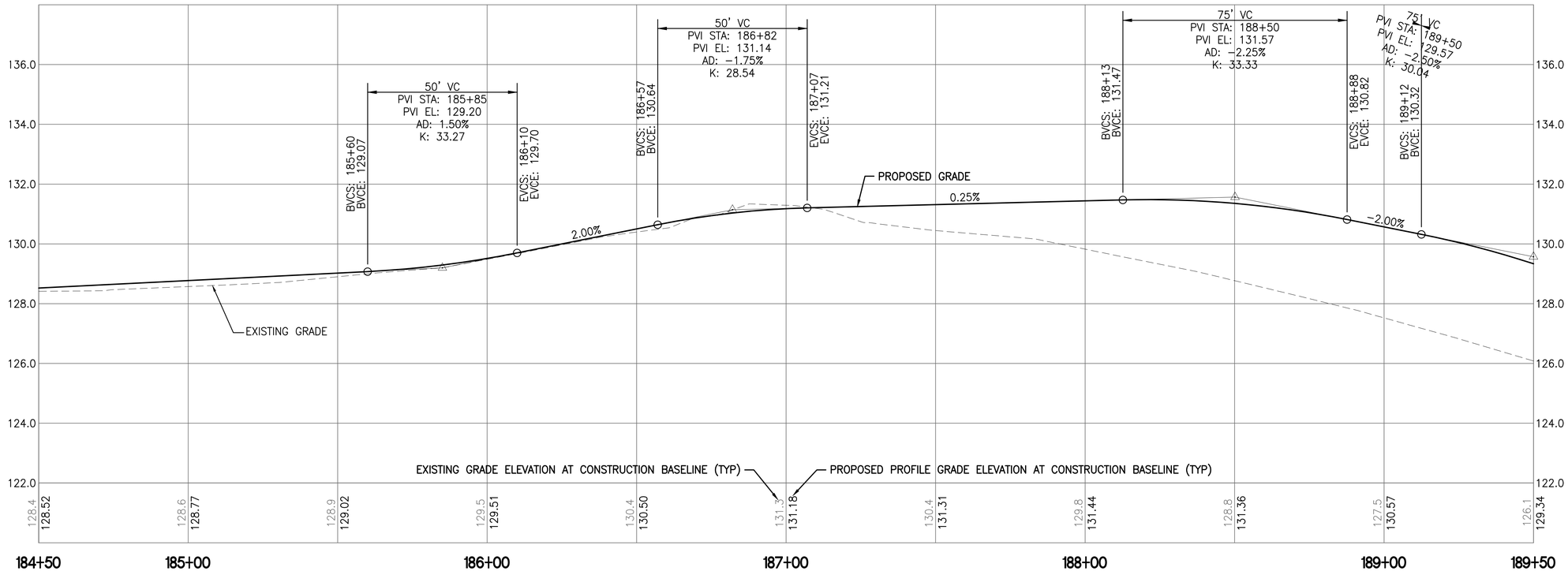
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C601

SAVED: 3/22/2024 1:34 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C601.DWG

PLOTTED: 3/22/2024 03:59 PM RASAHN MARTIN, EI
© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

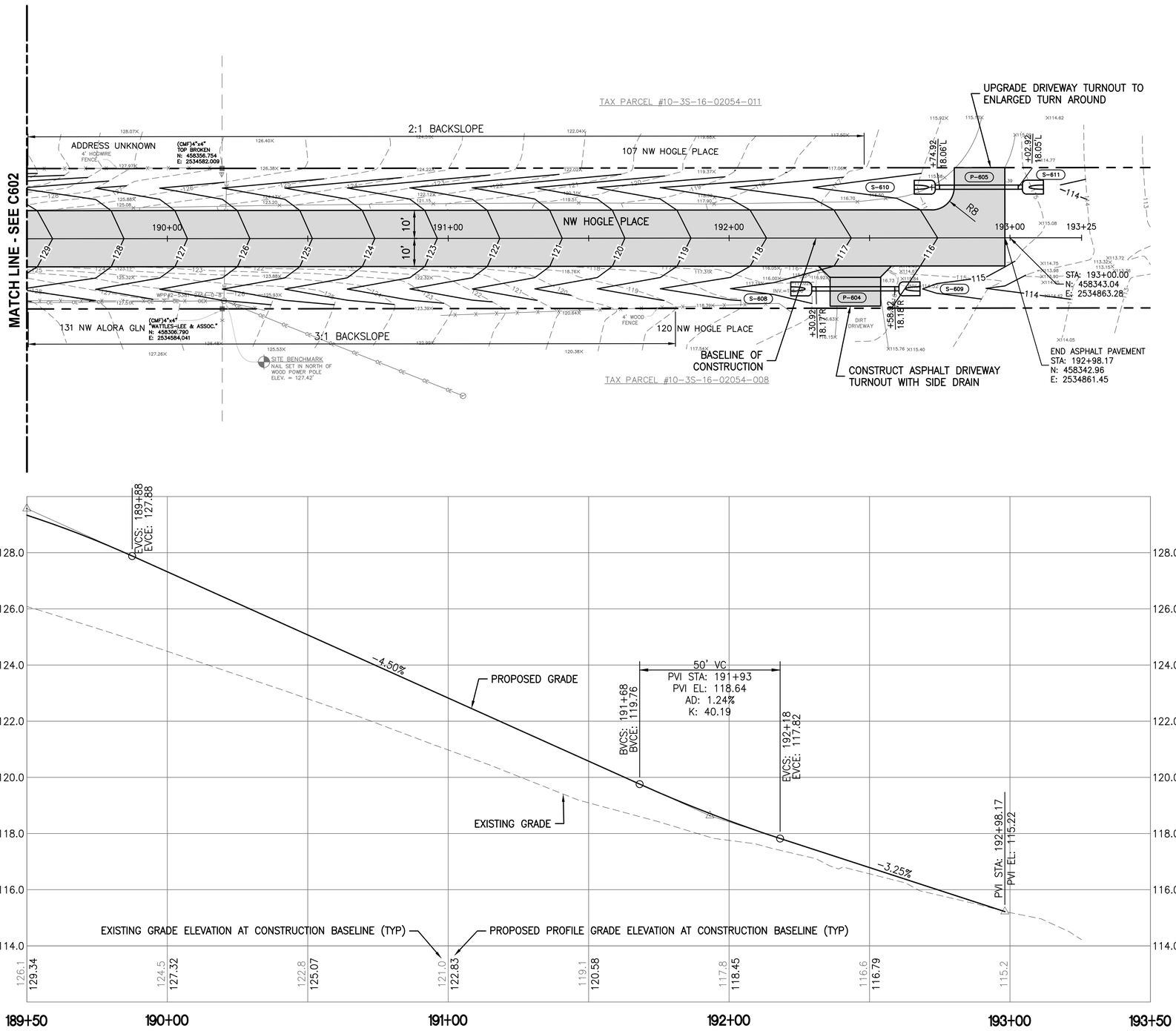
NW HOGLE PLACE PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C602

SAVED: 3/22/2024 1:32 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C602.DWG

© Jones Edmunds 2234



GRAPHIC SCALE

0 10 20 40

SCALE IN FEET
1"=20' H

GRAPHIC SCALE

0 1 2 4

SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW HOGLE PLACE PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C603

SAVED: 3/22/2024 1:32 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C603.DWG

PLOTTED: 3/22/2024 04:00 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

GRAPHIC SCALE

0 10 20 40

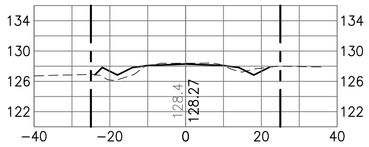
SCALE IN FEET
1"=20' H

GRAPHIC SCALE

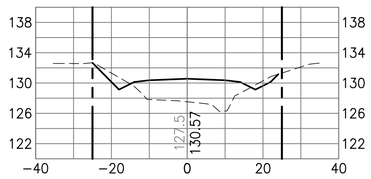
0 5 10 20

SCALE IN FEET
1"=10' V

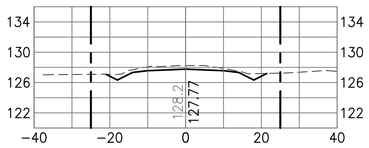
184+00



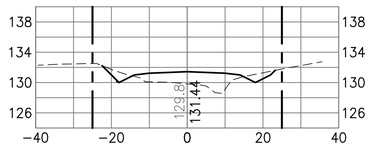
189+00



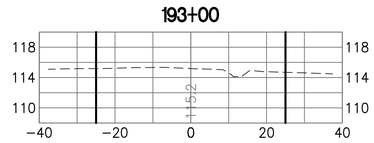
183+00



188+00

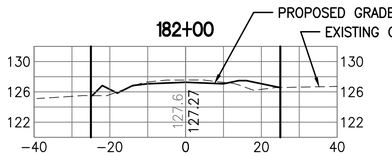


193+00

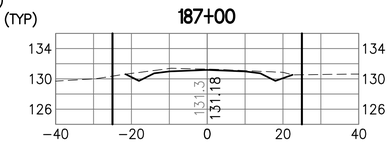


182+00

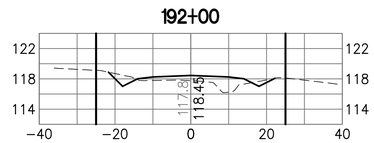
PROPOSED GRADE (TYP)
EXISTING GRADE (TYP)



187+00

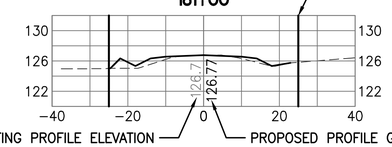


192+00



181+00

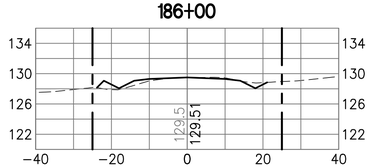
ROW LINE (TYP)



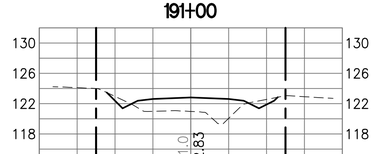
EXISTING PROFILE ELEVATION

PROPOSED PROFILE GRADE ELEVATION

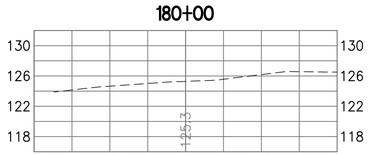
186+00



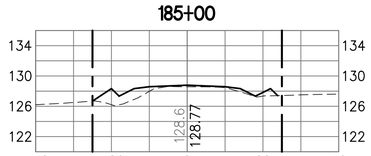
191+00



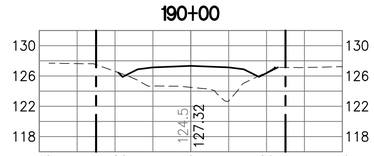
180+00



185+00



190+00



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW HOGLE PLACE CROSS SECTIONS

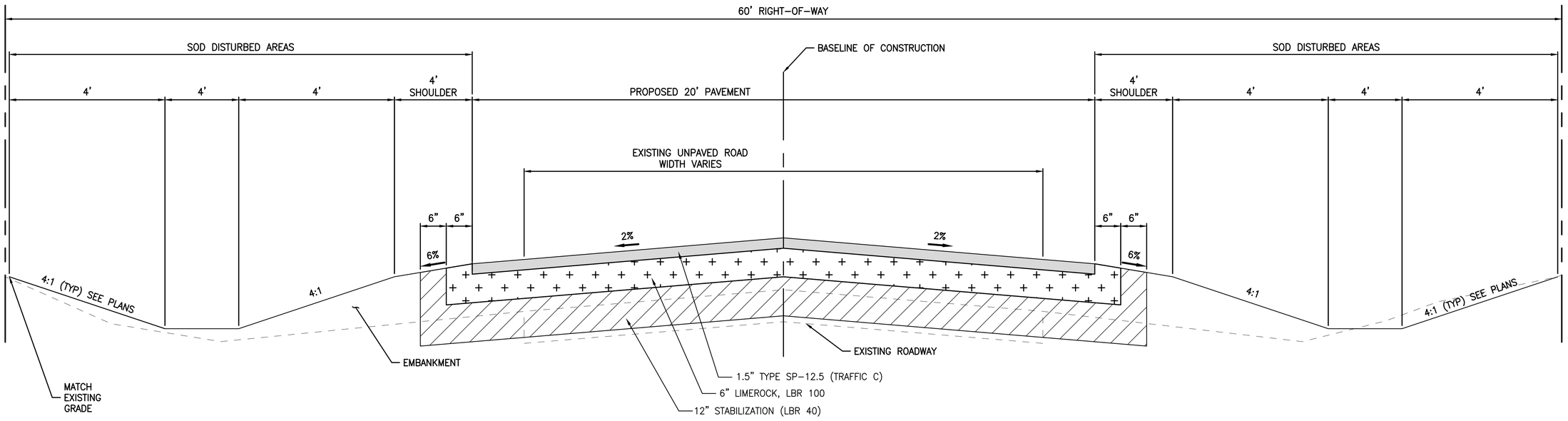
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C604

SAVED: 1/5/2024 12:34 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C604.DWG

PLOTTED: 3/22/2024 04:00 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

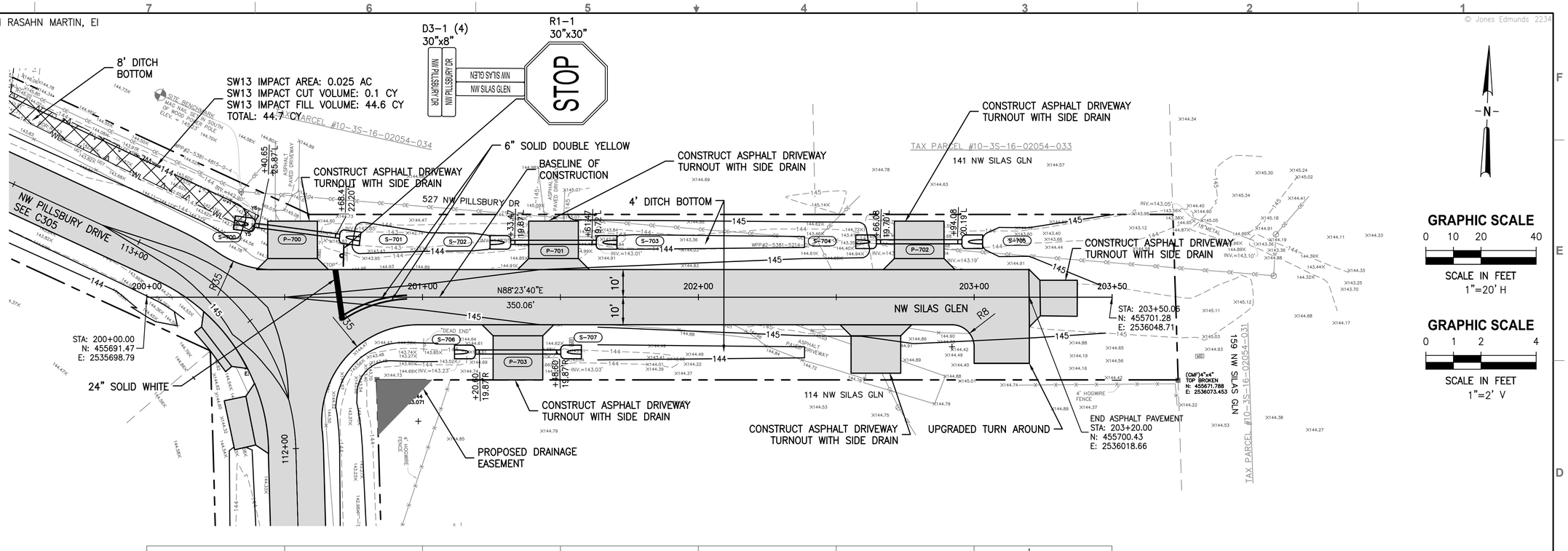
NW SILAS GLEN TYPICAL SECTION

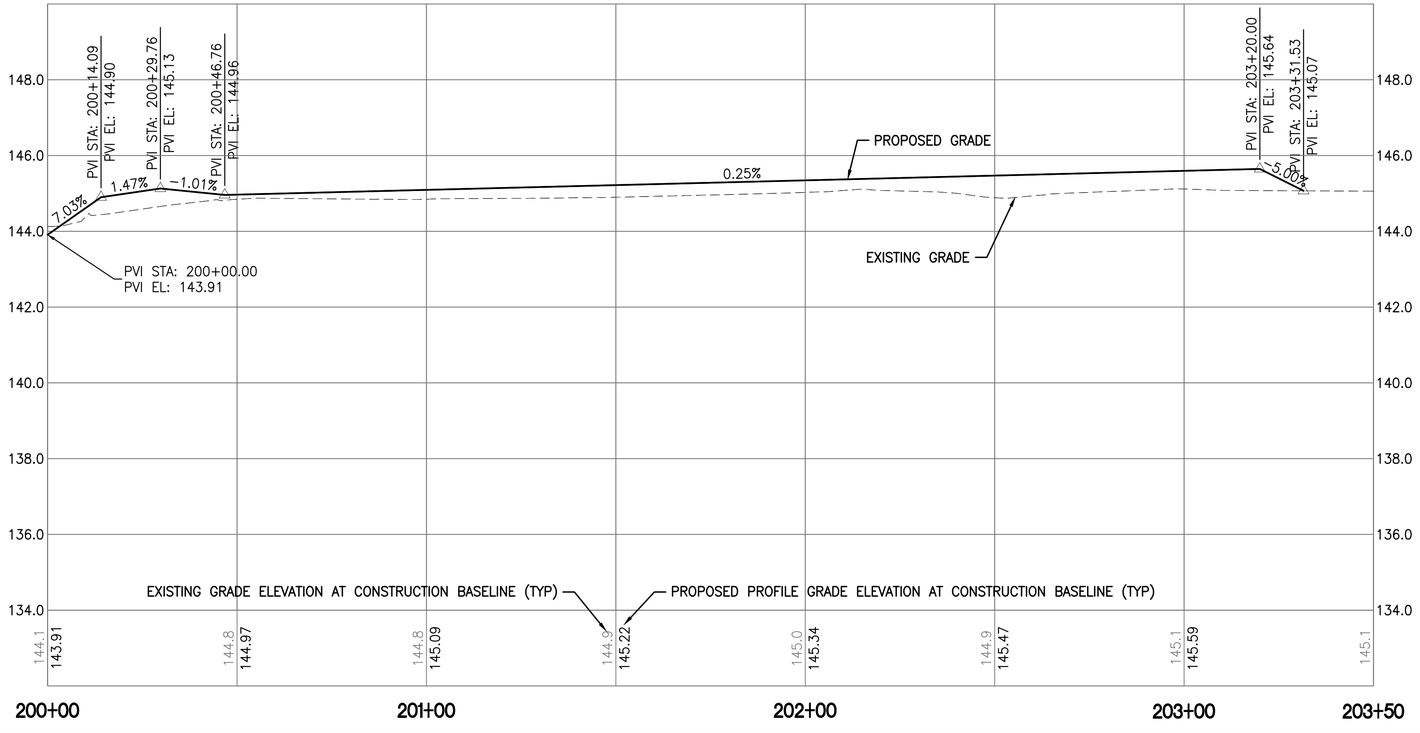
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C700

SAVED: 1/24/2023 1:06 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C700.DWG

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW SILAS GLEN PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C701

SAVED: 3/22/2024 1:16 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C701.DWG

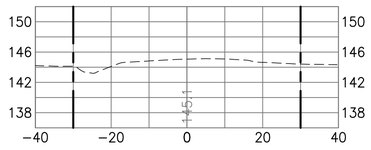
PLOTTED: 3/22/2024 04:01 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

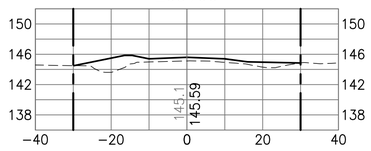
GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 5 10 20
SCALE IN FEET
1"=10' V

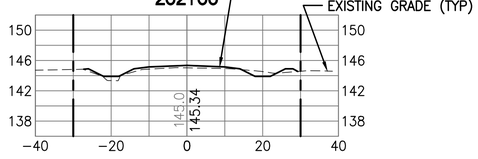
203+50



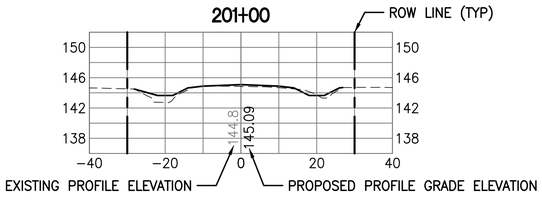
203+00



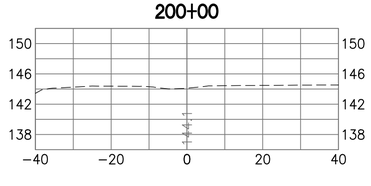
202+00



201+00



200+00



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW SILAS GLEN CROSS SECTIONS

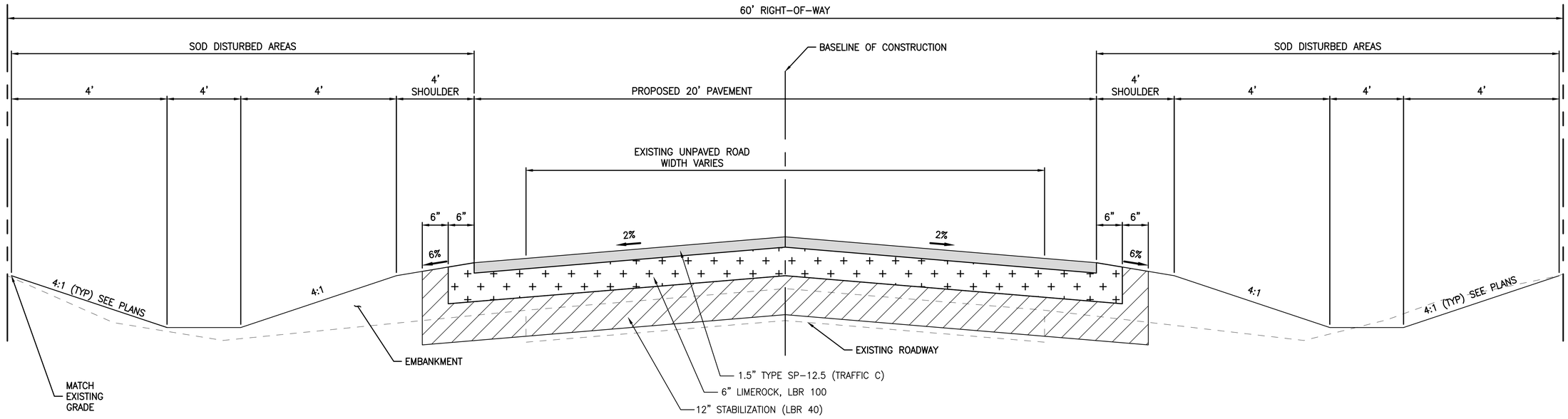
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C702

SAVED: 1/5/2024 12:33 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C702.DWG

PLOTTED: 3/22/2024 04:02 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

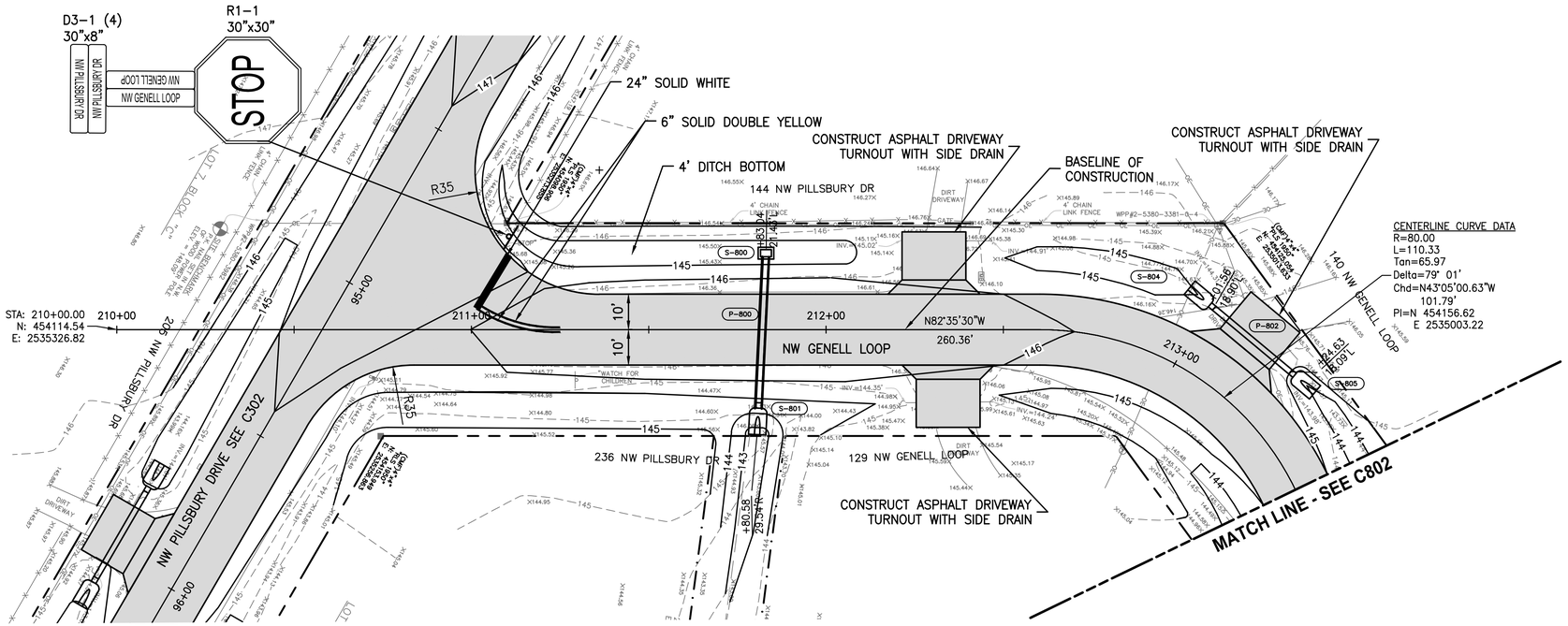
NW GENELL LOOP TYPICAL SECTION

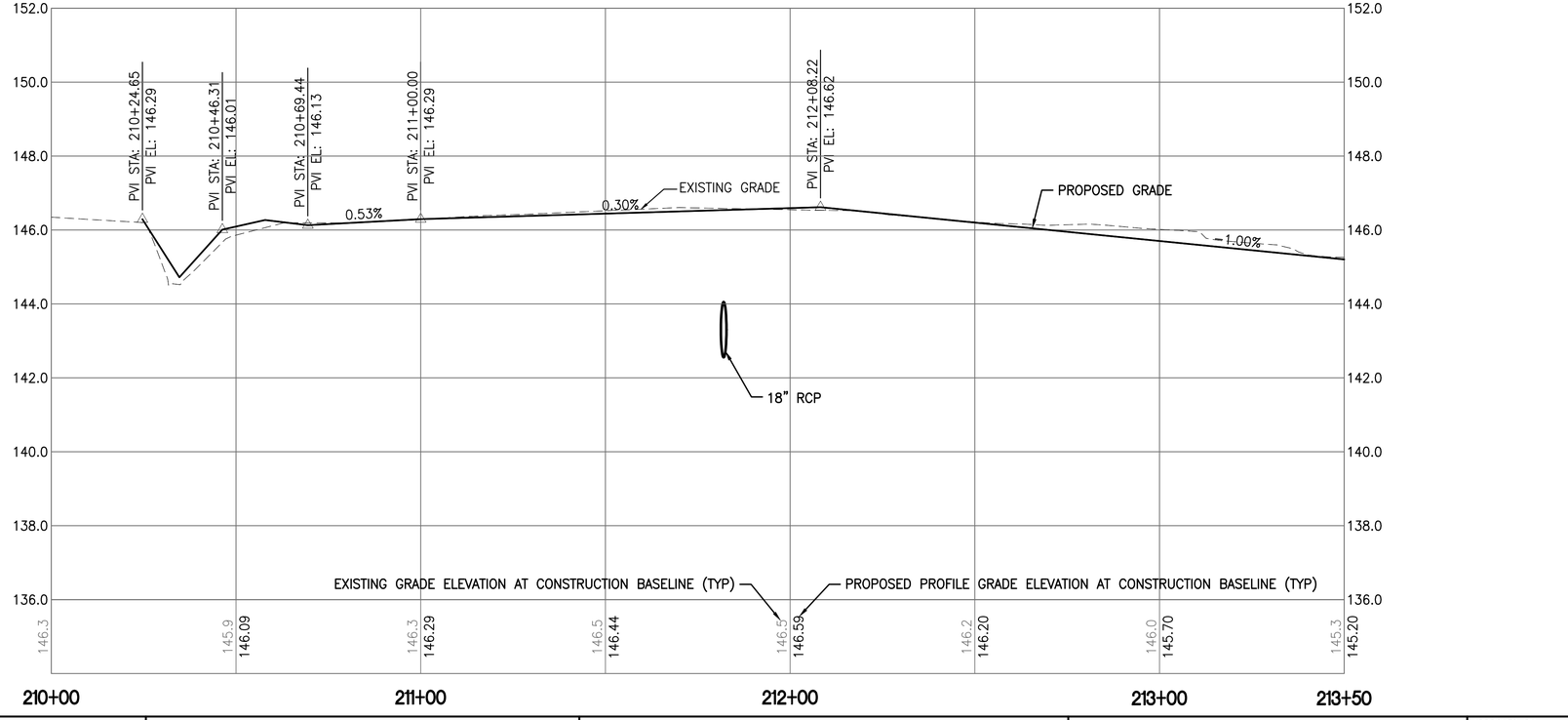
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C800

SAVED: 1/24/2023 1:09 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C800.DWG

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

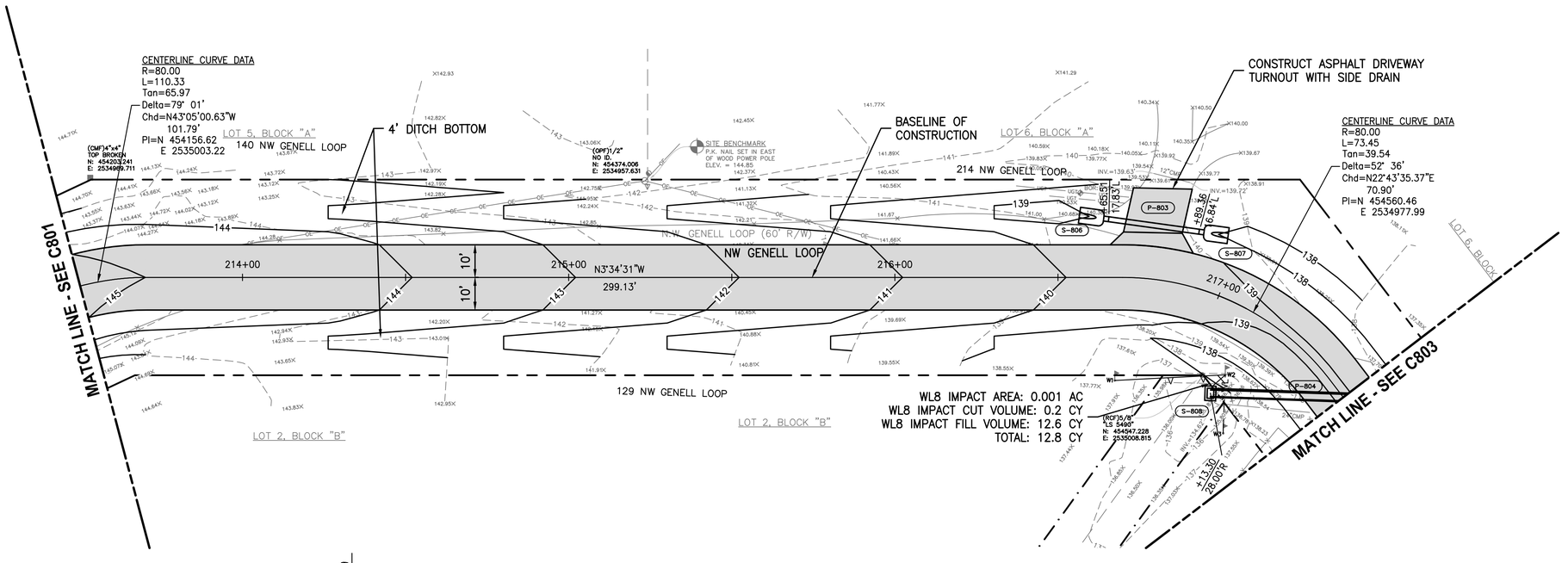
NW GENELL LOOP PLAN AND PROFILE

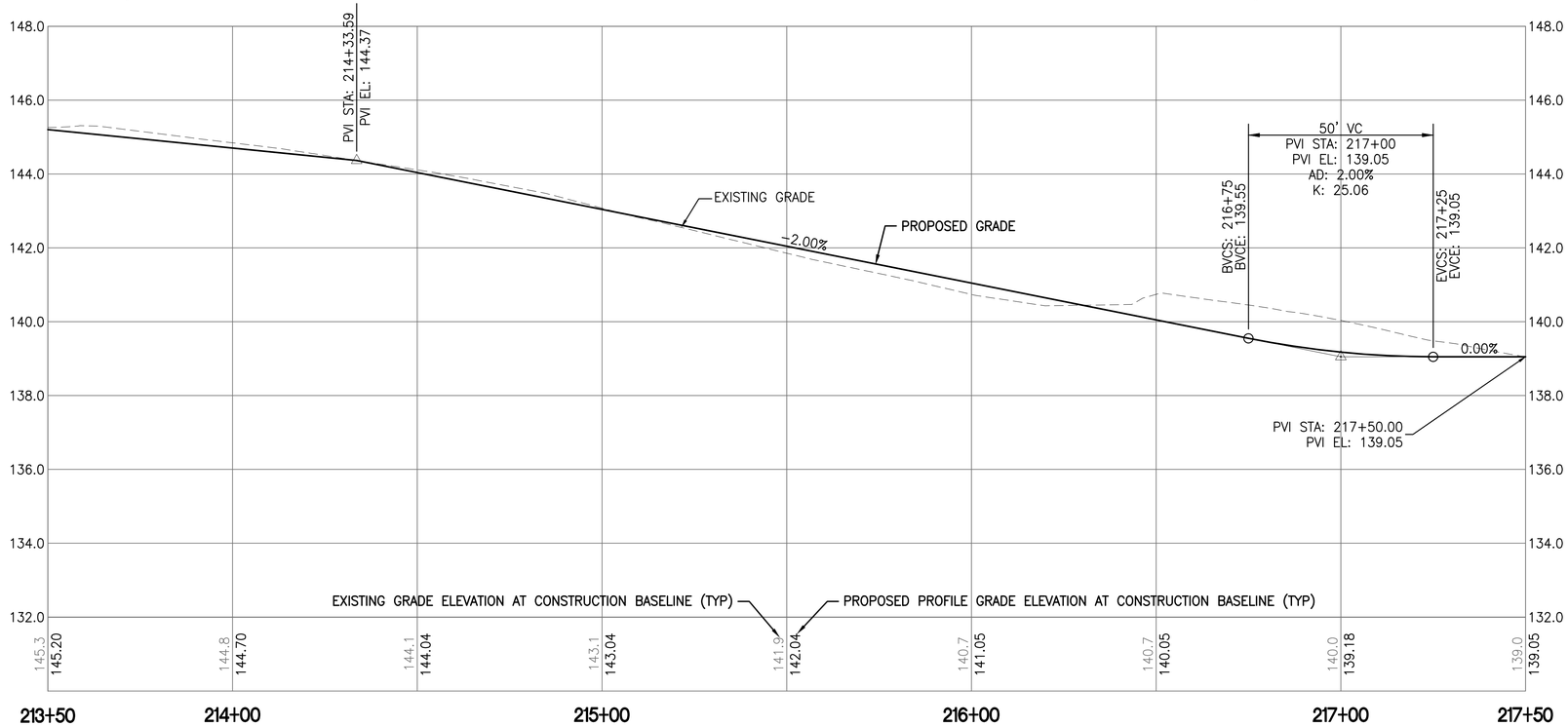
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C801

SAVED: 3/22/2024 1:13 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C801.DWG

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW GENELL LOOP PLAN AND PROFILE

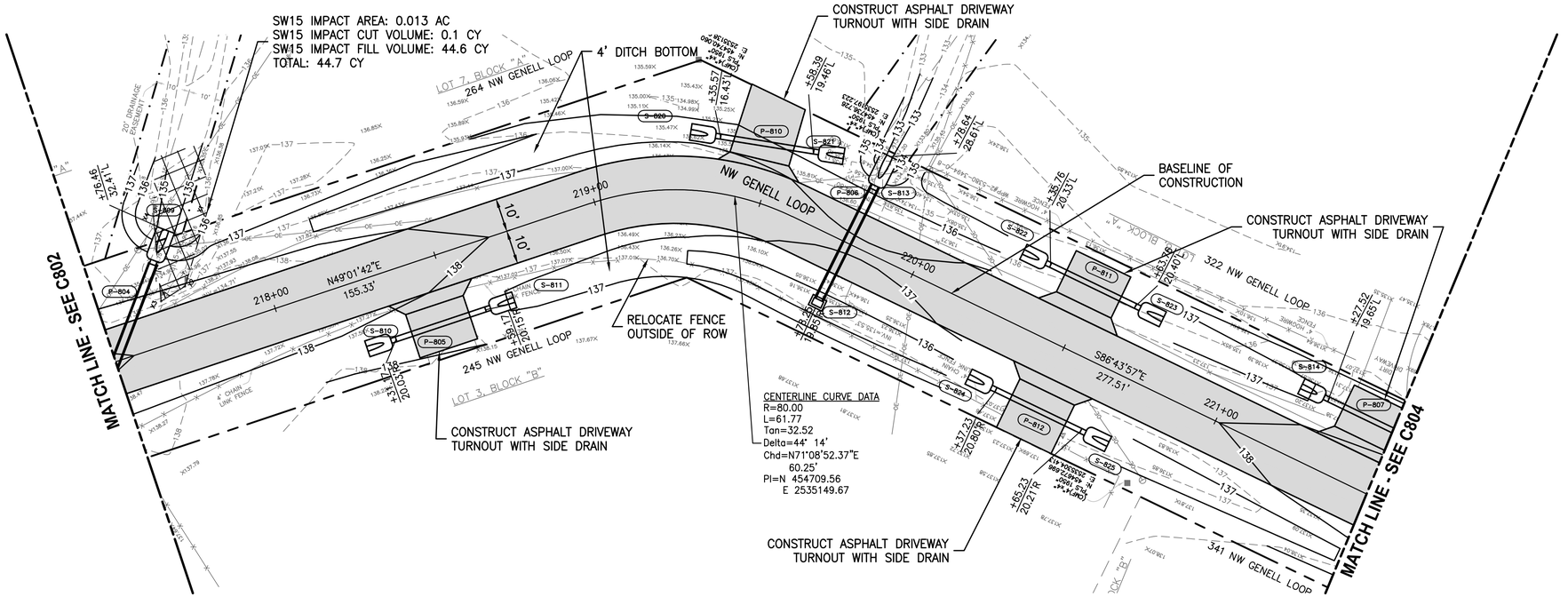
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

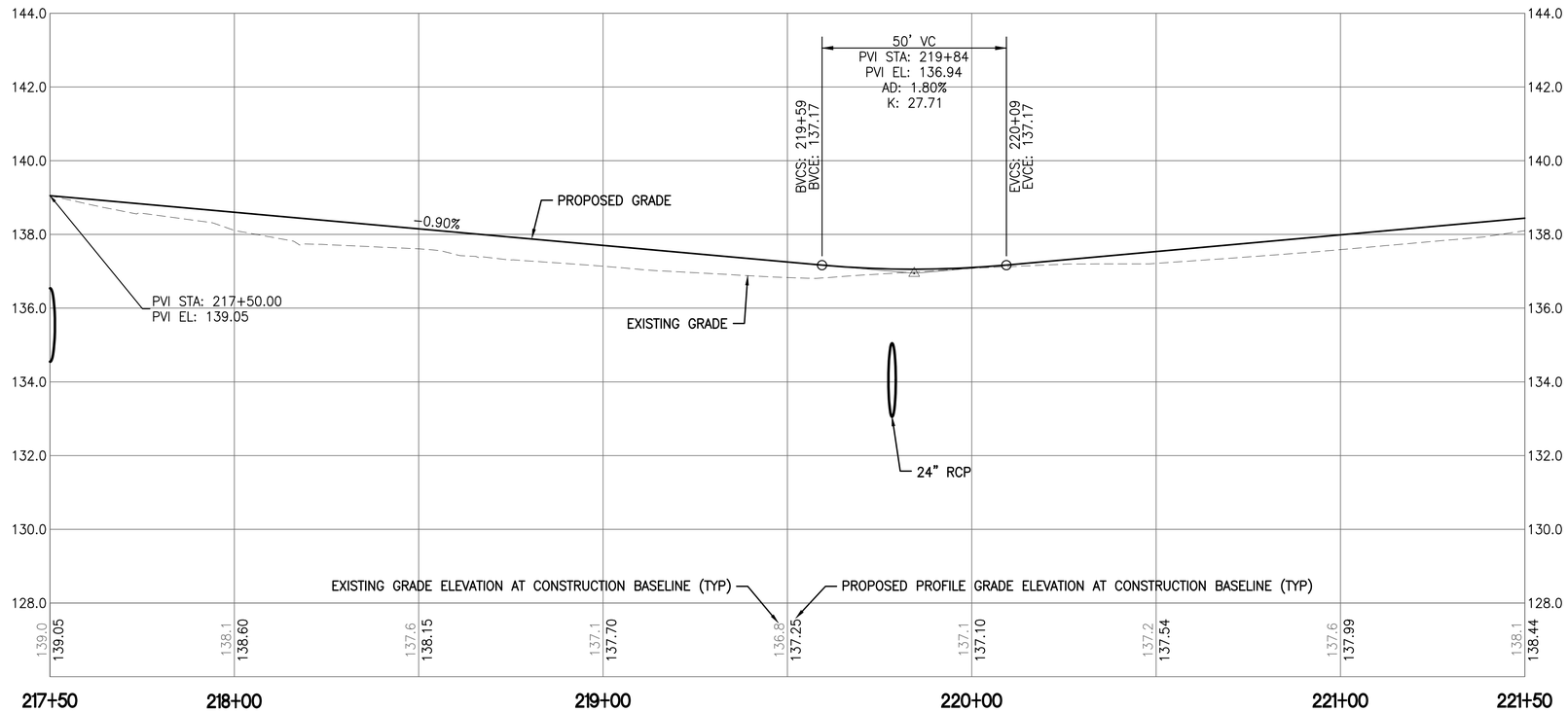
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C802

SAVED: 3/22/2024 1:12 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C802.DWG

PLOTTED: 3/22/2024 04:04 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW GENELL LOOP PLAN AND PROFILE

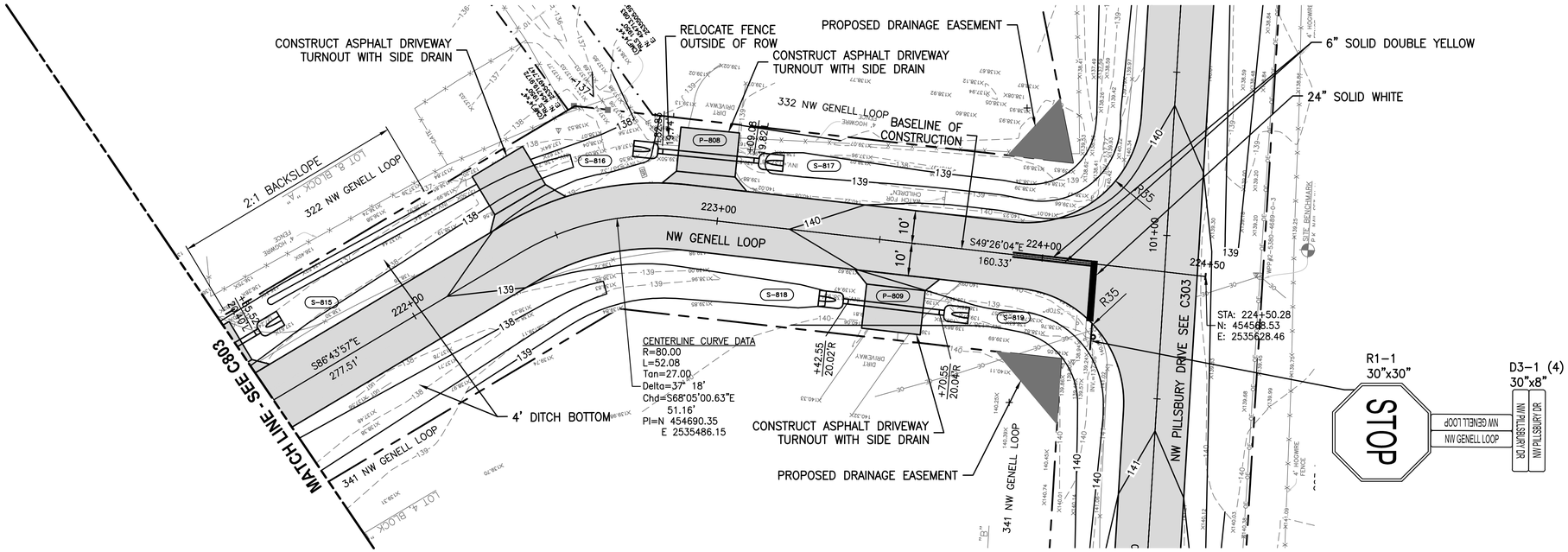
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C803

SAVED: 3/22/2024 1:11 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C803.DWG

PLOTTED: 3/22/2024 04:04 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



GRAPHIC SCALE

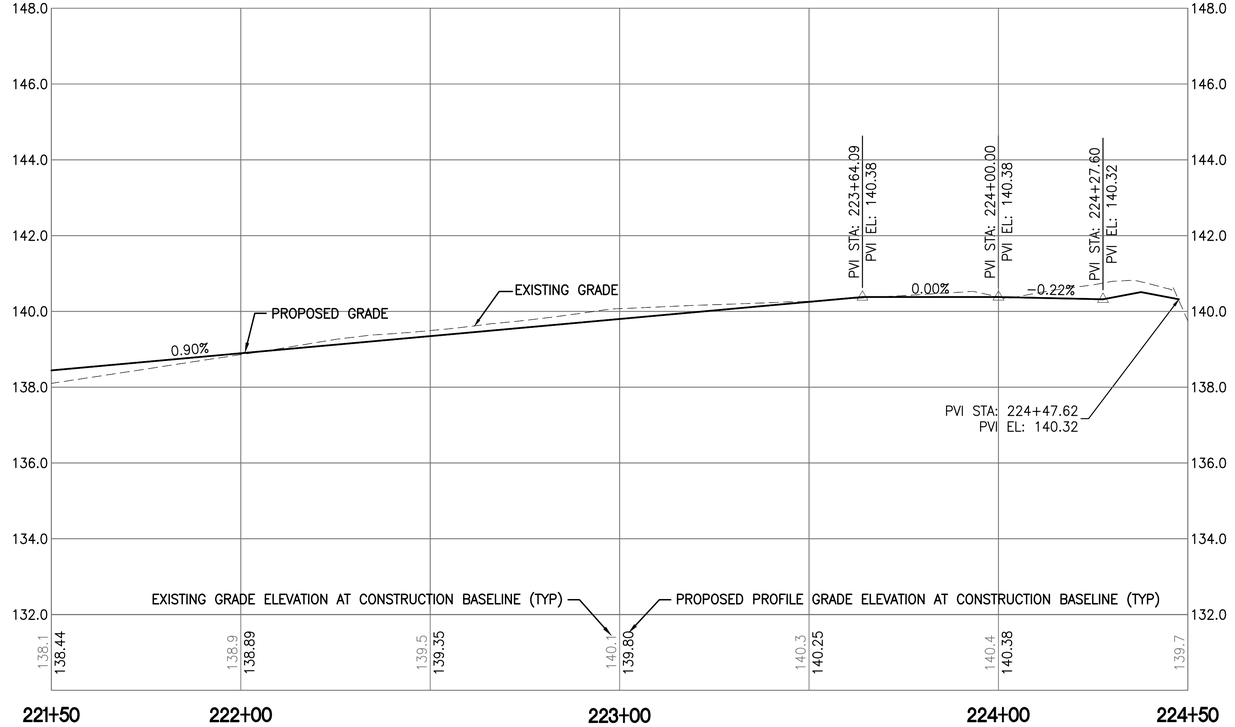
0 10 20 40

SCALE IN FEET
1"=20' H

GRAPHIC SCALE

0 1 2 4

SCALE IN FEET
1"=2' V



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW GENELL LOOP PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C804

SAVED: 3/22/2024 1:10 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C804.DWG

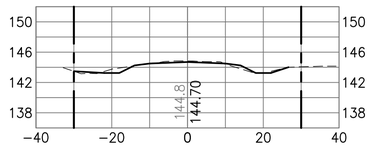
PLOTTED: 3/22/2024 04:05 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

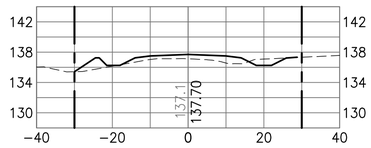
GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 5 10 20
SCALE IN FEET
1"=10' V

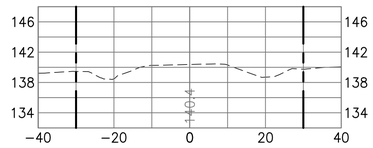
214+00



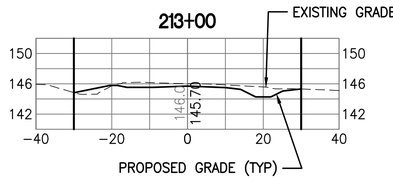
219+00



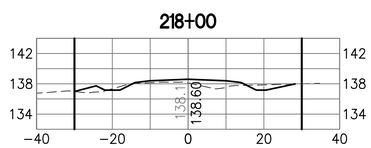
224+00



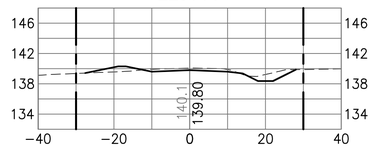
213+00



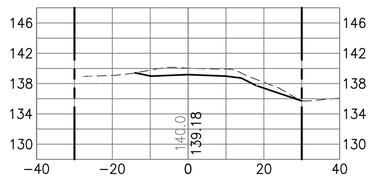
218+00



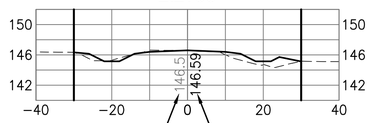
223+00



217+00

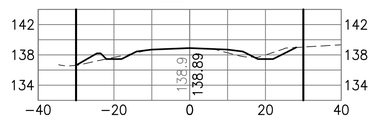


212+00

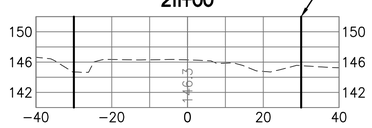


EXISTING PROFILE ELEVATION — PROPOSED PROFILE GRADE ELEVATION

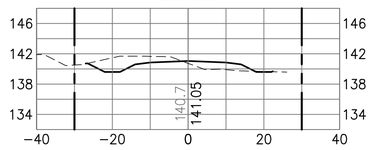
222+00



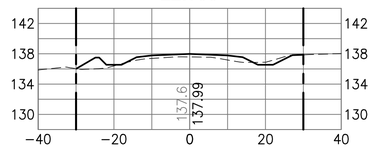
211+00



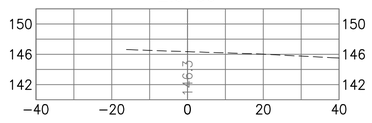
216+00



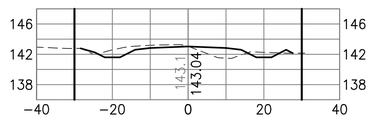
221+00



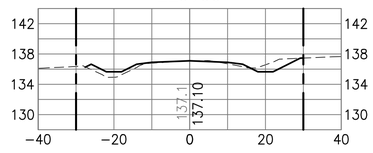
210+00



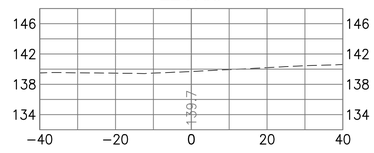
215+00



220+00



224+50



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW GENELL LOOP CROSS SECTIONS

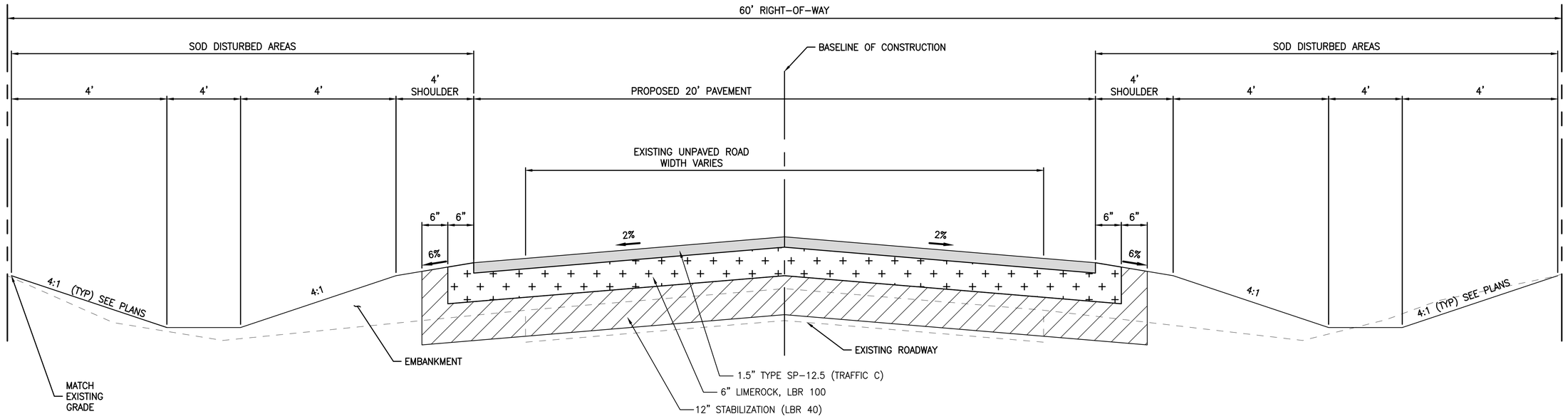
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C805

SAVED: 1/19/2023 12:01 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C805.DWG

PLOTTED: 3/22/2024 04:05 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



TYPICAL SECTION

NTS

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

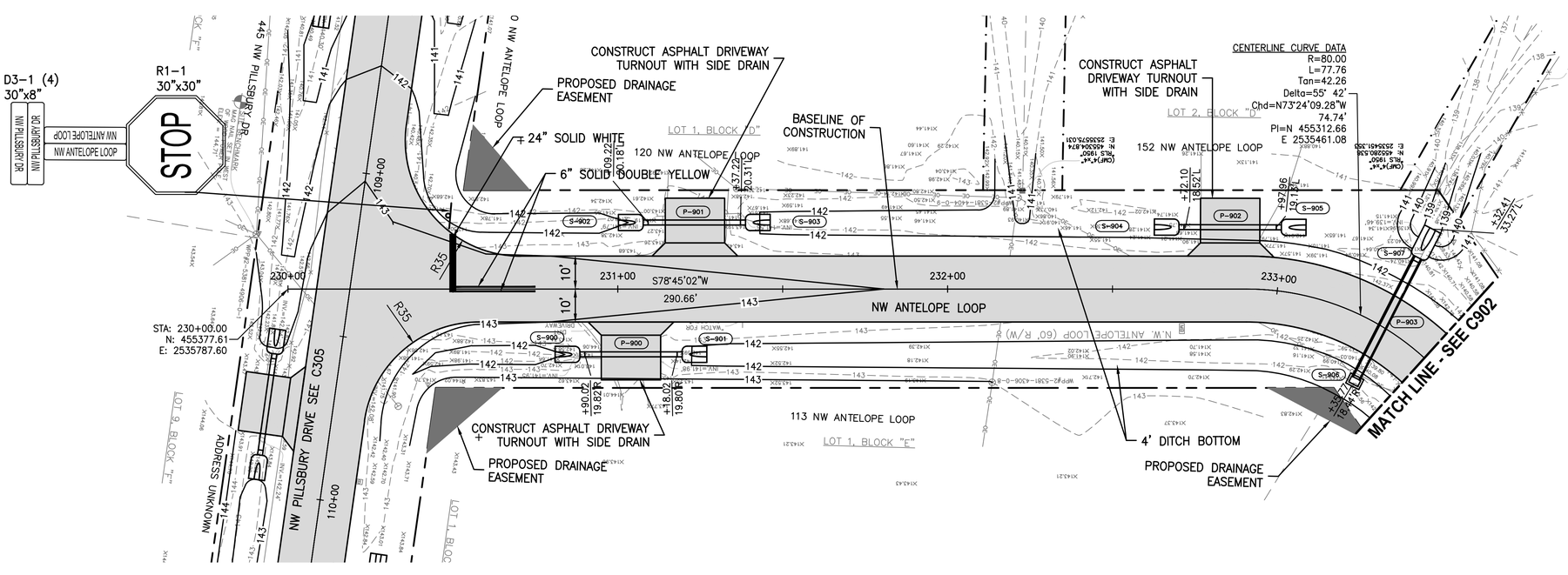
NW ANTELOPE LOOP TYPICAL SECTION

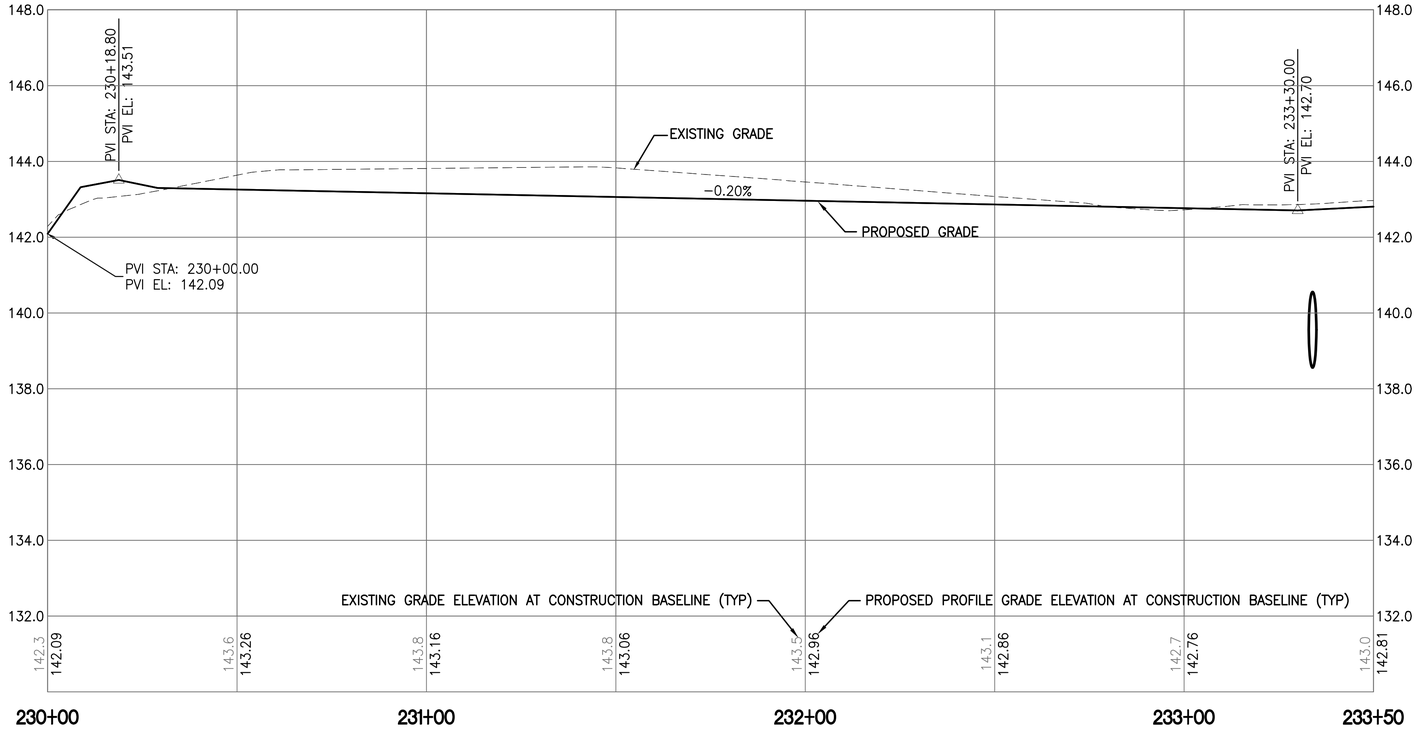
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C900

SAVED: 1/24/2023 1:09 PM JHALFORD Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C900.DWG

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

SAVED: 3/22/2024 1:04 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C901.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

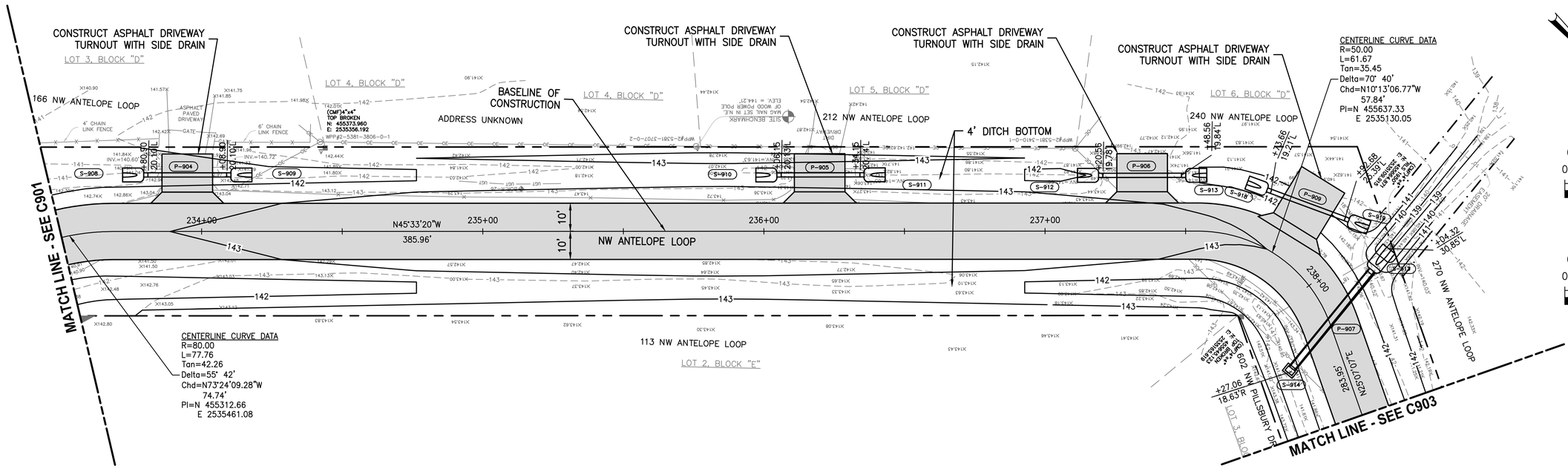
NW ANTELOPE LOOP PLAN AND PROFILE

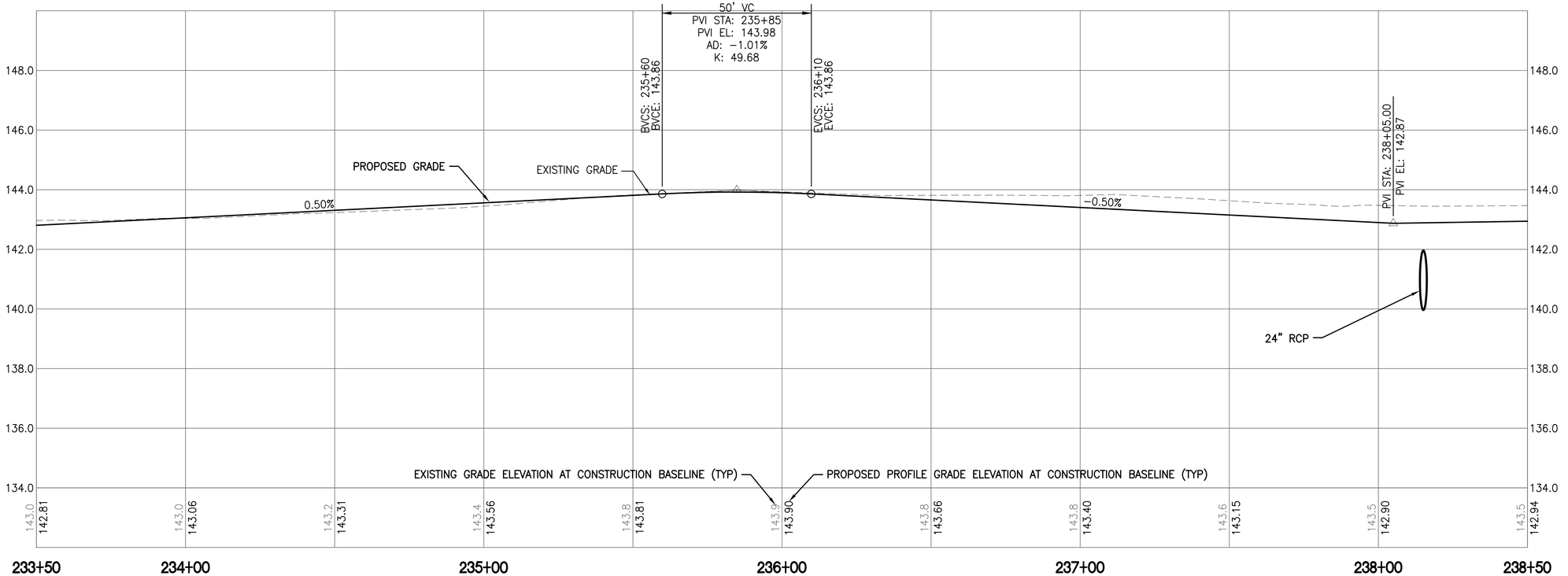
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C901

PLOTTED: 3/22/2024 04:07 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW ANTELOPE LOOP PLAN AND PROFILE

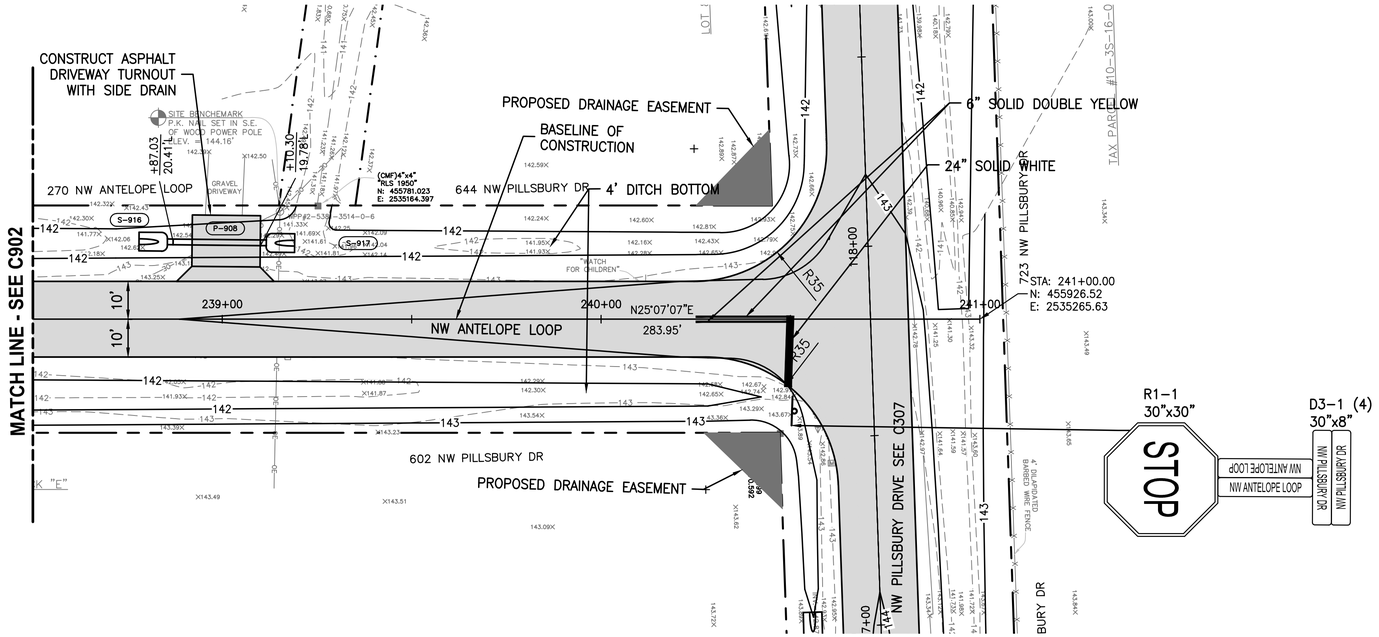
APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

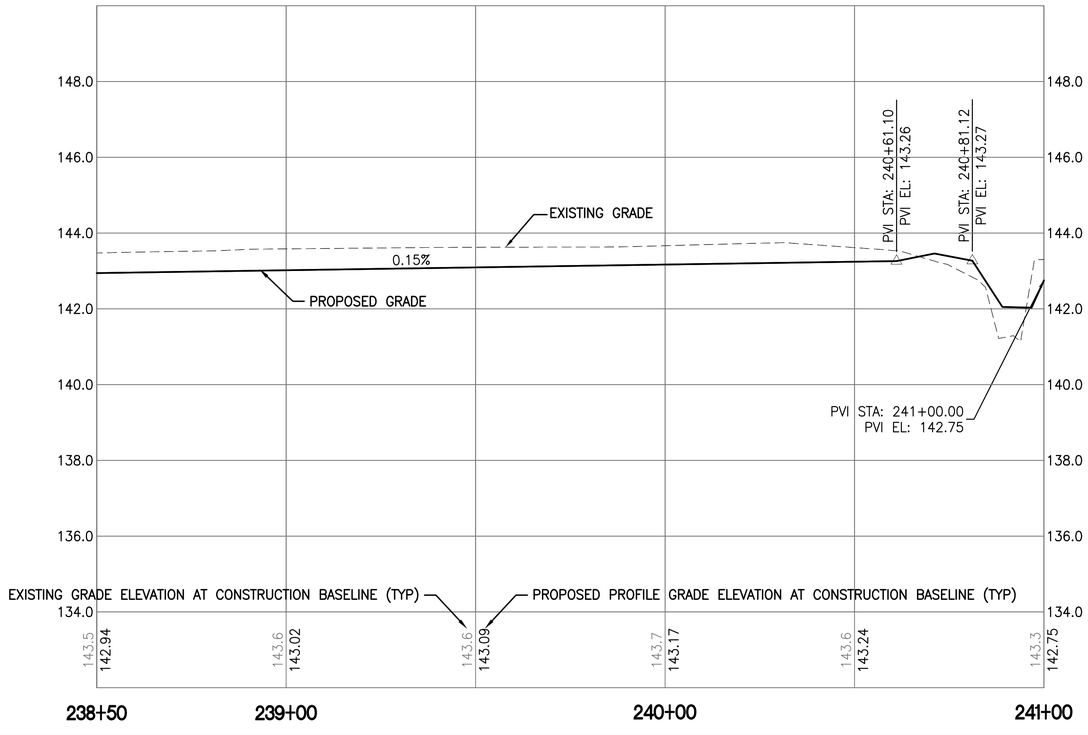
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C902

SAVED: 3/22/2024 1:02 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C902.DWG

PLOTTED: 3/22/2024 04:07 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 1 2 4
SCALE IN FEET
1"=2' V

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW ANTELOPE LOOP PLAN AND PROFILE

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C903

SAVED: 3/22/2024 12:59 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C903.DWG

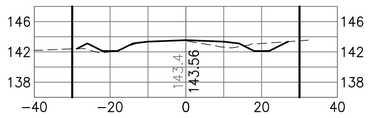
PLOTTED: 3/22/2024 04:08 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

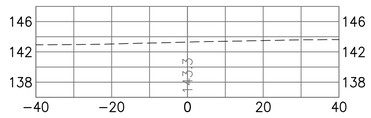
GRAPHIC SCALE
0 10 20 40
SCALE IN FEET
1"=20' H

GRAPHIC SCALE
0 5 10 20
SCALE IN FEET
1"=10' V

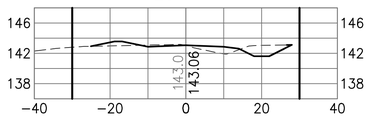
235+00



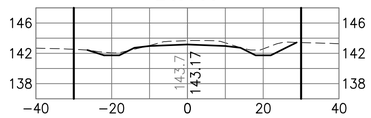
241+00



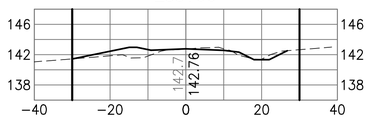
234+00



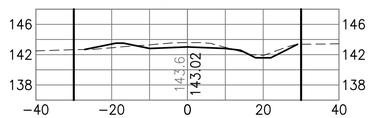
240+00



233+00

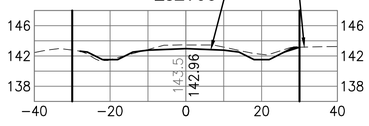


239+00

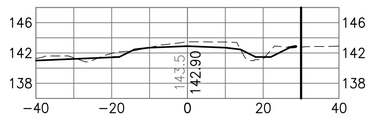


PROPOSED GRADE (TYP)
EXISTING GRADE (TYP)

232+00

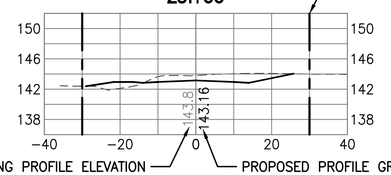


238+00



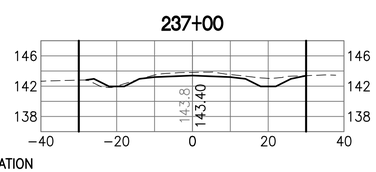
ROW LINE (TYP)

231+00

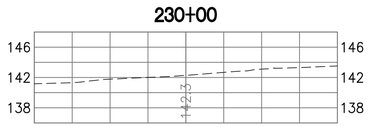


EXISTING PROFILE ELEVATION
PROPOSED PROFILE GRADE ELEVATION

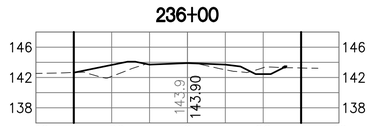
237+00



230+00



236+00



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

NW ANTELOPE LOOP CROSS SECTIONS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

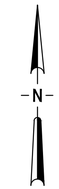
PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C904

SAVED: 1/5/2024 12:33 PM RMARTIN Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C904.DWG

PLOTTED: 3/22/2024 04:08 PM RASAHN MARTIN, EI

© Jones Edmunds 2234





GRAPHIC SCALE

0 150 300 600

SCALE IN FEET

Proposed Wetland and Surface Water Impact

ID	Sq Ft	ACREAGE	DREDGE (yd^3)	FILL (yd^3)	Reason for impact
SW1	773	0.018	0.4	23.1	Culvert Extension and Roadside Swale Improvement
SW2	480	0.011	0.5	33.1	Culvert Extension
SW3	226	0.005	0.0	8.1	Roadside Swale Improvement
SW4	1254	0.029	0.4	47.3	Roadside Swale Improvement
SW5	1090	0.025	0.2	50.1	Roadside Swale Improvement
SW5b	720	0.017	0.4	64.7	Roadside Swale Improvement
SW6	1467	0.034	0.3	23.6	Roadside Swale Improvement
SW7	1249	0.029	1.4	23.2	Roadside Swale Improvement
SW9	218	0.005	0.3	1.7	Culvert Extension
SW10	464	0.011	0.0	4.8	Culvert Extension
SW11	1149	0.026	0.3	39.5	Culvert Extension and Roadside Swale Improvement
SW12	469	0.011	0.1	18.8	Culvert Extension
SW13	1079	0.025	0.1	44.6	Roadside Swale Improvement
SW14	384	0.009	8.0	15.5	Roadside Swale Improvement
SW15	558	0.013	0.1	12.0	Culvert Extension
SW17	265	0.006	0.2	5.7	Roadside Swale Improvement
SW18	446	0.010	0.1	5.6	Culvert Extension
TOTAL=		**0.28**	**12.8**	**421.3**	
WL1	425	0.01	0.2	10.0	Culvert Extension and Roadside Swale Improvement
WL2	727	0.02	3.1	4.8	Culvert Extension and Roadside Swale Improvement
WL3	579	0.01	1.6	40.9	Culvert Crossing Improvement
WL4	846	0.02	4.8	26.6	Culvert Crossing Improvement
WL5	1441	0.03	3.3	87.4	Culvert Crossing Improvement
WL6	1069	0.02	8.9	30.1	Culvert Crossing Improvement
WL7	843	0.019	0.1	11.0	Culvert Extension
WL8	28	0.001	0.2	12.6	Culvert Extension
TOTAL=		**0.137**	**22.2**	**223.5**	

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

PROPOSED JURISDICTIONAL SURFACE WATER AND WETLAND IMPACTS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C1000

SAVED: 9/3/2023 2:49 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C1000.DWG

PLOTTED: 3/22/2024 04:09 PM RASAHN MARTIN, EI

© Jones Edmunds 2234

NARRATIVE

1. DESCRIPTION OF CONSTRUCTION ACTIVITY:
   CONSTRUCTION OF NEW PAVED ROADWAYS, CROSS AND SIDE DRAIN CULVERTS, BANK STABILIZATION, AND ALL NECESSARY GRADING WORK TO SUPPORT THESE IMPROVEMENTS.

   WORK INCLUDES CLEARING, GRUBBING, TRENCHING, SITE GRADING, PIPING, AND PAVING.

2. SITE AREA INFORMATION:
   THE MAJORITY OF STORMWATER FLOW IS ONSITE FLOW FROM HIGH POINTS WITHIN THE RIGHT-OF-WAY. THERE IS SOME CONTRIBUTING STORMWATER FLOW FROM ADJACENT OFFSITE AREAS.
   TOTAL AREA OF THE SITE = 21.50 +/- ACRES
   TOTAL DISTURBANCE AREA = LESS THAN 21.50 +/- ACRES
   RUNOFF CURVE NUMBERS FOR DISTURBED AREAS:
   BEFORE CN = VARIES
   AFTER CN = VARIES

3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE FLOW OF STORMWATER THROUGH THE PROJECT LIMITS.

4. THE CONTRACTOR SHALL MODIFY THE CONSTRUCTION SEQUENCE TO MAINTAIN THE FLOW OF STORMWATER THROUGH OR AROUND THE PROJECT IN A MANNER THAT MAINTAINS THE WATER QUALITY AND COMPLIES WITH PERMIT REQUIREMENTS. PUMPING OF STORMWATER, AND DEWATERING, MAY BE NECESSARY WITHIN AND/OR BETWEEN CONSTRUCTION PHASES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY PUMPING SHALL BE CONSIDERED INCIDENTAL TO THE EARTHWORK OPERATION.

5. THE CONTRACTOR SHALL REVIEW THE PROPOSED CONSTRUCTION SEQUENCE AND SUBMIT A LETTER CONFIRMING AGREEMENT WITH THE PROPOSED SEQUENCE TO THE OWNER, OR PROPOSING A DIFFERENT SEQUENCE FOR REVIEW AND APPROVAL BY THE ENGINEER.

6. PROPOSED CONSTRUCTION SEQUENCE:

   MOBILIZATION/PRE-GRADING
   - SUBMIT DETAILED SEDIMENT AND EROSION CONTROL PLAN TO FDEP FOR APPROVAL.
   - BEGIN TURBIDITY MONITORING.
   - COMPLETE AND SUBMIT NOTICE OF INTENT (NOI) TO FDEP FOR CONSTRUCTION NPDES PERMIT.
   - POST AND MAINTAIN NOI, ENVIRONMENTAL RESOURCE PERMIT, AND COUNTY PERMITS ONSITE IN SECURE BULLETIN BOARD.
   - INSTALL SILT FENCES, FILTER BARRIER, TURBIDITY BARRIERS, AND OTHER BMPS AS NEEDED ALONG WORK LIMITS.

   SITE WORK: DEWATER AS NEEDED, CONTROL SEDIMENT AND TURBIDITY IN DISCHARGE.

   2.1 INSTALL SILT FENCES, FILTER BARRIER, AND OTHER BMPS AS NEEDED.
   2.2 BEGIN CLEARING AND GRUBBING
   2.3 BEGIN EARTHWORK OPERATIONS
   2.4 CONSTRUCT STORMWATER PIPES AND INLETS
   2.5 CONSTRUCT ROADWAYS AND SIDEWALKS
   2.6 REMOVE SILT FENCES, FILTER BARRIER, AND OTHER BMPS.

   AFTER GRADING
   - FINAL SODDING AND SITE RESTORATION
   - REMOVE ACCUMULATED SEDIMENT FROM SEDIMENT TRAPS.
   - REMOVE ACCUMULATED SEDIMENT ABOVE PLAN FINISHED GRADES AND ALL TEMPORARY EROSION CONTROL MEASURES
   - RE-VEGETATE ALL DISTURBED AREAS AS NECESSARY

   STARTUP AND COMPLETION OF CONSTRUCTION
   - COMPLETE AND SUBMIT NOTICE OF TERMINATION TO FDEP

7. DESCRIPTION OF THE SOILS AND AN IDENTIFICATION OF THOSE THAT ARE HIGHLY ERODIBLE:
   FARMTON FINE SAND
   IMMOKALEE FINE SAND

8. AFFECTED DRAINAGE AREAS AND MAJOR DISCHARGE POINTS:
   N/A

9. LATITUDE AND LONGITUDE OF EACH MAJOR DISCHARGE POINT:
   N/A

10. NAMES OF RECEIVING WATER(S):
    N/A

11. DESCRIPTION OF PROPOSED POLLUTION CONTROL MEASURES OR BMPS:
    A. EROSION AND SEDIMENT CONTROL PRACTICES
    FILTER BARRIER, SILT FENCE, SODDING, ARTIFICIAL COVERINGS, AND SAND BAGGING.
    B. STRUCTURAL PRACTICES
    N/A
    C. DEWATERING PRACTICES
    THE FOLLOWING DEWATERING CONTROL PRACTICES MAY BE USED IN THIS PROJECT:
    I. SOCK DRAINS
    II. DEWATERING TRENCHES
    III. SKIMMERS & SKIMMER PUMPS
    IV. SEDIMENT CONTAINMENT FILTER BAGS

12. ESTIMATED CONSTRUCTION SCHEDULE:
    START DATE = TBD
    COMPLETION DATE = TBD
    STABILIZATION SCHEDULE
    PERIMETER CONTROLS = BEGINNING OF PROJECT
    CLEARING AND GRUBBING = THROUGHOUT THE PROJECT
    INSTALLATION OF TEMPORARY EROSION CONTROL MEASURES = THROUGHOUT THE PROJECT
    CONSTRUCTION OF SEDIMENT BASIN = THROUGHOUT THE PROJECT
    SITE CONSTRUCTION & INTERIM EROSION CONTROL MEASURES = THROUGHOUT THE PROJECT
    FINAL VEGETATION = END OF PROJECT

13. THE CONTRACTOR IS RESPONSIBLE FOR THE BMP IMPLEMENTATION, INSPECTION, AND MAINTENANCE.

14. CALCULATIONS:
    SUPPORTING CALCULATIONS FOR THE EROSION AND SEDIMENT CONTROL CAN BE FOUND IN THE PROJECT ENVIRONMENTAL RESOURCE PERMIT APPLICATION.

15. CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS:
    THE FOLLOWING PERMIT WAS OBTAINED BY THE OWNER, AND IS PROVIDED IN THE CONTRACT DOCUMENTS.
    ENVIRONMENTAL RESOURCE PERMIT.

    THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL OTHER REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO, THE NDPES PERMIT FOR CONSTRUCTION ACTIVITY, SJRWMD CONSUMPTIVE USE PERMIT FOR CONSTRUCTION DEWATERING, AND SJRWMD CONSTRUCTION DEWATERING DISCHARGE PERMIT.

16. INVENTORY FOR POLLUTION PREVENTION PLAN:
    THE MATERIAL OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:
    CONCRETE, WOOD, MASONRY BLOCKS, PETROLEUM BASED PRODUCTS, DIESEL, CLEANING SOLVENTS, DETERGENTS, METAL REBAR.

RECORD REQUIREMENTS

THE CONTRACTOR SHALL, AT A MINIMUM, PERFORM AND DOCUMENT THE FOLLOWING RECORD KEEPING TASKS IN A REGULAR AND EXPEDIENT MANNER WHILE CONSTRUCTION ACTIVITIES ARE OCCURRING.

1. CONTRACTORS MUST RECORD THE FOLLOWING DATES:

   A) WHEN MAJOR GRADING ACTIVITIES OCCUR
   B) WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE
   C) WHEN STABILIZATION (I.E. EROSION CONTROL) MEASURES BEGIN

2. CONTRACTORS ARE TO PROVIDE QUALIFIED INSPECTORS WHO HAVE KNOWLEDGE AND EXPERIENCE IN THE PRINCIPLES AND PRACTICE OF SEDIMENT AND EROSION CONTROL AND CAN COMPLETE PROJECT SITE INSPECTIONS:

   A) AT LEAST ONCE EVERY SEVEN (7) DAYS
   B) DAILY AND WITHIN 24 HOURS AFTER THE END OF A STORM EVENT OF 0.50-INCHES OR MORE AT THE SITE. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A RAIN GAUGE AND RECORD THE RAINFALL.

3. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE, AND LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. COPIES OF THE INSPECTION REPORTS WILL BE SUBMITTED TO THE OWNER AND INCLUDE DOCUMENTATION OF REMEDIAL ACTION TO ADDRESS SYSTEM FAILURES. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED. THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.

4. TURBIDITY MUST BE MONITORED, RECORDED, AND REPORTED IN ACCORDANCE WITH PERMIT REQUIREMENTS.

INSPECTION AND MAINTENANCE REQUIREMENTS

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES
THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:

1. ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
2. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE, AND/OR FILTER BARRIER WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
3. SILT FENCE AND/ OR FILTER BARRIER WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
4. CONSTRUCTION ENTRANCES WILL BE INSPECTED FOR DEPTH OF CRUSHED STONE BED AND FILTER FABRIC CONDITION.
5. THE SEDIMENT TRAP WILL BE INSPECTED FOR DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.
6. DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
7. THE CONTRACTOR WILL INSPECT TEMPORARY AND PERMANENT SEEDING AND PLANTING FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.

UPDATING REQUIREMENTS

1. THE STORMWATER POLLUTION PREVENTION PLANS (SWPPP) CONTAINED HEREIN PROVIDE ONLY THE INITIAL AND MINIMUM REQUIREMENTS, AND PROJECT SPECIFIC STRUCTURAL BMPS NECESSARY FOR THIS PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MODIFY AND UPDATE THESE PLANS ACCORDING TO THEIR OPERATIONS ON SITE. IN ADDITION, THE CONTRACTOR SHALL REVISE THESE DOCUMENTS:
   a) PRIOR TO FILING FOR THE NPDES NOI
   b) PRIOR TO BEGINNING EACH PHASE OF THE CONSTRUCTION SEQUENCE.
   c) WITHIN SEVEN CALENDAR DAYS FOLLOWING AN INSPECTION WHEN ADDITIONS AND/OR MODIFICATIONS TO BMPS ARE NECESSARY TO CORRECT OBSERVED PROBLEMS.
   d) WHENEVER A CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE AT THE CONSTRUCTION SITE HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE UNITED STATES NOT PREVIOUSLY ADDRESSED IN THE DOCUMENTS.
   e) WHENEVER DISCHARGES ARE CAUSING WATER QUALITY "EXCEEDANCES" (AN EPA TERM) OR THE BMPS ARE INEFFECTIVE (TO AN EXTENT PRACTICAL) IN MINIMIZING POLLUTANTS IN STORMWATER DISCHARGING FROM THE CONSTRUCTION SITE.

BID DOCUMENTS

SAVED: 9/3/2023 2:24 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C1001.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

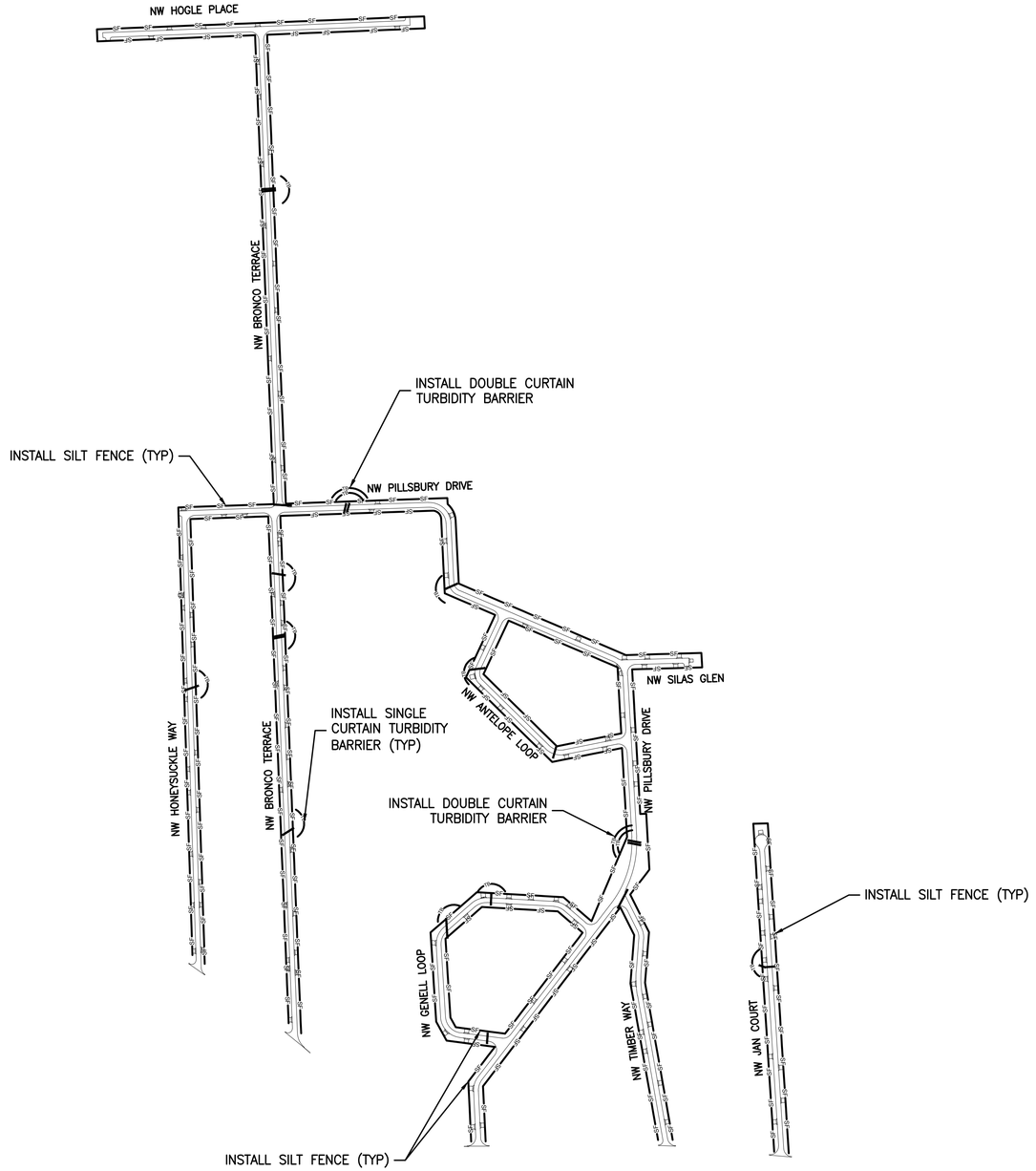
STORMWATER POLLUTION PREVENTION NOTES

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C1001

PLOTTED: 3/22/2024 04:09 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



N

GRAPHIC SCALE

0 150 300 600

SCALE IN FEET

BID DOCUMENTS

SAVED: 9/3/2023 2:41 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C1002.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

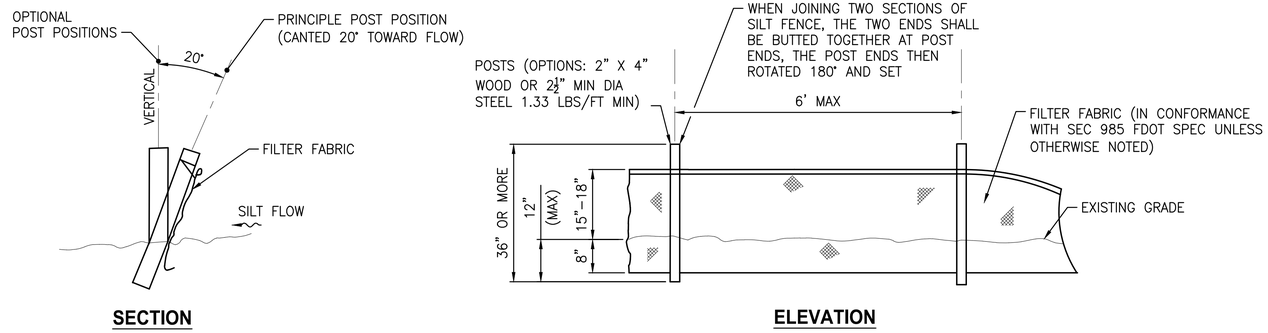
STORMWATER POLLUTION PREVENTION PLAN

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C1002

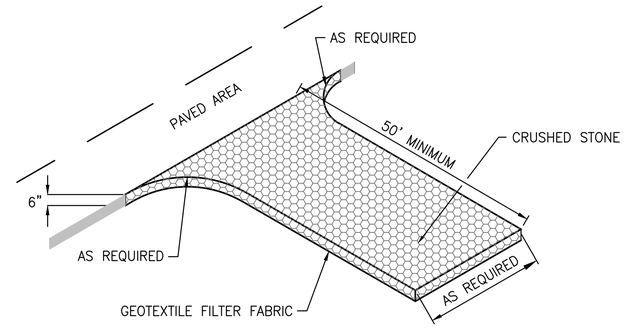
PLOTTED: 3/22/2024 04:09 PM RASAHN MARTIN, EI

© Jones Edmunds 2234



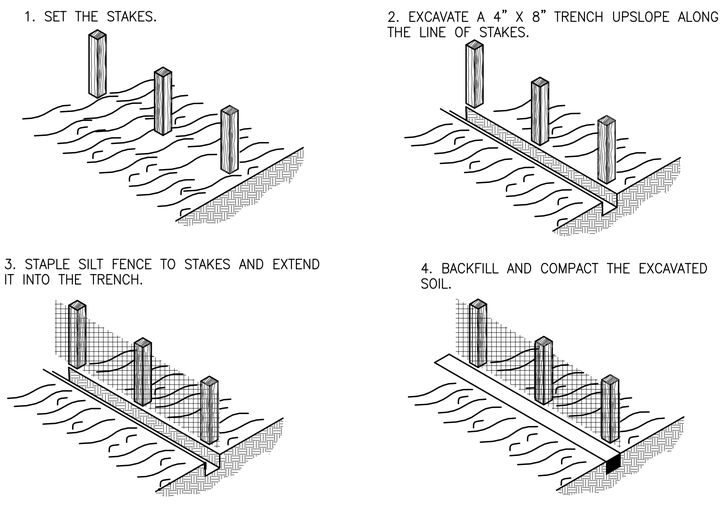
TYPICAL SILT FENCE DETAIL

NTS



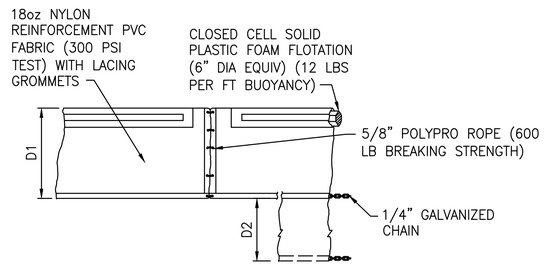
STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

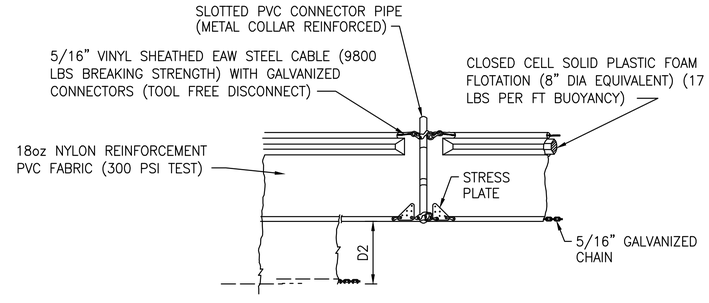
NTS



SILT FENCE CONSTRUCTION DETAIL

NTS





D1 =5' STD (SINGLE PANEL FOR DEPTHS 5' OR LESS)

D2 =5' STD (ADDITIONAL PANEL FOR DEPTHS 5')

CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALL FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES 1 AND 2 MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES 1 AND 2 SHALL BE AS APPROVED BY THE ENGINEER.

TYPICAL FLOATING TURBIDITY BARRIER DETAIL

NTS

BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED B THOMAS
DRAWN R MARTIN
CHECKED F HOYT

JonesEdmunds
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

PARNELL HILLS RESIDENTIAL SUBDIVISION
PAVING AND DRAINAGE
COLUMBIA COUNTY, FLORIDA

STORMWATER POLLUTION PREVENTION DETAILS

APPROVED BY
BRIAN A. THOMAS
P.E. # 85414

PROJECT NO: 03780-002-01
DATE: MAR 2024
INDEX NO:
DWG NO: C1003

SAVED: 9/3/2023 2:25 PM BTHOMAS Y:\03780-COLUMBIACOUNTY\PROJECTS\002-01 PARNELL HILLS\DESIGN&CONSTRUCTION\CAD\DWGS\CIVIL\03780002-C1003.DWG