



**RFB-SF-01-0-2020
ADDENDUM NUMBER 1**

**REQUEST FOR BIDS
For
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND
(EDTPF) INFRASTRUCTURE IMPROVEMENTS
ROADWAY PACKAGE**

Date: March 24, 2020
To: All Interested Bidders and Other Interested parties
From: Annette O'Donnell, Director of Contracts

Space Florida makes the following changes and considers Addendum Number 1 a part of the Request for Bids (RFB) document.

- 1. Attachment A Bid Form:** Remove and replace in its entirety. Revised Bid Form includes:
 - Base Bid - Includes all work items for construction of the roadway improvements.
 - Add Alternate 1 - includes all work items for construction of a stormwater treatment pond in the SE quadrant of Central Control Road and Phillips Parkway.
 - Add Alternate 2 - includes all work items for construction of a stormwater treatment pond North of SR 401 and Payne Way intersection.
- 2. Attachment C Project Manual:**
Remove and Replace Project Manual in its entirety. Addendum 1 Project Manual dated March 16, 2020.
- 3. Attachment D Plans:**
 - a. Remove and Replace Plan set in its entirety. Addendum 1 Plans dated March 24, 2020.

Attachment “A”

Bid Form

BID FORM

BIDDER: _____

DATE: _____

BID NO.: RFB-SF-01-0-2020

FACILITY NAME: Cape Canaveral Spaceport

PROJECT DESCRIPTION: EDTPF Improvements Roadway Package

Bid Form – Base Bid

Pay Item No.	Item Description	Unit	Quantity	Unit Price	Total Amount/Item
101-1	Mobilization	LS	1		
102-1	Maintenance Of Traffic	LS	1		
102-60	Work Zone Sign	ED	22,496		
102-71-13	Temporary Barrier, F&I, Low Profile, Concrete	LF	4,110		
102-71-16	Temporary Barrier, F&I, Free Standing	LF	1,442		
102-71-23	Temporary Barrier, Relocate, Low Profile, Concrete	LF	20,024		
102-74-1	Channelizing Device-Types I, II, DI, VP, DRUM, OR LCD	ED	42,272		
102-74-2	Channelizing Device-Type III, 6'	ED	742		
102-89-1	Temporary Crash Cushion, Redirective Option	LO	4		
102-99	Portable Changeable Message Sign - Temporary	ED	742		
102-913-11	Removable Tape, Black, Solid, 6"	LF	8,755		
102-913-21	Removable Tape, White, Solid, 6"	LF	19,055		
102-913-31	Removable Tape, Yellow, Solid, 6"	LF	34,505		
104-1	Artificial Coverings/Rolled	SY	103		

	Erosion Control Products				
104-10-3	Sediment Barrier	LF	21,059		
104-11	Floating Turbidity Barrier	LF	86		
104-12	Staked Turbidity Barrier, Nylon Reinforced PVC	LF	334		
104-15	Soil Tracking Prevention Device	EA	17		
104-18	Inlet Protection System	EA	5		
104-19	Chemical Treatment Powdered - For Erosion Control	SY	103		
110-1-1	Clearing & Grubbing	AC	6		
110-4-10	Removal of Existing Concrete	SY	566		
120-1	Regular Excavation	CY	11,845		
120-6	Embankment	CY	670		
160-4	Type B Stabilization	SY	14,841		
285-709	Optional Base, Base Group 09	SY	14,841		
285-715	Optional Base, Base Group 15	SY	748		
327-70-6	Milling Exist Asph Pavt, 1 1/2" Avg Depth	SY	2,064		
334-1-13	Superpave Asphaltic Conc, Traffic C	TN	2,652		
400-1-2	Concrete Class I, Endwalls	CY	1.50		
400-4-1	Concrete Class IV, Culverts	CY	16.50		
425-1-521	Inlets, DT Bot, Type C, <10'	EA	1		
425-1-561	Inlets, DT Bot, Type F, <10'	EA	2		
425-5-1	Manhole, Adjust, Utilities	EA	2		
425-6	Valve Boxes, Adjust	EA	9		

425-7	Manhole Cover - Replace	EA	1		
430-175-115	Pipe Culvert (15" RCP)	LF	145		
430-175-124	Pipe Culvert (24" RCP)	LF	125		
430-175-218	Pipe Culvert (14"x23" ERCP)	LF	12		
430-200-29	Flared End Section, Concrete 24"	EA	1		
520-1-10	Concrete Curb and Gutter, Type F	LF	932		
524-1-2	Concrete Ditch Pavement- Non Reinforced, 4"	SY	20		
524-1-29	Concrete Ditch Pavement- Reinforced	SY	70		
550-60-400	Fence Gate, Reset Existing	EA	1		
570-1-2	Performance Turf, Sod	SY	10,291		
630-2-11	Conduit, Furnish & Install, Open Trench	LF	623		
630-2-12	Conduit, Furnish & Install, Directional Bore	LF	997		
635-2-11	Pull & Splice Box, F&I, 13"X24" Cover Size	EA	19		
639-3-12	Electrical Service Disconnect, F&I, Cabinet	EA	1		
700-1-11	Single Post Sign, F&I Ground Mount, Up To 12 SF	AS	5		
700-1-50	Single Post Sign, Relocate	AS	12		
700-1-60	Single Post Sign, Remove	AS	15		
700-2-50	Multi-Post Sign, Ground Mount, Relocate	AS	2		

706-3	Retro-reflective/Raised Pavement Markers	EA	522		
710-11-101	Painted Pavement Markings, Standard, White, Solid, 6"	GM	3.30		
710-11-102	Painted Pavement Markings, Standard, White, Solid For Interchange and Urban Island, 8"	GM	0.10		
710-11-124	Painted Pavement Markings, Standard, White, Solid For Diagonal and Chevron, 18"	LF	2,732		
710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	GM	0.90		
710-11-224	Painted Pavement Markings, Standard, Yellow, Solid For Diagonal and Chevron, 18"	LF	729		
711-11-124	Thermoplastic, Standard, White, Solid, 18" for Diagonal and Chevrons	LF	2,732		
711-11-224	Thermoplastic, Standard, Yellow, Solid, 18" for Diagonal or Chevrons	LF	729		
711-16-101	Thermoplastic, Standard-Other	GM	3.30		

	Surfaces, White, Solid, 6"				
711-16-102	Thermoplastic, Standard-Other Surfaces, White, Solid, 8"	GM	0.10		
711-16-201	Thermoplastic, Standard-Other Surfaces, White, Solid, 6"	GM	0.90		
711-17	Thermoplastic, Remove Existing Thermoplastic Pavement Markings: Non-Conflicting Only	SF	773		
715-1-12	Lighting Conductors, F&I, Insulated, No.8-6	LF	1,235		
715-1-13	Lighting Conductors, F&I, Insulated, No 4 to No 2	LF	4,985		
715-1-60	Lighting Conductors, Remove & Dispose	LF	1,685		
715-4-17	Light Pole Complete (F&I), Pole-20'	EA	6		
715-4-60	Light Pole Complete, Relocate	EA	10		
715-4-70	Light Pole Complete Remove Pole and Foundation	EA	5		
715-500-1	Pole Cable Distribution System, Conventional	EA	16		
Total Bid – Base Bid*					

**Includes all work at each location, for a complete and operational improvement, including, but not limited to, the informational pay items listed on the plans.*

Bid Form – Add Alternate 1

Pay Item No.	Item Description	Unit	Quantity	Unit Price	Total Amount/Item
101-1	Mobilization	LS	1		
102-1	Maintenance Of Traffic	LS	1		
104-1	Artificial Coverings/Rolled Erosion Control Products	SY	30		
104-10-3	Sediment Barrier	LF	-456		
104-18	Inlet Protection System	EA	2		
104-19	Chemical Treatment Powdered - For Erosion Control	SY	30		
110-1-1	Clearing & Grubbing	AC	0.50		
110-4-10	Removal of Existing Concrete	SY	600		
120-1	Regular Excavation	CY	1,725		
120-6	Embankment	CY	70		
425-1-549	Inlets, DT Bot, Type D, Modify	EA	1		
425-1-561	Inlets, DT Bot, Type F, <10'	EA	-1		
425-6	Valve Boxes, Adjust	EA	1		
430-175-124	Pipe Culvert (24" RCP)	LF	27		
430-200-29	Flared End Section, Concrete 24"	EA	-1		
524-1-29	Concrete Ditch Pavement-Reinforced	SY	55		
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	15		
570-1-2	Performance Turf, Sod	SY	3,030		
Total Bid – Add Alternate No. 1*					

**Includes all work at each location, for a complete and operational improvement, including, but not limited to, the informational pay items listed on the plans.*

Bid Form – Add Alternate 2

Pay Item No.	Item Description	Unit	Quantity	Unit Price	Total Amount/Item
101-1	Mobilization	LS	1		
102-1	Maintenance Of Traffic	LS	1		
104-1	Artificial Coverings/Rolled Erosion Control Products	SY	25		
104-10-3	Sediment Barrier	LF	300		
104-19	Chemical Treatment Powdered - For Erosion Control	SY	25		
110-1-1	Clearing & Grubbing	AC	0.30		
120-1	Regular Excavation	CY	175		
120-6	Embankment	CY	400		
524-3	Conc Core Ditch Blocks	CY	2		
570-1-2	Performance Turf, Sod	SY	2,500		
Total Bid – Add Alternate No. 2*					

**Includes all work at each location, for a complete and operational improvement, including, but not limited to, the informational pay items listed on the plans.*

NOTE: The contractor should read the contract documents for the requirements for construction, insurance ,and contractual obligations before submitting a bid proposal. It is the intent of the Owner to award only one (1) contract for work bid in this advertisement. The award will be made to the lowest responsive, responsible and qualified bidder based on the total sum amount bid for each and any, all, or none of the work that the Owner determines to be in their best interest to construct. The contractor should verify the quantities to be included in the construction contract. The contractor shall furnish Space Florida with a Public Construction Bond in 100% of the total estimated amount of the contract. The Public Construction Bond shall continue in effect for one (1) year after completion and acceptance of the work as guarantee against construction defects. The contractor in his/her bid shall include the cost of said bond.

(Name of Bidder)

(Authorized Signature)

(Title)

(Mailing Address)

(City, State, Zip)

(Federal ID No. or SS No.)

(Phone Number)

(Fax Number)

(Date)

Attachment “C”

Project Manual

S P A C E F L O R I D A



**ECONOMIC DEVELOPMENT TRANSPORTATION
PROJECT FUND (EDTPF) INFRASTRUCTURE
IMPROVEMENTS –**

ROADWAY PACKAGE

RFB-SF-01-0-2020

**BID DOCUMENTS
PROJECT MANUAL**

**Prepared for:
Space Florida**

**Dated:
March 16, 2020**

**ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
INFRASTRUCTURE IMPROVEMENTS – ROADWAY PACKAGE**

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(Provided by Owner via Bid Advertisement)

DIVISION 01 - GENERAL REQUIREMENTS

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**DIVISION II AND III –FLORIDA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
SPECIFICATIONS**

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APPENDIX

1. TERRACON GEOTECHNICAL ENGINEERING REPORT DATED 01/27/2020
2. TERRACON GEOTECHNICAL ENGINEERING REPORT DATED 03/11/2020 (PAYNE WAY)
3. TERRACON GEOTECHNICAL ENGINEERING REPORT DATED 03/11/2020 (CENTRAL CONTROL ROAD / PHILLIPS PARKWAY)
4. EXAMPLE OF NASA KSC FORM 26-312 UTILITY LOCATE/EXCAVATION PERMIT REQUEST (DIG PERMIT) 19184 FOR PROJECT'S GEOTECHNICAL BORINGS, DATED 09/27/19
5. EXAMPLE OF USAF FORM 103 BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST (DIG PERMIT) FOR PROJECT'S GEOTECHNICAL BORINGS, DATED 11/20/19
6. NASA KSC RECORD OF ENVIRONMENTAL CONSIDERATION NO. 10678 DATED 06/18/19

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DIVISION 1

SECTION 01 11 10
SUMMARY

PART 1 - GENERAL

1.01 DESCRIPTION

A. Project/Work Identification:

**ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
INFRASTRUCTURE IMPROVEMENTS – ROADWAY PACKAGE, CAPE
CANAVERAL SPACEPORT, FLORIDA**

The Project will provide required construction improvements to the primary transportation routes of the Blue Origin flight hardware elements. Transport will either originate at the Blue Origin Orbital Launch System Manufacturing Facility in Merritt Island Exploration Park Phase 2 or from Port Canaveral. Both primary routes terminate at Cape Canaveral Air Force Station (CCAFS) Space Launch Complex 36 (SLC-36) and are within the limits of Cape Canaveral Spaceport. The two routes and roads traveled are described below:

Route 1: Blue Origin Orbital Launch Site Manufacturing Facility to SLC-36

- 1) North on Space Commerce Way to NASA Parkway
- 2) Counter-flow on the westbound lanes of NASA Parkway through Kennedy Space Center Gate 3, cross over & zig zag through signals at Visitor Complex Entrance
- 3) Counter-flow down the westbound on-ramp to counter-flow on the southbound lanes of Kennedy Parkway
- 4) East on Saturn Causeway to Launch Complex (LC) 39A
- 5) Continue on Saturn Causeway/LC-39A Bypass Road to Phillips Parkway
- 6) South on Phillips Parkway, past SLC-41, SLC-40 & SLC-37
- 7) Transition/keep on Phillips Parkway at Titan III Road
- 8) Turn east onto Central Control Road
- 9) Travel eastbound on Central Control Road to SLC-36.

Route 2: Recovery Site (Port Canaveral) to SLC-36

- 1) Port Canaveral dock (to be determined) off load to eastbound SR 401, west of Grouper Road (outside the CCS boundary)
- 2) Travel on eastbound SR 401 continuing onto eastbound Phillips Pkwy within CCAFS
- 3) Cross over and enter CCAFS through the westbound lanes of the South gate
- 4) Transition over to east / northbound lanes after clearing the South gate

- 5) Travel on Phillips Pkwy to CCAFS Industrial Area
- 6) Turn east onto Central Control Road
- 7) Travel eastbound on Central Control Road to SLC-36.

B. Project Work Description:

1. The EDTPF Infrastructure Improvements – Roadway Package (Project) includes work items shown within the bid documents (plans and specifications) that should be completed and accepted by the property owners: NASA, United States Air Force (USAF) 45th Space Wing, and Canaveral Port Authority. The Project consists of constructing roadway shoulder and median improvements at several locations/intersections on the Cape Canaveral Spaceport in Brevard County, Florida. The locations are on property owned/managed either by NASA Kennedy Space Center (NASA KSC), USAF Cape Canaveral Air Force Station (CCAFS) and Canaveral Port Authority. The improvements are along Space Commerce Way, NASA Parkway/SR-405, Kennedy Parkway (SR-3), Saturn Causeway, Cape Road, Phillips Parkway, Central Control Road and SR 401. The improvements include, but are not limited to, miscellaneous demolition, earthwork, asphalt pavement, pavement removal, stormwater, light pole relocation, conduit, wire, electrical, pavement markings, pavement markings removal, signage, misc. concrete, and associated related improvement as outlined within the bid/contract documents and accepted by the property owners, FDOT, and Space Florida. Additional locations with similar improvements may be added to this scope based on Project requirements. In addition, contractor shall coordinate work activities with NASA KSC, USAF, Canaveral Port Authority, FDOT, Space Florida, and other regulatory agencies as required.

This Project will be constructed under a single prime contract.

D. Contract Documents:

1. Requirements of the Work are contained in the Contract Documents, and include cross-references herein to published information, which is not necessarily bound therewith.

E. Intent:

1. The intent of the Contract is to provide for construction and completion in a workmanlike manner, in every detail, of the Work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the Work in a workmanlike manner in accordance with the Contract Documents.

1.02 LIMITS OF CONSTRUCTION

- A. All existing facilities disturbed by the Contractor outside the construction limits indicated on Plans, shall be restored, to the Owner's satisfaction, at the Contractor's expense.

1.03 CONSTRUCTION LAYOUT AND STAKES

- A. The Contractor shall furnish all lines and measurements necessary for the proper protection and control of the work under these Contract Documents.

1.04 SCHEDULING

- A. The Contractor shall be responsible for the planning and scheduling, and the coordination of all Work performed under the Contract Documents, and the entire project as a whole so that materials will arrive on schedule and installation will proceed without delay.

1.05 COOPERATION BETWEEN CONTRACTORS

- A. The Owner reserves the right to contract for and perform other or additional construction on or near the Work covered by the Contract Documents.
- B. There will be other contractors working near project limits for NASA, USAF, Port Canaveral and other entities. When separate contracts are let within or near the limits of this Project, the Contractor shall conduct their work so as not to interfere with or hinder the progress of completion of the construction performed by other contractors.
- C. The Contractor shall arrange his/her Work and shall place and dispose of the materials being used as not to interfere with the operations of the other contractors within or near the limits of this Project. The Contractor shall join his/her Work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

END OF SECTION 01 11 10

SECTION 01 22 00
MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 MEASUREMENT

A. Measurement of Quantities Lump Sum:

The following requirements, in general, apply to those items listed as Lump Sum:

1. The term "Lump Sum" when used as a Unit Price Item of payment will mean complete payment for the Work described in the Contract Documents.
2. When a complete signal, structure, or structural unit (in effect, "Lump Sum" Work) is specified as the unit of measurement, the unit will be construed to include all necessary incidentals, permits, mobilization, maintenance of traffic, labor, materials, fittings and accessories for a complete operation system or work item.

B. Measurement of Quantities Unit Price:

The following requirements, in general, apply to those items listed by unit prices:

1. All "Unit Price" Work completed under the Contract will be measured by the Engineer or Owner, using United States Customary Units of Measurement.
2. The method of measurement and computations to be used in determination of quantities of material furnished and of Work performed under the Contract will be those methods generally recognized as conforming to good engineering practice.
3. Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the Plans or ordered in writing by the Engineer.
4. Structures will be measured according to neat lines shown on the Plans or as altered to fit field conditions.
5. Unless otherwise specified, all Contract Unit Price Items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.
6. In computing volumes of excavation the average end area method or other acceptable methods will be used.
7. The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

8. The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois. All materials which are measured or proportioned by weights shall be weighed on accurate, approved scales, by competent, qualified personnel at locations designated by the Engineer or Owner. If material is shipped by rail, the car weight may be accepted, provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer or Owner directs, and each truck shall bear a plainly legible identification mark.
9. Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer or Owner, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity and all loads shall be leveled when the vehicles arrive at the point of delivery.
10. When requested by the Contractor and approved by the Engineer or Owner in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer or Owner and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.
11. Bituminous materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60-degrees F or will be corrected to the volume at 60-degrees F using ASTM D 1250 for asphalts or ASTM D 633 for tars.
12. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the Work.
13. When bituminous materials are shipped by rail or truck transport, net certified weights by volume, subject to correction for loss or foaming may be used for computing quantities.
14. Cement will be measured by the ton or hundredweight.
15. Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thickness and the extreme length of each piece.
16. When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc. and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

17. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified by permanently installed commercial scales.
18. Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the Engineer or Owner before beginning Work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of one percent of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.
19. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and inspector can safely and conveniently view them.
20. Scales shall be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.
21. Scales "overweighing" (indicating more than correct weight) shall not be permitted to operate and all materials received subsequent to the last previous correct weighing-accuracy test will be reduced by the percentage of error in excess of one-half of one percent.
22. In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight) they shall be adjusted and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.
23. All costs in connection with furnishing, installing, certifying, testing and maintaining scales for furnishing check weights and scale house; and for all other items specified in this section, for the weighing of materials for proportioning or payment, shall be included in the Unit Contract Prices for the various items of the Project.
24. When the estimated quantities for a specific portion of the Work are designated as the pay quantities in the Contract, they shall be the final calculation/quantities for which payment for such specific portion of the Work will be made, unless the dimensions of said portion of the Work shown on the Plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such Work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions. When measuring the Engineer will use lengths and widths in the calculations based on the station to station dimensions shown in the Plans; the station to station dimensions actually constructed within the limits designated by the Engineer; or the final dimensions measured along the surface of the completed work within the neat lines shown in the Plans or designated by the Engineer. The Engineer will use the method or combination of methods of measurement that reflect, with reasonable accuracy, the actual surface area of the finished work as the Engineer determines.

1.02 PAYMENT

- A. The terms shall be as mandated by the contractual requirements between Owner and

Contractor.

- B. Payment for Lump Sum shall be made on a percentage basis, for constructed and approved work, via progress payment applications as established in the contract between Space Florida and Contractor. The Contractor progress payment application will be approved or certified by both Engineer and/or Owner's appointed representatives.
- C. Payment for Unit Price items shall be made for constructed and approved quantities as established in the contract between Space Florida and Contractor. All constructed and approved quantities shall be field measured by the Contractor, Engineer and/or Owner's appointed representatives. The Contractor's progress payment application will be approved and certified by both Engineer and/or Owner's appointed representatives.
- D. Compensation for altered quantities: When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.
- E. For purpose unit prices, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

END OF SECTION 01 22 00

SECTION 01 31 10
CONTROL OF WORK

PART 1 - GENERAL

1.01 AUTHORITY OF THE ENGINEER

- A. The Engineer will decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the Work. The Engineer will decide all questions which may arise as to the interpretation of the Contract Documents relating to the Work, the fulfillment of the Contract on the part of the Contractor, and the rights of different contractors on the Project. The Engineer will determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under the Contract. The Engineer will coordinate all final approval with Owner and Owner's representatives.

1.02 CONFORMITY WITH PLANS AND SPECIFICATIONS

- A. All Work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the Contract Documents.
- B. If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the Contract Documents but that the portion of the Work affected will, in Engineer's opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, Engineer will advise the Owner of Engineer's determination that the affected work be accepted and remain in place. In this event, the Engineer will document their determination and recommend to the Owner a basis of acceptance which will provide for an adjustment in the Contract Sum for the affected portion of the Work. The Engineer's determination and recommended Contract Sum adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in Engineer's opinion, needed. Changes in the Contract Sum shall be covered by contract modifications as applicable.
- C. If the Engineer finds the materials furnished, Work performed, or the finished product are not in reasonably close conformity with the Contract Documents and have resulted in an unacceptable finished product, the affected Work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.
- D. For the purpose of this Section, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the Work in accordance with the Contract Documents. The term shall not be construed as waiving the Engineer's right to insist on strict compliance with the Contract Documents during the Contractor's prosecution of the Work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the Work.

- E. For the purpose of this Section, the term "reasonably close conformity" is also intended to provide the Engineer with the authority to use good engineering and architectural judgment in their determination as to acceptance of Work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the Contract Documents.

1.03 COORDINATION OF CONTRACT DOCUMENTS

- A. The Contract Documents and all referenced standards cited are essential parts of the Contract Requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete Work. In case of discrepancy, figured dimensions, unless obviously incorrect, shall govern over scaled dimensions. Cited standards for materials or testing shall be considered as standard specifications.
- B. Any table, gradation, size, dimension, rate, mix, method, nomenclature, pay item number (if applicable), basis of payment or method of measurement shown on the Plans, which is in variance with the Standard Specifications, shall be considered an amendment or supplement to the applicable specification.
- C. The Contractor shall not take advantage of any apparent error or omission on the various Contract Documents. In the event the Contractor discovers any apparent conflict, error or discrepancy, Contractor shall immediately call upon the Engineer for Engineer's interpretation and decision, and such decision shall be final.
- D. In cases of discrepancy, the governing order shall be as determined by Space Florida Legal. In general, the documents are as follows:
 - 1. Special Provisions.
 - 2. Technical Special Provisions.
 - 3. Plans.
 - 4. Standard Plans.
 - 5. Developmental Specifications.
 - 6. Supplemental Specifications.
 - 7. Standard Specifications.

1.04 ENGINEER'S PLANS

- A. The Plans furnished by the Engineer consist of general drawings showing such details as are necessary to give a comprehensive idea of the construction contemplated. Roadway Plans show, in general; alignment, profile grades, typical cross sections and general cross sections. Structure Plans, in general; show in detail all dimensions of the Work contemplated.
- B. When the Structure Plans do not show dimensions in detail, they will show general features and such details as necessary to give a comprehensive idea of the structure.
- C. Not all conflicts are known within the Project area. Not all conflicts are shown on the Plans. The Contractor is solely responsible for the location and protection of all equipment and facilities which are to remain in service and in place during and after all Project Work.

1.05 FIELD NOTES

- A. Adequate field notes and records shall be kept as layout work is accomplished. These field notes and records shall be available for review by the Owner and Engineer as the Work progresses and copies shall be furnished to the Owner and Engineer at the time of completion of the Project.
- B. An inspection or checking of the Contractor's field notes or layout work by the Engineer and/or Owner and the acceptance of all or any part thereof, shall not relieve the Contractor of their responsibility to achieve the lines, grades, and dimensions shown in the Plans and Specifications.

1.06 AUTHORITY AND DUTIES OF INSPECTORS

- A. Inspectors employed by the Owner shall be authorized to inspect all Work done and all materials furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the Contract. Inspectors are not authorized to issue instructions contrary to the Plans and Specifications or to act as foreman for the Contractor.
- B. Inspectors employed by the Owner are authorized to notify the Contractor or their representatives of any failure of the Work or materials to conform to the requirements of the Contract, Plans, or Specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for their decision.

1.07 INSPECTION OF THE WORK

- A. All materials and each part or detail of the Work shall be subject to inspection by the Owner and/or Engineer. The Owner and/or Engineer shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.
- B. If the Owner and/or Engineer requests it, the Contractor, at any time before acceptance of the Work, shall remove or uncover such portions of the finished Work as may be directed. After examination, the Contractor shall restore said portions of the Work to the standard required by the Plans and Specifications. Should the Work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the Work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.
- C. All Work performed or materials used without supervision or inspection by the Owner and/or Engineer may be ordered removed and replaced at the Contractor's expense unless the Owner and/or Engineer failed to inspect after having been given reasonable notice in writing that the Work was to be performed.
- D. Should the Contract Work include relocation, adjustment, or any other modification to existing facilities, not the property of the Owner, authorized representatives of the owners of such facilities shall have the right to inspect such Work. Such inspection shall in no

sense make any facility owner a party to the Contract, and shall in no way interfere with the rights of the parties to this Contract. Inspection and/or approval of the Work or any portion thereof shall not relieve the Contractor of responsibility for faulty materials or workmanship.

1.08 REMOVAL OF REJECTED AND UNAUTHORIZED WORK

- A. All Work which does not conform to the requirements of the Contract Documents shall be considered rejected, unless otherwise determined acceptable by the Owner and/or Engineer as provided in Item 1.02 - CONFORMITY WITH PLANS AND SPECIFICATIONS of this Section.
- B. Rejected Work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the Final acceptance of the Work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of AIA Document A107 Standard Form of Agreement Between Owner and Contractor for a Project of Limited Scope, as modified.
- C. Work performed contrary to the instructions of the Owner and/or Engineer, work performed beyond the lines shown on the Plans or as given, except as herein specified, or any extra work done without authority, shall be considered as unauthorized and will not be paid for under the provisions of the Contract. Work so performed may be ordered removed or replaced at the Contractor's expense.
- D. Upon failure on the part of the Contractor to comply forthwith with any order of the Owner and/or Engineer made under the provisions of this Section, the Owner and/or Engineer shall have the authority to cause rejected work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

1.09 MAINTENANCE DURING CONSTRUCTION

- A. The Contractor shall maintain the Work during construction and until the Work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the Work is maintained in satisfactory condition at all times. All Work shall be protected during any delay between phases or sub-phases of construction required to complete the Work.
- B. Storage of Materials and Samples. Method of Storage: Store materials in such a manner as to preserve their quality and fitness for the work, to facilitate prompt inspection, and to minimize noise impacts on sensitive receivers. The Owner may reject improperly stored materials. If the land owner allows, the Contractor may use a portion of the right-of-way or other designated locations for storage purposes and for placing the Contractor's equipment. Use only the portion of the right-of-way that is outside the clear zone, which is the portion not required for public vehicular or pedestrian travel. When used, restore the right-of-way or storage location to pre-construction condition at no additional cost to the Owner or as specified in the Contract Documents. Contractor shall accept responsibility for the protection of stored materials. The Owner is not liable for any loss of materials, by theft or otherwise, or for any damage to the stored materials.

1.10 FAILURE TO MAINTAIN THE WORK

- A. Should the Contractor at any time fail to maintain the Work as provided in Item 1.09 - MAINTENANCE DURING CONSTRUCTION of this Section, the Owner and/or Engineer will immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the urgency that exists.
- B. Should the Contractor fail to respond to the Owner's and/or Engineer's notification, the Owner and/or Engineer may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the urgency that exists. All maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

END OF SECTION 01 31 10

SECTION 01 31 13
PROJECT COORDINATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section includes minimum administration and supervisory requirements necessary for coordination of Work on the Project include but are not necessarily limited to the following:
1. Pre-Construction Conference(s).
 2. Coordination and Progress Meetings.
 3. Pre-Installation Conferences.
 4. Preconstruction and Progress Photographs.
 5. Reporting and Schedules.
 6. Special Reports.

1.02 COVENANT OF GOOD FAITH AND FAIR DEALING

- A. This Contract imposes an obligation of good faith and fair dealing in its performance and enforcement.
- B. The Contractor, Owner, Engineer and Owner's representatives, with a positive commitment to honesty and integrity, agree to the following mutual duties:
1. Each will function within the laws and statutes applicable to their duties and responsibilities.
 2. Each will assist in the other's performance.
 3. Each will avoid hindering the other's performance.
 4. Each will proceed to fulfill its obligations diligently.
 5. Each will cooperate in the common endeavor of the Contract.

1.03 PRECONSTRUCTION CONFERENCE

- A. With Owner: Before beginning Work at the Site, the Contractor shall attend preconstruction conference and bring the Project Management Team employed for this Project. In the event a Team member is unable to attend, the Contractor shall bring a Letter of Introduction in which Contractor advises the full names and duties of the Team member(s) and states that they are assigned to the Project and will be in full responsible charge. This conference will be called by the Owner who will arrange for other interested parties to be present.

- B. With landowners NASA, USAF and Port Canaveral (separately): Before beginning Work on each landowner's sites, the Contractor shall attend preconstruction conference and bring the Project Management Team employed for this Project.
- C. For all Preconstruction Conferences, the Contractor shall also notify their major subcontractors and suppliers of this meeting if their attendance is required. At this time, all parties will discuss the Project under Contract and prepare a program of procedure in keeping with requirements of the Contract Documents. The Contractor's Team shall henceforth make every effort to expeditiously coordinate all phases of the Work, including the required reporting procedure, to obtain the end result within the full purpose and intent of the Contract Documents for this Project.

1.04 COORDINATION AND PROGRESS MEETINGS

- A. The Owner will prepare a written memorandum on required coordination activities. Included will be such items as required notices, reports, and attendance at meetings. This memorandum will be distributed to each entity performing construction at the Project Site.
- B. In addition to specific coordination and pre-installation meetings for each element of Work, and other regular project meetings for other purposes, hold general progress meetings each week with time coordinated with the preparation of payment request. Require each party then involved in planning, coordination, or performance of Work to be properly represented at each meeting. Review present and future needs including interface requirements, time, sequences, deliveries, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, change orders, and documentation of information for payment requests.
- C. Provide and updated schedule and discuss whether each element of current Work is ahead of schedule, on time, or behind schedule in relation with updated progress schedule. Determine how behind-schedule Work will be expedited, and secure commitments from parties involved. Discuss whether schedule revisions are required to ensure that current Work and subsequent Work will be completed within Contract Time.
- D. Review everything of significance which could affect progress of Work.
- E. The Contractor shall record results of the meeting and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
- F. The Contractor shall have a coordination meeting on a monthly basis, or bi-weekly if necessary, with landowners NASA, USAF, and Port Canaveral.

1.05 PRE-INSTALLATION CONFERENCES

- A. Well in advance of installation of every major unit of Work which requires coordination and interfacing with other Work, meet at Project Site with installers and representatives of manufacturers and fabricators who are involved in or affected by unit of Work, and in coordination or integration with other Work which has preceded or will follow.
- B. Advise Owner and Engineer of schedule meeting dates.
- C. At each meeting review progress of other work and preparations for particular work

under consideration, including requirements of Contract Documents, options, related change orders, purchases, deliveries, shop drawings, product data, quality control samples, possible conflicts, compatibility problems, time schedules, weather limitations, temporary facilities, space and access limitations, structural limitations, governing regulations, safety, inspection and testing requirements, required performance results, recording requirements, and protection.

- D. Record significant discussions of each conference, and record agreements and disagreements, along with final plan of action. Distribute record of meeting promptly to everyone concerned, including Owner and Engineer.

1.06 PRECONSTRUCTION AND PROGRESS PHOTOGRAPHS

- A. Preconstruction and progress photographs, and videos are required only if Section 01 32 33 – PHOTOGRAPHIC DOCUMENTATION is included in the Contract Requirements, however, if Contractor elects to photograph or video any or all parts of the Work, Contractor shall promptly forward one (1) copy each to the Owner and Engineer at Contractor's own expense.
- B. The photographs and/or videos shall be labeled with the item and date of exposure and properly identified and categorized with the name of the person taking the photos and/or video.

1.07 REPORTING AND SCHEDULES

- A. Within three (3) days after each meeting date, distribute copies of minutes-of-the-meeting to each entity present and to others who should have been present.
- B. Include brief summary, in narrative form, of progress of Work since previous meeting and report.
- C. Schedule Updating:
 - 1. Immediately following each meeting, where revisions to Progress Schedule have been made or recognized, revise Progress Schedule.
 - 2. Re-issue revised schedule concurrently with report of each meeting.

1.08 SPECIAL REPORTS

- A. Reporting Unusual Events: When an event of an unusual and significant nature occurs at the site, Contractor shall prepare and submit a special report to the Owner and Engineer. List chain of events, persons participating, response by the Contractor's personnel, an evaluation of the results or effects and similar pertinent information. Advise the Owner and Engineer as soon as possible when such events are known.
- B. Submit special reports directly to the Owner and Engineer within one (1) day of occurrence. Submit a copy of the report to other entities that are affected by the occurrence within one (1) day of the occurrence.

END OF SECTION 01 31 13

SECTION 01 32 18
CONSTRUCTION SCHEDULE, PHASING (BAR CHART)

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope:

1. Contractor shall adhere to Construction Scheduling and Phasing required for proper execution of the Work as described herein and indicated on the Plans.

PART 2 - PRODUCTS

2.01 CONSTRUCTION SCHEDULE

A. Preliminary Schedule:

1. Within 15 days after date of Notice of Award, Contractor shall submit Contractor's preliminary network phasing diagram (Preliminary Schedule) indicating a comprehensive overview of the Project including an activity line for each of the work segments to be performed at the site.
 - a. Arrange schedule to indicate required phasing of Work as outlined below and in the Contract Documents, and to indicate time allowances for submittals, roadway or facility closures, access gate impacts, material acquisitions including the scheduled dates for Purchase Orders or subcontract issuance or execution, inspections, and similar time margins.
 - b. Contractor may submit suggestive modifications and revisions to Work sequencing and barricade arrangements indicated in the Plans. All suggestions are dependent on Owner's acceptance and approval.
 - c. Submitted schedule shall be reviewed for comment by Engineer and Owner for conformance to overall project completion time criteria. Lack of this information shall be cause for rejection of schedule.

B. Bar-Chart Schedule:

1. Subsequent to review and comment by the Owner of the Preliminary Schedule, the Contractor shall submit a comprehensive bar-chart type Construction Schedule indicating a time bar for each significant category or unit of work to be performed. Arrange schedule to indicate required phasing of units, and to show time allowances for submittals, material acquisitions including the scheduled dates for Purchase Orders or subcontract issuance or execution, inspections, and similar time margins.

- a. Show critical submittal dates related to each time bar or prepare separate coordinated listing of critical submittal dates.
 - b. Superimpose an S-curve on schedule to show "estimated" total dollar-volume of work performed at any date during Contract Time: with a column of cost figures in left hand margin, ranging from zero to Contract Sum.
 - c. Submit updated schedule and S-curve with monthly pay request as herein specified.
2. This initial Construction Schedule, along with digital media containing all activity data including but not limited to Early Start, Early Finish, Late Start, Late Finish and Float, shall be submitted to the Engineer and Owner for review and comment within thirty (30) calendar days after the date of the Notice To Proceed but no later than seven (7) calendar days before the first Application for Payment request is submitted. Review and recognition of this schedule shall not relieve the Contractor of responsibility for scheduling of the Work and maintaining progress in accordance with the Contract Documents.

The initial Construction Schedule will be recognized by the Engineer and Owner when it is prepared in accordance with the Contract Documents.

C. Submittal:

1. Following initial revision of schedule, after Engineer's and Owner's review, the Contractor shall print and distribute schedule to entities with a need-to-know responsibility, including three (3) copies each to the Engineer and Owner. Post in temporary office space. Revise at intervals matching payment requests, and re-distribute and re-post. Provide copies required with payment requests. The schedule shall also be provided to the owner in Microsoft Project format at each of the progress meetings.

D. Maintenance of Schedule:

1. The Contractor's Construction Schedule shall be updated on a monthly basis, and a copy thereof submitted with each of the Contractor's Applications for Payment. The Engineer will not recommend for payment by the Owner, an Application for Payment without the Contractor's submission of a monthly schedule update. The updated Construction Schedule shall include copies of issued Purchase Orders and Contracts (subcontracts) for materials and services scheduled to have been purchased during the period of time covered by the Application for Payment.
2. If the Contractor's Monthly Schedule Update reflects, or, Engineer or Owner determines that the Contractor is at least ten percent (10%) behind the original Construction Schedule or fourteen (14) or more calendar days behind the original Construction Schedule for:
 - a. the work as a whole;

- b. a major Contract item;
- c. a major item of work;

then the Contractor shall submit with the Monthly Schedule Update its proposed plan for bringing the work back on schedule and completing the Work within the Contract Time(s).

- 3. The Construction Schedule shall be coordinated by the Engineer and Owner with the overall schedule for the total Project as a whole. The Contractor shall revise the Construction Schedule promptly in accordance with the conditions of the work, subject to approval by the Engineer and Owner.
- 4. The Contractor shall comply fully with all time and other requirements of the Contract Documents. Recommendation of an Application for Payment by the Engineer and payment thereon by the Owner, without the submission of a Monthly Schedule Update, shall not constitute a waiver of the requirements for such updates, nor shall it relieve the Contractor from the obligation to complete the Work within the Contract Time(s).
- 5. Should a review indicate the Work has fallen behind the recognized Construction Schedule; at the option of the Engineer or Owner; funds equal to the established liquidated damages for the number of calendar days behind schedule shall be withheld until the Work is brought back on schedule.
- 6. If the Work is determined to be unsatisfactory for any reason and requires removal and replacement, rework, or any action that will affect the operation of Exploration Park; it will be considered part of the Schedule and if the time period exceeds that specified, liquidated damages shall be assessed.
- 7. If the Engineer or Owner has determined that the Contractor should be permitted to extend the time for completion as provided in Article 14.5 of AIA Document A107 Standard Form of Agreement Between Owner and Contractor for a Project of Limited Scope, as modified, the date(s) in the Construction Schedule shall be adjusted accordingly to retain their same relationship to the adjusted date of Final Acceptance, and the dollar value of Work to be completed as of the first of each month shall be adjusted prorate.

PART 3 - EXECUTION

3.01 PHASING/SEQUENCING

- 1. The phasing and sequencing of Work of this Contract shall be determined by the Contractor and as identified within contract documents. The Contractor will have to adhere to launch and mission requirements within NASA KSC and USAF properties.

2. Phased construction schedule shall include all requirements for submittals, material and equipment procurement, material stockpiling, setting up Contractor's staging area, surveying of existing conditions and preparation of necessary schedules to meet the rigid requirements for project completion.
3. All work for this project shall be completed as follows and as established between the winning contractor and Space Florida. The project duration shall be 240 calendar days as described below:
 - A. Mobilization/lead time – 30 calendar days (construction activities will be permitted during this timeframe depending on construction NTP)
 - B. Construction to substantial completion – 150 calendar days
 - C. Final completion – 30 calendar days
4. Contractor shall be permitted to work simultaneously within several areas of the project; however, maintenance of traffic measures meeting the requirements of FDOT shall be in place, along with approval from appropriate land owners. Contractor may be requested to alter the Maintenance of Traffic or working schedules as KSC and CCAFS frequently have large launch/mission specific infrastructure that get transported throughout the limits of the project.
5. Cape Canaveral Spaceport has mandated "no dig days" due to launches/operational restrictions; therefore, prior to digging or at the beginning of the work day, contractor shall ensure areas where the digging is to occur are not within "no dig day" zones. For work on USAF CCAFS Property, prior to excavation, the contractor shall daily contact USAF Cape Support duty office at 321-853-5211 for critical day status. For work on NASA KSC Property, prior to excavation, the contractor shall daily contact NASA KSC ISC duty office at 321-861-5050 for critical day status.
6. Contractor shall coordinate with Canaveral Port Authority for all work activities within Port Authority's jurisdiction.
7. Contractor shall coordinate with FDOT for all work activities within active State Roads.

END OF SECTION 01 32 18

SECTION 01 32 33
PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Final completion construction photographs.
 - 4. Preconstruction video recordings (if required by Owner).
 - 5. Periodic construction video recordings (if required by Owner).

1.02 RELATED REQUIREMENTS

- A. SUBMITTAL PROCEDURES: Section 01 33 18.
- B. PROJECT CLOSEOUT: Section 01 78 00.
- C. DEMONSTRATION AND TRAINING: Section 01 79 00.

1.03 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For photographer.
- B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph and/or video recording (if applicable). Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- C. Digital Photographs: Submit image files within three days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 12 megapixels.
 - 2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.

3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

D. Construction Photographs:

1. Submit electronically in format acceptable to Owner.
2. Identification: Provide a memo or text with photo(s) with following information:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Date photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

E. Video Recordings (if required by Owner): Submit video recordings within **seven** days of recording.

1. Submit video recordings in digital video disc format acceptable to Owner and/or Engineer.

2. Identification: With each submittal, provide the following information:
 - a. Name of Project.
 - b. Name and address of photographer.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Date video recording was recorded.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Weather conditions at time of recording.
3. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, three-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as corresponding video recording. Include name of Project and date of video recording on each page.

1.04 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.01 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.
- B. Digital Video Recordings (if required by Owner): Provide high-resolution, digital video disc in format acceptable to Owner and/or Engineer.

PART 3 - EXECUTION

3.01 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Owner and Engineer.
- C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Owner and/or Engineer.
 - 1. Flag construction limits before taking construction photographs.
 - 2. Take photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- D. Periodic Construction Photographs: Take photographs monthly, coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Final Completion Construction Photographs: Take color photographs after date of Final Acceptance for submission as project record documents. Owner and/or Engineer will inform photographer of desired vantage points.
 - 1. Do not include date stamp.

- F. Additional Photographs: Owner and/or Engineer may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum.
1. Three days' notice will be given, where feasible.
 2. In emergency situations, take additional photographs within 24 hours of request.
 3. Circumstances that could require additional photographs include, but are not limited to, the following:
 - a. Special events planned at Project site.
 - b. Substantial Completion of a major phase or component of the Work.
 - c. Owner's request for special publicity photographs.

END OF SECTION 01 32 33

SECTION 01 33 18
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals. These documents shall be submitted electronically via Owner's Document Management System which is a Box.com based system or via a method approved by Owner. A project specific email will be provided to Contractor.

1.02 RELATED REQUIREMENTS

- A. CONSTRUCTION SCHEDULE, PHASING (BAR CHART): Section 01 32 18.
- B. PROJECT CLOSEOUT: Section 01 78 00.
- C. OPERATION AND MAINTENANCE DATA
- D. DEMONSTRATION AND TRAINING

1.03 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals" or "submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.04 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Engineer's final release or approval.
 - g. Scheduled date of fabrication.
 - h. Scheduled dates for purchasing.
 - i. Scheduled dates for installation.
 - j. Activity or event number.

1.05 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Engineer's Digital Data Files: Electronic digital data files of the Contract Drawings will NOT be provided by Engineer for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Engineer's consultants, Owner, or other parties is indicated and/or required, allow 21 calendar days for initial review of each submittal.
- D. Electronic Submittals are preferred by Owner in lieu of paper submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall follow Space Florida project number and specification number requirements. Revisions shall be clearly identified.
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Engineer.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:

- a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Names of subcontractor, manufacturer, and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Specification Section number and title.
 - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - k. Plan number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Indication of full or partial submittal.
 - o. Transmittal number, numbered consecutively.
 - p. Submittal and transmittal distribution record.
 - q. Other necessary identification.
 - r. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
- a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- E. Options: Identify options requiring selection by Engineer.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from

requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note submittal number, date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Engineer's action stamp.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's action stamp.

PART 2 - PRODUCTS

2.01 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals electronically required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Submit electronic submittals via email as MS Word or .PDF electronic files. Engineer will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Action Submittals: Submit each submittal unless otherwise indicated.
 - 3. Informational Submittals: Submit each submittal unless otherwise indicated. Engineer will not return copies. Engineer will provide acknowledgment of receipt to the Contractor.
 - 4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 - i. For equipment, include the following in addition to the above, as applicable:
 - j. Wiring diagrams showing factory-installed wiring.
 - k. Printed performance curves.
 - l. Operational range diagrams.
 - m. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 4. Submit Product Data before or concurrent with Samples.
 5. Submit Product Data in the following format:
 - a. PDF electronic file (If acceptable to Owner and Engineer in lieu of paper submittals).
 - b. Three paper copies of Product Data unless otherwise indicated. Engineer will return two copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.

- c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 22 by 34 inches.
- 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 - 2. Manufacturer and product name, and model number if applicable.
 - 3. Location.
- E. Contractor's Construction Schedule: Comply with requirements specified in Section 01 32 18 – CONSTRUCTION SCHEDULE, PHASING (BAR CHART).
- G. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 01 45 00 – QUALITY CONTROL SERVICES.
- H. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 01 78 00 – PROJECT CLOSEOUT.
- J. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of engineers and owners, and other information specified.
- K. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- L. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

- M. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- N. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- O. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- P. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- Q. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- R. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- S. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- T. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- U. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

- V. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 01 78 00 – PROJECT CLOSEOUT.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ENGINEER OR OWNER'S REPRESENTATIVE ACTION

- A. Action Submittals: Engineer or Owner's representative will review each submittal, make marks to indicate corrections or revisions required, and return it. Engineer or Owner's representative will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Engineer or Owner's representative will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Engineer without action.

END OF SECTION 01 33 18

SECTION 01 35 13
PROJECT PROCEDURES FOR AVIATION AND SPACEPORT FACILITIES

PART 1 - GENERAL

1.01 AVIATION AND SPACEPORT FACILITY OPERATIONS

- A. All facilities within Cape Canaveral Spaceport are aviation and/or spaceport facilities.
- B. Aviation and spaceport facility operations shall be maintained throughout this Contract within NASA Kennedy Space Center (KSC) and United States Air Force Cape Canaveral Air Force Station (CCAFS). The Contractor shall in no way curtail or handicap normal operational characteristics of the aviation and spaceport facilities except as specifically indicated and specified in these Contract Documents.

1.02 LAUNCH DELAYS

- A. Cape Canaveral Spaceport frequently launches rockets which require closure of certain areas and open trenches and/or excavations. Contractor shall coordinate with NASA and USAF as necessary to ensure launch missions are not sacrificed and make the required changes as mandated by NASA and USAF at no additional cost to the Owner.
- B. Contractor maybe requested to adjust lane closures or temporary traffic devices to accommodate launch infrastructure.
- C. On launch days contractors shall expect traffic and other work restrictions. Typical launch windows are 2 to 4 days.

1.03 WEATHER ADVISORY

- A. Contractor shall adhere to NASA KSC and CCAFS weather advisory restriction for construction activities.

1.04 PERMITS, LICENSES AND TAXES

- A. If applicable, Owner will obtain easements from NASA KSC, USAF and Port Canaveral, which will grant Contractor access to construct improvements. Contractor will be required to comply with the requirements of the easement(s).
- B. Contractor shall be required to procure all permits and licenses; pay all charges, fees and taxes; and arrange for all inspections and similar procedural items as required by the code enforcement authorities having jurisdiction.
- C. The Contractor shall give all notices necessary and incidental to the due and lawful prosecution of the Work so as not to delay the completion of the Project. The Contractor's plea that insufficient Contract Time was specified shall not be a valid reason for extension of Contract Time.

- D. The Contractor shall recognize the amount of time required to obtain dig permits through NASA and the USAF (2 to 3 weeks) and submit the permit requests far enough in advance of the need to avoid a delay in the work. Extended permit processing time shall not be a valid reason for extension of Contract Time. Permits for KSC and CCAFS are paid by JON numbers.
- E. The Contractor shall comply with all directions presented on the dig permit.

1.05 VERIFICATION OF EXISTING CONDITIONS

- A. Prior to bidding and commencing with construction, the Contractor shall familiarize themselves as to the existing conditions. Should the Contractor discover any inaccuracies, errors, or omissions between the actual existing conditions and the Contract Documents, Contractor shall within seven (7) calendar days prior to the Receipt of Bids, notify the Owner and/or Engineer in writing. Submission of Bid by the Contractor shall be held as an acceptance of the existing conditions by the Contractor.

1.06 MAINTENANCE OF TRAFFIC

- A. It is the explicit intention of the Contract that the safety of pedestrians, vehicles and aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of vehicles and aircraft in the operations areas of the aviation and spaceport facility with respect to Contractor's own operations and the operations of all Contractor's subcontractors as specified in Section 01 35 50 - CONSTRUCTION SAFETY AND SECURITY REQUIREMENTS. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of vehicles and aircraft while operating to, from, and upon the aviation and spaceport facility as specified in Section 01 51 00 - UTILITIES.
- B. Should it be necessary for the Contractor to complete portions of the Contract Work for the beneficial occupancy of the Owner prior to completion of the whole Work, such "phasing" of the Work shall be specified herein and indicated on the Plans. When so specified, the Contractor shall complete such portions of the Work on or before the date specified or as otherwise specified.
- C. If the Contractor, with the concurrence of the Owner and/or Engineer, elects to complete one increment of Work prior to completion of the whole Work, the Owner may accept the Work for beneficial occupancy. Upon completion of any portion of the Work listed above, such portion shall be accepted by the Owner and/or Engineer in accordance with General Conditions of the Contract for Construction, as modified.
- D. When the Work is in, or near vehicular traffic and pedestrian areas, arrange the Work so as to avoid disruption of normal traffic patterns. Provide, erect and maintain effective barricades, danger signals, signs and equipment to provide protection of the Work and the safety of the pedestrians throughout the area.
- E. The Contractor shall maintain traffic within the limits of the Project for the duration of the construction period, including all temporary suspensions of Work. It shall include the construction and maintenance of all necessary detour facilities; the furnishing, installing and

maintaining of traffic control and safety devices during construction, the control of dust, and any other special requirements for safe and expeditious movement of aircraft, vehicular traffic and pedestrians.

1. Beginning Date of Contractor's Responsibility: The Contractor's responsibility for maintenance of traffic shall begin on the day Contractor starts Work on the Project or on the date of the Notice to Proceed whichever is earlier, and shall continue until the date of Final Acceptance.
 2. Number of Traffic Lanes: Lane closure approval will have to be coordinated with NASA KSC and USAF CCAFS security and may depend on launch or launch related activity. NASA KSC and CCAFS may also have "no lane closure" days or periods of time for no lane closure due to the transport of launch related equipment. Unless otherwise specified, the Contractor shall close no more than one (1) lane on each roadway. The effective width of each lane used for maintenance of traffic shall be at least as wide as the traffic lanes existing in the area prior to commencement of construction. Traffic control and warning devices shall not encroach on lanes used for maintenance of traffic. All closures on any traffic lanes shall be coordinated with the Owner a minimum of seven (7) calendar days prior to any closure.
 3. High Traffic Areas: When the Work is in or near vehicular traffic and pedestrian areas, arrange the Work so as to avoid disruption of normal traffic patterns. Provide, erect and maintain effective barricades, variable message boards, danger signals, signs and equipment to provide protection of the Work and the safety of pedestrians throughout the area.
 4. The Contractor shall call Cape Support (CCAFS) or the Duty Office (KSC) as appropriate prior to changing any traffic pattern. Refer to Section 1.08 for contact numbers.
- F. The Contractor shall be responsible for performing daily inspections, including weekends and holidays with some inspections at night time, of the installations on the Project and replacing all equipment and devices not conforming to the approved standards during that inspection. The Owner and/or Engineer shall be advised of the schedule of these inspections and be given the opportunity to join in the inspection as deemed necessary.
- G. Sections Not Requiring Traffic Maintenance: Contractor shall not be required to maintain traffic over those portions of the Project where no Work is to be accomplished or where construction operations will not affect existing roads. Contractor, however, shall not obstruct nor create a hazard to any traffic during the prosecution of the Work and shall be responsible for repair of all damage to existing pavement or facilities caused by Contractor's operations.
- H. Traffic Plan: The Contractor shall present its Maintenance of Traffic Plan at the Pre-Construction Conference. Maintenance of Traffic Plan shall be in written form and include a minimum of 3 full-size sets of plan sheets which indicate the type and location of all signs, lights, barricades, variable message boards, arrow boards, striping and barriers to be used for the safe passage of pedestrians and vehicular and aircraft traffic through the Project. The plan shall indicate conditions and set-up for each phase of the Contractor's activities. In no case may the Contractor begin Work until the Maintenance of Traffic Plan has been approved in writing by the Owner. Modifications to the Maintenance of Traffic Plan that may become

necessary shall also be approved in writing. Except in an emergency, no changes to the approved plan will be allowed until approval to change such plan has been received.

- I. Traffic During Construction: All construction vehicles are required to use existing public traffic routes. Normal public traffic lanes are not to be used as staging areas for arriving delivery vehicles. The Contractor's employees shall utilize the designated Contractor employee parking area.
- J. Adequate accommodations for intersecting and crossing traffic shall be provided and maintained and, except where specific permission is given, no road or street crossing the Project shall be blocked or unduly restricted.
- K. The State of Florida, Manual of Traffic Control and Safe Practices for Street and Highway Construction, Maintenance and Utility Operations, sets forth the basic principles and prescribes minimum standards to be followed in the design, application, installation, maintenance, and removal of all traffic control devices and all warning devices and barriers which are necessary to protect the public and workmen from hazards within the Project limits. The standards established in the aforementioned manual constitute the minimum requirements for normal conditions and additional traffic control devices, warning devices, barriers or other safety devices will be required where unusual, complex or particular hazardous conditions exist.
- L. Installation: The Contractor shall be responsible for installation and maintenance of adequate traffic control devices, warning devices and barriers, for the protection of the traveling public and workmen, as well as to safeguard the Work. The required traffic control devices, warning devices and barriers shall be erected by the Contractor prior to creation of any hazardous condition and in conjunction with all necessary re-routing of traffic. The Contractor shall immediately remove, turn or cover all devices or barriers which do not apply to existing conditions.
 - 1. The Contractor shall make the Owner aware of any scheduled operation which will affect patterns or safety, sufficiently in advance of commencing such operation to permit Owner's review of the plan for installation of traffic control devices or barriers proposed by the Contractor.
 - 2. The Contractor shall assign one of its employees the responsibility of maintaining the position and condition of all traffic control devices, warning devices and barriers throughout the duration of the Contract. The Owner shall be kept advised at all times as to the identification and means of contacting this employee on a twenty-four (24) hour basis.
 - 3. Refer to Section 01 35 50 - CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS for additional requirements.
- M. Maintenance of Devices and Barriers: Traffic control devices, warning devices, and barriers shall be kept in the correct position, properly directed, clearly visible and clean, at all times. Damaged, defaced or dirty devices or barriers shall immediately be repaired, replaced or cleaned as directed.
- N. Flagmen: The Contractor shall provide competent flagmen to direct traffic where one-way

operation in a single lane is in effect and in other situations as may be required by the standards established herein.

- O. Contractor Signing: The Contractor may furnish and install construction traffic directional signs along the existing traffic route. The signs shall depict Contractor's logo or name, directional arrows and "deliveries". Signs shall be of sufficient size to have 6" inch high message and shall be located at each decision point. All signs and their locations shall be approved by the Owner and/or Engineer. NO OTHER SIGNS ARE PERMITTED WITHIN THE CAPE CANAVERAL SPACEPORT.
- P. Material Deliveries: The Contractor shall make its own material and equipment deliveries. No deliveries shall be made by vendors or suppliers without escort by a representative of the Contractor.
- Q. Construction Personnel Traffic: All construction personnel shall be restricted to construction areas. They shall wear shirts with sleeves and long pants at all times. The workers shall wear high visibility vests or shirts.
- R. Character of Workers: The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the Work to full completion in the manner and time required by the Contract Documents. All workers shall have sufficient skill and experience to properly perform the Work assigned to them. Workers engaged in special Work or skilled Work shall have sufficient experience in such Work and in the operation of the equipment required to perform the Work satisfactorily.

1.07 METHODS AND EQUIPMENT

- A. All equipment which is proposed to be used on the Work shall be of sufficient size and in such mechanical condition as to meet requirements of the Work and to produce a satisfactory quality of work. Equipment used on any portion of the Work shall be such that no injury to previously completed work, adjacent property, or existing facilities will result from its use.
- B. When the methods and equipment to be used by the Contractor in accomplishing the Work are not prescribed in the Contract, the Contractor is free to use any methods or equipment that will accomplish the Work in conformity with the requirements of the Contract Documents.
- C. When the Contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Owner and/or Engineer.

1.08 HOURS OF WORK

- A. Typical construction hours for this project are from 0700 to 1800 hours. Any construction activities outside of this time frame shall be coordinated with Owner and respective land owners.
- B. Cape Canaveral Spaceport have mission critical days and no dig days when construction activities will not be allowed. During construction Contractor shall coordinate these days on a routine basis. Work may proceed as indicated on Plans or directed by the Owner, land owners and/or Engineer.

- C. Cape Canaveral Spaceport has mandated "no dig days" due to launches/operational restrictions; therefore, prior to digging or at the beginning of the work day, contractor shall ensure areas where the digging is to occur are not within "no dig day" zones. For USAF CCAFS limits, prior to excavation, the contractor shall daily contact USAF Cape Support duty office at 321-853-5211 for critical day status. For NASA KSC limits, prior to excavation, the contractor shall daily contact NASA KSC ISC Duty Office at 321-861-5050 for critical day status.

1.09 CLEAN-UP AND TRASH REMOVAL

- A. The Contractor shall be responsible for daily trash clean-up and trash removal. Accumulation of trash and debris shall not be permitted and the Owner may at any time direct the Contractor to immediately remove their trash and debris from the site of the Work when in the opinion of the Owner such trash constitutes a nuisance or in any way hinders the Work or normal operation of the Aviation and Spaceport Facility. If the Contractor should fail to remove its trash and debris from the site of the Work in a timely manner, the Owner may have this Work performed and deduct the cost of such from Contractor's payment.

1.10 CLEANING AND PROTECTION

- A. Clean and protect Work in progress and adjoining Work on the basis of continuous daily maintenance. Apply temporary covering on installed work to protect work from damage or deterioration.
- B. Clean and perform maintenance on installed work as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- C. Supervise performance of the Work in such a manner and by such means which will ensure that none of the Work, whether completed or in progress, is subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period.
- D. Protection of Existing Facilities:
 - 1. Existing surfaces and materials of the Owner's property not requiring Work by the Contract Documents that are damaged by the Contractor's operations shall be immediately repaired. Repaired surfaces and materials shall match existing adjacent undamaged surfaces and materials. Repair Work shall be coordinated with the Owner and/or Engineer with regard to time and method.
 - 2. All roads used by the Contractor during construction shall be restored and/or replaced to their original condition.
- E. Hazardous Materials:
 - 1. ANY PRODUCT OR MATERIAL THAT CONTAINS ASBESTOS MATERIAL SHALL NOT BE PERMITTED ON THIS PROJECT.
 - 2. ANY PAINT CONTAINING LEAD SHALL NOT BE USED ON THIS PROJECT.

F. Overhead Protection:

1. The operation of cranes and other hoisting equipment shall be established in writing by the Contractor. This plan of operation shall be subject to approval by the Owner and/or Engineer.

1.11 CONSERVATION AND SALVAGE

- A. Construction operations shall be carried out with the maximum possible consideration given to conservation of energy, water and materials. In addition consideration shall be given to salvaging materials and equipment involved in performance of the Work but not incorporated therein. Refer to Plans or other sections of the Specifications for required disposition of salvage materials, as applicable, which are the Owner's property.

END OF SECTION 01 35 13

SECTION 01 35 43
PREVENTION, CONTROL AND ABATEMENT OF
EROSION AND WATER POLLUTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Contractor shall comply with requirements for prevention, control and abatement of erosion, siltation and water pollution resulting from construction operations until Final Acceptance of the Project as described within and the contract documents.
- B. All applicable provisions of local Codes concerning grading, filling, excavation, and soil removal shall be complied with.

1.02 PERMITS

- A. The Contractor shall obtain all Federal, State, and local permits and to conduct their Work in the manner designated by all applicable permits. Violations of any permit by the Contractor will in no way involve the Owner regardless of who obtained the permit initially.

1.03 ECOLOGICAL REQUIREMENTS

- A. Take sufficient precautions to prevent pollution of rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments with fuels, oils, bitumens, calcium chloride or other harmful materials. Also, conduct and schedule operations so as to avoid interference with movement of migratory fish. No residue from dust collectors or washers shall be dumped into any live stream.
- B. Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments shall be restricted to those areas where it is necessary to perform filling or excavation to accomplish the Work shown in the Plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit; rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments shall be promptly cleared of all obstructions placed therein or caused by construction operations.
- C. Except as necessary for construction, excavated material shall not be deposited in rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments, or in a position close enough thereto to be washed away by high water or runoff.
- D. Do not disturb lands or waters outside the limits of construction except as may be found necessary and authorized by the Owner.

1.04 SCHEDULING/COORDINATION

- A. Clearing and grubbing shall be so scheduled and performed that grading operations can follow immediately thereafter. Grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the Project permit.
- B. Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations; and the duration of exposed, uncompleted construction to the elements shall be as short as practicable.

1.05 PROTECTION OF STORM DRAINS

- A. Storm drainage facilities, both open and closed conduit, serving the construction area shall be protected from pollutants and contaminants.
- B. If the Owner determines that siltation of drainage facilities has resulted due to the Project, the Owner will advise the Contractor to remove and properly dispose of the deposited materials.
- C. Should the Contractor fail to or elect not to remove the deposits, the Owner will provide maintenance cleaning as necessary and charge all costs of such service against the amount of money due or to become due the Contractor.

1.06 PREVENTION, CONTROL AND ABATEMENT REQUIREMENTS

- A. Provide, install, construct, and maintain all coverings, mulching, sodding, sand bagging, berms, slope drains, hay and straw bales, sedimentation structures, or other devices necessary to meet City, State and Federal regulatory agency codes, rules and laws, and as indicated on the Plans.
- B. The locations of and methods of operation in all detention areas, borrow pits, material supply pits and disposal areas furnished by the Contractor shall meet the approval of the Owner as being such that erosion during and after completion of the Work will not likely result in detrimental siltation or water pollution.
- C. The Owner may limit the surface areas of unprotected erodible earth exposed by clearing and grubbing, excavation or filling operations and may direct the Contractor to provide immediate erosion or pollution control measures to prevent siltation or contamination of any river, stream, lake, tidal water, reservoir, canal, and other water impoundment or to prevent damage to the Project or property outside the Project Right-of-Way.

END OF SECTION 01 35 43

SECTION 01 41 00
INCLUSION OF FDOT STANDARD SPECIFICATIONS
AND ROADWAY STANDARDS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Contractor shall comply with requirements for referenced Florida Department of Transportation (FDOT) Standard Specifications and Roadway Standards indicated on Plans. The project will be procured and executed by Space Florida and not FDOT. Space Florida will retain the Engineer of Record or Designer of the Project and will also have an independent Construction Engineering and Inspection (CEI) Consultant.

1.02 FDOT STANDARD SPECIFICATIONS

- A. The January 2020 Edition of the FDOT Standard Specifications for Road and Bridge Construction, as amended, shall apply to and form a part of this Contract as if fully written herein where referenced. Where a FDOT Section is cited that contains references to other Sections, they shall also be included as though written therein.
- B. Materials and workmanship specified or indicated with reference to FDOT Standard Specifications shall be in accordance with the referenced articles, sections, and paragraphs of the Standard Specifications, except that contractual and payment provisions do not apply.

1.03 FDOT DESIGN STANDARDS

- A. The July 2019 Edition of the Florida Department of Transportation (FDOT) Design Standards, as amended, shall apply to and form a part of this Contract as if fully written herein where referenced. Where a FDOT Standard is cited that contains references to other Standards, they shall also be included as though written therein.

1.04 ELECTRONIC COPIES

- A. Electronic copies of the January 2020 Edition FDOT Standard Specifications for Road and Bridge Construction can be downloaded from the following site:

<https://www.fdot.gov/programmanagement/Implemented/SpecBooks/default.shtm>

- B. Electronic copies of the latest Edition FDOT Design Standards can be downloaded from the following site:

<https://www.fdot.gov/design/standardplans>

PART 2 – PRODUCTS

“Not Used”

PART 3 – EXECUTION

“Not Used”

PART 4 MODIFICATIONS FDOT SPECIFICATIONS

4.01 TERMS

The terms defined in the General Requirements of the Contract Documents may be different from the terms used in the FDOT Division 1 Specifications. The following paragraphs redefine the FDOT terms to be consistent with the Contract Documents.

- A. The term “Department” as used in the FDOT Specifications shall mean the same as the term “Owner” as defined in the Contract Documents.
- B. The term “Engineer” as used in the FDOT Specifications shall mean the same as the term “Owner’s Representative” as defined in the Contract Documents. The Owner intends to hire an independent consulting firm to provide Construction Engineering and Inspection (CEI) services, who will be independent of the Engineer of Record.
- C. The term “Engineer of Record” as used in the FDOT Specifications shall mean the same as the term “Designer or Engineer” as defined in the Contract Documents.
- D. The term “Inspector” as used in the FDOT specifications shall mean the same as the term “Owner’s Representative” as defined in the Contract Documents.
- E. The term “Proposal Form” as used in the FDOT Specifications shall mean the same as the term “Bid Form” as used in the Contract Documents.
- F. The term “Proposal Guaranty” as used in the FDOT Specifications shall mean the same as the term “Bid Bond” in the Contract Documents.
- G. The term “Right of Way” as used in the FDOT Specifications shall include all areas of the project site and shall not be limited to roadway areas only.
- H. The term “Secretary” as used in the FDOT Specifications shall mean the same as the term “Owner” as defined in the Contract Documents.
- I. The term “Special Provisions” as used in the FDOT Specifications shall mean the same as the term “Contract Documents” as defined in the Contract Documents.
- J. The term “Specialty Engineer” as used in the FDOT specifications shall mean the same as the term “Designer or Engineer” as defined in the Contract Documents.
- K. The term “Specifications” as used in the FDOT Specifications shall mean the same as the term “Contract Documents” as defined in the Contract Documents.
- L. The “Supplemental Agreement,” “Supplemental Specifications,” and “Technical Specifications” as used in the FDOT Specifications shall mean the same as the term

“Contract Documents” as defined in the Contract Documents.

4.02 PAY ITEMS

The FDOT Specifications define specific pay items, methods of measurement and basis of payment for particular types of work. Payment for all items under this Agreement shall be consistent with the bid items defined on the Space Florida Bid Form.

4.03 FDOT DIVISION I

The FDOT Division I General Requirements and Covenants shall not apply to the project. These will be per Owner’s contractual requirements. For references directed towards FDOT Division I within the FDOT Divisions II and III, the Owner and contract terms shall govern.

END OF SECTION 01 41 00

SECTION 01 42 16
DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

A. General:

1. This Section specifies procedural and administrative requirements for compliance with governing regulations and the codes and standards imposed upon the Work. These requirements include the obtaining of permits, licenses, inspections, releases and similar requirements associated with regulations, codes and standards.
2. "Regulations" is defined to include laws, statutes, ordinances, and lawful orders issued by governing authorities, as well as those rules, conventions and agreements within the construction industry which effectively control the performance of the Work regardless of whether they are lawfully imposed by governing authority or not.

1.02 DEFINITIONS

A. General Requirements:

1. The provisions or requirements of Division 01 sections apply to the entire Work of this Contract and, where so indicated, to other elements which are included in this Project.

B. Whenever the following terms are used in the Contract Documents or any other documents or instruments pertaining to the construction of this Project, the intent and meaning shall be interpreted as follows:

1. ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the project to a public highway.
2. ADVERTISEMENT. A public announcement, as required by local law, inviting bids for Work to be performed and materials to be furnished. Also referred to as "Invitation to Bid" or "Notice to Bidders."
3. APPROVE. Where used in conjunction with Owner's and/or Engineer's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the meaning of term "approved" will be held to limitations of Owner and Engineer's responsibilities and duties as specified in the General Conditions of the Contract for Construction, as modified. In no case will "approval" by Owner and/or Engineer be interpreted as a release of Contractor from responsibilities to fulfill requirements of the Contract Documents.
4. APPROVED AS NOTED. Where used in conjunction with the Owner and/or Engineer's response to submittals, requests, applications, inquiries, reports, and

claims by the Contractor, the meaning of the term "Approved as Noted" indicates that the item or material submitted is approved subject to corrections noted. Correction and re-submittal of the item is not required unless specifically called for in the notations. Approval of Contractor's submitted item does not constitute approval of the design. Approval does not permit any deviation from the Contractor's requirements and does not relieve the Contractor of the responsibility for errors or deficiencies in design, dimension, details, or for coordinating installation and/or construction with actual conditions at the Site.

5. AWARD. The acceptance, by the Owner, of the Contractor's Price Proposal.
6. BID. The written offer of the Bidder (when submitted on the approved Bid Form) to perform the Work and furnish the necessary materials and labor in accordance with the provisions of the Contract Documents.
7. BID BOND. The security furnished with a Bid to guaranty that the Bidder will enter into a Contract if Bidder's Bid is accepted by the Owner.
8. BIDDER. Any individual, partnership, firm or corporation, acting directly or through a duly authorized representative, who submits a Bid for the Work contemplated.
9. BUILDING AREA. An area on the Project Site to be used, considered, or intended to be used for buildings or other facilities or rights-of-way together with all buildings and facilities located thereon.
10. CALENDAR DAY. Every day shown on the calendar.
11. CONSTRUCTION SCHEDULE. The Contractor-prepared schedule as adjusted from time to time in accordance with the Contract Documents showing planned and actual progress by items of the Work.
12. DIRECTED, REQUESTED, ETC. Where not otherwise explained, terms such as "directed", "requested", "authorized", "selected", "accepted", and "permitted" mean "directed by Owner and/or Engineer", "requested by Owner and/or Engineer", and similar phrases. However, no such implied meaning will be interpreted to extend Owner and/or Engineer's responsibility into the Contractor's area of construction supervision.
13. DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the project area.
14. PLANS (OR DRAWINGS). The official Plans (or Drawings) or exact reproductions which show the location, character, dimensions and details of the Project and the Work to be performed and which are to be considered as a part of the Contract Documents.

15. **ENGINEER.** The term Engineer shall have the same meaning as the term Architect or Designer as defined and used in the in the Form of Agreement Between Owner and Contractor an in the General Conditions in the Contract documents. The Engineer is the Professional Engineer or Engineering Firm registered in the State of Florida that develops the criteria and concept for the project, performs the analysis, and is responsible for the preparation of the Plans and Specifications.
16. **EQUIPMENT.** All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of Work.
17. **EXPERIENCED.** The term "experienced" when used with the term "Installer" means having a minimum of five (5) previous Projects similar in size and scope to this Project, being familiar with the procedures required, and having complied with requirements of the authority having jurisdiction.
18. **EXTRA WORK.** An item of Work not provided for in the awarded Contract as previously modified by Work Order or Change Order but which is found by the Owner and/or Engineer to be necessary to complete the Work within the intended scope of the Contract as previously modified.
19. **FEDERAL SPECIFICATIONS.** The Federal Specifications and Standards, and supplements, amendments and indices thereto are prepared and issued by the General Services Administration of the Federal Government. They may be obtained from the Specifications Unit, 7th and D Street, SW, Washington, DC 20406, Tele: (202) 472-2205 or 472-2140.
20. **FURNISH.** Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to Project Site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
21. **GENERAL EXPLANATION.** A substantial amount of specification language consists of definitions of terms found in the Contract Documents. Certain terms used in Contract Documents are defined in the article. Definitions and explanation contained in this Section are not necessarily either complete or exclusive, but are general for the Work to the extent that they are not stated more explicitly in another element of the Contract Documents.
22. **INDICATED.** The term "indicated" is a cross-reference to graphic representations, notes, or schedules on plans, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
23. **INSPECTOR.** An authorized representative of the Owner assigned to make all necessary inspections and/or tests of the Work performed or being performed, or of the materials furnished or being furnished by the Contractor.

24. **INSTALL.** Except as otherwise defined in greater detail, the term "install" is used to describe operations at Project Site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations, as applicable in each instance.
25. **INSTALLER.** The term "installer" is defined as the entity (person or firm) engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular unit of Work at the Project Site, including installation, erection, application, and similar required operations. It is a general requirement that such entities (installers) be expert in the operations they are engaged to perform.
26. **INTENTION OF TERMS.** Whenever, in these Specifications or on the Plans; the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import, are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Owner and/or Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Owner and/or Engineer.
- a. All reference to a specific requirement of a numbered paragraph of the Specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
27. **LABORATORY.** The official testing laboratories of the Contractor or Owner or such other laboratories as may be designated by the Owner and/or Engineer.
28. **MATERIALS.** Any substance specified for use in the construction of the Contract Work.
29. **NO EXCEPTIONS TAKEN.** The term "no exceptions taken" where used in conjunction with the Owner and/or Engineer's action on the Contractor's submittals, applications, and requests, is limited to the Owner and/or Engineer's duties and responsibilities as stated in the General Conditions of the Contract for Construction, as modified.
- a. Refer to Section 01 33 18 – SUBMITTAL PROCEDURES for more specific information.
30. **NOT APPROVED.** Where used in conjunction with the Owner and/or Engineer's response to submittals, requests, applications, inquires, reports, and claims by the Contractor; the meaning of the term "Not Approved" indicates that the item or material is unsatisfactory, and shall be revised, new material prepared in accordance with notations, and resubmitted. Material marked in this manner shall not be released for any Work.
31. **NOTICE TO PROCEED.** A written notice to the Contractor to begin the actual Contract Work. If applicable, the Notice to Proceed shall state the date on which the Contract Time begins.

32. OWNER. The term Owner shall mean the party of the first part or the contracting agency signatory to the Contract. Space Florida is the Owner unless otherwise indicated in the Contract), and includes their agents, employees, representatives and contractors when acting at its direction or on its behalf.
33. PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.
34. PAYMENT BOND. The approved form of security furnished by the Contractor and Contractor's Surety as a guaranty that the Contractor will complete the Work in accordance with the terms of the Contract.
35. PERFORMANCE BOND. The approved form of security furnished by the Contractor and Contractor's Surety as a guaranty that the Contractor will complete the Work in accordance with the terms of the Contract and will complete the guarantee of the Work specified therein.
36. PROJECT. The agreed Scope of Work as defined in the contract, plans and specifications.
37. PROJECT SITE. The term "project site" is defined as the space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other Work, as part of the Project. The extent of the project site may or may not be identical with the description of the land upon which the project is to be built.
38. PROVIDE. Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete, and ready for intended use, as applicable in each instance.
39. RELATED DOCUMENTS. Contract Documents, Project Manual, Plans, General Conditions of the Contract for Construction, as modified, General Requirements, reports, and Specification Sections, apply to Work of this Contract.
40. RETENTION. Retention (or retainage) is the amount of compensation for Work accomplished by the Contractor which is retained by the Owner to be paid to the Contractor as specified herein.
41. SHOP DRAWINGS. All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

- 42. SPECIFICATIONS. A part of the Contract Documents containing the written directions and requirements for completing the Contract Work. Standards for specifying materials or testing which are cited in the Specifications or referenced shall have the same force and effect as if included in the Contract physically.
- 43. SPECIFICATION TEXT FORMAT. Construction Specification Institute (CSI) formatting guidelines using the 2004 six-digit numbering system. Underscoring facilitates scan reading; no other meaning.
- 44. STRUCTURES. Project facilities such as buildings, bridges, culverts, catch basins, inlets, retaining walls, cribbing, storm and sanitary sewer lines, waterlines, underdrains, electrical ducts, manholes, handholes, lighting fixtures and bases, transformers, flexible and rigid pavements, vaults; and other manmade features of the Project that may be encountered in the Work and not otherwise classified herein.
- 45. SUBGRADE. The soil which forms the pavement foundation.
- 46. SUPERINTENDENT. The Contractor's executive representative who is present on the Work during progress, authorized to receive and fulfill instructions from the Owner and/or Engineer, and who shall supervise and direct the construction.
- 47. SURETY. The corporation, partnership, or individual, other than the Contractor, executing Contract Bonds which are furnished to the Owner by the Contractor.
- 48. TESTING LABORATORIES. The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or tests of the Work, either at the Project Site or elsewhere; and to report, and (if required) interpret results of those inspections or tests.
- 49. TRADES. Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
- 50. UNIT PRICE ITEM (PAY ITEM). A specific unit of Work for which a price is provided in the Contract.

1.03 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. General:

- 1. This Article is provided to help the user of the specifications to more readily understand the format, language, implied requirements and similar conventions of content. None of the following explanations shall be interpreted to modify the substance of the Contract requirements.

B. Specification Format:

1. The Division I specifications are organized based upon the Construction Specifications Institute's (CSI's) formatting guidelines. The Technical Specifications are based on FDOT Standard Specifications for Road and Bridge Construction.

C. Specification Content:

1. This Project Specification has been produced employing certain conventions in the use of language as well as conventions regarding the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - a. In certain circumstances, the language of the specifications and other Contract Documents is of the abbreviated type. It implies words and meanings that will be interpreted as plural and plural words will be interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
 - b. Imperative Language is used generally in the specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor or by others when so noted.

1.04 INDUSTRY STANDARDS

A. Applicability of Standards:

1. Except where more explicit or stringent requirements are written into the Contract Documents, applicable construction industry standards have the same force and effect as if bound into or copied directly into the Contract Documents. Such industry standards are made a part of the Contract Documents by reference. Individual specification sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.
 - a. Referenced standards (standards referenced directly in the Contract Documents) take precedence over non-referenced standards that are recognized in industry for applicability to the Work.
 - b. Non-referenced standards are defined as not being applicable, except as a general requirement of whether the Work complies with recognized construction industry standards.

B. Publication Dates:

1. Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.

C. Conflicting Requirements:

1. Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents specifically indicate a less stringent requirement. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner and/or Engineer for a decision before proceeding.
2. Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified is intended to be the minimum for the Work to be provided or performed. Unless otherwise indicated, the actual Work may either comply exactly, within specified tolerances, with the minimum quantity or quality specified, or may exceed that minimum within reasonable limits. In complying with these requirements, the indicated numeric values are either minimum or maximum values, as noted or as appropriate for the context of the requirements. Refer instances of uncertainty to the Owner and/or Engineer for decision before proceeding.

D. Copies of Standards:

1. The Contract Documents require that each entity performing Work be experienced in that part of the Work being performed. Each entity is also required to be familiar with industry standards applicable to that part of the Work. Copies of applicable standards are not bound with the Contract Documents.
 - a. Where copies of standards are needed for proper performance of the Work, the Contractor is required to obtain such copies directly from the publication source.
 - b. Although certain copies of standards needed for enforcement of the requirements may be required submittals, the Owner and/or Engineer reserves the right to require the Contractor to submit additional copies of these standards as necessary for enforcement of requirements.

E. Abbreviations and Names:

1. Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the specifications or other Contract Documents they are defined to mean the recognized name of the trade association, standards generating organization, governing authority or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

F. Comply with applicable standards for work, promulgated by organizations, associations, institutes, societies, boards and generally recognized organizations including:

American Association of State Highway and Transportation Officials. AASHTO
American Concrete Institute. ACI
The Associated General Contractors of America, Inc. AGC
American Gear Manufacturers Association AGMA

American Institute of Architects.	AIA
American Society for Testing and Materials	ASTM
American Wire Gauge	AWG
American Wood Preservers Association.	AWPA
American Water Works Association	AWWA
Cast Iron Pipe Research Association	CIPRA
Concrete Reinforcing Steel Institute.	CRSI
Institute of Electrical & Electronic Engineers	IEEE
Sheet Metal and Air Conditioning Contractors National Association	SMACNA
Air Moving & Conditioning Association.	AMCA
American Wood Preservers Bureau	AWPB
Air Conditioning & Refrigeration Institute	ARI
Federal Specifications	FED. SPEC.
Institute of Boiler & Refrigeration	IBR
Tubular Exchange Manufacturers Association	TEMA
Industrial Power Cable Engineers Association	IPCEA
Joint Industry Council	JIC
Steel Boiler Institute	SBI
Steel Door Institute	SDI
Acoustical Materials Association	AMA
Aluminum Association	AA
American Association of State Highway and Transportation Officials	AASHTO
American Concrete Institute	ACI
American Gas Association	AGA
Architectural Precast Association	APA
American Institute of Steel Construction	AISC
American Society for Testing and Materials	ASTM
American Gas Association	AGA
American Institute of Steel Construction	AISC
American National Standards Institute	ANSI
American Welding Society	AWS
American Plywood Association	APA
American Petroleum Institute	API
Architectural Woodworking Institute	AWI
American Society of Heating, Refrigerating & Air Conditioning Engineers	ASHRAE
Concrete Reinforcing Steel Institute	CRSI
Contracting Plasterers and Lathers International Association	CPLIA
Factory Mutual Engineering Corporation	FM
Florida Department of Transportation	FDOT
Flat Glass Jobbers Association	FGJA
Gypsum Association	GA
Metal Lath Manufacturers Association	MLMA
Metal Lath/Steel Framing Association	ML/SFA
Military Specifications	MIL SPEC.
National Terrazzo & Mosaic Association	NTMA
National Electrical Manufacturers Association	NEMA
National Electric Code	NEC
National Fire Protection Association	NFPA
National Association of Architectural Metal	NAAM

National Concrete Masonry Association	NCMA
National Roofing Contractors Association	NRCA
National Woodwork Manufacturers Association	NWMA
National Lumber Manufacturers Association	NLMA
National Bureau for Lathing and Plastering	NBLP
Post-Tensioning Institute	PTI
Portland Cement Association	PCA
Product Standards	PS
Precast Concrete Institute	PCI
Rubber Manufacturer's Association	RMA
Research Council on Riveted and Bolted Structural Joints	RCRBSJ
Sealing and Waterproofers Institute	SWI
Southern Pine Inspection Bureau	SPIB
Steel Joist Institute	SJI
Steel Structures Painting Council	SSPC
Stucco Manufacturer's Association	SMA
Tile Council of America	TCA
Underwriter's Laboratories	UL
United States Department of Commerce - United States Postal Service	USPS
United States Department of Commerce-Commercial Standards	CS
United States Gypsum Company	USG
Vermiculite Institute	VI
Warnock Hersey	WH
West Coast Lumber Inspection Bureau	WCLIB

- G. Where more than one quality is set forth in such Standards and reference is not made in these Specifications to which specific quality is intended, the better shall be bid upon and furnished. Where under such Standards, options occur, the Owner and/or Engineer shall be called upon to designate which applies.

1.05 CODES/MANUFACTURER'S RECOMMENDATIONS

- A. Applicable code requirements are included herein by this reference. However, such are minimum criteria and no reduction from the Plans or Specifications is permitted, even if allowed by applicable code.
- B. Electrical and mechanical apparatus, fixtures and equipment shall bear approved device label of Underwriter's Laboratories.
- C. The local building code and the Florida Building Code (latest adopted edition as amended) apply to all Work. In the event a conflict occurs between the local vs. Florida Code, the greater requirements shall govern.
- D. Specifically, comply with following codes and/or Standards:
1. Florida Building Code, Latest Adopted Edition, as amended.
 2. Local Building Code.
 3. Local Public Utility Regulations.

4. Local Water Department Regulations/Standards.
5. Florida Plumbing Code, Latest Adopted Edition, as amended.
6. Florida Mechanical Code, Latest Adopted Edition, as amended.
7. Florida Fuel Gas Code, Latest Adopted Edition, as amended.
8. National Electric Code.
9. ASME Code for unfired pressure vessels.
10. Building exits code (life safety code), NFPA 101.
11. Standards of National Board of Fire Underwriters.
12. ASHRAE Safety Code for Mechanical Refrigeration.
13. National Fire Codes.
14. National Fire Protection Association.
15. Occupational Safety and Health Act (OSHA)
16. International Council of Building officials.
17. Housing and Urban Development.
18. Council of American Building Officials.
19. ANSI A17.1 Safety Code for Elevators and Escalators.
20. American National Standards Institute (ANSI).
21. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction and FDOT Design Standards, latest adopted edition(s), as amended.
22. Florida Department of Environmental Regulation.
23. United States Environmental Protection Agency.
24. Americans with Disabilities Act (ADA).
25. Governing County Environmental Protection Commission.

E. Comply with recommendations of pertinent manufacturer to achieve first quality work.

1.06 ABBREVIATED SPECIFICATIONS

- A. In order to shorten these Specifications, certain terminology and form common in specification writing is employed. Following words are often omitted when meaning remains clear without same, i.e., "the," "the Contractor shall," "of," "a," "shall comply

with," etc.

- B. Uses of a period or colon after a general mention of a material lists means - "shall be," or "shall comply with." Example:

"Portland Cement: ASTM C 150, Type 1."

1.07 SUBMITTALS

- A. Permits, Licenses, and Certificates:

1. For the Owner's records, submit copies of permits, licenses, certificates, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgements, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

- a. Refer to Section 01 78 00 - PROJECT CLOSEOUT for more detailed instructions.

END OF SECTION 01 42 16

SECTION 01 45 00
QUALITY CONTROL SERVICES

PART 1 - GENERAL

1.0 DESCRIPTION OF REQUIREMENTS

1. Contractor shall utilize FDOT Quality Control practices as mandated by FDOT Standard Specifications for Road and Bridge Construction for project unless other standards are mentioned within the contract documents. All Quality Control Services shall be paid for by the Contractor. The Contractor shall submit a quality control plan to comply with the contract documents. All quality control costs shall be the responsibility of the Contractor.
2. All independent quality assurance/acceptance materials testing will be paid for by the Owner using an independent testing consultant.

1.01 SUMMARY

- A. General: Required inspection and testing services are intended to assist Owner and/or Engineer in the determination of probable compliance of the Work with requirements specified or indicated. These required services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the Contract Documents.
- B. Definitions: Quality control services include inspections and tests and related actions including reports performed by independent agencies and governing authorities, as well as directly by the Contractor. These services do not include Contract enforcement activities performed directly by the Owner and/or Engineer.
 1. Specific quality control requirements for individual units of Work are specified in the Sections of these Specifications that specify the individual element of the Work. These requirements, including inspections and tests, cover both production of standard products, and fabrication of customized Work. These requirements also cover quality control of the installation procedures.
 2. Inspections, tests and related actions specified in this Section and elsewhere in the Contract Documents are not intended to limit the Contractor's own quality control procedures which facilitate overall compliance with requirements of the Contract Documents. Requirements for the Contractor to provide quality control services by the Owner and/or Engineer, governing authorities or other authorized entities are not limited by the provisions of this Section.
- C. Quality Control: When the Contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Owner and/or Engineer.
 1. If the Contractor desires to use a method or type of equipment other than specified in the Contract, Contractor may request authority from the Owner and/or Engineer to do so. The request shall be in writing and shall include a full

description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing Work in conformity with the Contract Documents.

2. If, after trial use of the substituted methods or equipment, the Owner and/or Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining Work with the specified methods and equipment.
3. The Contractor shall remove all deficient Work and replace it with Work of specified quality, or take such other corrective action as the Owner and/or Engineer may direct. No change will be made in the Contract Sum or in Contract Time as a result of authorizing a change in methods or equipment under this subsection.

D. Source of Supply and Quality Requirements: The materials used on the Work shall conform to the requirements of the Contract Documents. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed). Modifications to existing materials shall be performed in accordance with manufacturer's recommendations and/or the Plans.

1. In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Owner and/or Engineer as to the origin, composition, and manufacture of all materials to be used in the Work. Such statements shall be furnished promptly after execution of the Contract but, in all cases, prior to delivery of such materials.
2. At the Owner and/or Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

E. Samples, Tests, and Cited Specifications: All materials used in the Work will be inspected, tested, and approved by the Owner and/or Engineer before incorporation in the Work. All work in which untested materials are used without approval or written permission of the Owner and/or Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Owner and/or Engineer, shall be removed at the Contractor's expense.

1. All tests performed by or on behalf of the Owner are for the Owner's monitoring purposes only. No approval of materials by the Owner and/or Engineer shall relieve the Contractor of their obligation to provide and use materials that conform in all respects with the Contract requirements, and if the Contractor chooses to rely on the results of such tests or such approvals as evidence or indication that the materials supplied do in fact so conform, the Contractor does so at its sole risk.

F. Certification of Compliance: The Owner and/or Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully

comply with the requirements of the Contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the Work shall be accompanied by a Certificate of Compliance in which the lot is clearly identified.

1. Materials or assemblies used on the basis of Certificates of Compliance may be sampled and tested at any time and if found not to be in conformity with Contract requirements will be subject to rejection whether in place or not.
 2. The form and distribution of Certificates of Compliance shall be as approved by the Owner and/or Engineer.
 3. When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," the Contractor shall be required to furnish the manufacturer's Certificate of Compliance for each lot of such material or assembly delivered to the Work. Such Certificate of Compliance shall clearly identify each lot delivered and shall certify as to:
 - a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
 - b. Suitability of the material or assembly for the use intended in the Contract Work.
 4. Should the Contractor propose to furnish an "or equal" material or assembly, Contractor shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Owner and/or Engineer will be the sole judge as to whether the proposed "or equal" is suitable for use in the Work.
 5. The Owner and/or Engineer reserve the right to refuse permission for use of materials or assemblies on the basis of Certificates of Compliance.
- G. Plant Inspection: The Owner and/or Engineer may inspect, at its source, any specified material or assembly to be used in the Work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the Work and to obtain samples required for his/her acceptance of the material or assembly.
1. Should the Owner and/or Engineer conduct plant inspections, the following conditions shall exist:
 - a. The Owner and/or Engineer shall have the cooperation and assistance of the Contractor and the producer with whom Contractor has contracted for materials.
 - b. The Owner and/or Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
 - c. If required by the Owner and/or Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for

conducting plant inspections. Office or working space shall be conveniently located with respect to the plant.

2. It is understood and agreed that the Owner and/or Engineer shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the Site. The Owner and/or Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the Contract Documents.

H. Storage of Materials: Materials shall be so stored as to assure the preservation of their quality and fitness for the Work. Stored materials, even though approved before storage, may again be inspected prior to their use in the Work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Owner and/or Engineer. Unless otherwise shown on the Plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Owner and/or Engineer. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Owner and/or Engineer a copy of the property owner's permission.

1. All storage sites on the Project Site or private property shall be restored to their original condition by the Contractor at their entire expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

I. Unacceptable Materials: All materials or assemblies that do not conform to the requirements of the Contract Documents shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the Site of the Work, unless otherwise instructed by the Owner and/or Engineer.

1. Rejected material(s) or assembly(ies) that have been corrected by the Contractor shall not be returned to the Site of the Work until such time as the Owner and/or Engineer has approved its use in the Work.

1.02 TESTING BORNE BY THE CONTRACTOR

A. Unless otherwise specified herein, all quality control testing costs shall be borne by the Contractor. An independent testing laboratory selected by and responsible to the Contractor and acceptable to the Owner and/or Engineer shall perform all testing required by the Contract Documents or other testing as directed by the Owner and/or Engineer.

B. The Contractor shall bear the cost of testing under the following conditions:

1. If substitute materials or equipment are proposed by the Contractor, Contractor shall pay the cost of all tests which may be necessary to satisfy the Owner and/or Engineer that specification requirements are satisfied. The Contractor shall pay for the Owner and/or Engineer's time spent in review and administering such proposed substitution.
2. If materials or workmanship are used which fail to meet specification requirements, the Contractor shall pay the cost of all testing and retesting deemed necessary by the Owner and/or Engineer to determine the safety or suitability of

the material or element.

3. The Contractor shall pay for all testing costs including, but not limited to, power, fuel, and equipment cost which may be required for complete testing of all equipment and systems for proper operation.
4. The Contractor shall pay for all standby time required when operations are delayed by the Contractor.

1.03 RETEST RESPONSIBILITY

- A. Where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance of related Work with the requirements of the Contract Documents, then the cost of all retests shall be the responsibility of the Contractor, regardless of whether the original test was the Contractor's responsibility. The cost of retesting of Work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original Work.

1.04 RESPONSIBILITY FOR ASSOCIATED SERVICES

- A. The Contractor shall be required to cooperate with the independent agencies performing required inspections, tests and similar services. Provide such auxiliary services as are reasonably requested. Notify the Testing Agency sufficiently in advance of operations to permit assignment of personnel. These auxiliary services include but are not necessarily limited to the following:
 1. Providing access to the Work.
 2. Taking samples or assistance with taking samples.
 3. Delivery of samples to Testing Laboratories.
 4. Security and protection of samples and test equipment at the Project Site.

1.05 COORDINATION

- A. The Contractor shall coordinate with each independent agency engaged to perform inspections, tests and similar services for the Project and shall coordinate the sequence of activities so as to accommodate required services with a minimum of delay in the progress of the Work. The Contractor shall coordinate the Work so as to avoid the necessity of removing and replacing work to accommodate inspections and tests. The Contractor shall be responsible for scheduling times for inspections, tests, taking of samples and similar activities. The testing shall not be used as justification for claims for extension of Contract Time.

1.06 QUALITY ASSURANCE

- A. Qualification for Service Agencies: Except as otherwise indicated, Contractor shall only engage inspection and test service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which are recognized in the industry as specialized in the types of inspections and tests to be performed.

1.07 SUBMITTALS

- A. Refer to Section 01 33 18 – SUBMITTAL PROCEDURES for the general requirements on submittals. The Contractor shall submit a certified written report of each inspection, test or similar service, performed by or on behalf of the Contractor directly to the Owner and/or Engineer in triplicate. Submit additional copies of each written report directly to a governing agency, when the agency so directs.
- B. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to the following:
 - 1. Name of testing agency or test laboratory.
 - 2. Dates and locations of samples and tests or inspections.
 - 3. Names of individuals making the inspection or test.
 - 4. Designation of the Work and test method. Complete inspection or test data.
 - 5. Test results.
 - 6. Interpretations of test results.
 - 7. Notation of significant ambient conditions at the time of sample-taking and testing.
 - 8. Comments or professional opinion as to whether inspected or tested Work complies with requirements of the Contract Documents.
 - 9. Recommendations on retesting, if applicable.

1.08 INSPECTION OF CONDITIONS

- A. Installer's Inspection of Conditions: Require the installer of each major unit of Work to inspect the substrate to receive Work and conditions under which the Work is to be performed. The installer shall report all unsatisfactory conditions in writing to the Contractor. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

- B. Manufacturer's Instructions: Where installations include manufactured products, comply with the manufacturer's applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the Contract Documents.
- C. Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods for securing Work. Secure Work true to line and level, and within recognized industry tolerances. Allow for expansion and building movement. Provide uniform joint width in exposed Work. Arrange joints in exposed Work to obtain the best visual effect to the satisfaction and approval of the Owner and/or Engineer. Refer questionable visual-effect choices to the Owner and/or Engineer for final decision.
- E. Recheck measurements and dimensions of the Work, as an integral step of starting each installation.
- F. Install each unit of Work during weather conditions and project status which will insure the best possible results in coordination with the entire Work. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
- G. Coordinate enclosure of the Work with required inspections and tests, so as to minimize the necessity of uncovering Work for that purpose.
- H. Mounting Heights: Where mounting heights are not indicated, mount individual units of Work at industry recognized standard mounting heights for the particular application indicated. Refer questionable mounting height choices to the Owner and/or Engineer for final decision.

1.09 REPAIR AND PROTECTION

- A. Upon completion of inspection, testing, sample-taking and similar services performed on the Work, repair damaged Work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed finishes. Protect Work exposed by or for quality control service activities, and protect repaired Work. Repair and protection shall be the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION 01 45 00

SECTION 01 50 00
TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 SUMMARY

- A. Specific administration and procedural minimum actions are specified in this Section, as extensions of provisions in the Contract Documents. Provisions of this Section are applicable to, but not by way of limitation; temporary services and facilities including utility services, construction and support facilities, security and protection provisions, and support facilities. This section is comprehensive in nature and shall apply “as applicable” to features of work and the Contractor’s methodology.
- B. Furnish, install, maintain, and protect temporary utilities, construction facilities, and controls necessary for construction at locations and in a manner which will be safe, nonhazardous, sanitary, and protective of persons and property, and free of deleterious effects.
- C. Provide and maintain methods, equipment, and temporary construction, as necessary to provide controls over environmental conditions at Project Site and related areas under Contractor's control.
- D. Remove physical evidence of temporary facilities at completion of Work.
- E. Provide temporary services and facilities ready for use when first needed to avoid delay in the Work. Maintain, expand and modify as needed. Do not remove until no longer needed, or replaced by authorized use of permanent facilities.
 - 1. Temporary utilities required include, but are not limited to:
 - a. Water service and distribution.
 - b. Temporary electric power and light.
 - c. Telephone service.
 - d. Storm and sanitary sewer.
 - 2. Temporary construction and support facilities required include, but are not limited to:
 - a. Temporary heat.
 - b. Field offices and storage sheds.
 - c. Sanitary facilities, including drinking water.

- d. Temporary enclosures.
 - e. Temporary Project identification signs.
 - f. Waste disposal services.
3. Security and protection facilities required include, but are not limited to:
- a. Temporary fire protection.
 - b. Barricades, warning signs, lights.
 - c. Environmental protection.

1.02 GENERAL DEFINITIONS

- A. Energy Considerations: Administer the use of temporary facilities in a manner which conserves energy, but without delaying Work or endangering persons or property; comply with reasonable requests by Owner and/or Engineer.
- B. Costs: Except as otherwise indicated, Contractor shall pay for all costs associated with the temporary facilities, including use charges. Temporary facilities remain the property and responsibility of the Contractor.
- C. Dust Control: Adequate measures shall be taken to prevent the transfer of dust to all other areas of the Site.
- D. Noise Control: Where Work is being conducted in or adjacent to occupied areas, the Contractor shall make every effort to keep construction noise to a minimum.
- E. Environmental Protection: Review exposure to possible environmental problems with Owner and/or Engineer. Establish procedures and discipline among tradesmen and provide needed facilities which will protect against environmental problems (pollution of air, air quality, water and soil, excessive noise, and similar problems).

1.03 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including, but not limited to:
 - 1. Building Code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, Fire Department and Rescue Squad rules.
 - 5. Environmental protection regulations.

- B. Standards: Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and the NECA Electrical Design Library, "Temporary Electrical Facilities."
 - 1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
 - 2. Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).
- C. Inspections: Inspect and test each service before placing temporary utilities in use. Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.04 SUBMITTALS

- A. Reports and Tests:
 - 1. Submit copies of reports and permits required or necessary for installation and operation, including reports of tests, inspections and meter readings performed on temporary utilities, and permits and easements necessary for installation, use and operation.
- B. Implementation and Termination Schedule:
 - 1. Submit a schedule indicating implementation and termination of each temporary utility within fifteen (15) days of the date established for commencement of the Work.

1.05 PROJECT CONDITIONS

- A. Temporary Utilities:
 - 1. Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner and/or Engineer, change over from use of temporary service to use of permanent service.
- B. Conditions of Use:
 - 1. Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the Site.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General: Use qualified tradesmen for installation of temporary services and facilities, or to disconnect existing services or facilities that must be temporarily removed to complete the Work. Locate temporary services and facilities where they will serve the entire Project adequately and result in minimum interference with performance of the Work.
- B. Ensure that the proper permits are secured before starting any utility Work. Require that tradesmen accomplishing this Work be licensed as required by local authority for the Work performed.
- C. Relocate, modify, and extend services and facilities, as required, during the course of the Work so as to accommodate the entire Work of the Project. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY STAGING AREAS

- A. If required, the staging area(s) locations to house the Contractor's field offices (if used) and equipment shall be coordinated and as approved by land owners (Owner, NASA, USAF and/or FDOT).
- B. The Contractor may provide a trailer or portable type field office for their own use. Location of field office within staging area shall be approved by the Owner. Costs for connections to utilities shall be paid for by the Contractor. The Contractor shall be responsible for obtaining and paying for all utilities that they require.
- C. The Contractor may erect and maintain throughout the life of the Contract, at Contractor's expense, a six foot (6') high fence of chain link fence fabric around the perimeter of the staging area. Contractor shall install vehicle and pedestrian gates as necessary to provide adequate ingress/egress to their exclusive sites. The Contractor is solely responsible for their own security. Upon completion of all Work, remove all construction fencing and barricades from the Project Site.

3.03 TEMPORARY STORAGE AND SPOIL AREAS

- A. The Contractor's vehicles, equipment, and materials shall be stored in the staging areas coordinated and as approved by land owners (Owner, NASA, USAF and/or FDOT). Upon completion of the Work, the storage area shall be cleaned-up and returned to their original condition to the satisfaction of the Owner. No special payment will be made for clean-up and restoration of the storage area. Personal vehicles shall not be permitted beyond the Contractor's staging area(s). Drivers of personal vehicles being operated beyond this Contractor's Staging Area shall be subject to loss of permission to enter the construction site.

- B. Stockpile areas shall be used to store all materials needed for the Project and may or may not be fenced at the Contractor's option. However, yellow flashing barricades shall be installed where potential conflicts with ground vehicular traffic might occur.
- C. No stockpile areas for the storage of bulk materials are provided. All materials removed by excavation shall be transported off the site by the Contractor. It shall not be stockpiled on the Project Site.
- D. If an additional storage area is needed, the Contractor shall request it from the Owner. The request will be reviewed on the basis of what is to be stored and the area required. The Contractor shall provide all necessary fencing and/or security.
- E. All waste material, including rubble and debris, shall be removed from the Project Site at the Contractor's expense. No hazardous materials shall be stored on site. Burning on site is prohibited.
- F. Equipment not in use during construction, nights, and/or holidays shall be parked in the staging area. Exceptions will only be approved by the Owner when absolutely necessary. Parking of construction worker's private vehicles shall be within the staging area or in separate areas approved by the Owner.

3.04 TEMPORARY UTILITY INSTALLATION

A. General:

- 1. The Contractor shall coordinate the requirements for temporary utilities with the Owner and shall install at the Contractor's expense all necessary utilities in a safe, acceptable manner. Should leaks, breaks, etc., occur during installation or use, the Contractor shall immediately notify the Owner and the appropriate utility personnel and promptly repair the utility so as to keep disruption of service to a minimum.
- 2. Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
 - a. Arrange with the utility company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary service.
 - b. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - c. Cost or use charges for temporary facilities are not chargeable to the Owner, and shall not be accepted as a basis of claims for a Change Order.

B. Water Service:

1. General: The Contractor shall provide and pay for all water. Maintain hose connections and outlet valves in leakproof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.
2. Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.
3. Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
4. Sterilize temporary potable water piping prior to use.
5. Non-Potable Water: Where non-potable water is used, mark each outlet with adequate health-hazard warning signs.

C. Electrical Service:

1. General: The Contractor shall provide and pay for all electricity.
 - a. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of Work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of Work.
 - b. Supply temporary electrical service to construction site utilizing a State of Florida Certified Electrician. Contractor shall comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.
 - c. Provide weathertight, grounded temporary electrical service-entrance and distribution system, with automatic ground-fault circuit interrupters and ground-fault interrupter features of proper types, sizes, electrical ratings and characteristics to fulfill Project requirements during construction period.
 - d. Provide meters, transformers, and overcurrent protective devices at main distribution panel for power and light circuitry. Provide disconnections for equipment circuits.

- e. Connect service to Local Power Company main supply in the manner directed by utility company officials. Pay usage charges for electricity used by entities authorized to perform the Work at the Site. Exercise control over power usage to conserve energy.
 - f. Except where overhead service must be used, install electric power service underground.
 - g. Replace all damaged receptacles; provide temporary extension rings, wiring, boxes, and related hardware to allow power, telephone, and systems to function normally during the interim period between removal of existing surface treatment(s) and installation of new treatment.
2. Power Distribution System:
- a. All wiring and grounding shall meet all safety requirements of the National Electrical Code, Florida Department of Commerce, Bureau of Workman's Compensation and Local requirements. In addition, all wire shall be so sized that it is not overloaded according to the National Electrical Code, and all wire used shall be fused to adequately protect that wire according to the Code referred to.
 - b. Provide circuits of proper sizes, characteristics, and ratings for each use indicated. Install wiring overhead, and risers vertically where least exposed to damage. Provide rigid steel conduit to protect wiring on grade, floors, decks or other areas exposed to possible damage.
 - c. Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
 - d. Electric power shall be limited to 120-Volts for lighting and hand tools that can be operated on a circuit protected at 15-Amps.
 - e. Provide grounded extension cords; use "hard service" cords where exposed to abrasion and traffic. Provide weatherproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

- f. Lockout: In all facilities wherever possible, lockout all existing power to or through the work area as described below. Unless specifically noted otherwise, existing power and lighting circuits to the work area shall not be used. All power and lighting to the work area shall be provided from temporary electrical panel described below.
 - (1) Lockout power to work area by switching of all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER Circuit Being Worked On." Lock panel and have all keys under control of Contractor's Superintendent, Owner and/or Engineer.
 - (2) Lockout power to circuits running through work area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation "DANGER Circuit Being Worked On." Sign and date danger tag. Lock panel and supply keys to Contractor, Owner and/or Engineer. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER Live Electric Circuit. Electrocution Hazard."
- g. Temporary Electrical Panel: Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the Work. Connect temporary panel to existing facility electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by the Owner and/or Engineer.
- h. Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.
- i. Temporary Wiring: Inside the work area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.
- j. Number of Branch Circuits: Provide sufficient branch circuits as required by the Work. All branch circuits are to originate at temporary electrical panel.

3. Temporary Lighting:
- a. Lockout: In facilities, wherever possible, lockout all existing power to lighting circuits in work area. Unless specifically noted otherwise, existing lighting circuits to the work area shall not be used. All lighting to the work area shall be provided from temporary electrical panel described above.
 - b. Provide the following or equivalent where natural lighting or existing facility lighting does not meet the required light level:
 - (1) One (1) 200-Watt incandescent lamp per 1,000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent of a similar nature. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.
 - c. Provide lighting in areas where Work is being performed as required to supply a 100 foot candle minimum light level.
 - d. Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.
 - e. Wherever overhead roof deck has been installed, provide temporary lighting with local switching.
 - f. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.
 - g. Provide general service fluorescent lamps of wattage required for adequate illumination. Protect lamps with guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior type fixtures where exposed to weather or moisture. Provide local switching to allow lights to be turned off in patterns to conserve energy.
 - h. Number of Lighting Circuits: Provide sufficient lighting circuits as required by the Work. All lighting circuits shall originate at temporary panel.
 - i. Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

D. Temporary Telephones:

1. Where existing telephone service is unavailable, the Contractor may install a temporary job telephone at the Contractor's own expense. All charges for calls made from such telephone shall be paid by the Contractor.
2. Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each additional occupant or pair of occupants.
3. At each telephone, post a list of important telephone numbers.

E. Sewers and Drainage:

1. If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the Site in a lawful manner.
 - a. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
 - b. Connect temporary sewers to the municipal system as directed by the Sewer Department Officials.
 - c. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
2. Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff or storm water from heavy rains.

3.05 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

A. General:

1. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
2. Maintain temporary construction and support facilities until near Final Acceptance of the Whole Work. Remove prior to Final Acceptance of the Whole Work.

3. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines. Comply with requirements of NFPA 241.
4. The Contractor shall furnish all temporary wiring, piping connection and other apparatus that is needed to operate the utilities and shall remove all evidence of same when Work is complete.
5. The Contractor shall be responsible for obtaining and paying for utilities that Contractor request at the Job Site.
6. The Contractor shall at all times protect excavations, trenches, existing buildings, and materials, from rain water, ground water, backup and leakage of sewers, drains, and other piping, and from water of any other original and shall remove promptly all accumulation of water. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end.
7. Provide facilities and services as necessary to effectively protect Project from losses and persons from injury during the course of the Work.
8. Do not interrupt existing services serving occupied or used facilities, except when authorized in writing by the Owner. Provide temporary services during interruptions to existing utilities, as acceptable to the Owner and/or Engineer.
9. Provide scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, other facilities, and equipment required by personnel and to perform Work and facilitate inspection.
10. Comply with reasonable requests of governing authorities performing inspections.

B. Field Offices (if required by Contractor):

1. Provide insulated, weathertight temporary office(s) of sufficient size to accommodate required office personnel working on the Project Site. Keep the office clean and orderly for use for progress meetings. Furnish and equip offices with (optional) adequate furniture, heat, air conditioning, lights, telephones, water cooler, private toilet complete with water closet, lavatory, mirror, medicine cabinet and janitor services. Location of field office shall be approved by the Owner. Costs for connections to utilities shall be paid for by the Contractor. Contractor is responsible for obtaining and paying for all utilities that Contractor requires.

C. Storage and Fabrication Sheds (If required by Contractor):

1. Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds can be open shelters or fully enclosed spaces within the building or elsewhere on the site.

D. Temporary Heat:

1. Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
2. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.
3. Prior to enclosure, provide heating as necessary to protect Work, materials, and equipment against damage from dampness and cold.
4. Provide temporary heating units that have been tested and labeled by UL, FM or other recognized trade association related to the type of fuel being consumed.
5. Heating Facilities:
 - a. Except where use of the permanent system is authorized, provide vented self-contained LP gas or fuel oil heaters with individual space thermostatic control.
 - b. Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.

E. Sanitary Facilities:

1. Include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best service the Project's needs.
2. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.

3. Toilets:

- a. Install single occupant self-contained toilet units of a chemical type, properly vented and fully enclosed with a shell of glass fiber, reinforced polyester or other similar non-absorbent material. Use of pit-type privies will not be permitted. Provide minimum ratio of one toilet per twenty-five (25) construction personnel, or a greater number of toilets if required by governing regulations; provide separate toilet facilities for male and female personnel. Thoroughly disinfect each unit minimum twice each week. Provide means to lock door from outside and keep locked at all times except during hours that construction personnel are at Project.

F. Wash Facilities:

1. Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.
2. Provide safety showers, eye-wash fountains and similar facilities for convenience safety and sanitation of personnel.

G. Drinking Water Fixtures:

1. Provide drinking water coolers including paper supply.

H. Drinking Water Facilities:

1. Provide ice water cooler type drinking water units, including paper supply.
2. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45-degrees F to 55-degrees F.
3. The Contractor shall provide all temporary lines and connection(s) from existing sources of the water as required for the Work. Contractor shall be responsible for proper drainage of water used.

I. Dewatering Facilities and Drainage:

1. Maintain construction work free of water accumulation. Do not endanger the Work or adjacent properties.

J. Miscellaneous Facilities:

1. Provide miscellaneous facilities as needed, including ladders, runways, shoring, scaffolding, railing, bracing, barriers, closures, platforms, temporary partitions, and similar items.

K. Temporary Enclosures:

1. Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
2. Where heat is required, provide temporary enclosures where there are no other provisions for containment of heat. Coordinate enclosure with ventilation and material drying or curing requirements to avoid dangerous conditions and effects.
3. For job-built temporary offices, shops and sheds, within the construction area, provide UL labeled, fire treated lumber and plywood for framing, sheathing and siding.

L. Temporary Lifts and Hoists:

1. Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities. Do not permit employees to ride hoists which comply only with requirements for hoisting materials.

M. Project Identification and Temporary Signs:

1. Prepare project identification and other signs; install signs where they will inform the public and persons seeking entrance to the Project.
2. Contractor's identification sign located at their staging Area:
 - a. Contractor may provide one (1) 8-foot x 4-foot x 3/4" exterior grade plywood sign, properly supported with bottom 5-foot above grade. Engage professional sign painter to apply graphics and lettering as approved by the Owner and/or Engineer. NO OTHER SIGNS ARE PERMITTED ON THE PROJECT SITE.

3.06 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. General: Provide a neat and uniform appearance in security and protection facilities acceptable to the Owner and/or Engineer. Maintain Project Site in a safe, lawful and publicly acceptable manner. Take necessary measures to prevent erosion.
 - 1. Temporary Construction Barricades:
 - a. Where required, the Contractor shall be fully responsible for the protection of the public and adjacent areas during the construction process by installing construction barricades subject to the approval of the Engineer and/or Owner.
- B. Temporary Fire Protection:
 - 1. Until fire protection needs are supplied by permanent facilities, install and maintaining temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."
 - a. Locate fire extinguishers where convenient and effective for their intended purpose.
 - b. Store combustible materials in containers in fire-safe locations.
 - c. Maintain unobstructed access to fire extinguishers and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
 - d. Provide and maintain temporary fire protection during construction in accordance with requirements of the local protection code.
 - e. Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. Extinguishers shall have a minimum UL rating of ZA-10BC.
 - f. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

C. Security Enclosure and Lockup:

1. Storage:

- a. Where materials and equipment are to be stored and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

D. Environmental Protection:

1. Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the Project Site.
2. Install and operate temporary facilities and perform construction activities in manner which reasonably will be conservative and avoid waste of energy and materials including water.
3. Provide facilities, establish procedures, and conduct construction activities in compliance with regulations controlling construction activities at Project Site.

E. Dust Control:

1. Provide positive methods and apply dust control materials to minimize raising dust from construction operations, and provide positive means to prevent airborne dust from dispersing into atmosphere.

F. Water Control:

1. Provide methods to control surface water to prevent damage to Project Site, or adjoining properties.
2. Control fill, grading, and ditching to direct surface drainage away from excavations, pits and other construction areas; and to direct drainage to proper runoff.
3. Provide, operate, and maintain hydraulic equipment of adequate capacity to control surface and water.
4. Dispose of drainage water in manner to prevent flooding, erosion, or other damage to any portion of Site or to adjoining areas.

G. Pest and Rodent Control:

1. Provide pest and rodent control as necessary to prevent infestation of construction or storage area.
2. Employ methods and use materials which will not adversely affect conditions at Project Site or on adjoining properties.
3. Should the use of rodenticides or pesticides be considered necessary, submit informational copy of proposed program to Owner with copy to Engineer; clearly indicate:
 - a. Area or areas to be treated.
 - b. Materials to be used, with copy of manufacturer's printed instructions.
 - c. Pollution preventative measures to be employed.
4. Use of any rodenticide or pesticide shall be in full accordance with manufacturer's printed instructions and recommendations.
5. Before deep foundation Work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals so that the Project will be relatively free of pests and their residues at Final Acceptance of the Work. Perform control operations in a lawful manner using environmentally safe materials.

H. Debris Control:

1. Maintain areas under Contractor's control free of extraneous debris.
2. Initiate and maintain specific program(s) to prevent accumulation of debris at Project Site, storage and parking area, or along access roads and haul routes.
 - a. Provide containers for deposit of debris as specified.
 - b. Prohibit overloading of trucks to prevent spillages on access and haul routes.
 - c. Provide periodic inspection of traffic areas to enforce requirements.

3. Schedule daily collection and disposal of debris.
4. Provide additional collections and disposal of debris whenever periodic schedule is inadequate to prevent accumulation.
5. Transport debris and waste material in covered trucks.

I. Pollution Control:

1. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere by discharge of noxious substances from construction operations.
2. Provide equipment and personnel, perform emergency measures required to contain any spillage, and to remove contaminated soil or liquids.
3. Excavate and dispose of contaminated earth off site, and replace with suitable compacted fill and topsoil.
4. Take special measures to prevent harmful substances from entering public waters.
5. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
6. Provide systems for control of atmospheric pollutants.
7. Prevent toxic concentrations of chemicals.
8. Prevent harmful dispersal of pollutants into atmosphere.

J. Collection and Disposal of Waste:

1. Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80-degrees F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.
2. In case of non-compliance with the above, the Owner, after having given a 24-hour notice, has the right to take any corrective action required at the expense of the Contractor.

3. Burying or burning of waste materials on the Project Site or washing waste materials down sewers shall not be permitted. Provide rodent proof containers to encourage depositing of wastes by construction personnel.

3.07 OPERATION, TERMINATION AND REMOVAL

A. Supervision:

1. Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse. Do not permit temporary installations to be abused or endangered.

B. Maintenance:

1. Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
2. Maintain operation of temporary enclosures, heating, cooling, humidity control ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the Project Site.

C. Protection:

1. Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

D. Termination and Removal:

1. Remove each temporary service and facility promptly when need has ended, or when replaced by use of a permanent facility, but no later than Final Acceptance of the Work. Complete, or, if necessary, restore permanent work delayed because of interference with the temporary service or facility. Repair damaged work, clean exposed surfaces and replace work which cannot be repaired.
2. At Final Acceptance of the Work, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.

3. At Final Acceptance of the Work, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
 - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION 01 50 00

SECTION 01 51 00
UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Existing facilities, utilities, and features depicted on the Plans are not guaranteed to be accurate with respect to location, condition, and characteristics. There may be additional facilities, utilities, and features existing that could affect the construction of the Work which are not depicted or described in the Contract Documents.
- B. Prior to bidding, the Contractor shall make a thorough investigation of the Project Site to satisfy itself as to the location, condition, and characteristics of any and all facilities, utilities, and features which may affect Contractor's work. No additional compensation will be made for any extra expense relating to an existing facility, utility, or feature.
- C. The Contractor hereby agrees to make no claims against the Owner and/or Engineer relating to the existence or lack thereof, location, condition, and/or characteristics of any existing facilities, utilities, or features.
- D. Contractor shall pay for the removal and installation of all utilities required by the Contract Documents.
- E. The Contractor, Owner, Engineer and utility agencies will try to deconflict any potential signal foundations conflicts with existing utilities. If standard utility clearances cannot be achieved for signal foundations or roadway construction, the Contractor maybe requested to expose and protect existing conflicting utilities by encasing with 12" concrete all around or other means, the conflicting utilities. This shall be considered incidental to the project.
- F. The Contractor shall adhere to the requirements of NASA, USAF and Port Canaveral for all utility locates, modifications, protection, digging/working in the vicinity of and outages.

1.02 PROTECTION OF EXISTING UTILITIES

- A. The term "utilities" includes NASA, USAF and Port Canaveral power and control cables; local utility company power lines; telephone cables, lines and fiber optics; law enforcement department lines; computer cables; airfield lighting cables; underground electrical and communication lines; water lines; irrigation lines; HVAC equipment; sanitary force mains; sanitary lines; and fuel and gas lines. These utilities may be located in the areas of construction. Disruption of these utilities could seriously disrupt the operation of the Spaceport. Although the Plans tend to locate the cables and all utilities including fuel and gas lines, actual locations are uncertain, and the Contractor shall be required to verify all locations.
- B. All intentional temporary interruption of existing utilities for the purpose of carrying out the Work shall be carried out so as to minimize the length of scope of the interruption.

Before any such interruption, the Contractor shall first obtain an approval for a utility outage. This is done on CCAFS through the AF Form 332 and AF Form 103 and on KSC through the KSC Form 1509. Any outage will have to be coordinated and scheduled through the appropriate organization.

- C. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, or a utility service of another government agency at any time during the progress of the Work.
- D. Except as listed in the Contract Documents, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the Work without the written permission of the Owner.
- E. Should the Owner, public or private utility service, NASA, USAF, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the Work, the Contractor shall cooperate with such utility service facility by arranging and performing the Work in this Contract so as to facilitate such construction, reconstruction, or maintenance by others. In addition, the Contractor shall control its operations to prevent the unscheduled interruption of such utility services, and other facilities. It is understood and agreed that the Contractor shall not be entitled to make any claim due to such authorized construction by others or for any delay to the Work resulting from such authorized construction. The Contractor shall coordinate all Work with all utility services.
- F. To the extent that such public or private utility services, NASA, USAF, or utility services of another governmental agency are known to exist within the limits of the Contract Work, the approximate locations have been indicated on the Plans.
- G. It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, NASA/USAF facilities or structures that may be shown on the Plans or encountered in the Work. All inaccuracies or omissions in such information will not relieve Contractor of their responsibility to protect such existing features from damage or unscheduled interruption of service.
- H. It is further understood and agreed that Contractor shall, upon execution of the Contract, notify all utility services, NASA, USAF, or other facilities of the Contractor's plan of operations. A copy of each notification shall be given to the Owner.
- I. In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual utility service, NASA, USAF and Owner advised of changes in Contractor's plan or operation that would affect such utility service or NASA facility.
- J. Prior to commencing the Work in the general vicinity of an existing utility service, the contractor shall first obtain approval within CCAFS limits through the AF Form 332 and AF Form 103 and within KSC limits through the KSC Form 1509. the Contractor shall again notify each such utility service, NASA, USAF or other land owners in writing, through the Owner, of Contractor's plan of operations.
- K. Failure of the Contractor to properly coordinate in advance, Work and/or repairs on or near existing utilities shall be cause for the Owner to suspend Contractor's operations in

the general vicinity of such utilities.

- L. Power and control cables leading to and from any facilities, will be marked in the field by the utility company, NASA and/or USAF personnel for the information of the Contractor, before any Work in the general vicinity is started. Thereafter, through the entire time of the Work, the Contractor shall not allow any construction equipment to cross these cables without first protecting the cable with steel boiler plate, or similar structural devices, on 3-feet either side of the marked cable route. All excavation within 3-feet of existing cables shall be accomplished by hand digging only.
- M. Approval to Work in areas where active utility services or NASA/USAF facilities are located, is subject to withdrawal at any time because of change in the weather, emergency conditions on the existing airfield areas, anticipation of emergency conditions, and for any other reason determined by the Owner or the designated NASA, USAF and/or utility service representative. All instructions by the Owner, the utility service, NASA, or USAF to the Contractor to clear any given area, at any time, shall be immediately executed. Construction shall be commenced in the cleared area only when additional instructions are issued by the Owner.
- N. These provisions intend to make perfectly clear the need for protection of USAF, NASA and utility company cables and other utilities and facilities by the Contractor at all times.
- O. Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavated methods acceptable to the Owner within 3-feet of such outside limits at such points as may be required to insure protection from damage due to the Contractor's operations.
- P. If damage occurs to any utilities, the Contractor will be assessed a fee of liquidated damages per cut per cable, line or strand, which liquidated damages shall only represent the expense incurred by the Owner in coordinating the repair, and which shall not prevent the Owner or others from recovering from the Contractor other costs, damages, or expenses of any other nature incurred on account of damages to utilities.
- Q. Should the Contractor damage or interrupt the operation of a utility service or NASA/USAF facility by accident or otherwise, Contractor shall immediately notify the proper utility service or NASA/USAF facility and the Owner and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such event, shall cooperate with the utility service, NASA or USAF facility and the Owner continuously until such damage has been repaired and service restored to the satisfaction of the utility service, USAF or NASA facility.

- R. Typically, the damaged utility will be repaired by the USAF or NASA contractor and the Contractor shall bear the cost of the repairs. If at the option of the USAF or NASA, the contractor is to make repairs, it shall be, at Contractor's expense, with identical material by skilled workmen, all utilities, cables, and other facilities, which are damaged by Contractor's workmen, equipment, or Work. Prior approval of the appropriate utility service and/or NASA/USAF facility, and Owner shall be obtained for the materials, workmen, time of day or night, method of repairs, and for any temporary or permanent repairs the Contractor proposed to make to all NASA or USAF cables or utility service damaged by the Contractor.
- S. All Cape Canaveral Spaceport facilities located on NASA and USAF spaceport property, including underground cables, pavements, piping, buildings, turfed areas, vehicles and other facilities/improvements, that are damaged by the Contractor shall, at the election of the Owner, (1) be replaced/repared by the Contractor to the satisfaction of the Owner or (2) be replaced/repared by the Owner at the Contractor's expense.

PART 2 – PRODUCTS

Not Applicable

PART 3 – EXECUTION

Not Applicable

END OF SECTION 01 51 00

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition (if applicable) and construction waste.
 - 2. Recycling nonhazardous demolition (if applicable) and construction waste.
 - 3. Disposing of nonhazardous demolition (if applicable) and construction waste.

1.02 RELATED WORK

- A. PROJECT PROCEDURES FOR AVIATION AND SPACEPORT FACILITIES: Section 01 35 13.
- B. DEFINITIONS AND STANDARDS: Section 01 42 16.

1.03 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.04 PERFORMANCE REQUIREMENTS

A. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1. Include, in general and as applicable, the following recyclable and salvageable items:

a. Demolition Waste:

- (1) Asphalt paving.
- (2) Concrete.
- (3) Concrete reinforcing steel.
- (4) Brick.
- (5) Concrete masonry units.
- (6) Wood studs.
- (7) Wood joists.
- (8) Plywood and oriented strand board.
- (9) Wood paneling.
- (10) Wood trim.
- (11) Structural and miscellaneous steel.
- (12) Rough hardware.
- (13) Roofing.
- (14) Insulation.
- (15) Doors and frames.
- (16) Door hardware.
- (17) Windows.
- (18) Glazing.
- (19) Metal studs.
- (20) Gypsum board.
- (21) Acoustical tile and panels.
- (22) Carpet.
- (23) Carpet pad.
- (24) Demountable partitions.
- (25) Equipment.
- (26) Cabinets.
- (27) Plumbing fixtures.
- (28) Piping.
- (29) Supports and hangers.
- (30) Valves.
- (31) Sprinklers.
- (32) Mechanical equipment.
- (33) Refrigerants.
- (34) Electrical conduit.
- (35) Copper wiring.

- (36) Lighting fixtures.
- (37) Lamps.
- (38) Ballasts.
- (39) Electrical devices.
- (40) Switchgear and panelboards.
- (41) Transformers.

b. Construction Waste:

- (1) Masonry and CMU.
- (2) Lumber.
- (3) Wood sheet materials.
- (4) Wood trim.
- (5) Metals.
- (6) Roofing.
- (7) Insulation.
- (8) Carpet and pad.
- (9) Gypsum board.
- (10) Piping.
- (11) Electrical conduit.
- (12) Packaging: Salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - Paper.
 - Cardboard.
 - Boxes.
 - Plastic sheet and film.
 - Polystyrene packaging.
 - Wood crates.
 - Plastic pails.

1.05 INFORMATIONAL SUBMITTALS

- A. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- B. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- C. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.06 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

1.07 WASTE MANAGEMENT PLAN

- A. If required by Owner, develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Contractor shall provide work plans, as applicable, to NASA, USAF and/or Port Canaveral for concrete washout areas (stored in a lined settling pond) and equipment cleanup on site. Wash out shall be contained so no materials can run-off into swales or percolate the natural soils. Be advised that there is are SJRWMD environmental resource permit (storm water) throughout the vicinity of the project. Concrete washout or equipment cleanup cannot occur within a permitted storm water basin.

PART 2 – PRODUCTS

Not Applicable

PART 3 – EXECUTION

3.01 PLAN IMPLEMENTATION

- A. Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Comply with operation, termination, and removal requirements in Section 01 50 00 – TEMPORARY FACILITIES.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project Site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - 2. Comply with Section 01 50 00 – TEMPORARY FACILITIES for controlling dust and dirt, environmental protection, and noise control.

3.02 SALVAGING DEMOLITION WASTE

- A. Any items to be salvaged that are not shown on the plans shall be identified by the owner.
- B. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until installation.
 - 4. Protect items from damage during transport and storage.
 - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- C. Salvaged items used for sale and/or donation are not permitted on Project Site.
- D. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.

3.03 RECYCLING **DEMOLITION AND/OR CONSTRUCTION** WASTE, GENERAL

- A. Recycle paper and beverage containers used by on-site workers.
- B. Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

- C. Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.04 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 - 1. Pulverize concrete to maximum 1-1/2-inch size.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 - 1. Pulverize masonry to maximum 1-1/2-inch size.
 - 2. Clean and stack undamaged, whole masonry units on wood pallets.
- D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- E. Metals: Separate metals by type.
 - 1. Structural Steel: Stack members according to size, type of member, and length.
 - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
 - 3. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
 - 4. Conduit: Reduce conduit to straight lengths and store by type and size.

RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

3.05 DISPOSAL OF WASTE

- A. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Burning: Do not burn waste materials.
- D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 78 00
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 SUMMARY

- A. Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for Final Acceptance, Final Payment, normal termination of Contract, occupancy by Owner and similar actions evidencing completion of the Work. Specific requirements for individual units of Work are specified in other sections. Time of closeout is directly related to Final Acceptance, and therefore may be a single time period for whole Work or a series of time periods for individual parts of the Work which have been certified as substantially complete at different dates. The time variation, if any, shall be applicable to other provisions of this Section.
- B. Each complete project work area or operational component shall be approved and accepted by Owner, USAF, NASA, FDOT, Port Canaveral, Engineer and/or Owner's representatives, depending on the land owner or jurisdiction the land falls within.

1.02 PREREQUISITES TO FINAL ACCEPTANCE

- A. Prior to requesting Owner, NASA, USAF, FDOT, Port Canaveral and/or Engineer's inspection for Final Acceptance, for either the whole project or designated portions thereof, complete the following and list known exceptions in request:
 - 1. In Progress Payment request, coincide with, or first following date claimed, show 100% completion for portion of Work claimed as substantially complete for Final Acceptance, or list incomplete items, value of incompleteness, and reasons for being incomplete.
 - 2. Include supporting documentation for completion as indicated in the Contract Documents.
 - 3. Submit statement showing accounting of changes to the Contract Sum.
 - 4. Advise Owner of pending insurance change-over requirements.
 - 5. Obtain and submit releases enabling Owner's full and unrestricted use of the Work and access to services and utilities, including, where required, occupancy permits, operating certificates, and similar releases.
 - 6. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
 - 7. Make final change-over of locks and transmit keys to Owner, and advise Owner's personnel of change-over in security provisions.
 - 8. Complete start-up testing of systems, and instructions of Owner's operating-maintenance personnel.
 - 9. Discontinue, or change over, and remove from Project Site temporary facilities

and services, along with construction tools and facilities, mock-ups, and similar elements.

B. Cleaning and Repairs:

1. Immediately prior to the Owner and/or Engineer's inspection for Final Acceptance of the whole Work or designated portions thereof, the Contractor shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures, and equipment shall be thoroughly cleaned. Stains, spots, dust, marks, and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic shall be replaced by the Contractor at the Contractor's expense.

C. Inspection Procedures:

1. Incomplete Items Prior to Substantial Completion prior to Final Acceptance:
 - a. One (1) week prior to Scheduled Date of Substantial Completion for Final Acceptance, the Contractor shall furnish the Owner and Engineer a list of items which Contractor anticipates being incomplete at Date of Substantial Completion prior to Final Acceptance.
 - b. The Owner and/or Engineer will review the list and confirm its acceptability, or itemize objections and transmit such to the Contractor for Contractor's action. Approval of this list by Owner and/or Engineer will be a precondition for conducting the Substantial Completion inspection.
2. Upon receipt of Contractor's request for inspection, the Owner and/or Engineer will either proceed with inspection or advise Contractor of prerequisites that are not fulfilled. Following initial inspection, the Owner and/or Engineer will either prepare the Substantial Completion for Final Acceptance documentation or advise Contractor of Work which shall be performed prior to issuance of documents. The Owner and/or Engineer will repeat inspection when requested and when assured that the Work has been Substantially Completed for Final Acceptance. Results of completed inspection will form initial "Punch List".

D. Re-inspection Procedures:

1. Following Substantial Completion of a designated portion, the Contractor shall correct or remedy all Punch List items to the satisfaction of the Owner and/or Engineer within a thirty (30) calendar days after the Date of Substantial Completion of the designated portion. If subsequent inspections are necessary after the thirty (30) calendar day period in order to eliminate all deficiencies, the cost of all subsequent inspections with respect to Owner and Engineer time shall be paid by the Contractor. When ready, the Contractor shall request in writing a Final Inspection for Final Acceptance of the Work. If necessary, procedures will be repeated.
2. Following Substantial Completion for Final Acceptance of the Whole Work, the

Contractor shall correct or remedy all "Punch List" items to the satisfaction of the Owner and/or Engineer within thirty (30) calendar days after the Date of Substantial Completion for Final Acceptance of the Whole Work. If subsequent inspections are necessary after thirty (30) calendar days in order to eliminate all deficiencies, the cost of all substantial inspections with respect to Owner and/or Engineer's time shall be paid by the Contractor. When ready, the Contractor shall request in writing a final inspection of the Work. Upon completion of re-inspection, the Owner and/or Engineer will either prepare a certificate of Final Acceptance or advise Contractor of Work that is not completed or obligations that are not fulfilled as required for Final Acceptance. If necessary, procedures will be repeated. In the event of unacceptable Work discovered on the Final Inspection, payment will be withheld until all Punch List items are corrected to the Owner and/or Engineer's satisfaction.

1.03 PREREQUISITES FOR FINAL ACCEPTANCE

- A. Prior to requesting Owner and/or Engineer's final inspection for certification of Final Acceptance as required by the General Conditions of the Contract for Construction, as modified, complete the following and list known exceptions in requests:
 - 1. Submit certified copy of Owner and/or Engineer's final "punch list" of itemized Work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and has been endorsed and dated by Owner and/or Engineer.
 - 2. Submit final meter readings for utilities, measured record of stored fuel, and similar data either as of time of Substantial Completion for Final Acceptance or when Owner took possession of and responsibility for corresponding elements of the Work.
 - 3. Touch-up and otherwise repair and restore marred exposed finishes.

1.04 PREREQUISITES TO FINAL PAYMENT

- A. Final Payment: Final Payment will be made after Final Acceptance of the whole Work by the Owner and/or Engineer upon request by the Contractor on condition that the Contractor:
 - 1. Acceptance and Final Payment: The Owner and/or Engineer will check the final estimate submitted by the Contractor of the items of Work actually performed. The Contractor shall approve the Owner's and/or Engineer's final estimate or advise the Owner and/or Engineer of their objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the Contract as amended by Change Order.

2. The Contractor and Owner and Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within thirty (30) calendar days of the Contractor's submission of the final estimates. If, after such thirty (30) day period, a dispute still exists, the Contractor may approve the Owner and/or Engineer's estimate under protest of the portions of Work in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the General Conditions of the Contract for Construction, as modified.
 - a. After the Contractor has approved, or approved under protest, the Owner and/or Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the Contract. All prior progress payments shall be subject to correction in the final estimate and payment.
 - b. If the Contractor has filed a claim for additional compensation under the provisions of the General Conditions of the Contract for Construction, as modified, or under the provisions of this Section, such claims will be considered by the Owner in accordance with governing law. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental, final estimate.
3. Furnish properly executed complete releases of lien (2 copies) from all suppliers and subcontractors who have furnished materials or labor for the Work and submit supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
4. Furnish Contractor's Affidavit of Release of Liens (2 copies) that all suppliers and subcontractors have been paid in full. In the event they have not been paid in full, the Owner shall retain a sufficient sum to pay them in full and at Owner's option may make direct payment as provided in Chapter 84, Florida Statutes, as amended, to obtain complete releases of lien.
5. Furnish Contractor's Affidavit of Debts and Claims (2 copies).
6. Furnish required sets of As-Built Documents and Project Manual and maintenance and operating instructions.
7. Furnish guarantees signed by subcontractors, material suppliers, and countersigned by the Contractor for operating equipment.
8. Submit specific warranties, workmanship-maintenance bonds, maintenance agreements, final certifications and similar documents.

9. Furnish a signed guarantee, in form acceptable to Owner and Engineer agreeing to repair or replace as decided by the Owner and Engineer, all Work and materials that prove defective within one (1) year (or more) from the date of Final Acceptance, including restoration of all other Work damaged in making such repairs or replacements.
10. Furnish Consent of Surety to Final Payment (2 copies).
11. Submit updated final statement, accounting for final changes to Contract Sum.
12. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
13. Certify that all Social Security, Unemployment and all other taxes (City, State, Federal Government) have been paid.
14. Provide receipt as applicable, of affidavits certifying all labor standards of local, state, or federal requirements have been complied with by the Contractor.
15. Submit actual DBE participation percentages.
16. Contractor's Final Application for Payment.

1.05 COMPLIANCES

- A. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from Project Site and dispose of in a lawful manner.
- B. Where extra materials of value remaining after completion of associated Work have become Owner's property, dispose of these as directed by Owner.

1.06 AS-BUILT DOCUMENT SUBMITTALS

- A. Specific requirements for As-Built documents are shown in this Section. Other requirements are indicated in the General Conditions of the Contract for Construction, as modified. General submittal requirements are indicated in "Submittals" sections. Do not use as-built documents for construction purposes; protect from deterioration and loss in a secure, fire-resistant location; provide access to as-built documents for Owner and Engineer's reference during normal working hours.
 1. Definition: Include those documents or copies relating directly to performance of the Work, which Contractor is required to prepare or maintain for Owner's records, recording the Work as actually performed. In particular, record copies show changes in the Work in relation to way in which shown and specified by original Contract Documents; and show additional information of value to Owner's records, but not indicated by original Contract Documents.

- a. As-built copies include newly-prepared drawings (if any are specified), marked-up copies of contract drawings, shop drawings, specifications, addenda and change orders, marked-up product data submittals, record samples, field records for variable and concealed conditions such as excavations and foundations, and miscellaneous record information on work which is otherwise recorded only schematically or not at all.
2. As-built Drawings: Owner and/or Engineer will organize as-built into record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.
3. As-Built Project Manual: Upon completion of mark-up, submit to Owner and/or Engineer for Owner's records.
4. As-Built Product Data: Upon completion of mark-up, submit complete set to Owner and/or Engineer for Owner's records.
5. As-Built Sample Submittal: Comply with Owner and/or Engineer's instructions for packaging, identification marking, and delivery to Owner's sample storage space.
6. Miscellaneous As-Built Submittals: Complete miscellaneous records and place in good order, properly identified and bound or files, ready for continued use and reference. Submit to Owner and/or Engineer for Owner's records.
7. Maintenance Manuals: Complete, place in order, properly identify and submit to Owner and/or Engineer for Owner's records.

B. Project As-Built Drawings:

1. As-Built Drawings: The Contractor shall maintain a set of As-Built Drawings at the job site. These shall be kept legible and current and shall be available for inspection at all times by the Owner and/or Engineer. Show all changes or Work added on these As-Built Drawings in a contrasting color.
 - a. Mark-up Procedure: During progress of the Work, maintain a full size white-set (blue-line or black-line) of Contract Plans and shop drawings, with mark-up of actual installations which vary substantially from the Work as originally shown. Mark whatever drawing is most capable of showing actual physical condition, fully and accurately. Where shop drawings are marked-up, mark cross-reference on contract drawings at corresponding location. Mark with erasable colored pencil, using separate colors where feasible to distinguish between changes for different categories of Work at same general location. Mark-up important additional information either shown schematically or omitted from original drawings. Use personnel proficient at recording graphic information in production of marked-up record prints.

- b. Give particular attention to information on Work concealed, which would be difficult to identify or measure and record at a later date. Note alternate numbers, change order numbers and similar identification. Require each person preparing mark-up to initial and date mark-up and indicate name of firm. Label each sheet "AS-BUILT" in 1-1/2 inch high letters.
 - c. Actual position of all underground and otherwise concealed civil, mechanical and electrical; lines, conduit, pipes, ducts, etc. Items in areas with accessible ceilings or other ready access shall not be considered as being concealed.
 - d. In showing changes in the Work, use the same legends as used on the original drawings. Indicate exact locations by dimensions and exact elevations by job datum. Give dimensions from a permanent point.
 - e. When manholes, boxes, underground conduits, plumbing hot or chilled water lines, inverts, etc., are involved as part of the Work, the Contractor shall furnish true elevations and locations, all properly referenced by using the original bench mark used for this Project.
- 2. As-Built Drawings shall contain the names, addresses and phone number(s) of the Contractor and the major sub-contractors.
 - 3. The Owner and/or Engineer shall be the sole judge of the acceptability of the As-built Drawings. Receipt and acceptance of the As-built Drawings is a prerequisite for Final Payment.
 - 4. As-Built Survey – Contractor shall provide as-built topographic survey using an FDOT certified surveyor of each all stormwater features and pavement as a cross section across roadway.

C. As-Built Project Manual:

- 1. During progress of the Work, maintain one copy of the Project Manual, including addenda, change orders and similar modifications issued in printed form during construction, mark-up variations (of substance) in actual Work in comparison with text of specification and modification as issued. Give particular attention to substitutions, selection of options, and similar information on Work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related as-built drawing information and product data, where applicable.
- 2. Where manual is printed on one side of page only, mark variation on blank left-hand pages of Project Manual, facing printed right-hand pages containing original text affected by variation.

3. Upon completion of the Work, the document information maintained during construction (Addenda, Alternates, Construction Change Directives, Change Orders, Work Orders, Etc.) shall be recorded as follows:
 - a. Neatly cross out the non-conforming portion of the Project Manual and add by writing in the revised portion of the Project Manual. Do not revise the Project Manual by "cutting and pasting" the actual Addenda, Alternates, Construction Change Directive, Change Orders, Work Orders, etc., as actually issued by the Owner and/or Engineer. The revisions have to be actually written by the Contractor.
 - b. The Volume(s) of Project Manual shall be clearly marked "PROJECT AS-BUILT" in 1-1/2 inch high letters and bear the name of the Contractor and where applicable, the name of the Subcontractor.
 - c. The Contractor shall review the completed As-Built Project Manual and ascertain that all data furnished on the Project Manual is accurate and truly represents the Work as actually installed.
 - d. Deviations from the method of executing As-Built Project Manual as described above will be considered just cause for disapproval by the Owner and/or Engineer and the Contractor shall be required to conform and resubmit.
 - e. Submit the As-Built Project Manual to the Owner and/or Engineer for compliance review and approval.
 - f. Upon Owner and/or Engineer's approval, the Contractor shall submit the completed As-Built Project Manual and two (2) copies of the As-Built Project Manuals (at Contractor's expense).

D. As-Built Product Data:

1. During progress of the Work, maintain one copy of each product data submittal, and mark-up significant variations in the actual Work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and specifications. Upon completion of mark-up, submit three (3) complete sets of product data submittal to Owner and/or Engineer for Owner's records. Label each data submittal "AS-BUILT" in 1-1/2 inch high letters.

E. As-Built Sample Submittal:

1. Immediately prior to date(s) of Final Acceptance, Owner and/or Engineer will meet with Contractor at site, and will determine if any of submitted samples maintained by Contractor during progress of the Work are to be transmitted to Owner for record purposes. Comply with Owner and/or Engineer's instructions for packaging, identification marking, and delivery to Owner's sample storage space. Dispose of other samples in manner specified for disposal of surplus and waste materials, unless otherwise indicated by Owner and/or Engineer.

F. Miscellaneous As-Built Submittals:

1. Refer to other sections of these Contract Documents for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to date(s) of Final Acceptance, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference.
2. Submit three (3) sets to Owner and/or Engineer for Owner's records. Categories of requirements resulting in miscellaneous work-records are recognized to include, but not limited to, the following:
 - a. Required field records on excavations, foundations underground construction, wells and similar Work.
 - b. Accurate survey showing locations and elevations of underground lines, including invert elevations of drainage piping, valves, tanks and manholes.
 - c. Surveys establishing lines and levels of building.
 - d. Soil treatment certification.
 - e. Inspection and Test Reports: Where not processed as shop drawings or product data.
 - f. Concrete mix design record.
 - g. Concrete block certification.

G. Digital Electronic Format:

1. Submit final Record Documents, after review and approval by the Owner and/or Engineer, in digital electronic format as follows:
 - a. Format: Same digital data software programs (AutoCAD, Revit, MSWord, PDF); version, and operating system as original Contract Documents. All formatting and tabular data shall be preserved.

- b. All media transmittals shall be accompanied by a detailed paper printout of the files on each media. This printout shall consist of:
 - (1) File name.
 - (2) File size.
 - (3) Date of creation.
 - (4) Submittal number.
 - (5) A brief but accurate description of the file.
- c. Refer instances of uncertainty to Owner and/or Engineer for resolution.
- d. Owner and/or Engineer will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
- e. Refer to Section 01 33 18 – SUBMITTAL PROCEDURES for requirements related to use of Owner and/or Engineer’s digital data files.

1.07 GUARANTEES AND WARRANTIES

- A. As a condition precedent to Final Acceptance, all guarantees and warranties as specified under various sections of the Contract Documents and per requirements of Section 01 78 36 - WARRANTIES shall be obtained by the Contractor, addressed to and in favor of the Owner, and delivered to the Owner, in duplicate giving a summary of guarantees attached and stating the following in respect to each:
 - 1. Character of Work affected
 - 2. Name of Subcontractors
 - 3. Period of Guarantee
 - 4. Conditions of Guarantee
- B. Delivery of said guarantees and/or warranties shall not relieve the Contractor from any obligations assumed under any other provision of the Contract.
- C. If, within any guarantee period, repairs or changes are required in connection with the guaranteed Work, which in the opinion of the Owner and/or Engineer is rendered necessary as the result of the use of materials, equipment or workmanship, which are defective, or inferior, or not in accordance with the terms of the Contract, the Contractor shall, upon receipt of notice from the Owner, and without expense to the Owner, proceed within seven (7) calendar days to:
 - 1. Place in satisfactory conditions in every particular all of such guaranteed Work, correct all defects therein, and make good all damages to the structure or site.
 - 2. Make good all Work or materials, or the equipment and contents of structures or site disturbed in fulfilling any such guarantee.
- D. If the Contractor, after notice, fails to comply with the terms of the guarantee, the Owner may have the defects corrected and the Contractor and Contractor’s Surety shall be liable for all expenses incurred in connection therewith, including Owner and/or Engineer's

fees.

1.08 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

A. As a condition precedent to Final Acceptance, complete operating instructions and maintenance manuals shall be obtained by the Contractor for each and every piece of equipment or system furnished under the Contract. Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information.

1. Mark appropriate identification on front and spine of each binder.

- a. Submit three (3) copies of each completed manual on equipment and systems, in final form, to the Owner and/or Engineer for distribution. Provide separate manuals for each unit of equipment, each operating system, and each electric and electronic system.
- b. Refer to Specification Sections for individual requirements on operating and maintenance of the various pieces of equipment and operating systems.

B. Equipment and Systems:

1. Provide the following information for each piece of equipment, building operating systems, and electric or electronic system.

a. Description: Provide a complete description of each unit and related component parts, including the following:

- (1) Equipment or system function.
- (2) Operating characteristics.
- (3) Limiting conditions.
- (4) Performance curves.
- (5) Engineering data and tests.
- (6) Complete nomenclature and number of replacement parts.

b. Manufacturer's Information: For each manufacturer of a component part of piece of equipment provide the following:

- (1) Printed operating and maintenance instructions.
- (2) Assembly drawings and diagrams required for maintenance.
- (3) List of items recommended to be stocked as spare parts.

c. Maintenance Procedures: Provide information detailing essential maintenance procedures, including the following:

- (1) Routine operations.
- (2) Trouble-shooting guide.
- (3) Disassembly, repair and reassembly.
- (4) Alignment, adjusting and checking.

d. Operating Procedures: Provide information on equipment and system

operating procedures, including the following:

- (1) Start-up procedures.
 - (2) Equipment or system break-in.
 - (3) Routine and normal operating instructions.
 - (4) Regulation and control procedures.
 - (5) Instructions on stopping.
 - (6) Shut-down and emergency instructions.
 - (7) Summer and winter operating instructions.
 - (8) Required sequences for electric or electronic systems.
 - (9) Special operating instructions.
- e. Servicing Schedule: Provide a schedule of routine servicing and lubrication requirements, including a list of required lubricants for equipment with moving parts.
- f. Controls: Provide a description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.
- g. Coordination Drawings: Provide each Contractor's Coordination Drawings.
- (1) Provide as-installed color-coded piping diagrams, where required for identification.
- h. Valve Tags: Provide charts of valve tag numbers, with the location and function of each valve.
- i. Circuit Directories: For electric and electronic systems, provide complete circuit directors of panelboards, including the following:
- (1) Electric service.
 - (2) Controls.
 - (3) Communication.

1.09 REPLACEMENT MATERIALS

- A. As a condition precedent to Final Acceptance, Contractor shall store at the Project Site, in location directed by Owner and/or Engineer, all replacement materials which may be required by other Sections of these Contract Documents.

PART 2 - PRODUCTS

Not Applicable

PART 3 -EXECUTION

3.01 EQUIPMENT OPERATIONAL DEMONSTRATIONS

- A. Subsequent to Final Acceptance of the whole Work or designated portions thereof, and prior to Final Payment, the Contractor shall provide a competent and experienced person (or persons) thoroughly familiar with the Work to demonstrate to, and instruct the

Owner's personnel in operation, adjustment and maintenance of products, equipment and systems. This instruction shall include normal start-up, run, stop, and emergency operations, location and operation of all controls, alarms and alarm systems, etc. The instruction shall include tracing the system in the field and on the diagrams in the instruction booklets so that the Owner's operating personnel will be thoroughly familiar with both the system and the data supplied. Provide instruction at mutually agreed upon times.

1. Use operation and maintenance manuals for each piece of equipment or system as the basis of instruction. Review contents in detail to explain all aspects of operation and maintenance.
2. For equipment that requires seasonal operation, provide similar instruction during other seasons.

B. If installers and/or Contractor's personnel are not experienced in procedures, Contractor shall arrange for manufacturer's representatives to provide on-site instructions. Include a detailed review of the following items as examples, but not in way of limitation:

1. Maintenance manuals.
2. As-Built documents.
3. Spare parts and materials.
4. Tools.
5. Lubricants.
6. Fuels.
7. Identification systems.
8. Control sequences.
9. Hazards.
10. Cleaning.
11. Warranties and bonds.
12. Maintenance agreements and similar continuing commitments.
13. Similar procedures and facilities.

C. As part of instruction for operating equipment, demonstrate the following procedures as examples, but not in way of limitation:

1. Start-up.
2. Shut down.
3. Emergency operations.
4. Noise and vibration adjustments.
5. Safety procedures.

- 6. Economy and efficiency adjustments.
- 7. Effective energy utilization.
- 8. Similar operations.
- D. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.
- E. Owner and Engineer shall be notified in writing of scheduling and completion of all equipment operational instructions and demonstrations with Owner's personnel.

END OF SECTION 01 78 00

SECTION 01 78 36
WARRANTIES

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies general administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
 - 1. Refer to the General Conditions of the Contract for Construction, as modified, for terms of the Contractor's special warranty of workmanship and materials.
 - 2. General closeout requirements are included in Section 01 78 00 - PROJECT CLOSEOUT.
 - 3. Specific requirements for warranties for the Work and products and installation that are specified to be warranted, are included in the individual Sections of the Specifications.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- B. Disclaimers and Limitations:
 - 1. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.02 ASSIGNMENT OF MANUFACTURERS' OR OTHER SELLERS' WARRANTIES

- A. The Contractor shall assign to the Owner any and all manufacturers' or other sellers' warranties that come with any products, material or supplies which are incorporated into or are consumed in the Project in any way. Assignment of such warranties shall be effective on the date of Final Acceptance. To the extent that any such warranties do not extend to subsequent purchasers or owners or such warranties contain a limitation on assignment, the Contractor agrees that the Contractor purchased the products, materials and supplies on behalf of the Owner with the intent that the Owner be the intended recipient of any warranties. All documents associated with or describing any such warranties shall be delivered to the Engineer along with the other Project Final Acceptance documents and shall be deemed to be a part of the required Final Acceptance documentation. The Contractor shall not take any action or fail to act in any way which voids any such warranties. All subcontracts shall contain a similar provision which requires subcontractors to assign any such warranties to the Owner.

- B. All costs for manufacturers' or other sellers' warranties shall be borne by the Contractor, as no separate payment shall be made for this work. All costs associated with this warranty shall be included in the Lump Sum Cost of this Work. The Owner reserves the sole right to determine defects in the materials and systems installed or modified by this Project and the acceptability of the warranty repair and defect correction, including adjustment of equipment provided as a part of this Project.

1.03 DESCRIPTION OF REQUIREMENTS/DEFINITIONS

A. Categories of Specific Warranties:

- 1. It is recognized that warranties on the Work are in several categories, including those of the Conditions of the Contract and including (but not necessarily limited to) the following specific categories related to the individual units of work specified in the individual Sections of these Specifications:
 - a. Special Warranty (Guarantee): A warranty specifically written and signed by the Contractor for a defined portion of the Work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor; formerly generally recognized as (and sometimes specified in Contractor Documents as) a "guarantee".
 - b. Specified Product Warranty: A warranty which is required by Contract Documents, to be provided for a manufactured product which is incorporated into the Work; regardless of whether the manufacturer has published the warranty without consideration for specific incorporation of product into the Work, or has written and executed the warranty as a direct result of contract documents requirements.
 - c. Coincidental Product Warranty: A warranty which is not specifically required by Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the Work, by virtue of the fact that manufacturer of product has published the warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of the warranty.

B. Definition: Manufactured Product:

- 1. A physical item for incorporation into the Work, which has been produced from raw or natural materials by a manufacturing process, and which is purchased from a manufacturer either specifically for the Work or for Contractor's/Subcontractor's/ Fabricator's/Installer's stock from which it is drawn for incorporation into the Work.

C. General Limitations:

1. It is recognized that specific warranties are intended primarily to protect Owner against failure of Work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in Work which result from:
 - a. Damage or defect caused by abuse,
 - b. Modifications not executed by the Contractor,
 - c. Improper or insufficient maintenance,
 - d. Improper operations, or normal wear and tear under normal usage.
2. Although, manufacturer's commitments in product warranties on products used in the Work are generally written to exclude product failures which result from failure of other work (such as failure of substrate supporting product), such limitations in product warranties do not relieve Contractor of the more general warranties on Work which incorporates use of such products. Except as otherwise indicated, this same relationship applies to units of Work performed by other entities (other than manufacturers), such as fabricators, installers and subcontractors who are required to countersign special project warranties with Contractor for such units of Work.

1.04 WARRANTY REQUIREMENTS

A. Related Damages and Losses:

1. When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

B. Reinstatement of Warranty:

1. When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty.

C. Replacement Cost:

1. Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor shall be responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

D. Owner's Recourse:

1. Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - a. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
2. The Owner reserves the right to refuse to accept Work for the project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.05 SUBMITTALS

A. Submit written warranties to the Owner prior to the date certified for Final Payment.

1. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties.
2. Submit a draft to the Owner for approval prior to final execution.
 - a. Refer to individual Sections of the Specifications for specific content requirements, and particular requirements for submittal of special warranties.
3. Submit specific warranties for beginning of the warranty periods. Date(s) shall be inserted to correspond with certification or acceptance dates, as established by and accepted by the Owner.

B. Form of Submittal:

1. Compile two copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
2. Bind warranties in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.

- a. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
 - b. Identify each binder on the front and the spine with the typed or printed title 'WARRANTIES AND BONDS,' the Project title or name, and the name of the Contractor.
3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION 01 78 36

SECTION 01 79 00
DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training video.

1.02 SUBMITTALS

- A. Instruction Program: Submit two (2) copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. At completion of training, submit two (2) complete training manuals for Owner's use.
- B. Qualification Data: For instructor.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.
- E. Demonstration and Training Video: Submit two (2) copies within seven (7) days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of project.
 - b. Name and address of photographer.

- c. Name of Owner and Engineer.
 - d. Name of Contractor.
 - e. Date video was recorded.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
2. Transcript: Prepared on 8-1/2 by 11-inch paper, punched and bound in heavy-duty, 3-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video. Include name of Project and date of video on each page.

1.03 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative experienced in operation and maintenance procedures and training.
- C. Photographer Qualifications: A professional photographer who is experienced photographing construction projects.
- D. Pre-instruction Conference: Conduct conference at Project Site. Review methods and procedures related to demonstration and training including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructor's personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.04 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.

- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by the Owner and/or Engineer.

PART 2 – PRODUCTS

2.01 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows as an example:
 - 1. Fueling tanks and equipment.
 - 2. Electrical service and distribution, including transformers, switchboards, panelboards, uninterruptible power supplies, and motor controls.
 - 3. Communication systems, including, as applicable; intercommunication, surveillance, clocks and programming, voice and data, and television equipment.
- B. Training Modules: As applicable, develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
 - 1. Basis of System Design. Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.

- c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
- a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions of stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.

- d. Economy and efficiency adjustments.
- 6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
- 7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventative maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
- 8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

3.02 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of an oral, a written, or a demonstration performance-based test.
- E. Cleanup: Collect used and leftover educational materials and remove from Project site or turn over to Owner as directed. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.03 DEMONSTRATION AND TRAINING VIDEOS

- A. General: Engage a qualified commercial photographer to record demonstration and training videos. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 1. At the beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Video Format: Provide high-quality DVD color videos.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.
- D. Narration: Describe scenes on video by audio narration by microphone while (or by dubbing audio narration off-site after) video is recorded. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- E. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from video opposite the corresponding narration segment.

END OF SECTION 01 79 00

DIVISION II & III

The Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction January 2020 Electronic Version can be found at:

<https://www.fdot.gov/programmanagement/Implemented/SpecBooks/default.shtm>

March 16, 2020

PREPARED BY: Andrew Lloyd, Bruno Fiori, Patrick Nevah, Bunti Patel



SPECIFICATIONS PACKAGE
FINANCIAL MANAGEMENT NO. 439053-1-54-01

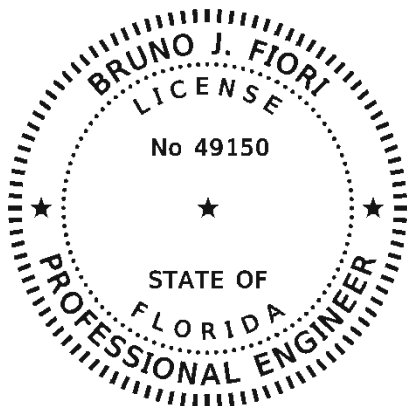
DISTRICT FIVE
BREVARD COUNTY

The January 2020 Edition of the Florida Department of Transportation Standard Specifications is revised as follows:

I hereby certify that this specifications package has been properly prepared by me, or under my responsible charge, in accordance with procedures adopted by the Florida Department of Transportation.

This item has been digitally signed and sealed by Bruno J. Fiori 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.

Date:	<u>3/16/2020</u>
State of Florida,	
Professional Engineer, License No.:	<u>49150</u>
Firm/Agency Name:	<u>AECOM Technical Services, Inc.</u>
Firm/Agency Address:	<u>7650 N. Courtney Campbell Blvd. Ste 300</u>
City, State, Zip Code:	<u>Tampa, Florida, 33607</u>
Page(s):	<u>1 through 1</u>



Bruno
Fiori

Digitally signed
by Bruno Fiori
Date: 2020.03.16
14:35:05 -04'00'

APPENDIX

THE INCLUDES THE FOLLOWING:

1. TERRACON GEOTECHNICAL ENGINEERING REPORT DATED 01/27/2020
2. TERRACON GEOTECHNICAL ENGINEERING REPORT DATED 03/11/2020 (Payne Way)
3. TERRACON GEOTECHNICAL ENGINEERING REPORT DATED 03/11/2020 (CENTRAL CONTROL ROAD / PHILLIPS PARKWAY)
4. EXAMPLE OF NASA KSC FORM 26-312 UTILITY LOCATE/EXCAVATION PERMIT REQUEST (DIG PERMIT) 19184 FOR PROJECT'S GEOTECHNICAL BORINGS, DATED 09/27/19
5. EXAMPLE OF USAF FORM 103 BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST (DIG PERMIT) FOR PROJECT'S GEOTECHNICAL BORINGS, DATED 11/20/19
6. NASA KSC RECORD OF ENVIRONMENTAL CONSIDERATION NO. 10678 DATED 06/18/19

Soil Survey Report

**Space Florida
Economic Development Transportation Project Fund (EDTPF)
Infrastructure Improvements
Cape Canaveral, Brevard County, Florida**

January 27, 2020
Terracon Project No. H1175260

Prepared for:

AECOM
Tampa, Florida

Prepared by:

Terracon Consultants, Inc.
Winter Park, Florida

January 27, 2020

AECOM

7650 West Courtney Campbell Causeway
Tampa, Florida 33607

Attn.: Mr. Bunti Patel, P.E.
P: [813] 636-2445
E: Bunti.Patel@aecom.com

Re: Roadway Soil Survey Report
Space Florida
Economic Development Transportation Project Fund (EDTPF)
Infrastructure Improvements
Cape Canaveral, Brevard County, Florida
Terracon Project No. H1175260

Dear Mr. Patel,

Terracon Consultants, Inc. (Terracon) is pleased to present this Soil Survey Report for the above-referenced project. This report presents the results of our field exploration, laboratory testing and geotechnical engineering recommendations for pavement widening.

Terracon appreciates the opportunity to be of service to you on this project. If you should have any questions concerning the contents of this report, or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,

SHENNA LUI MCMASTER, INC.
TERRACON CONSULTANTS, INC.
Certificate of Authorization No. 8830

No 57537
STATE OF
FLORIDA
Shenna McMaster, P.E.
Senior Geotechnical Engineer
FL Registration No. 57537
1/27/20

Jay W. Casper, P.E.
Senior Principal

This item has been digitally signed and sealed by Shenna McMaster, P.E. 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

Terracon Consultants, Inc. 1675 Lee Road Winter Park, FL 32789
P (407) 740 6110 F (407) 740 6112 terracon.com

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Table 3	Limerock Bearing Ratio (LBR) Testing Results
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Exhibit A-1A to A-1E	Topographic Vicinity Map
Exhibit A-2 A to A-2E	Soils Map
Exhibit A-3	Roadway Soil Survey
Exhibit A-4	Report of Roadway Borings

ROADWAY SOIL SURVEY REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND
INFRASTRUCTURE IMPROVEMENTS
Cape Canaveral, Brevard County, Florida
Terracon Project No. H1175260
January 27, 2020

1.0 PROJECT DESCRIPTION

The project involves pavement widening along the following roadways within Kennedy Space Center, CCAFS, and Port Canaveral:

- Space Commerce Way
- NASA Parkway
- Kennedy Parkway
- Saturn Causeway
- Phillips Parkway
- Central Control Road
- SR 401

2.0 REVIEW OF AVAILABLE DATA

2.1 USGS Quadrangle Map

Based on the United States Geological Survey (USGS) Quadrangle maps, “Orsino, Florida,” “Cape Canaveral, Florida,” and “False Cape, Florida” , the pavement widening areas appear to be near elevation +5 to +10 feet, NGVD. Excerpts of the USGS Quadrangle Maps containing the subject intersections are shown in the **Appendix** (Exhibits A-1A to A-1E).

2.2 USDA Soil Survey

Excerpts of the United States Department of Agriculture (USDA) Brevard County, Florida Soil Survey containing the subject intersections are shown in the **Appendix** (Exhibits A-2A to A-2E). Soils found in the pavement widening areas are listed in the following table:

USDA Map Symbol	USDA Soil Name	Depth of Seasonal High Groundwater Table for Site in its Natural Condition
2	Anclote sand, frequently ponded, 0 to 1 percent slopes	0 to 6 inches

Soil Survey Report

Space Florida EDTPF Infrastructure Improvements ■ Cape Canaveral, Florida

January 27, 2020 ■ Terracon Project No. H1175260

USDA Map Symbol	USDA Soil Name	Depth of Seasonal High Groundwater Table for Site in its Natural Condition
9	Canaveral-Anclote Complex, gently undulating	12 to 36 feet
10	Canaveral-Urban land complex	30 to 60 inches
11	Canova Mucky Peat, undrained	0 inches
16	Copeland-Bradenton-Wabasso Complex, limestone substratum	0 to 6 inches
21	Riviera and Winder soils, depressional	0 inches
28	Immokalee sand, 0 to 2 percent slopes	6 to 18 inches
49	Pomello sand	18 to 42 inches
58	Turnbull and Riomar soils, tidal	0 inches
69	Urban land	Depends on established drainage facilities
71	Wabasso sand, 0 to 2 percent slopes	6 to 18 inches

It should be noted that the Soil Survey is not intended as a substitute for site-specific geotechnical exploration; rather it is a useful tool in planning a project scope in that it provides information on soil types likely to be encountered. Boundaries between adjacent soil types on the Soil Survey maps are approximate. The establishment of roadside drainage canals may have impacted groundwater levels within the project area.

2.3 Potentiometric Surface

Based on review of the St. John's River Water Management District (SJRWMD) potentiometric maps of the upper Floridan Aquifer for this project area, the estimated elevation of the artesian head appears to be near +20 feet. The ground surface elevation at the project is near +5 to +10 feet, NGVD. Artesian head conditions were not observed during drilling. Excavations less than 10 feet are not anticipated to encounter artesian conditions.

3.0 SUBSURFACE EXPLORATION

Field exploration performed along the roadway alignment consisted of eighteen (18) hand auger borings performed to depths of 5 to 8 feet below existing grade along the roadway widening areas. The approximate location of each boring is indicated by Station/Offset along the centerline of the roadways on the **Report of Auger Borings for Roadway** sheet in the **Appendix**.

The boring locations were laid out at the project site by Terracon and AECOM personnel. The locations of the borings are based on using a hand-held GPS device. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

Soil Survey Report

Space Florida EDTPF Infrastructure Improvements ■ Cape Canaveral, Florida
January 27, 2020 ■ Terracon Project No. H1175260

The hand auger boring procedure consisted of manually turning a 3-inch diameter, 6-inch long sampler into the soil until it was full. The sampler was then retrieved and the soils in the sampler were visually examined and classified. This procedure was repeated until shallow groundwater levels caused collapse of the boreholes. Samples of representative strata were obtained for further examination and classification in our laboratory. These borings were then backfilled upon completion.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. The boring profiles included with this report represent an interpretation of the field logs and include modifications based on laboratory observation of the samples.

4.0 GENERAL SUBSURFACE CONDITIONS

Soil conditions encountered in the borings are shown on the **Report of Auger Borings for Roadway** sheet in the **Appendix**. The soil survey encountered seven generalized soil strata within the survey limits to the maximum depths explored in the borings. Descriptions of the soils encountered in the borings are accompanied by the AASHTO classification symbol (A-3, A-2-4, etc.) based on visual classification and limited laboratory testing.

In general, the soil stratification is as follows:

Stratum No.	Description	AASHTO Classification
1	Brown, gray-brown, light brown, dark brown sand, trace silt, trace to some shell	A-1-b A-3
2	Dark gray, gray-brown, light brown, orange-brown sand, trace silt, occasional trace gravel at surface	A-3
3	Gray-brown sand, trace silt with cemented sand and shell (Coquina)	A-1-b A-3
4	Gray-brown, dark brown silty sand	A-2-4
5	Light gray clayey sand	A-2-6
6	Dark brown organic silty sand	A-8
7	Gray sandy silt, trace clay and shell	A-4

In general, the borings found mostly Strata 1 and 2 throughout the explored depths. Exceptions include:

Soil Survey Report

Space Florida EDTPF Infrastructure Improvements ■ Cape Canaveral, Florida

January 27, 2020 ■ Terracon Project No. H1175260

- Stratum 3 (Coquina) was found along Phillips Parkway (Boring HA-13 at about 7 feet deep), Central Control Road (Boring HA-17 at 4 feet deep), and SR 401 (Boring HA-18 at about 4 feet deep).
- Stratum 4 was observed in a few borings performed along Space Commerce Way (boring HA-3 at about 3 to 4 feet deep) and Saturn Causeway (Boring HA-9 in the upper 1 foot and about 4 to 6 feet deep).
- Stratum 5 was found in a boring (HA-3 at about 5 to 6 feet deep) performed on Space Commerce Way.
- Stratum 6 organic silty sand was found in a boring performed on Kennedy Parkway (HA-4 at a depth of about 5 to 7 feet below existing grade).
- Stratum 7 was found in Boring HA-8, performed on Saturn Causeway below a depth of about 4 feet.

For details at individual boring locations, refer to the boring profiles on **Report of Auger Borings for Roadway** in the **Appendix**.

The boreholes were observed during drilling for the presence and level of groundwater. The borings performed in the roadway found groundwater at depths ranging from 3 to 7 feet below existing grade.

The normal seasonal high groundwater levels at each boring location are estimated to be about 1 to 3 feet below existing grades. Normal seasonal high groundwater levels are estimated based on review of the USDA Brevard County Soil Survey, rainfall in the months prior to the field exploration, observed groundwater levels, and geotechnical engineering judgement. Groundwater levels will fluctuate with the amount of local rainfall and with site development. The groundwater depths observed and estimated seasonal high groundwater levels at each boring location are shown on the soil profiles on **Report of Auger Borings for Roadway** in the **Appendix**.

5.0 LABORATORY TESTING

The soil samples retrieved from the boring locations were transported to our laboratory for visual examination and selective soil testing. The results of our laboratory testing are presented on the attached **Table 1** in the **Appendix**. Laboratory testing was performed in general accordance with the appropriate Florida Methods.

5.1 Laboratory Permeability Testing:

Laboratory permeability testing was performed on a remolded bulk soil sample obtained from Boring HA-15 at a depth of about 2 feet below existing grade. The measured permeability rate was 27 feet per day. We consider this a saturated horizontal permeability rate. Unsaturated

Soil Survey Report

Space Florida EDTPF Infrastructure Improvements ■ Cape Canaveral, Florida
January 27, 2020 ■ Terracon Project No. H1175260

vertical permeability rates are generally about ½ the saturated horizontal permeability rate. We recommend using a saturated horizontal permeability rate of 27 feet per day and an unsaturated vertical permeability rate of 13 feet per day for design considerations, which does not include a factor of safety. The bottom of boring (7 feet below existing grade) should be considered the top of confining layer for the purposes of recovery analysis.

5.2 Corrosion Series Testing:

A series of corrosion tests was performed on two soil samples obtained from Borings HA-2 (Space Commerce Way) and HA-16 (Phillips Parkway). These results indicate that the subsurface environment is slightly aggressive for use in selection of an appropriate class of concrete and steel for substructure components in accordance with Florida Department of Transportation (FDOT) Standards. The environmental classifications are based on the Structures Design Guidelines. The corrosion series test results are summarized on **Table 2** in the **Appendix**.

5.3 Limerock Bearing Ratio (LBR) Testing:

A total of six (6) LBR samples were obtained adjacent to the existing roadway and submitted to our laboratory for testing. The **LBR Curves** are attached. In order to evaluate the design LBR, Terracon performed the FDOT mean method and the 90% method (**Table 3** and **Plate 1** in the Appendix). The results for the mean method indicate a design LBR value of 51. The results for the 90% method indicate a design LBR value of 57.

Based on the FDOT Flexible Pavement Design Manual, an LBR value of 51 is equivalent to a Resilient Modulus of 14,500 psi and LBR value of 57 is equivalent to a Resilient Modulus of about 15,750 psi.

6.0 EVALUATION AND RECOMMENDATIONS

The following conclusions and recommendations are based on the project characteristics previously described, the data obtained in our field exploration and our experience with similar subsurface conditions and construction types. If final locations or grades are significantly different from those previously described, or if subsurface conditions different from those disclosed by the borings are encountered during construction, we should be notified immediately so that we might review the following recommendations regarding such changes.

6.1 Roadway Embankment

The material from Strata 1, 2, 3, and 4 (A-1-b, A-3, A-2-4) can be classified as Select (S) and can be used as embankment material in accordance with Index 505 (Standard Plan Index 120-001)

Soil Survey Report

Space Florida EDTPF Infrastructure Improvements ■ Cape Canaveral, Florida
January 27, 2020 ■ Terracon Project No. H1175260

of the Florida Department of Transportation (FDOT) Roadway and Traffic Design Standards.

Stratum 3 soils are coquina. Difficult excavation should be anticipated. The contractor should be prepared to use specialized methods and equipment as needed to excavate cemented soils throughout the project area.

The material from Stratum 4 (A-2-4) may retain excess moisture and may be difficult to dry and compact.

Strata 5 and 7 are plastic and Stratum 6 is muck. Use of these soils is not recommended for embankment fill. If plastic and/or organic material is encountered along the project alignment during construction, at locations that were not indicated in this report or where soil borings were not performed, these materials should be removed in accordance with Design Standard Index 500 and Index 505 (Standard Plan Index 120-002 and Index 120-001).

A minimum separation of 1 foot between the estimated seasonal high groundwater level and the bottom of the pavement base is recommended.

Roadway cross sections were not reviewed prior to submittal of this report. We anticipate final grades will match existing grades. Based on this and based on the results of the borings, some of the pavement areas along the subject alignment may not achieve the above separation without roadside underdrains to artificially lower groundwater levels in the roadway area.

Alternatively, black (asphalt) base could be used in lieu of or in conjunction with road side underdrains.

Artesian conditions were not observed in the borings performed during the field exploration. However, a potentiometric elevation near +20 feet may be present at the site. Ground surface elevations are near +5 to +10 feet. Excavations less than 10 feet are not anticipated to encounter artesian conditions.

7.0 REPORT LIMITATIONS

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained

Soil Survey Report

Space Florida EDTPF Infrastructure Improvements ■ Cape Canaveral, Florida
January 27, 2020 ■ Terracon Project No. H1175260

from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made.

Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project, as outlined in this report, are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

The applicability of the report should also be reviewed in the event significant changes occur in the design, nature or location of the proposed roadway alignments. The scope of the exploration was intended to evaluate soil conditions within the influence of the proposed improvements. The recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated.

APPENDIX

INDEX TO APPENDIX
SPACE FLORIDA EDTPF
INFRASTRUCTURE IMPROVEMENTS
Cape Canaveral, Brevard County, Florida
Terracon Project No. H1175260

Item No.	Designation	Description
1	Table 1	Summary of Laboratory Testing Results
2	Table 2	Corrosion Series Testing Results
3	Table 3	LBR Testing Results
4	Plate 1	LBR 90% Method
5	LBR Curves	LBR Curves
6	Exhibit A-1A to A-1E	Topographic Vicinity Maps
7	Exhibit A-2A to A-2E	Soils Maps
8	Exhibit A-3	Roadway Soil Survey
9	Exhibit A-4	Report of Auger Borings for Roadway

TABLES

TABLE 1
SUMMARY OF LABORATORY TESTING RESULTS
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA
TERRACON PROJECT NO. H1175260

Stratum Number	Boring Number	Station	Offset (feet)	Approximate Sample Depth (feet)	Passing Sieve Number (%)					Moisture Content (%)	Organic Content (%)	Atterberg Limits		Measured Permeability Rate (ft/day)	AASHTO Soil Classification
					10	40	60	100	200			LL	PI		
1	HA-5	1189+05	20 RT	0	93	79	50	20	10	3	--	--	--	--	A-3
1	HA-6	1513+20	15 RT	0	86	76	73	47	8	7	--	--	--	--	A-3
1	HA-7	1578+00	25 RT	0	93	79	75	56	10	5	--	--	--	--	A-3
1	HA-7	1578+00	25 RT	5.5	86	56	53	43	5	20	--	--	--	--	A-3
1	HA-10	1595+55	20 RT	2	82	35	31	22	3	10	--	--	--	--	A-1-b
1	HA-16	2074+70	80 RT	0	96	69	29	6	2	1	--	--	--	--	A-3
1	HA-18	3030+07	61 LT	0	89	55	38	17	3	3	--	--	--	--	A-3
2	HA-2	1094+15	15 LT	0	97	91	85	44	10	4	--	--	--	--	A-3
2	HA-5	1189+05	20 RT	7.5	100	99	76	6	4	30	--	--	--	--	A-3
2	HA-11	1612+95	15 RT	3.0	99	93	92	77	4	28	--	--	--	--	A-3
2	HA-15	3356+82	46 RT	2	--	--	--	--	1	5	--	--	--	27	A-3
3	HA-6	1513+20	15 RT	6.0	74	64	62	45	4	23	--	--	--	--	A-3
3	HA-17	2075+40	13 RT	4	96	72	26	5	3	28	--	--	--	--	A-3
3	HA-18	3030+07	61 LT	5.5	88	47	26	10	3	20	--	--	--	--	A-1-b
4	HA-3	1092+35	15 LT	3	98	97	95	60	14	16	--	--	--	--	A-2-4
4	HA-9	1586+95	15 RT	4	99	92	90	74	20	27	--	NP	NP	--	A-2-4
5	HA-3	1092+35	15 LT	4.5	100	98	97	69	29	20	--	30	10	--	A-2-6
6	HA-4	1187+45	15 RT	5.0	--	--	--	--	--	88	22	--	--	--	A-8
7	HA-8	1579+10	10 LT	4.0	98	94	93	82	37	38	--	NP	NP	--	A-4

TABLE 2
CORROSION SERIES TESTING RESULTS
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

TERRACON PROJECT NO. H1175260

Stratum No.	Boring Number	Depth Range (feet-feet)	pH	Chlorides (ppm)	Sulfates (ppm)	Resistivity (ohm/cm)	Substructure Environmental Classification	
							Concrete	Steel
1	HA-2	6	8.4	<5	<5	8,200	Slightly Aggressive	Slightly Aggressive
1	HA-16	2	8.2	<5	<5	28,000	Slightly Aggressive	Slightly Aggressive

TABLE 3
LIMEROCK BEARING RATIO (LBR) TESTING RESULTS
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA
TERRACON PROJECT NO. H1175260

Stratum Number	Boring Number	Station	Offset (feet)	Sample Depth (feet)	AASHTO Classification	Maximum LBR Value	-2% of Optimum	+2% of Optimum	Number of Values Equal to or Greater Than	% of Values Equal to or Greater Than
1	HA-18	3030+07	61 LT	0	A-3	83	75	72	1	17
1	HA-6	1513+20	15 RT	0	A-3	73	65	25	2	33
1	HA-7	1578+00	25 RT	0	A-3	64	52	58	3	50
1	HA-16	2074+70	80 RT	0	A-3	60	37	30	4	67
2	HA-2	1094+15	15 LT	0	A-3	59	58	48	5	83
1	HA-5	1189+05	20 RT	0	A-3	54	45	47	6	100

Sub-Average

55.3 46.7

Average

51.0

LBR Design

Mean Value

51

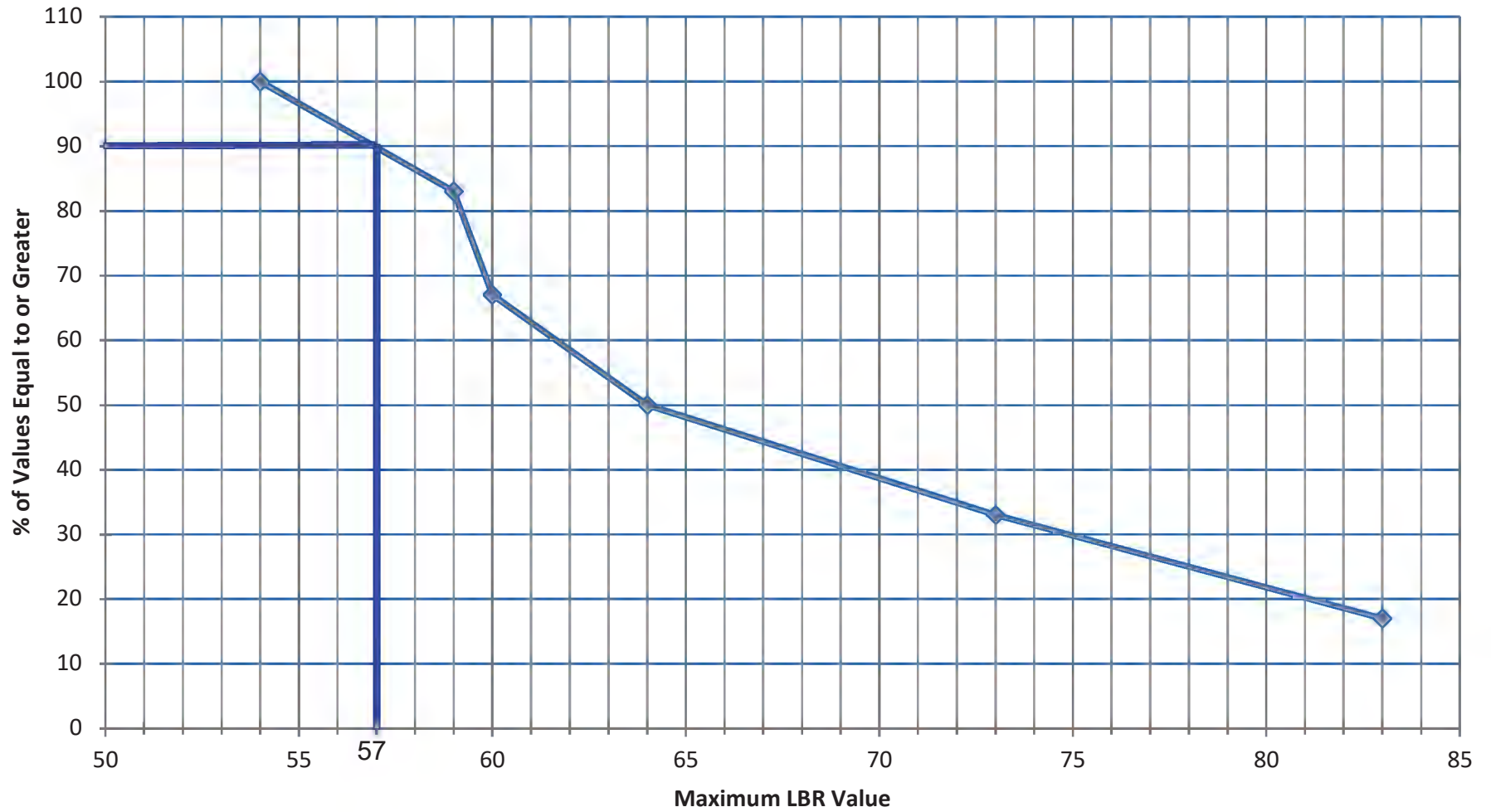
LBR Design

90% Value

57

PLATE 1

Plate 1
Limerock Bearing Ratio (LBR) - 90% Method
SPACE FLORIDA EDTPF
Cape Canaveral, Brevard County, Florida
Terracon Project No. H1175260



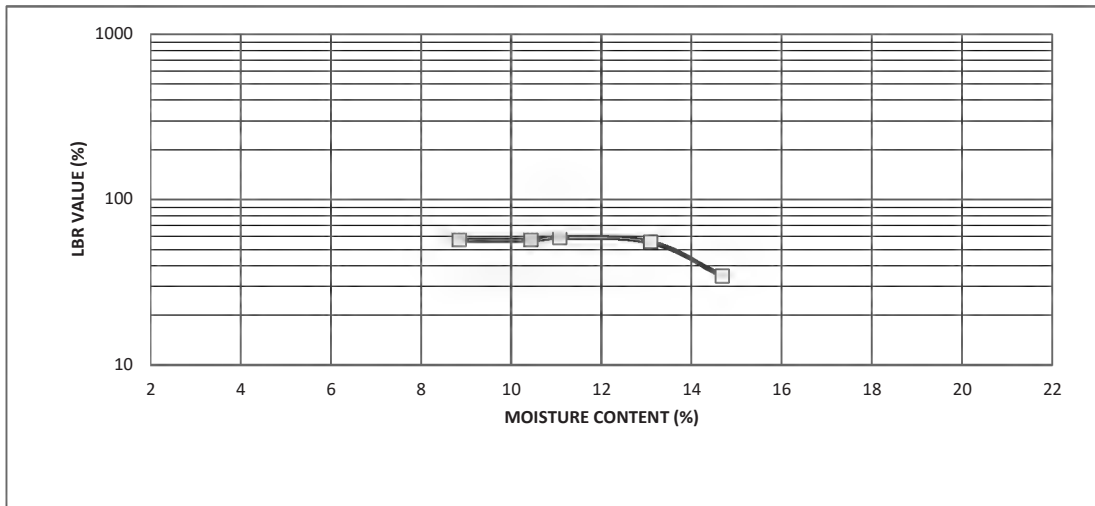
LBR CURVES

LIMEROCK BEARING RATIO TEST RESULTS (FM5-515)

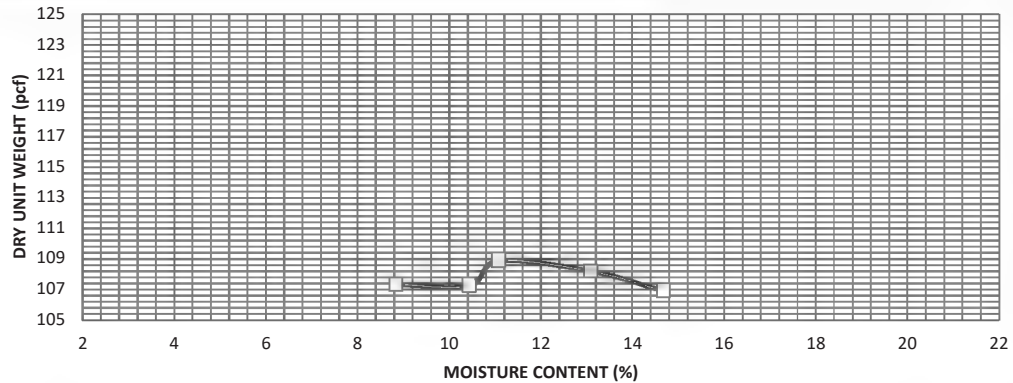
LAB ID: L-12843
 SAMPLE NO.: N/A
 TESTED BY: R. Proietto
 DATE TESTED: December 19, 2019

PROJECT: CCAFS Roadway
 PROJECT NO: H1175260
 %<#4: 90.3%
 WASH 200: 9.2%

SAMPLE LOCATION: HA-2
 SOIL DESCRIPTION: Light Brown Fine Sand with Silt and Rock



PROJECT LBR REQUIREMENT: **N/A** LBR VALUE: **59**



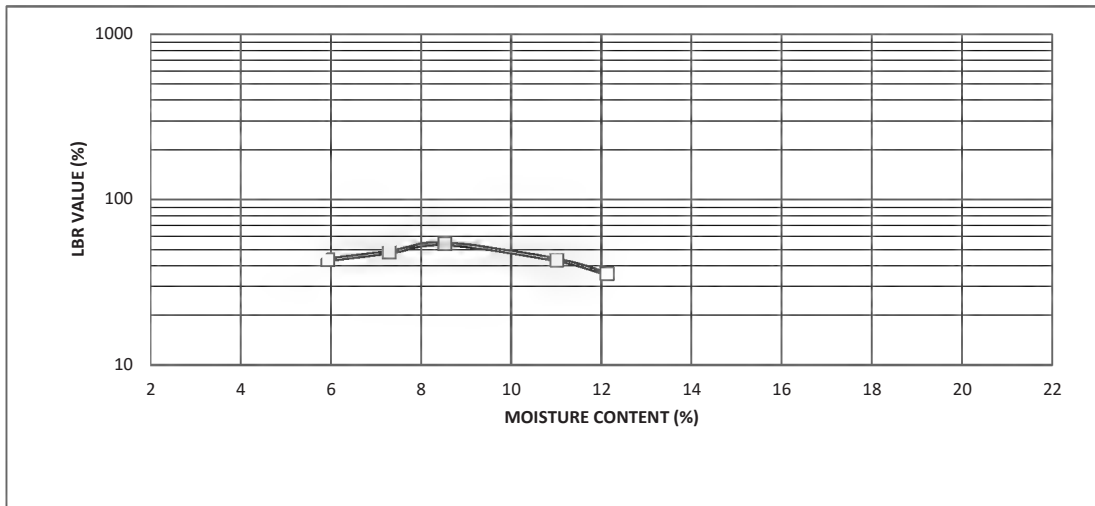
OPT MOISTURE: **11.1** MAX DENSITY: **108.9**

LIMEROCK BEARING RATIO TEST RESULTS (FM5-515)

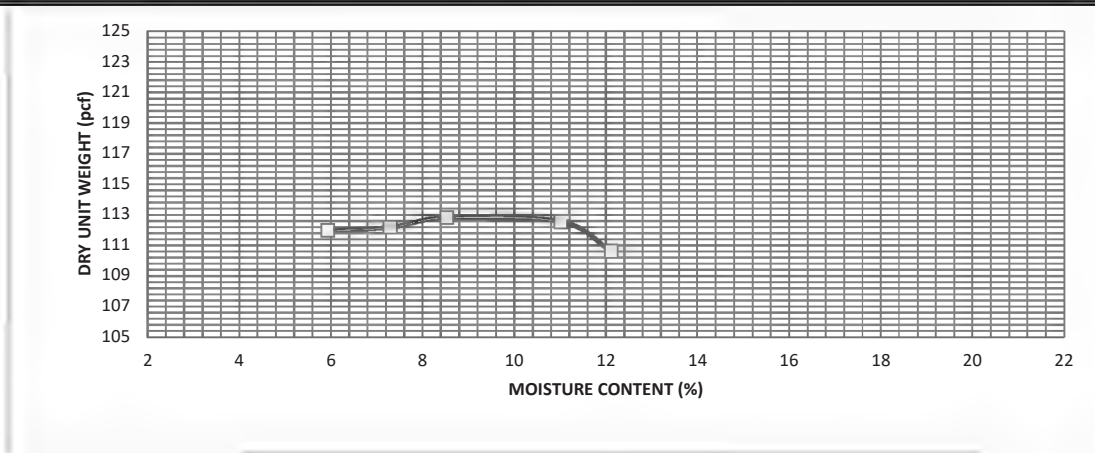
LAB ID: L-12842
 SAMPLE NO.: N/A
 TESTED BY: R. Proietto
 DATE TESTED: December 19, 2019

PROJECT: CCAFS Roadway
 PROJECT NO: H1175260
 %<#4: 86.4%
 WASH 200: 9.0%

SAMPLE LOCATION: HA-5
 SOIL DESCRIPTION: Dark Brown Fine Sand with Silt and Rock



PROJECT LBR REQUIREMENT: **N/A** LBR VALUE: **54**



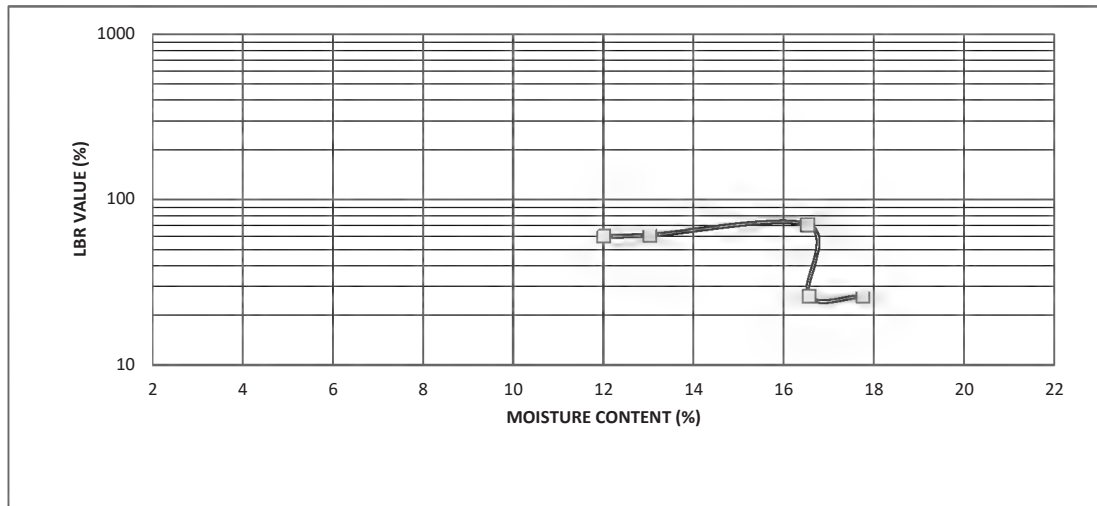
OPT MOISTURE: **9.5** MAX DENSITY: **112.8**

**LIMEROCK BEARING RATIO TEST RESULTS
(FM5-515)**

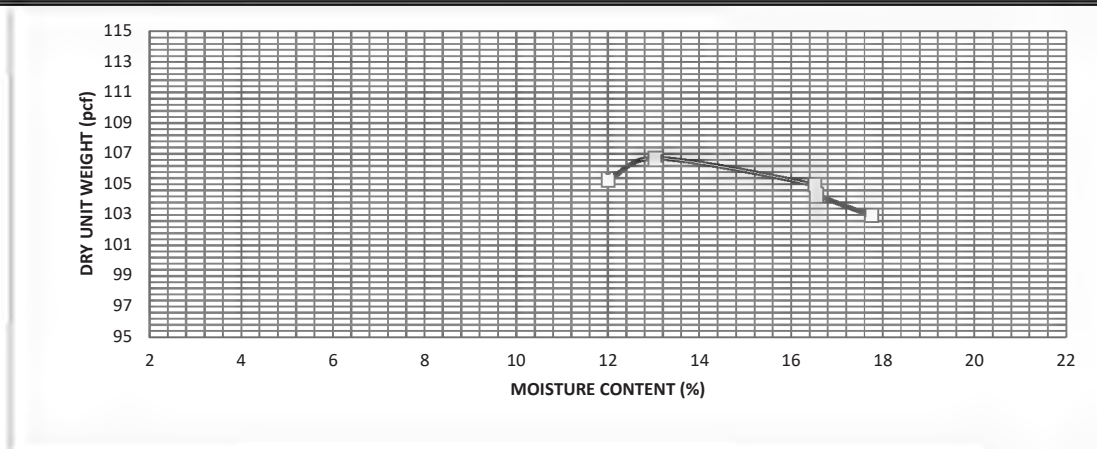
LAB ID: L-12844
SAMPLE NO.: N/A
TESTED BY: R. Proietto
DATE TESTED: December 19, 2019

PROJECT: CCAFS Roadway
PROJECT NO: H1175260
%<#4: 89.7%
WASH 200: 7.1%

SAMPLE LOCATION: HA-6
SOIL DESCRIPTION: Light Brown Fine Sand with Silt and Rock



PROJECT LBR REQUIREMENT: **N/A** LBR VALUE: **73**



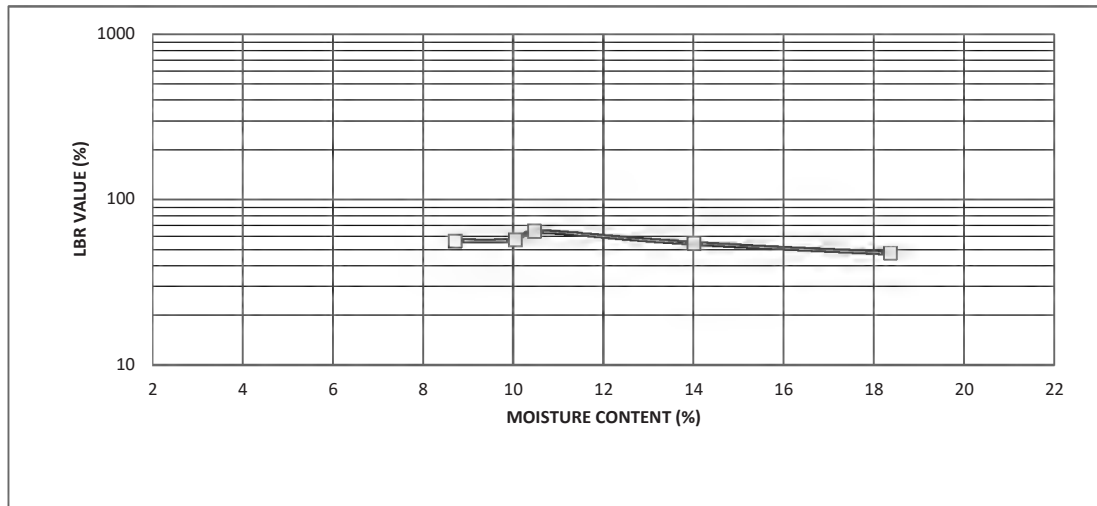
OPT MOISTURE: **13.0** MAX DENSITY: **106.7**

**LIMEROCK BEARING RATIO TEST RESULTS
(FM5-515)**

LAB ID: L-12845
SAMPLE NO.: N/A
TESTED BY: R. Proietto
DATE TESTED: December 19, 2019

PROJECT: CCAFS Roadway
PROJECT NO: H1175260
%#4: 94.1%
WASH 200: 8.5%

SAMPLE LOCATION: HA-7
SOIL DESCRIPTION: Light Brown Fine Sand with Silt and Rock

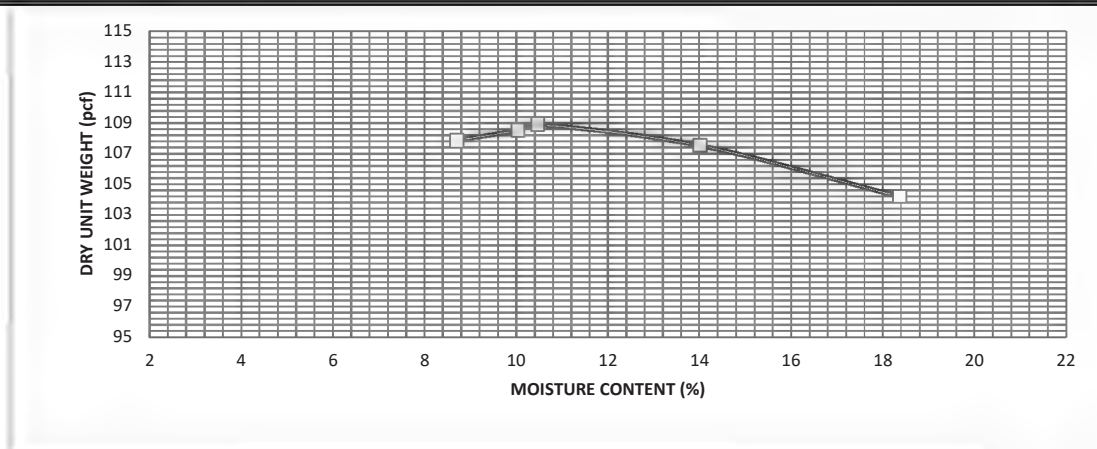


PROJECT LBR REQUIREMENT:

N/A

LBR VALUE:

64



OPT MOISTURE: 10.5

MAX DENSITY:

108.9

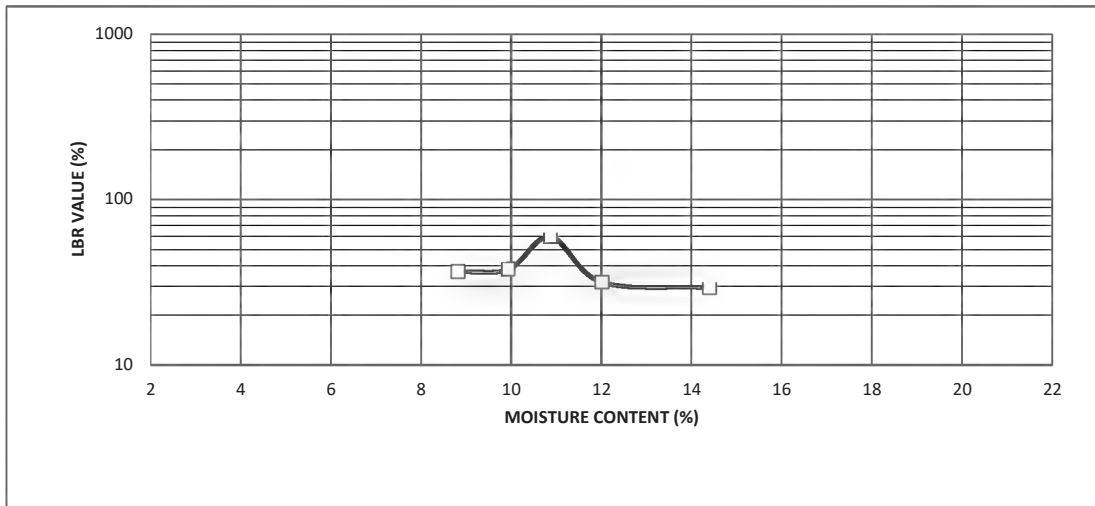
**LIMEROCK BEARING RATIO TEST RESULTS
(FM5-515)**

LAB ID: L-12846
SAMPLE NO.: N/A
TESTED BY: R. Proietto
DATE TESTED: December 19, 2019

PROJECT: CCAFS Roadway
PROJECT NO: H1175260
%<#4: 96.0%
WASH 200: 1.9%

SAMPLE LOCATION: HA-16

SOIL DESCRIPTION: Tan Fine Sand with Trace Rock

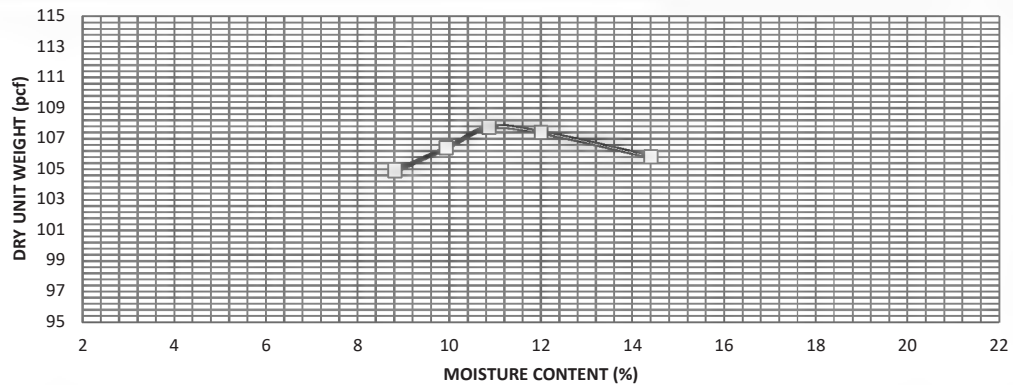


PROJECT LBR REQUIREMENT:

N/A

LBR VALUE:

60



OPT MOISTURE: 11.1

MAX DENSITY:

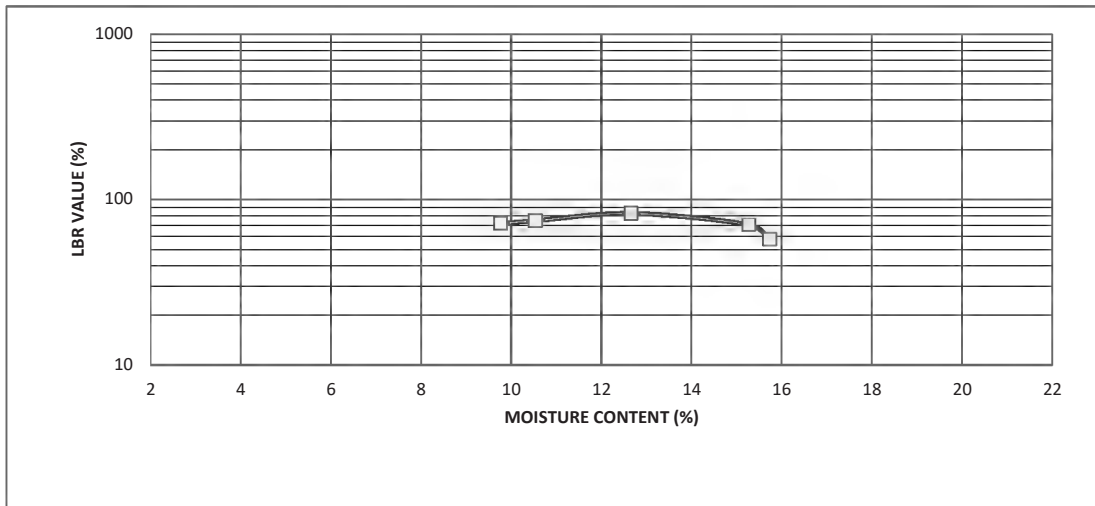
107.8

LIMEROCK BEARING RATIO TEST RESULTS (FM5-515)

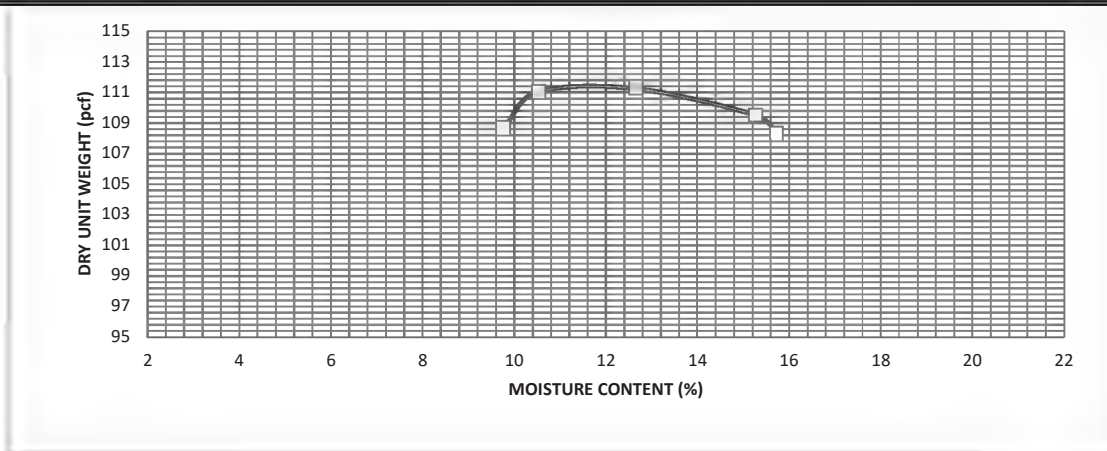
LAB ID: L-12847
 SAMPLE NO.: N/A
 TESTED BY: R. Proietto
 DATE TESTED: December 19, 2019

PROJECT: CCAFS Roadway
 PROJECT NO: H1175260
 %<#4: 95.7%
 WASH 200: 2.2%

SAMPLE LOCATION: HA-18
 SOIL DESCRIPTION: Tan Fine Sand with Trace Shell

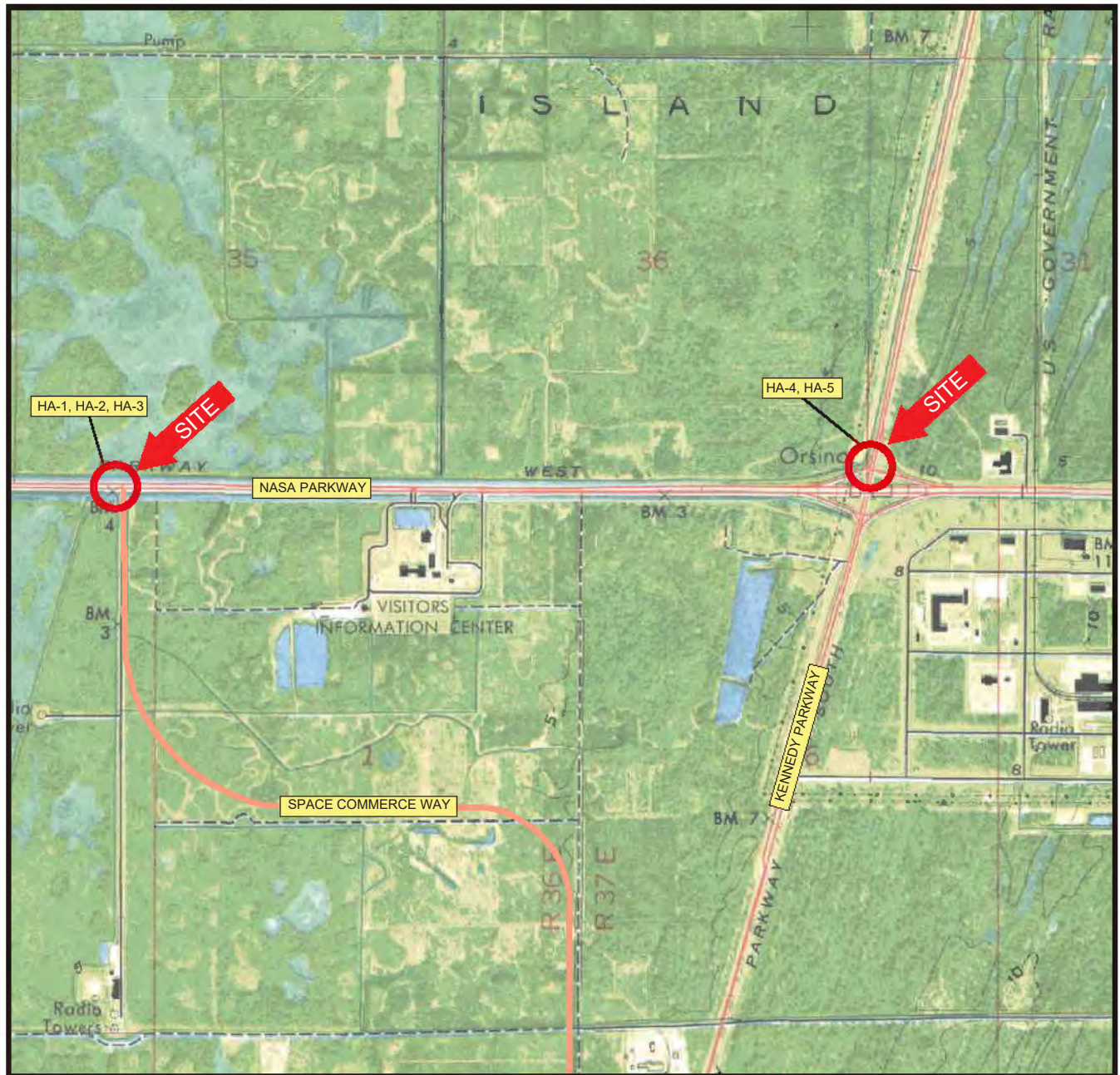


PROJECT LBR REQUIREMENT: **N/A** LBR VALUE: **83**



OPT MOISTURE: **11.8** MAX DENSITY: **111.5**

EXHIBITS



SCALE 1"=2000'



ORSINO, FLORIDA
ISSUED: 1976
7.5 MINUTE SERIES (QUADRANGLE)



I:\Projects\2017\H1175260\PROJECT DOCUMENTS (Reports-Letters-Drafts to Clients)\Cash Quads\H1175260-Roadway-Exhibit-A-1A.dwg

Project Mngn:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

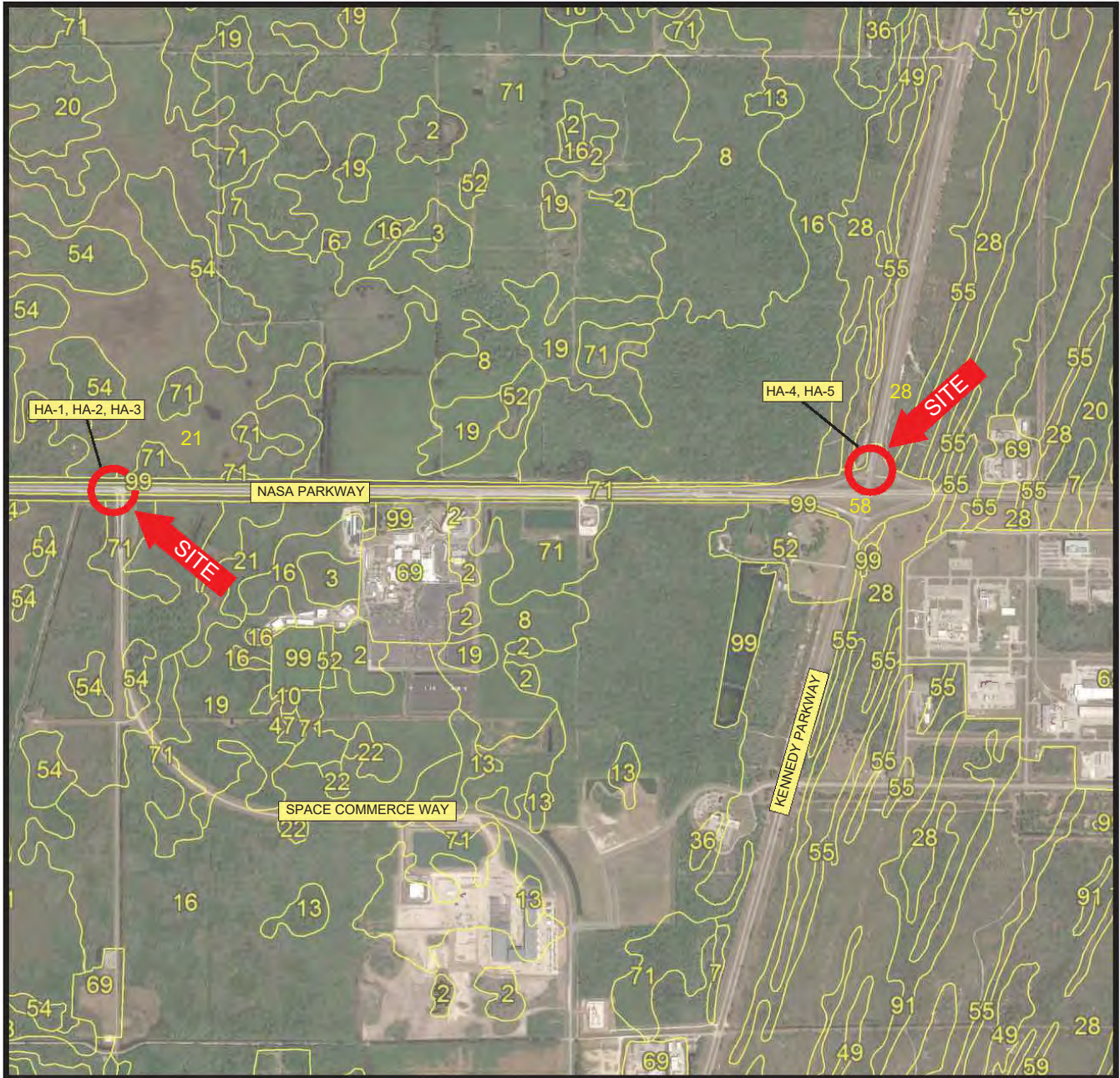
Terracon
Consulting Engineers and Scientists

1675 LEE ROAD WINTER PARK, FLORIDA 32789
PH: (407) 740-6110 FAX: (407) 740-6112

TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-1A

K:\Projects\2017\H1175260\PROJECT DOCUMENTS (Reports-Letters-Drawings to Clients)\Cadd\Soils\H1175260-Roadway-Exhibit-A-2A.dwg



SCALE 1"=2000'



U.S.D.A. SOIL SURVEY FOR BREVARD COUNTY, FLORIDA

SOIL LEGEND

2	ANCLOTE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES	58	TURNBULL AND RIOMAR SOILS, TIDAL
16	COPELAND-BRADENTON-WABASSO COMPLEX, LIMESTONE SUBSTRATUM	71	WABASSO SAND, 0 TO 2 PERCENT SLOPES
21	RIVIERA AND WINDER SOILS, DEPRESSIONAL	99	WATER
28	IMMOKALEE SAND, 0 TO 2 PERCENT SLOPES		



Project Mngnr:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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SOILS MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-2A



SCALE 1"=2000'



ORSINO, FLORIDA | FALSE CAPE, FLORIDA
ISSUED: 1976 | ISSUED: 1984
7.5 MINUTE SERIES (QUADRANGLE)



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Project Mngn:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-1B

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SCALE 1"=2000'



U.S.D.A. SOIL SURVEY FOR BREVARD COUNTY, FLORIDA

SOIL LEGEND

- 11 CANOVA MUCKY PEAT, UNDRAINED
- 69 URBAN LAND, 0 TO 2 PERCENT SLOPES



Project Mng:	SM	Project No.	H1175260
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Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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SOILS MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-2B



SCALE 1"=2000'



FALSE CAPE, FLORIDA
ISSUED: 1984
7.5 MINUTE SERIES (QUADRANGLE)



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Project Mng:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-1C

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SCALE 1" = 2000'



U.S.D.A. SOIL SURVEY FOR BREVARD COUNTY, FLORIDA

SOIL LEGEND

- 10 CANAVERAL-URBAN LAND COMPLEX
- 49 POMELLO SAND, 0 TO 5 PERCENT SLOPES

SOILS MAP

GEOTECHNICAL ENGINEERING REPORT SPACE FLORIDA

ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT

A-2C

Project Mngr:	SM	Project No.	H1175260
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Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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SCALE 1"=2000'



CAPE CANAVERAL, FLORIDA
ISSUED: 1976
7.5 MINUTE SERIES (QUADRANGLE)



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Project Mngr:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-1D



SCALE 1" = 2000'



U.S.D.A. SOIL SURVEY FOR BREVARD COUNTY, FLORIDA

SOIL LEGEND

69 URBAN LAND, 0 TO 2 PERCENT SLOPES

K:\Projects\2017\H1175260\PROJECT DOCUMENTS (Reports-Letters-Drafts to Clients)\Coastal\Soils\H1175260-Roadway-Exhibit-A-2D.dwg

Project Mngn:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

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SOILS MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-2D



SCALE 1"=2000'



CAPE CANAVERAL, FLORIDA
ISSUED: 1976
7.5 MINUTE SERIES (QUADRANGLE)



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Project Mngnr:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

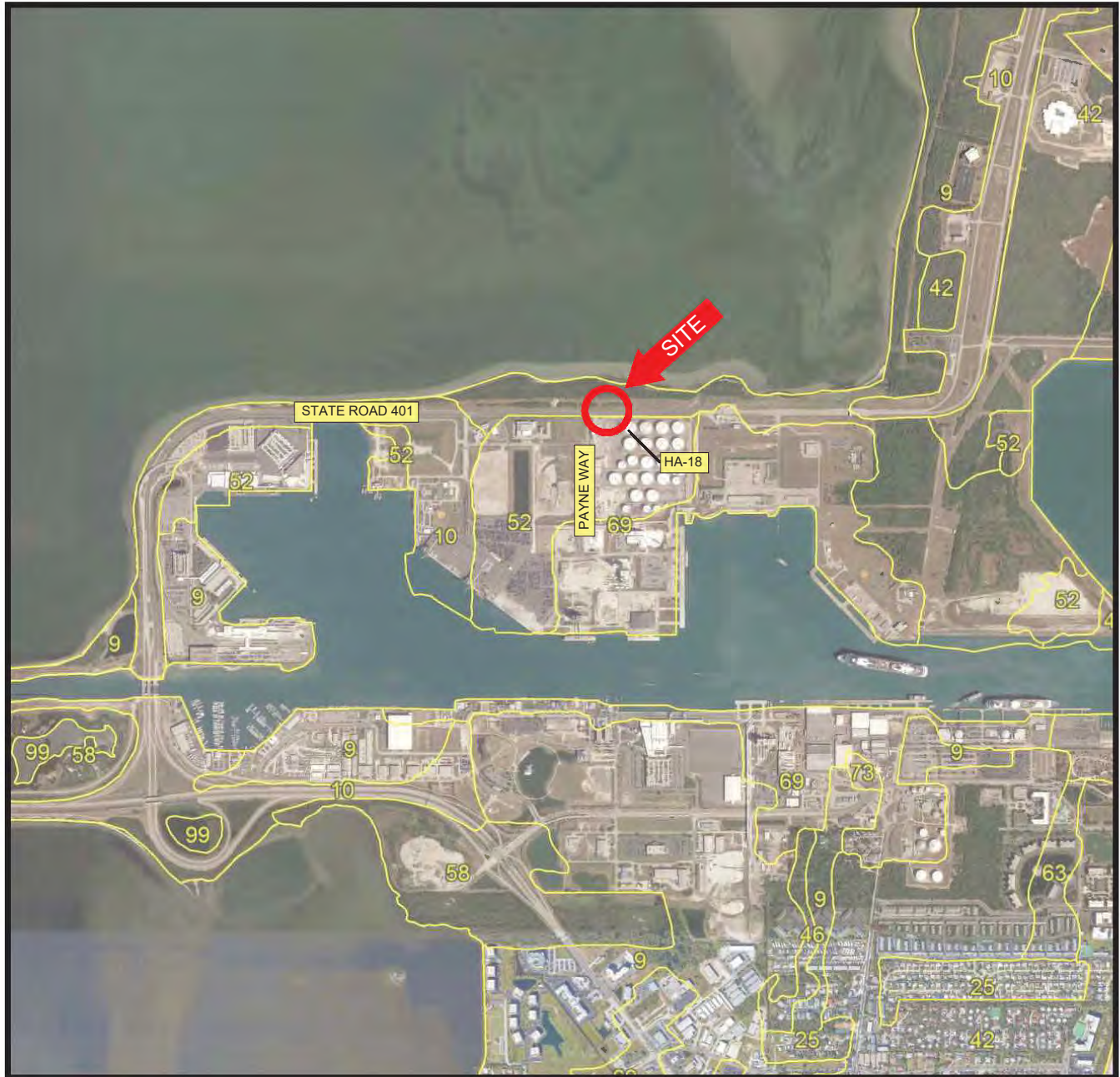
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TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-1E

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SCALE 1" = 2000'



U.S.D.A. SOIL SURVEY FOR BREVARD COUNTY, FLORIDA

SOIL LEGEND

9 CANAVERAL-ANCLOTE COMPLEX, GENTLY UNDULATING

Project Mngnr:	SM	Project No.	H1175260
Drawn By:	AS	Scale:	AS SHOWN
Checked By:	SM	File No.	H1175260
Approved By:	JWC	Date:	1-27-20

Terracon
Consulting Engineers and Scientists

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SOILS MAP
GEOTECHNICAL ENGINEERING REPORT
SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA

EXHIBIT
A-2E

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MATERIALS AND RESEARCH

DATE OF SURVEY: JANUARY 2020
SURVEY MADE BY: TERRACON CONSULTANTS, INC.
SUBMITTED BY: SHENNA L. MCMASTER, P.E.

FINANCIAL PROJECT NO.: 439053-01

DISTRICT: SPACE FLORIDA
ROAD NO.: EDTPF
COUNTY: BREVARD

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

SURVEY BEGINS STA.: - SURVEY ENDS STA.: -

REFERENCE: -

STRATUM NO.	ORGANIC CONTENT		MOISTURE CONTENT		NO. OF TESTS	SIEVE ANALYSIS RESULTS % PASS					NO. OF TESTS	ATTERBERG LIMITS (%)			MATERIAL DESCRIPTION	CORROSION TEST RESULTS				
	NO. OF TESTS	% ORGANIC	NO. OF TESTS	MOISTURE CONTENT		10 MESH	40 MESH	60 MESH	100 MESH	200 MESH		LIQUID LIMIT	PLASTIC INDEX	AASHTO GROUP		NO. OF TESTS	RESISTIVITY ohm-cm	CHLORIDES ppm	SULFATES ppm	pH
1	-	-	7	1-20	7	82-96	35-79	31-75	6-56	1-10	-	-	-	A-1-b A-3	BROWN, GRAY-BROWN, LIGHT BROWN, DARK BROWN SAND, TRACE SILT, TRACE TO SOME SHELL	2	8200-28000	<5	<5	8.2-8.4
2	-	-	3	4-30	3	97-100	91-99	76-92	6-77	4-10	-	-	-	A-3	DARK GRAY, GRAY-BROWN, LIGHT BROWN, ORANGE-BROWN SAND, TRACE SILT, OCCASIONAL TRACE GRAVEL AT SURFACE	-	-	-	-	-
3	-	-	3	20-28	3	74-96	47-72	26-62	5-45	3-4	-	-	-	A-1-b A-3	GRAY-BROWN SAND, TRACE SILT WITH CEMENTED SAND AND SHELL (COQUINA)	-	-	-	-	-
4	-	-	2	16-27	3	98-99	92-97	90-95	60-74	14-20	-	-	-	A-2-4	GRAY-BROWN, DARK BROWN SILTY SAND	-	-	-	-	-
5	-	-	1	20	1	100	98	97	69	29	1	30	10	A-2-6	LIGHT GRAY CLAYEY SAND	-	-	-	-	-
6	1	22	-	-	-	-	-	-	-	-	-	-	-	A-8	DARK BROWN ORGANIC SILTY SAND	-	-	-	-	-
7	-	-	1	38	1	98	94	93	82	37	-	-	-	A-4	GRAY SANDY SILT, TRACE CLAY AND SHELL	-	-	-	-	-

EMBANKMENT AND SUBGRADE MATERIAL

STRATA BOUNDARIES ARE APPROXIMATE MAKE FINAL CHECK AFTER GRADING

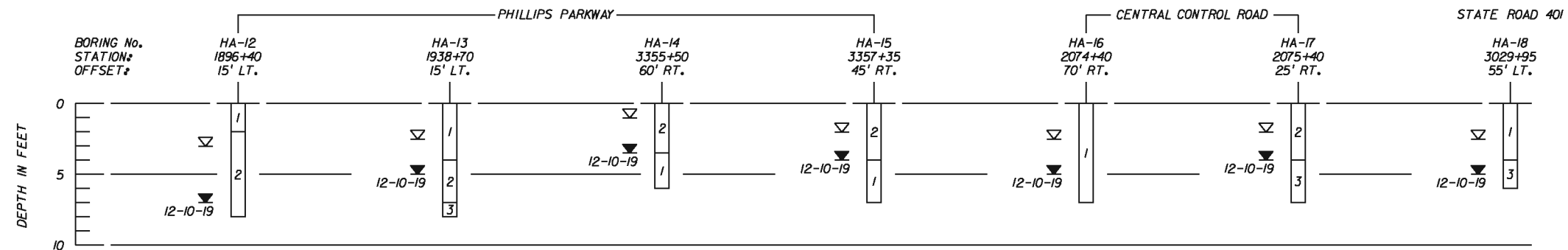
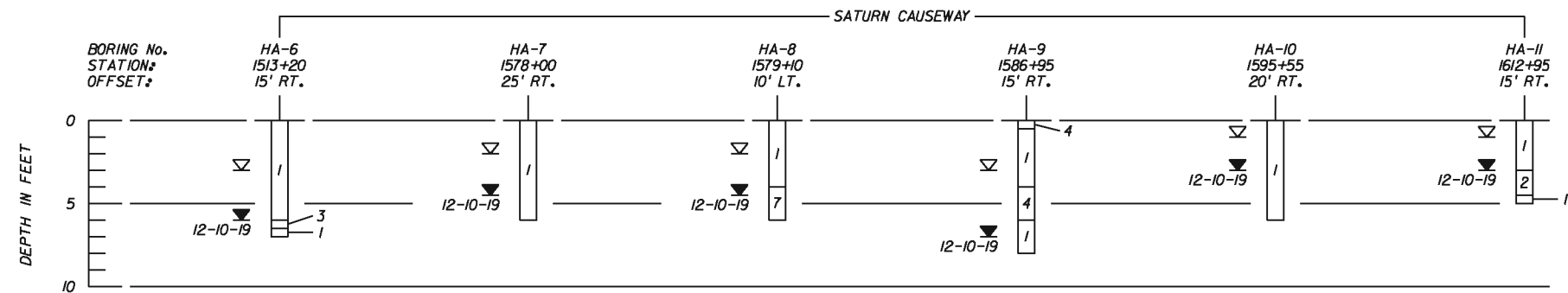
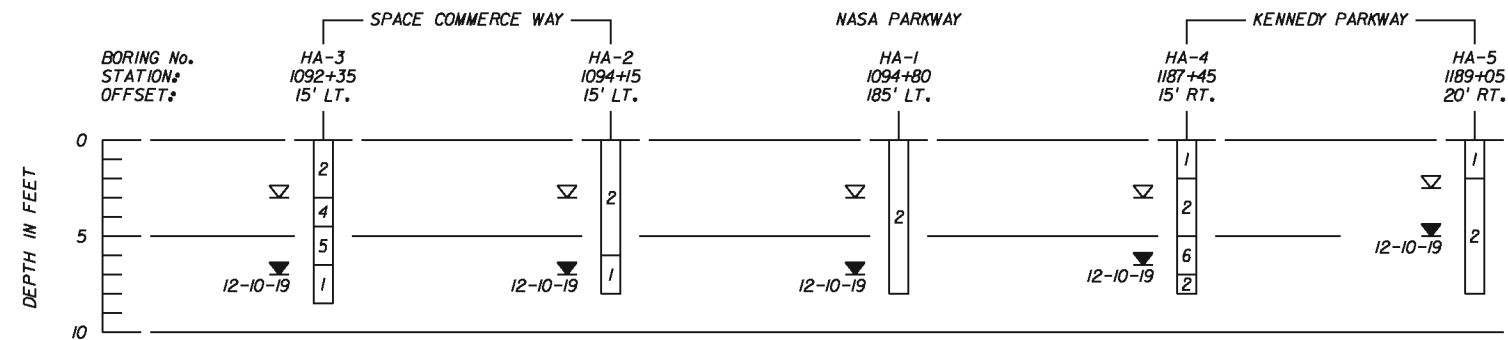
☒ = WATER TABLE ENCOUNTERED

☒ = SEASONAL HIGH WATER TABLE

NOTES:

- SOIL BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY.
- SOIL ANALYSIS INCLUDES DATA FROM ROADWAY AND STORMWATER RETENTION AREAS ONLY.
- THE SYMBOL "-" REPRESENTS AN UNMEASURED PARAMETER.
- THE MATERIAL FROM STRATA NUMBER 2 AND 3 IS SELECT MATERIAL AND APPEARS SATISFACTORY FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH STANDARD PLANS INDEX 120-001.
- STRATUM NUMBER 3 IS COQUINA. SPECIAL TOOLS AND EQUIPMENT MAY BE REQUIRED TO EXCAVATE AND/OR DEWATER THIS MATERIAL.
- THE MATERIAL FROM STRATUM NUMBER 4 IS SELECT MATERIAL AND APPEARS SATISFACTORY FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH STANDARD PLANS INDEX 120-001. HOWEVER, THIS MATERIAL IS LIKELY TO RETAIN EXCESS MOISTURE AND BE DIFFICULT TO DRY AND COMPACT. IT SHOULD BE USED IN THE EMBANKMENT ABOVE THE WATER LEVEL EXISTING AT THE TIME OF CONSTRUCTION.
- THE MATERIAL FROM STRATA NUMBER 5 AND 7 IS PLASTIC MATERIAL AND SHALL BE REMOVED IN ACCORDANCE WITH STANDARD PLANS INDEX 120-002. IT MAY BE PLACED ABOVE THE EXISTING WATER LEVEL (AT THE TIME OF CONSTRUCTION) TO WITHIN 4 FEET OF THE PROPOSED BASE. IT SHOULD BE PLACED UNIFORMLY IN THE LOWER PORTION OF THE EMBANKMENT FOR SOME DISTANCE ALONG THE PROJECT RATHER THAN FULL DEPTH FOR SHORTER DISTANCES.
- THE MATERIAL FROM STRATUM NUMBER 6 IS MUCK AND SHOULD NOT BE USED AS EMBANKMENT SOIL. STRATUM NUMBER 6 SHOULD BE REMOVED IN ACCORDANCE WITH STANDARD PLAN INDEX 120-002.

REVISIONS						SHENNA L. MCMASTER, P.E. P.E. LICENSE NUMBER 57537 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789 CERTIFICATE OF AUTHORIZATION No. 8830	DRAWN BY: AS 1-27-20	SPACE FLORIDA EDTPF			SHEET TITLE: ROADWAY SOIL SURVEY		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY: SM 1-27-20						
							DESIGNED BY:	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:		SHEET NO.
							CHECKED BY:		BREVARD	439053-1-54-01	SPACE FLORIDA-ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)-INFRASTRUCTURE IMPROVEMENTS		



- LEGEND
- BROWN, GRAY-BROWN, LIGHT BROWN, DARK BROWN SAND, TRACE SILT, TRACE TO SOME SHELL (A-1-b) (A-3)
 - DARK GRAY, GRAY-BROWN, LIGHT BROWN, ORANGE-BROWN SAND, TRACE SILT, OCCASIONAL TRACE GRAVEL AT SURFACE (A-3)
 - GRAY-BROWN SAND, TRACE SILT WITH CEMENTED SAND AND SHELL (COQUINA) (A-1-b) (A-3)
 - GRAY-BROWN, DARK BROWN SILTY SAND (A-2-4)
 - LIGHT GRAY CLAYEY SAND (A-2-6)
 - DARK BROWN ORGANIC SILTY SAND (A-8)
 - GRAY SANDY SILT TRACE CLAY AND SHELL (A-4)
- (A-3) A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
- 12-10-19 OBSERVED GROUNDWATER LEVEL IN FEET WITH DATE OF READING
- ESTIMATED SEASONAL HIGH WATER TABLE

REVISIONS						SHENNA L. McMASTER, P.E. P.E. LICENSE NUMBER 57537 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789 CERTIFICATE OF AUTHORIZATION No. 8830	DRAWN BY: AS 1-27-20 CHECKED BY: SM 1-27-20 DESIGNED BY: CHECKED BY:	SPACE FLORIDA EDTPF			SHEET TITLE: REPORT OF AUGER BORINGS FOR ROADWAY		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:		SHEET NO.
									BREVARD	439053-1-54-01	SPACE FLORIDA-ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF)-INFRASTRUCTURE IMPROVEMENTS		

TERRACON Project No. H1175260

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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



March 11, 2020

AECOM
7650 West Courtney Campbell Causeway
Tampa, Florida 33607

Attn: Mr. Bunti Patel, P.E.

Re: Geotechnical Engineering Report for Stormwater Pond
State Road 401/Payne Way
Cape Canaveral Air Force Station
Cape Canaveral, Brevard County, Florida
Terracon Project No. H1175260A

Dear Mr. Patel:

Terracon Consultants, Inc. (Terracon) is pleased to present this geotechnical engineering report for stormwater pond at the above referenced site. The purpose of this exploration was to perform additional borings to supplement previous exploration performed at the site to provide geotechnical engineering parameters for use in stormwater pond design at the site.

Field Exploration

One (1) manual auger boring to a depth of 7 feet was performed at locations specified by you (P-1) in the proposed stormwater pond area in February of 2020. A manual auger boring to a depth 7 feet (HA-18) was performed for the adjacent pavement widening area in December of 2019.

The boring locations were laid out at the project site by Terracon and AECOM personnel. The locations of the borings are based on using a hand-held GPS device. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them. Stations and offsets, along with ground surface elevations at the boring locations, were provided by AECOM.

The hand auger boring procedure consisted of manually turning a 3-inch diameter, 6-inch long sampler into the soil until it was full. The sampler was then retrieved and the soils in the sampler were visually examined and classified. This procedure was repeated until shallow groundwater levels caused collapse of the boreholes. Samples of representative strata were obtained for further examination and classification in our laboratory. These borings were then backfilled upon completion.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface

Geotechnical Engineering Report for Stormwater Pond

SR 401/Payne Way ■ CCAFS, Florida

March 11, 2020 ■ Terracon Project No.H1175260A

Terracon

conditions between samples. The boring profiles included with this report represent an interpretation of the field logs and include modifications based on laboratory observation of the samples.

General Subsurface Conditions

Soil conditions observed are presented in profile form on the attached **Report of Auger Borings** sheet. Stations and offsets at the boring locations are presented above the profiles. Generally, soil conditions observed consisted of the following:

Stratum No.	Description	AASHTO Classification
1	Brown, gray-brown, light brown, dark brown sand, trace silt, trace to some shell	A-1-b A-3
3	Gray-brown sand, trace silt with cemented sand and shell (Coquina)	A-1-b A-3

Note: Soil Stratum from Space Florida EDTPF roadway project used. Strata 1 and 3 were the only strata found at the subject location.

Generally, soil conditions consisted of mostly Stratum 1 with Stratum 3 observed at depths of 4 feet or more below existing grade.

Groundwater was found at depths of about 3 to 5 feet below existing grade during the field explorations in December of 2019 and February of 2020. Seasonal high groundwater levels are expected to be about 2 feet higher than observed levels. A summary of observed and estimated seasonal high groundwater levels at the boring locations is:

Boring Number	Station	Offset	Approximate Ground Surface Elevation (ft)	Depth to Observed Groundwater Table (ft)	Observed Groundwater Elevation (ft)	Estimated Seasonal High Groundwater Elevation (ft)
P-1	3029+94	92' LT	4.4	3.2	1.2	3.0
HA-18	3030+07	61' LT	6.0	5.0	1.0	3.0

Normal seasonal high groundwater levels are estimated based on review of the USDA Brevard County Soil Survey, rainfall in the months prior to the field exploration, observed groundwater levels, and geotechnical engineering judgement. Groundwater levels will fluctuate with the amount of local rainfall and with site development.

Laboratory Testing

The soil samples retrieved from the boring locations were transported to our laboratory for visual examination and selective soil testing. The results of our laboratory testing are presented on the attached **Table 1** in the **Appendix**. Laboratory testing was performed in general accordance with the appropriate Florida Methods.

Laboratory permeability testing was performed on a remolded bulk soil sample obtained from Boring P-1 at a depth of about 4.5 feet below existing grade. The measured permeability rate was 1 foot per day. We consider the measured rate to be saturated horizontal permeability rate. Unsaturated vertical permeability rates are generally about ½ the saturated horizontal permeability rate. We recommend using a saturated horizontal permeability rate of 1 foot per day and an unsaturated vertical permeability rate of 1/2 foot per day for design considerations, which does not include a factor of safety. The bottom of borings (7 feet below existing grade) should be considered the top of confining layer for the purposes of recovery analysis.

Report Limitations

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made.

Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project, as outlined in this report, are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

Geotechnical Engineering Report for Stormwater Pond

SR 401/Payne Way ■ CCAFS, Florida

March 11, 2020 ■ Terracon Project No.H1175260A



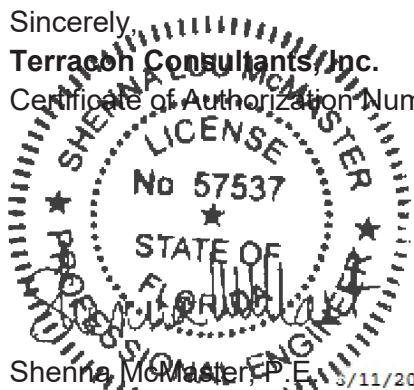
The applicability of the report should also be reviewed in the event significant changes occur in the design, nature or location of the proposed roadway alignments. The scope of the exploration was intended to evaluate soil conditions within the influence of the proposed improvements. The recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated.

Terracon appreciates the opportunity to be of further assistance to you on this project. If you have any questions regarding this supplemental report or if you need anything else, please feel free to contact us.

Sincerely,

Terracon Consultants, Inc.

Certificate of Authorization Number 8830



Shenna McMaster, P.E. 3/11/20
Senior Geotechnical Engineer
FL Reg. No. 57537

A handwritten signature in black ink, appearing to read "J. W. Casper".

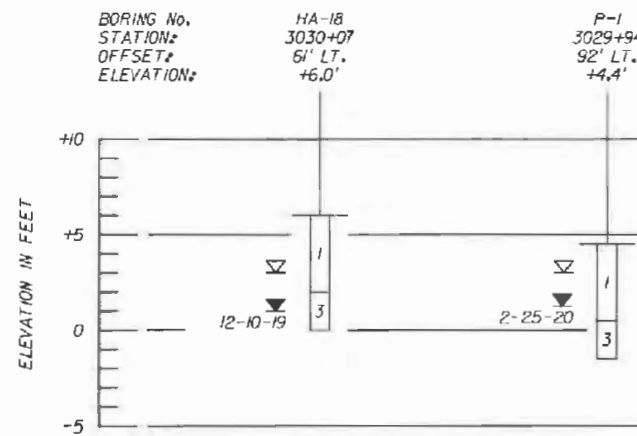
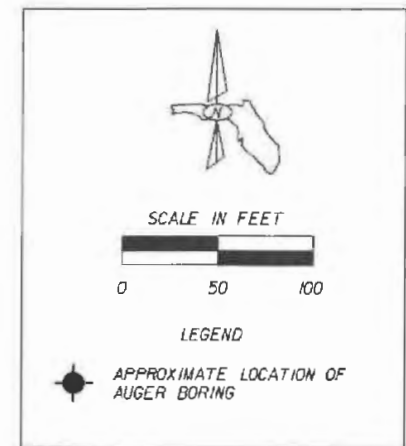
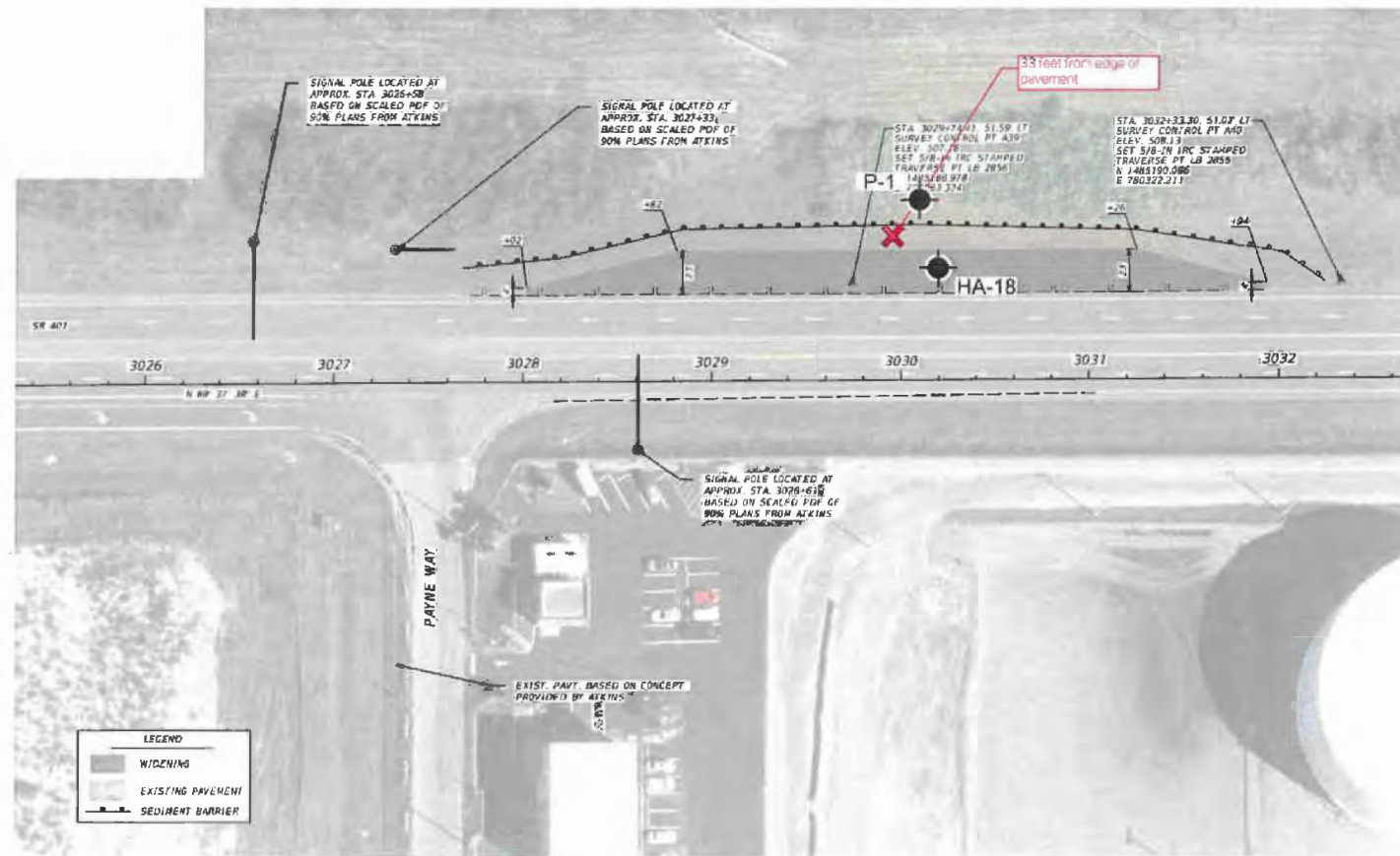
Jay W. Casper, P.E.
Senior Principal

This report has been electronically signed and sealed using a Digital Signature by Shenna McMaster, P.E. 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.

Attachments: Table 1- Laboratory Testing
Report of Auger Borings sheet

TABLE 1
SUMMARY OF LABORATORY TESTING RESULTS
CAPE CANAVERAL AIR FORCE STATION STORMWATER PONDS
SR 401/PAYNE WAY
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA
TERRACON PROJECT NO. H1175260A

Stratum Number	Boring Number	Station	Offset (feet)	Approximate Sample Depth (feet)	Passing Sieve Number (%)					Moisture Content (%)	Measured Permeability Rate (ft/day)	AASHTO Soil Classification
					10	40	60	100	200			
1	HA-18	3030+07	61' LT	0	89	55	38	17	3	3	--	A-3
3	HA-18	3030+07	61' LT	5.5	88	47	26	10	3	20	--	A-1-b
3	P-1	3029+94	92' LT	4.5	88	54	36	18	3	19	1	A-3



- LEGEND
- 1 BROWN, GRAY-BROWN, LIGHT BROWN, DARK BROWN SAND, TRACE SILT, TRACE TO SOME SHELL (A-1-b) (A-3)
 - 3 GRAY-BROWN SAND, TRACE SILT WITH CEMENTED SAND AND SHELL (COQUINA) (A-1-b) (A-3)
 - (A-3) A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
 - 12-10-19 OBSERVED GROUNDWATER LEVEL IN FEET WITH DATE OF READING
 - 2-25-20 ESTIMATED SEASONAL HIGH WATER TABLE

REVISIONS						DRAWN BY: MG 3-5-20 CHECKED BY: SM 3-5-20 DESIGNED BY:	SPACE FLORIDA EDTPE			SHEET TITLE:		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION					PROJECT NAME:	SHEET NO.	
						SHENNA L. McMASTER, P.E. P.E. LICENSE NUMBER 57537 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789 CERTIFICATE OF AUTHORIZATION No. 8830	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	REPORT OF AUGER BORINGS		
								BREVARD		CAPE CANAVERAL AIRFORCE STATION SR 401 / PAYNE WAY		



March 11, 2020

AECOM
7650 West Courtney Campbell Causeway
Tampa, Florida 33607

Attn: Mr. Bunti Patel, P.E.

Re: Geotechnical Engineering Report for Stormwater Pond
Central Control Road/Phillips Parkway near Launch Complex 37
Cape Canaveral Air Force Station
Cape Canaveral, Brevard County, Florida
Terracon Project No. H1175260A

Dear Mr. Patel:

Terracon Consultants, Inc. (Terracon) is pleased to present this geotechnical engineering report for stormwater pond at the above referenced site. The purpose of this exploration was to perform additional borings to supplement previous exploration performed at the site to provide geotechnical engineering parameters for use in stormwater pond design at the site.

Field Exploration

Two (2) manual auger borings to a depth of 7 to 8 feet were performed at locations specified by you (P-2 and P-3) in the proposed stormwater pond area in February of 2020. Four (4) manual auger borings to depths of 5 to 7 feet (HA-14 through HA-17) were performed for the adjacent pavement widening area in December of 2019.

The boring locations were laid out at the project site by AECOM personnel. Stations and offsets, along with ground surface elevations at the boring locations, were provided by AECOM.

The hand auger boring procedure consisted of manually turning a 3-inch diameter, 6-inch long sampler into the soil until it was full. The sampler was then retrieved and the soils in the sampler were visually examined and classified. This procedure was repeated until shallow groundwater levels caused collapse of the boreholes. Samples of representative strata were obtained for further examination and classification in our laboratory. These borings were then backfilled upon completion.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. The boring profiles included with this report represent an interpretation of the field logs and include modifications based on laboratory observation of the samples.

General Subsurface Conditions

Soil conditions observed are presented in profile form on the attached **Report of Auger Borings** sheet. Stations and offsets at the boring locations are presented above the profiles. Generally, soil conditions observed consisted of the following:

Stratum No.	Description	AASHTO Classification
1	Brown, gray-brown, light brown, dark brown sand, trace silt, trace to some shell	A-1-b A-3
2	Dark gray, gray-brown, light brown, orange-brown sand, trace silt, occasional trace gravel at surface	A-3
3	Gray-brown sand, trace silt with cemented sand and shell (Coquina)	A-1-b A-3

Generally, soil conditions consisted of mostly Strata 1 and 2 with Stratum 3 observed in a few of the borings at depths of 4 feet or more below existing grade.

Groundwater was found at depths of about 3.5 to 5 feet below existing grade during the field explorations in December of 2019 and February of 2020. Seasonal high groundwater levels are expected to be about 1 to 2 feet higher than observed levels. A summary of observed and estimated seasonal high groundwater levels at the boring locations is:

Boring Number	Station	Offset	Approximate Ground Surface Elevation (ft)	Depth to Observed Groundwater Table (ft)	Observed Groundwater Elevation (ft)	Estimated Seasonal High Groundwater Elevation (ft)
HA-14	3355+42	51' RT	6.4	3.5	2.9	4.5
HA-15	3356+82	46' RT	7.2	4.0	3.2	5.0
HA-16	2074+70	80' RT	7.3	5.0	2.3	4.5
HA-17	2075+40	13' RT	7.3	4.0	3.3	4.0
P-2	3357+48	87' RT	7.6	5.0	2.6	4.5
P-3	3355+04	161' RT	8.1	4.3	3.8	5.0

Normal seasonal high groundwater levels are estimated based on review of the USDA Brevard County Soil Survey, rainfall in the months prior to the field exploration, observed groundwater levels, and

geotechnical engineering judgement. Groundwater levels will fluctuate with the amount of local rainfall and with site development.

Laboratory Testing

The soil samples retrieved from the boring locations were transported to our laboratory for visual examination and selective soil testing. The results of our laboratory testing are presented on the attached **Table 1** in the **Appendix**. Laboratory testing was performed in general accordance with the appropriate Florida Methods.

Laboratory permeability testing was performed on remolded bulk soil samples obtained from Borings HA-15, P-2, and P-3 at depths about 2 to 4 feet below existing grade. The measured permeability rates were 23 to 33 feet per day. We consider the measured rates to be saturated horizontal permeability rates. Unsaturated vertical permeability rates are generally about ½ the saturated horizontal permeability rate. We recommend using an average saturated horizontal permeability rate of 27 feet per day and an average unsaturated vertical permeability rate of 13 feet per day for design considerations, which does not include a factor of safety. The bottom of borings (7 feet below existing grade) should be considered the top of confining layer for the purposes of recovery analysis.

Report Limitations

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made.

Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project, as outlined in this report, are

Geotechnical Engineering Report for Stormwater Pond

Central Control Road/Phillips Parkway ■ CCAFS, Florida

March 11, 2020 ■ Terracon Project No.H1175260A



planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

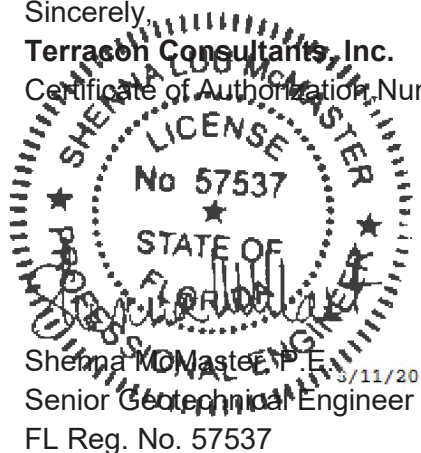
The applicability of the report should also be reviewed in the event significant changes occur in the design, nature or location of the proposed roadway alignments. The scope of the exploration was intended to evaluate soil conditions within the influence of the proposed improvements. The recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated.

Terracon appreciates the opportunity to be of further assistance to you on this project. If you have any questions regarding this supplemental report or if you need anything else, please feel free to contact us.

Sincerely,

Terracon Consultants, Inc.

Certificate of Authorization Number 8830



A handwritten signature in black ink, appearing to read "J. W. Casper".

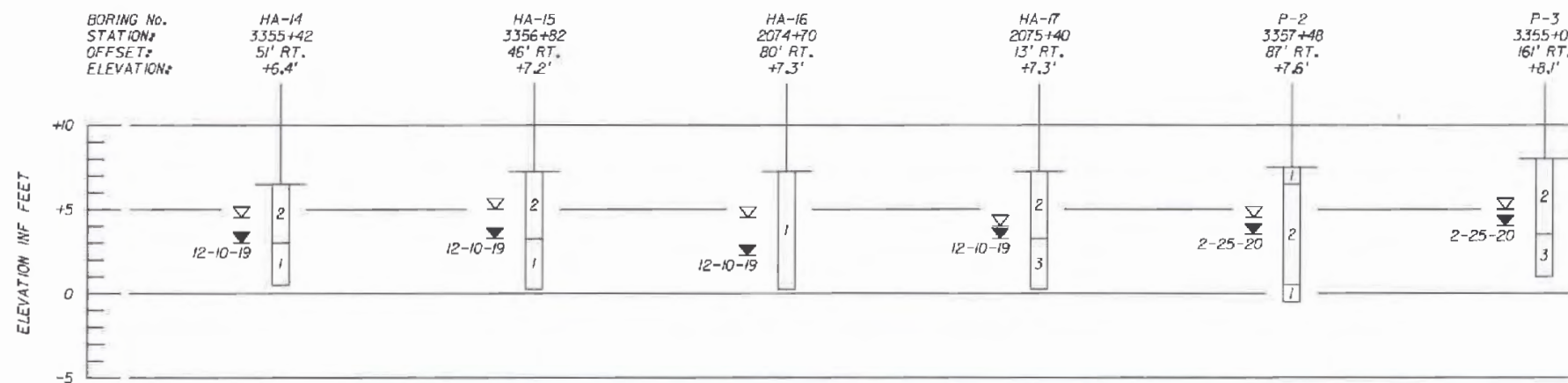
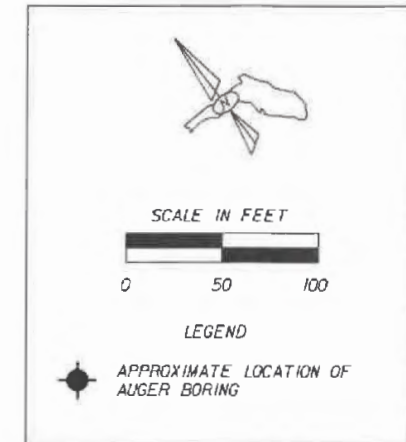
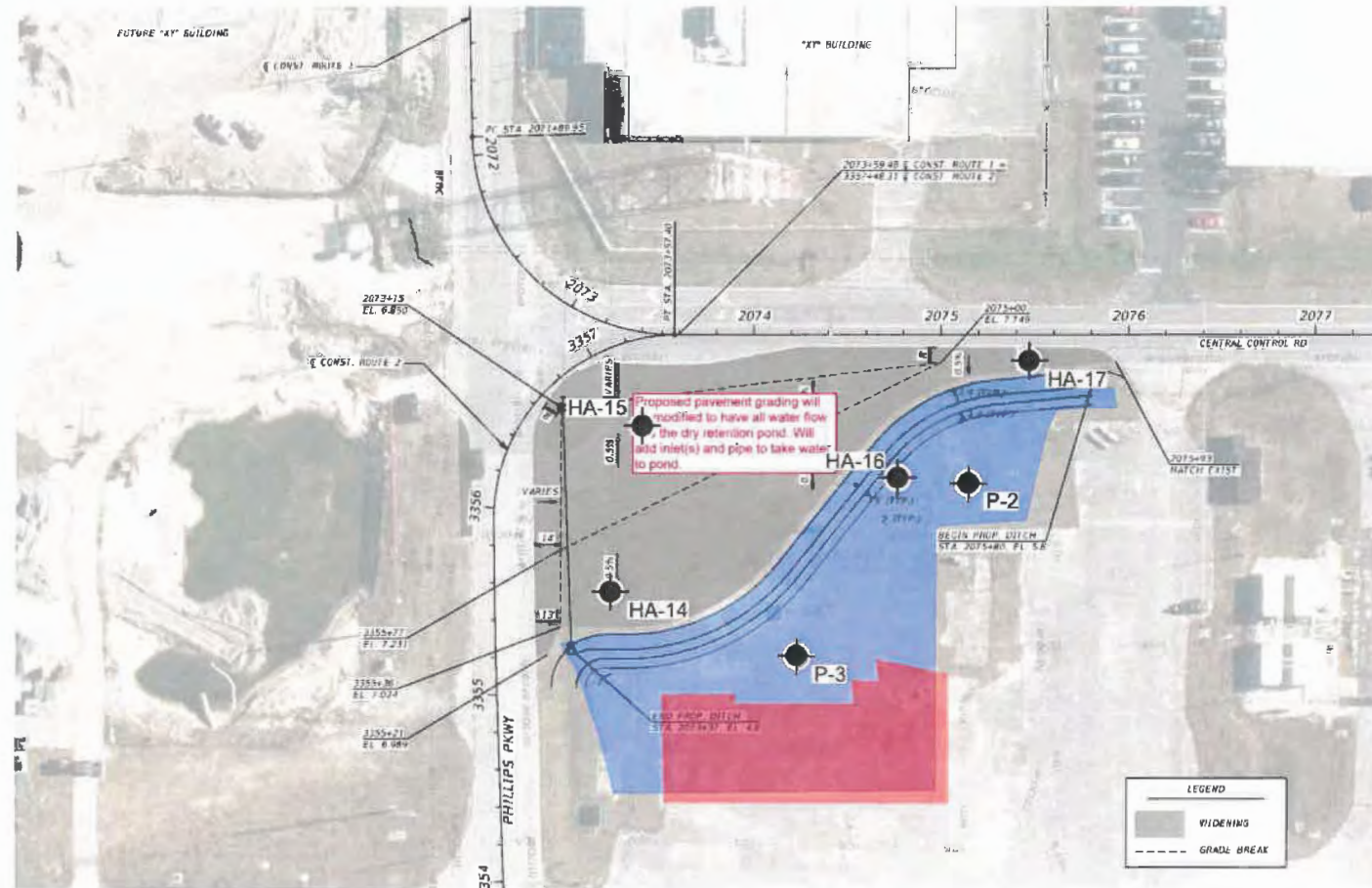
Jay W. Casper, P.E.
Senior Principal

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Attachments: Table 1- Laboratory Testing
Report of Auger Borings sheet

TABLE 1
SUMMARY OF LABORATORY TESTING RESULTS
CAPE CANAVERAL AIR FORCE STATION STORMWATER PONDS
CENTRAL CONTROL ROAD/PHILLIPS PARKWAY NEAR LAUNCH COMPLEX 37
CAPE CANAVERAL, BREVARD COUNTY, FLORIDA
TERRACON PROJECT NO. H1175260A

Stratum Number	Boring Number	Station	Offset (feet)	Approximate Sample Depth (feet)	Passing Sieve Number (%)					Moisture Content (%)	Measured Permeability Rate (ft/day)	AASHTO Soil Classification
					10	40	60	100	200			
1	HA-16	2074+70	80' RT	0	96	69	29	6	2	1	--	A-3
2	P-3	3355+04	161' RT	2.5	88	70	40	19	9	9	23	A-3
2	HA-15	3356+82	46' RT	2	--	--	--	--	1	5	27	A-3
2	P-2	3357+48	87' RT	4	100	83	30	3	1	7	33	A-3
3	HA-17	2075+40	13' RT	4	96	72	26	5	3	28	--	A-3



- LEGEND**
- 1 BROWN, GRAY-BROWN, LIGHT BROWN, DARK BROWN SAND, TRACE SILT, TRACE TO SOME SHELL (A-1-b) (A-3)
 - 2 DARK GRAY, GRAY-BROWN, LIGHT BROWN, ORANGE-BROWN SAND, TRACE SILT, OCCASIONAL TRACE GRAVEL AT SURFACE (A-3)
 - 3 GRAY-BROWN SAND, TRACE SILT WITH CEMENTED SAND AND SHELL (COQUINA) (A-1-b) (A-3)
- (A-3) A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
- 12-10-19 OBSERVED GROUNDWATER LEVEL IN FEET WITH DATE OF READING
- Estimated Seasonal High Water Table

REVISIONS						SHENNA L. McMASTER, P.E. P.E. LICENSE NUMBER 57537 TERRACON 1675 LEE ROAD WINTER PARK, FLORIDA 32789 CERTIFICATE OF AUTHORIZATION No. 8830			DRAWN BY: MIG 3-5-20 CHECKED BY: SM 3-5-20 DESIGNED BY: CHECKED BY:		SPACE FLORIDA EDTFP		SHEET TITLE: REPORT OF AUGER BORINGS		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME: CAPE CANAVERAL AIRFORCE STATION CENTRAL CONTROL ROAD / PHILLIPS PARKWAY		SHEET NO.	
										BREVARD					

Patel, Bunti A.

From: Martin, Clint
Sent: Monday, December 02, 2019 8:47 AM
To: Patel, Bunti A.
Subject: FW: Approved: EPR 19321 Permit Request Submitted by Gerard Nesel -- EPR
Attachments: KSC26-312-Utility-Locate-Excavation-Permit-Request-190923---EDTPF-Roadway-Improvements_2019_9_25_15_28_13_37.pdf; 19321-map.png

Importance: High

Clint Martin, PE
D 813-636-2444
C 906-236-2874

AECOM
7650 W. Courtney Campbell Causeway
Tampa, Florida 33607-1462
T 1-813-286-1711
www.aecom.com

From: EPR NASA <ksc-BOSS-digpermit@mail.nasa.gov>
Sent: Friday, September 27, 2019 12:54 PM
To: gnesel@spaceflorida.gov
Cc: Martin, Clint <Clint.Martin@aecom.com>; jeffery.s.beyer@nasa.gov; ksc-BOSS-digpermit@mail.nasa.gov
Subject: Approved: EPR 19321 Permit Request Submitted by Gerard Nesel -- EPR
Importance: High

Permit Request: 19321 (Status: Approved)

IMPORTANT: If digging does not begin within 21 days from the time of utility locate (permit approval), this permit shall be suspended and a new locate will be required. Please call at least 72 hours prior to digging to schedule utility locates.

The Excavator shall maintain a copy of the EPI signed/ approved permit on site at all times.

The Excavator is required to contact BOTH authorities to schedule utility locates:

- 1) Locator support for non-managed KSC utilities (ex. Florida City Gas, AT&T, etc.):** Sunshine 811 at **800-432-4770** or 811 (cell).
Create an account and request at www.online811.com
2) Locator support for KSC managed utilities: Primary: **321-749-4840** Alternate: **321-529-4796**

Sunshine 811 Suggested Location Information	
Location	Various Areas across KSC

The Excavator is required to obtain a Sunshine 811 ticket number prior to ISC locates being performed.

You must call Sunshine 811 prior to contacting ISC locators to obtain your Sunshine 811 ticket number. Please copy this ticket number on to your approved Excavation Permit Request (EPR) email and show it to the KSC EPI prior to ISC performing KSC utility locates. This is to be completed prior to calling KSC EPI for locate.

The Excavator is required to only obtain signature of KSC Excavation Permit Inspector:

You must schedule a KSC EPI to meet with you on site for the KSC utility locate and to obtain their required signature this permit before excavation can commence.

IMPORTANT INFORMATION:

- EPR will be **immediately cancelled** should digging begin prior to approval from the EPI.
- Utility Locate/EPR will be **immediately cancelled** if original EPI paint markings are not maintained.
- You must **hand dig within 24 inches** in either direction of all EPI paint markings.
- Do **not remove or disturb thrust blocks**. A thrust block is a configured piece of concrete located underground at water and sewer utility piping to prevent movement from line pressure fluctuations. When excavating soil at location known to contain buried water or sewer lines, **do not remove any buried concrete without prior approval**.
- An EPR can remain in the approval status is one year. All work expecting to extend longer than one year must be re-submitted as a new request, including an updated map and scope of work.
- If the scope of work for the original Utility Locate/EPR is changed or the completion date needs to be extended, you are required to call ISC Master Planning Office 321-867-2406.
- When the job is complete, please call the ISC Master Planning Office 321-867-2406. **This permit will be closed upon expiration unless an extension is requested.**
- Accidental Utility line damage, excluding Gas main damage, call the ISC Duty Office at 321-861-5050.
- Accidental Gas Main damage evacuate the area then call 321-867-7911 (cell) or 911 (landline only), call the ISC Duty Office at 321-861-5050.
- Category Code V Permits must call the ISC Duty office daily and observe all critical days as directed by the ISC Duty Office.

EPR Contact Information:

EPR Administrator's Information:

Questions regarding your Utility Locate/Excavation Permit Request, such as approving, revising the time or scope of work, updating any information within this permit.	EPR Administrator Phone: 321-867-2406 Fax: 321-867-1175 Email: KSC-ISC-DIGPERMIT@mail.nasa.gov
Questions regarding your Utility Locate/Surveying, such as utilities markings and area surveying.	EPI Supervisor Phone: 321-861-7945 Fax: 321-861-6556 Email: david.j.irwin@nasa.gov
Questions regarding Florida City Gas owned natural gas utilities <u>not including</u> : emergencies, gas leaks, and locate requests.	Florida City Gas Sr. Account Executive Phone: 786-459-3655 Fax: 772-871-2044 Email: FSmalley@aqlresources.com

Permit Request: 19321 (Status: Approved)

Scope of Work / Justification	
Scope of Work/Justification	The dig permit is only for engineering geotechnical investigations and soft digs for subsurface utility explorations (SUE) for proposed roadway widening at the intersection of Space Commerce Way/NASA Pkwy, the southbound exit ramp of Kennedy Pkwy onto NASA Pkwy, various locations along Saturn Causeway, and the curve from Saturn Causeway onto Cape Road. The Record of Environmental

	Consideration REC No. 10678 includes these areas. Refer to the attached sketches. The borings will be 5 to 10 feet deep and the soft dig probing will range from 2 to 4 feet for SUE. (See Plan Maps For Dig Locations)
Submitter's Information	
Submitter First Name	Gerard
Submitter Last Name	Nesel
Submitter Email Address	gnesel@spaceflorida.gov
Submitter Company Name	Space Florida
Submitter Phone	321-730-5301x118
Submitter Fax	321-730-5307
Technical Contact Information	
Technical Contact First Name	Clint
Technical Contact Last Name	Martin
Technical Contact Email Address	clint.martin@aecom.com
Technical Contact Phone	813-636-2444
Technical Contact Fax	813-287-8591
NASA COTR Contact Information	
NASA COTR First Name	Jeffery
NASA COTR Last Name	Beyer
NASA COTR Email Address	jeffery.s.beyer@nasa.gov
NASA COTR Phone	321-867-6215
Permit Request Info	
PermitType	Dig
PermitStatus	Approved
Permit Start Date	10/07/2019
Permit End Date	10/06/2020
Estimated Completion Date	10/28/2019
Facility Info	
Facility	M6-0306
Grid	M6
Additional Forms and Identifying Numbers	
Secondary Location	At Multiple Sites (See Plan Maps)

Environmental Check List Completed	No
Category Codes	
1	I
2	V
Related Documents	
File Name	Description
KSC26-312-Utility-Locate-Excavation-Permit-Request-190923---EDTPF-Roadway-Improvements.pdf	EPR Application and Plan Maps

Reviews			
Reviewed By:	Date:	Results:	Comments:
Locator	9/27/2019 11:05:11 AM	Agree	Boring locations will have to be staked. For any design support, a EWR will be required.
Environmental	9/26/2019 3:04:54 PM	Agree	Abide by conditions of REC 10678, issued to Pete Eggert and Gerard Nesel (Space Florida, 321-730-5301 x118) on 6/17/2019.
Master Planner	9/26/2019 10:06:17 AM	Agree	Dig Permit is good for geotechnical investigation only. Site Plan will be required before roadway widening can begin. RS
Final	9/27/2019 12:54:04 PM	Agree	AL
Map			
Map associated with this request		19321-map.png	

Attention: Map rotated 90 degrees, right side is NORTH >>>>>>



Permit Request: 19321 (Status: Approved)

Sunshine 811 Call Ticket Number	
Ticket Number	

Approvals

Approved by: Jeff McDowell Approved by: Roberto Cosme

Approved by: Approved by:

Notes:

[] LOCATED AREA TO BE HAND EXCAVATED ONLY!

Locator's Signature: _____

Reason for Hand Excavation: _____

Permit Request: 19321 (Status: Approved)

EXCAVATION PERMIT CATEGORIES:

If you have questions about assigned category codes contact the Excavation Permit Inspectors at Primary: **321-749-4840** Alternate: **321-529-4796**.

Note: for permits with more than one category code, the most restrictive category code applies.

For critical categories that have locations specifically defined (Categories 1, 5, 6) the affected range of the category shall be 60" beyond the defined location. Beyond the 60" range the category shall default to Category 4.

LAUNCH

For the latest launch, landing or test schedule, contact the **ISC Duty Office at 321-861-5050**.

Category I *

Prior to any KSC launch all excavation will cease seventy-two (72) hours prior to launch, test or landing at, around or involving the following KSC facilities:

Facilities			
Launch Control Center - LCC (K6-0900)	Old MILA Area	Communication Distribution and Switching Center - CD&SC (M6-0138)	Operations & Checkout O&C (M6-0355)
LC 39 A & B (all areas and buildings inside the fence) & all 8 Repeater Stations. ¹	Press Site (all buildings, roads, parking areas in and around the area.)	Payload Facility Supporting Launch (M7-0777, & M7-0360) ²	Central Instrumentation Facility (M6-0342)
VAB Repeater - VABR (K7-1193)	Banana River Repeater Station (M7-0531)	CCF - Converter Compressor Facility (K7-0468)	Shuttle Landing Facility -SLF (runway and all associated buildings and infrastructure)
C-5 Substation (K6-1141)	Tel IV & South Repeater Station (N6-1118)	VAB (K6-0848) and VAB Utility Annex (K6-0947)	

1 - Facilities (J7-0986, J7-1736, J8-2204, K6-1193, K7-0089, K7-0422, K7-0709, M7-0531, & N6-1118).

2 - Mission Specific - Including but not limited to these facilities. (M7-0777 - Launch Abort System Facility, and M7-0360 - Space Station Processing Facility (SSPF)).

Excavation may resume at facilities in the table above four (4) hours after launch. Excavation will not occur at the SLF (16) until after landing.

Category II

LC-39 Active Pads – All excavation (except emergencies) will stop when the launch vehicle rolls out to the Pad. Excavation may resume following Pad safing and washdown after launch.

Category III

LC-39 Deactive Pads – Excavation will cease 2 hours before sunset on launch -1 (L-1) day or 12 hours prior to launch from Active Pad. Whichever is earlier. Excavation may resume 4 hours after launch from the Active Pad.

Category IV

Excavation may proceed in all areas and times not covered by Categories I, II or III.

Category V

*Prior to digging you must call the **ISC Duty Office at 321-861-5050 DAILY.***

Air Force Launch Operations – Excavation and switching of critical power will cease on launch critical days (24 hours, launch count to include launch day) at the following KSC facilities and utilities:

Facilities				
Kennedy Parkway, NASA Parkway & Saturn Causeway utility corridors	Tel IV & South Repeater Station (N6-1118)	Banana River Repeater Station (M7-0531)	Utility Corridors East of Orsino Substation serving CCAFS	Area south from LC-39B along Phillips Parkway.
All Camera, Radar & Weather Sites	Shuttle Landing Facility	KARS Park	Pump Station 7 (K8-1740)	Old MILA Area
Press Site (all buildings, roads, parking areas in and around the area)		Complex 41 (all facilities and areas inside the fence)	Area east from the Converter Compressor Facility .CCF (K7-0468) to Pad 39A	

Category VI

*Prior to digging you must call the **ISC Duty Office at 321-861-5050 DAILY.***

Air Force Non-Launch Operations – Excavation and switching of critical power will cease on non-launch critical days (program specific test days) at the following KSC facilities and utilities:

Facilities				
Kennedy Parkway, NASA Parkway & Saturn Causeway utility corridors	Tel IV & South Repeater Station (N6-1118)	Banana River Repeater Station (M7-0531)	Utility Corridors East of Orsino Substation serving CCAFS	Pump Station 7 (K8-1740)
Space X ViaSat Antenna, Tracking Station (J6-0553)	All Camera, Radar & Weather Sites	Complex 41 (all facilities and areas inside the fence)	Area south from LC-39B along Phillips Parkway	
Press Site (all buildings, roads, parking areas in and around the area)		Area east from the Converter Compressor Facility -CCF (K7-0468) to Pad 39A		

Category VII

For all SLF operations (current and future), excavation will cease on launch and landing critical days (L-1, launch count to include launch day, program specific test days, and landing -1 day). Excavation may proceed in all areas up to 2 hours prior to sunset on landing -1 day, or 12 hours prior to landing, whichever is earlier. Excavation may proceed at all facilities, except for the SLF, 1 hour after a successful landing. Excavation will stop at, around, and/or involving the SLF and involved facilities, at the start of Launch Countdown. Excavation may proceed in this area after Landing, AND with approval from SLF Operations at 321-867-2100.

Utility Locate / Excavation Permit Request				
1. Date 9/23/2019	2. Master Planning Site Plan Number	3. Project (PCN) No.	4. Work Order Number	5. Check One <input checked="" type="checkbox"/> Permit to Dig <input type="checkbox"/> Locate Only / No Digging
6. Requester's Name (REQUIRED) Gerard Nesel		7. Email (REQUIRED) gnesel@spaceflorida.gov	8. Phone Number (REQUIRED) 321-730-5301x118 (845) 416-5033 (cell)	9. Fax Number (REQUIRED) 321-730-5307
10. Requester's Company (REQUIRED) Space Florida			11. Mail Code / Address 505 Odyssey Way, Suite 300 Exploration Park, FL 32953	
12. Technical Contact (REQUIRED) Clint Martin		13. Email (REQUIRED) clint.martin@aecom.com	14. Phone Number (REQUIRED) 813-636-2444	15. Fax Number (REQUIRED) 813-287-8591
16. KSC NASA Contact Name (REQUIRED) Jeffery Beyer			17. Email (REQUIRED) jeffery.s.beyer@nasa.gov	18. Phone Number (REQUIRED) 321-867-6215
19. Building Number (REQUIRED)	20. Grid Number (REQUIRED) Varies		21. Secondary Location (Building Number / Additional Info.) (REQUIRED)	
22. Estimated Start Date (REQUIRED) 10/7/2019			23. Estimated End Date (REQUIRED) 10/28/2019	
24. Emergency request justification (if required)				
25. Reason for permit / Statement of work (REQUIRED) The dig permit is only for engineering geotechnical investigations and soft digs for subsurface utility explorations (SUE) for proposed roadway widening at the intersection of Space Commerce Way/NASA Pkwy, the southbound exit ramp of Kennedy Pkwy onto NASA Pkwy, various locations along Saturn Causeway, and the curve from Saturn Causeway onto Cape Road. The Record of Environmental Consideration REC No. 10678 includes these areas. Refer to the attached sketches. The borings will be 5 to 10 feet deep and the soft dig probing will range from 2 to 4 feet for SUE.				
MAP / SKETCH, WITH AREA TO BE LOCATED / EXCAVATED CLEARLY MARKED, IS ATTACHED (REQUIRED)				

KSC FORM 26-312 NS 01/16 (1.1) PREVIOUS EDITIONS ARE OBSOLETE. Validate prior to use.

NRRS 8/23.5.A.11
Page 1 of 1

Instructions

Please complete as many fields as possible.

NOTE: ALL FIELDS INDICATING "(REQUIRED)" MUST PROVIDE INFORMATION.

Block 1	Date submitted.
Block 2-4	Provide related Site Plan, PCN or Work Order Numbers.
Block 5	Check one. If you are NOT going to dig, but need an underground utility locate, check "Locate Only".
Block 6-18	Enter the name, email address, phone, fax number, company name, and address of the person who will be receiving this permit including KSC NASA Contact for Project.
Block 19-20	Enter the building number where work will be performed (or closest building number).
Block 21	Enter additional information as necessary.
Block 22	Enter the date excavation is expected to begin.
Block 23	Enter the date excavation is expected to be complete. Permit will be closed on this date. End date may not be longer than one year from the start date.
Block 24	If excavation is of an emergency nature and requires priority, enter justification.
Block 25	Enter a description of why this permit is being requested, i.e., what work will be performed and why.

REQUIRED: ATTACH A MAP/SKETCH WITH AREA TO BE LOCATED/EXCAVATED CLEARLY MARKED.

1. Email, fax or hand-carry this request, along with a map, drawing or sketch to the Excavation Permit Request (EPR) Administrator using the contact information below.
2. You may contact the EPR Administrator using the contact information below if you have any questions on the dig permit process.
3. **The Excavator is required to contact BOTH authorities to schedule utility locates:**
 - 1) Locator support for KSC managed utilities: Ryan Ostaly 321-289-2372 or Jeff McDowell 321-749-4840
 - 2) Locator support for City Gas owned natural gas line: Sunshine One-Call at 800-432-4770 or 811 (cell).
For Natural Gas locate, it is recommended that you create an account and request at www.online811.com
4. **The Excavator is required to obtain signature of KSC Excavation Permit Inspector (EPI) only:**
You must schedule a KSC Excavation Permit Inspector (EPI) to meet with you on site for the KSC utility locate and to obtain the required signature from the KSC EPI on this permit. Requester should notify the EPR Administrator when excavation is complete.
5. Permits may be extended for up to one year by calling the EPR Administrator, but all permits will be closed upon expiration unless notified.

EPR Administrator

Location	KSC OSB I, K6-1096, Room 2113 N1
Mail Code	ISC-4325
Phone	(321) 867-2406
Fax	(321) 867-1175
Email	KSC-ISC-DIGPERMIT@mail.nasa.gov

Emergency requests will be processed on a real time basis
through the ISC Duty Office 861-5050, Fax (861-1627)
or Email - KSC-ISC-DutyOffice@mail.nasa.gov

Patel, Bunti A.

From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Wednesday, November 20, 2019 1:33 PM
To: DEAL, GREGORY A GS-12 USAF AFSPC 45 CES/CEZL
Cc: DUCE, ANDREW D GS-13 USAF AFSPC 45 CES/CEZR; Patel, Bunti A.
Subject: 30153789 103 APPROVED RE: IRP sampling plan
Attachments: 30153789.pdf

Can you please notifying me when it is completed.

Attached is your approved 103 and its associated dig permit. Please print these documents and present them to the CLOIS Locator (Sean O'Brien, 321.423.0582), RGNext Locators (321.853.2141) and the 45th CES Environmental Representative when you coordinate site visits for the specific area of excavation. You will also need to have the Sunshine State Call One (811 or 1-800-432.4770) locate the excavation site. This may be confirmed by documenting the Sunshine State "Locator Ticket" number provided by the Sunshine Call One representative when contacted.

No excavation may begin until all agencies have located the area of excavation and the dig permit (C-CS-FRM-002) has been signed by the CLOIS Locator, RGNext Locator, 45th CES Environmental and the Sunshine State One Call "Locator Ticket" number documented on the form.

Daily, prior to excavation, you must contact CLOIS Cape Support Duty Office at 321.853.5211 for critical day status. NO EXCAVATION IS ALLOWED ON CRITICAL DAYS.

Please read all remarks made by reviewers and comply.

Please notify work management via email when work is complete: workmgt@us.af.mil

Scott Hermanson
CLOIS EDC / Work Management
RD120A
476-4357

From: DEAL, GREGORY A GS-12 USAF AFSPC 45 CES/CEZL <gregory.deal.1@us.af.mil>
Sent: Thursday, November 14, 2019 5:09 PM
To: HERMANSON, SCOTT D CTR USAF AFSPC CLOIS/ASRCC <scott.hermanson.ctr@us.af.mil>
Cc: DUCE, ANDREW D GS-13 USAF AFSPC 45 CES/CEZR <andrew.duce@us.af.mil>; Patel, Bunti A. <Bunti.Patel@aecom.com>
Subject: FW: IRP sampling plan

Scott,

Attached is an AF 103 for geotech and site investigation work associated with the FDOT EDTPF Roadway Improvements project. Request review at the next 103 meeting.

The attached email shows that the IRP remark on the 332 (also attached) is no longer a concern. Please call or email if you need anything else.

Thanks.

Greg

Gregory Deal, PMP, CFM
Project Manager - Launch Support
45 CES/ CEZL; Cape Canaveral AFS, FL
Office - (321) 853-0919, DSN 467-0919
Mobile - (772) 678-1016
gregory.deal.1@us.af.mil

30153789

RECEIVED NOV 14 2019

BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST (See Instructions on Reverse)				DATE PREPARED 11/7/2019	
1. Clearance is requested to proceed with work at <u>Borings and SUE (soft digs) at Phillips Pkwy/Central Control Rd. (SE Quadrant)</u> and borings along Phillips Pkwy curves around SLC 37					
on Work Order No. <u>30125920</u> Contract No. _____ involving excavation or utility disturbance per attached sketch. This area <input type="checkbox"/> has <input checked="" type="checkbox"/> has not been staked or clearly marked					
2. TYPE OF FACILITY/WORK INVOLVED-					
<input checked="" type="checkbox"/> A. PAVEMENTS	<input type="checkbox"/> D. FIRE DETECTION & PROTECTION SYSTEMS	<input type="checkbox"/> G. AIRCRAFT OR VEHICULAR TRAFFIC FLOW			
<input checked="" type="checkbox"/> B. DRAINAGE SYSTEMS	<input type="checkbox"/> E. UTILITY	<input type="checkbox"/> OVERHEAD	<input checked="" type="checkbox"/> UNDERGROUND	<input type="checkbox"/> H. SECURITY	
<input type="checkbox"/> C. RAILROAD TRACKS	<input type="checkbox"/> F. COMM	<input type="checkbox"/> OVERHEAD	<input checked="" type="checkbox"/> UNDERGROUND	<input type="checkbox"/> I. OTHER	
3. DATE CLEARANCE REQUIRED ASAP			4. DATE OF CLEARANCE		
5. SIGNATURE OF REQUESTING OFFICIAL Gerard Nesel <small>Digitally signed by Gerard Nesel Date: 2019.10.11 12:40:59 -0500</small>			6. TELEPHONE NO. 321-730-5301 x118		7. ORGANIZATION Space Florida
ORGANIZATION		REMARKS (Use Reverse for additional comments)		REVIEWER'S NAME AND INITIALS	
8. BASE CIVIL ENGINEERING					
A. ELECTRICAL DISTRIBUTION					
B. STEAM DISTRIBUTION					
C. WATER DISTRIBUTION					
D. POL DISTRIBUTION					
E. SEWER DISTRIBUTION					
F. ENVIRONMENTAL		Contact 853-6822 for natural resource survey		11/19/19	
G. PAVEMENTS/GROUNDS		No issues		19 Nov 2019	
H. FIRE PROTECTION		No Issues		11/20/19	
I. ZONE IRP		No known IRP concerns.		11/20/19	
J. MASTER PLANING <i>Rec'd Property program</i>		No Issues		11/20/19	
9. SECURITY POLICE					
10. SAFETY		OK		11/20/19	
11. COMMUNICATIONS		Call for Comm. logs 853-2141		11/20/19	
12. BASE OPERATIONS <i>Siting</i>		No issues		11-19-19	
13. CABLE TV					
14. COMMERCIAL UTILITY COMPANY					
<input type="checkbox"/> TELEPHONE					
<input type="checkbox"/> GAS					
<input type="checkbox"/> ELECTRIC					
15. OTHER (Specify) _____					
16. REQUESTED CLEARANCE <input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED					
17. TYPED NAME AND SIGNATURE OF APPROVING OFFICER (Chief of Operations Flight or Chief of Engineering Flight) ROBERTO D. SAMSEL, DAFC					17. DATE SIGNED 11/20/19
AF FORM 103, AUG 94 (EF-V1)		(PerFORM PRO)		PREVIOUS EDITIONS ARE OBSOLETE.	
INSTRUCTIONS					
The BCE work clearance request is used for any work (contract or in-house) that may disrupt aircraft or vehicular traffic flow, base utility services, protection provided by fire and intrusion alarm system, or routine activities of the installation. This form is used to coordinate the required work with key base activities and keep customer inconvenience to a minimum. It is also used to identify potentially hazardous work conditions in an attempt to prevent accidents. The work clearance request is processed just prior to the start of work. If delays are encountered and the conditions at the job site change (or may have changed) this work clearance must be reprocessed.					

AF FORM 103 ATTACHMENT

WORK ORDER NUMBER: _____

HAND DIG ONLY: YES NO

LOCATORS INITIALS: _____

Sean O'Brien

OPERATIONAL RESTRICTIONS:

Hand dig within 24 inches in all directions of locator markings. Contact Utility Locator if marks have faded or are disturbed in any manner. Customer shall mark or coordinate with the locator, a white paint border around the area to excavate. Do not excavate outside of the area marked with this border.

CUSTOMER MUST COORDINATE WITH:

COMM. LOCATES

(CALL 321.853.2141) _____

GAS LINE LOCATES CONTACT:

Sunshine State One Call @ 811 or 1-800-432-4770

Locate Ticket Number

NATURAL RESOURCES SURVEY:

Customer must coordinate with the Air Force Natural Resources (45 CES/CEIE-C) office at least 3 weeks prior to mobilization unless as emergency. Contact numbers: 321.853.6822, 321.794.5268 or 321.853.0964 (to determine if any wildlife or habitat needs to be protected. 45th CES/CEIE-C

APPROVED: _____

Notify CLOIS Locator for remarking of utilities if required.

SEAN O'BRIEN (CLOIS LOCATOR SERVICES)

321-853-5525 (Office)

321-423-0582 (Cell)

321-853-5211 (Cape Support)

REPORT ALL UTILITY BREAKS TO CAPE SUPPORT IMMEDIATELY.

CRITICAL DAY NOTICE

Contractor SHALL contact Cape Support, 321.853.5211, each day prior to commencing any digging or excavation work.

Work Order/Dig Permit number will be required for permission to proceed.

Request locator service only within 45 days of the estimated start of the excavation operation.

Maintain marks per locator instructions or request remarking by the locator. (Locator response may require a 72 hour notice)

Notify the Duty Office or permit administrator when excavation operations have been completed.

CUSTOMER PRINTED NAME

CUSTOMER SIGNATURE

DATE

HERMANSON, SCOTT D CTR USAF AFSPC CLOIS/ASRCC

From: DEAL, GREGORY A GS-12 USAF AFSPC 45 CES/CEZL
Sent: Thursday, November 14, 2019 5:09 PM
To: HERMANSON, SCOTT D CTR USAF AFSPC CLOIS/ASRCC
Cc: DUCE, ANDREW D GS-13 USAF AFSPC 45 CES/CEZR; Patel, Bunti A.
Subject: FW: IRP sampling plan
Attachments: RE: EDTPF Roadway Geotech Investigations - IRP Plan (59.6 KB); 30125920 332
ECONOMIC DEVELOPMENT TRANS PROJ ROADWAY IMPROVEMENTS (002).pdf; AF 103
Dig Permit EDTPF Roadway Widening Geotech SUE 191107.pdf
Signed By: DEAL.GREGORY.ALLEN.1046483088

Scott,

Attached is an AF 103 for geotech and site investigation work associated with the FDOT EDTPF Roadway Improvements project. Request review at the next 103 meeting.

The attached email shows that the IRP remark on the 332 (also attached) is no longer a concern. Please call or email if you need anything else.

Thanks.

Greg

Gregory Deal, PMP, CFM
Project Manager - Launch Support
45 CES/ CEZL; Cape Canaveral AFS, FL
Office - (321) 853-0919, DSN 467-0919
Mobile - (772) 678-1016
gregory.deal.1@us.af.mil

SPACE FLORIDA
ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF) INFRASTRUCTURE IMPROVEMENTS
ROADWAY PLANS (NOT FOR CONSTRUCTION)

FINANCIAL PROJECT ID 439053-1-54-01

DRAWING INDEX OF IMPROVEMENTS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	PROJECT LAYOUT
3	TYPICAL DETAILS
4 - 5	GENERAL NOTES
6 - 26	ROADWAY PLAN
27	TEMPORARY TRAFFIC CONTROL PLAN
28-29	SUMMARY OF QUANTITIES
30-31	SIGNING AND PAVEMENT MARKINGS

ROUTE 1:
MANUFACTURING COMPLEX TO SLC-36

BEGIN ROUTE 1:
BLUE ORIGIN MANUFACTURING FACILITY

END ROUTE 2:
PHILLIPS HWY AND CENTRAL CONTROL RD
(STA. 3257+48.3) ROUTE 2-
STA. 2023+59.48 ROUTE 1)

SUBMITTAL: 75% / DESIGN CRITERIA
 DATE: 09/11/2019

ROADWAY PLANS

ENGINEER OF RECORD:

BRUND J. FIORI, P.E. NO. 49150
 ACCOM TECHNICAL SERVICES, INC.
 7650 W. COURTNEY CAMPBELL CSMY
 TAMPA, FLORIDA 33607
 VENDOR NO. 952861922-011
 CERTIFICATE OF AUTHORIZATION NO. 8115

**SIGNING AND PAVEMENT
 MARKING PLANS**

ENGINEER OF RECORD:

PATRICK B. NEVIAH, P.E. NO. 72369
 ACCOM TECHNICAL SERVICES, INC.
 7650 W. COURTNEY CAMPBELL CSMY
 TAMPA, FLORIDA 33607
 VENDOR NO. 952861922-011
 CERTIFICATE OF AUTHORIZATION NO. 8115

SPACE FLORIDA PROJECT MANAGER:
 STEVE SZABO, P.E.

SPACE FLORIDA



SHEET
NO.

1

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2018/19 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>



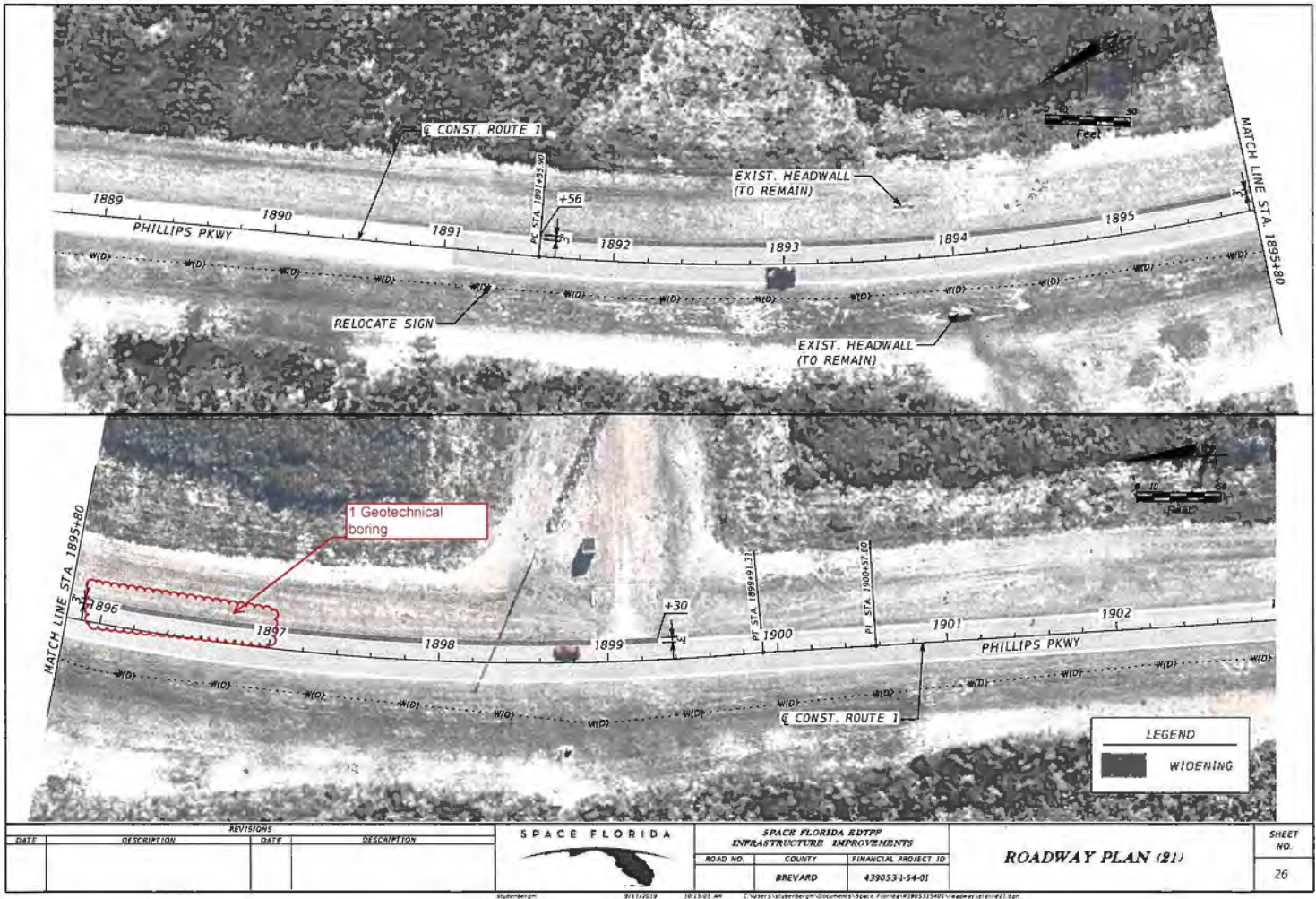
PROJECT LAYOUT - ROADWAY PLANS

ROADWAY PLAN NO.	ROADWAY PLAN DESCRIPTION
1	SPACE COMMERCE WAY AT NASA PKWY WIDENING
2	NASA PKWY
3	NASA PKWY AT KSC VISITOR CENTER
4	SECURITY GATE 3 AT NASA PKWY
5	NASA PKWY AT SR KENNEDY PKWY RAMP
6	NASA PKWY AT KENNEDY PKWY
7	KENNEDY PKWY AT SATURN CSWY
8	SATURN CSWY FIRST GUARDHOUSE
9 THRU 11	SATURN CSWY
12	SATURN CSWY SECOND GUARDHOUSE
13	SATURN CSWY
14	SATURN CSWY AT LC-39A
15 THRU 17	SATURN CSWY
18	SATURN CSWY AT CAPE RD
19	CAPE RD AT RAILROAD TRACKS
20 THRU 24	PHILLIPS PKWY
25	PHILLIPS PKWY AT CENTRAL CONTROL RD INTERSECTION
26	SR 401 AT GROUPEL RD
27	SR 401 AT PAYNE WAY
28	CCAFS BADGING STATION AT PHILLIPS PKWY
29	PHILLIPS PKWY AT POISEDON AVE
30	CCAFS SECURITY GATE AT PHILLIPS PKWY
31	PHILLIPS PKWY AT HANGAR RD



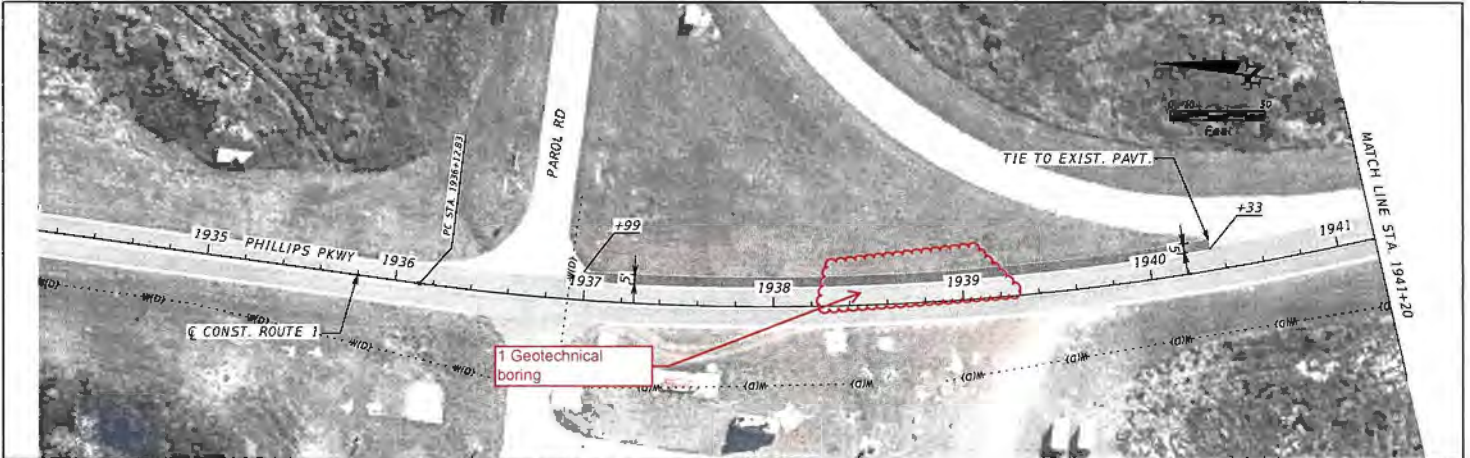
NOTES:
 1. THE OVERHEAD P&T TRANSMISSION LINES OR DISTRIBUTION LINES ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT A PART OF THIS CONTRACT.
 2. BREVARD COUNTY AERIALS WERE OBTAINED FROM THE FOOT SURVEY & MAPPING OFFICE AERIAL PHOTOGRAPHY ARCHIVE. AERIAL IMAGES WERE ACQUIRED BETWEEN 3/9/18 AND 4/17/18.

REVISIONS		DATE		DESCRIPTION		SPACE FLORIDA		SPACE FLORIDA BUIFF INFRASTRUCTURE IMPROVEMENTS		PROJECT LAYOUT		SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION					ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
									BREVARD	4380953-1-54-01		2	



REVISIONS		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

SPACE FLORIDA 		SPACE FLORIDA BTPP INFRASTRUCTURE IMPROVEMENTS		ROADWAY PLAN (21)	SHEET NO. 26
ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
	BREVARD	4390531-54-01			



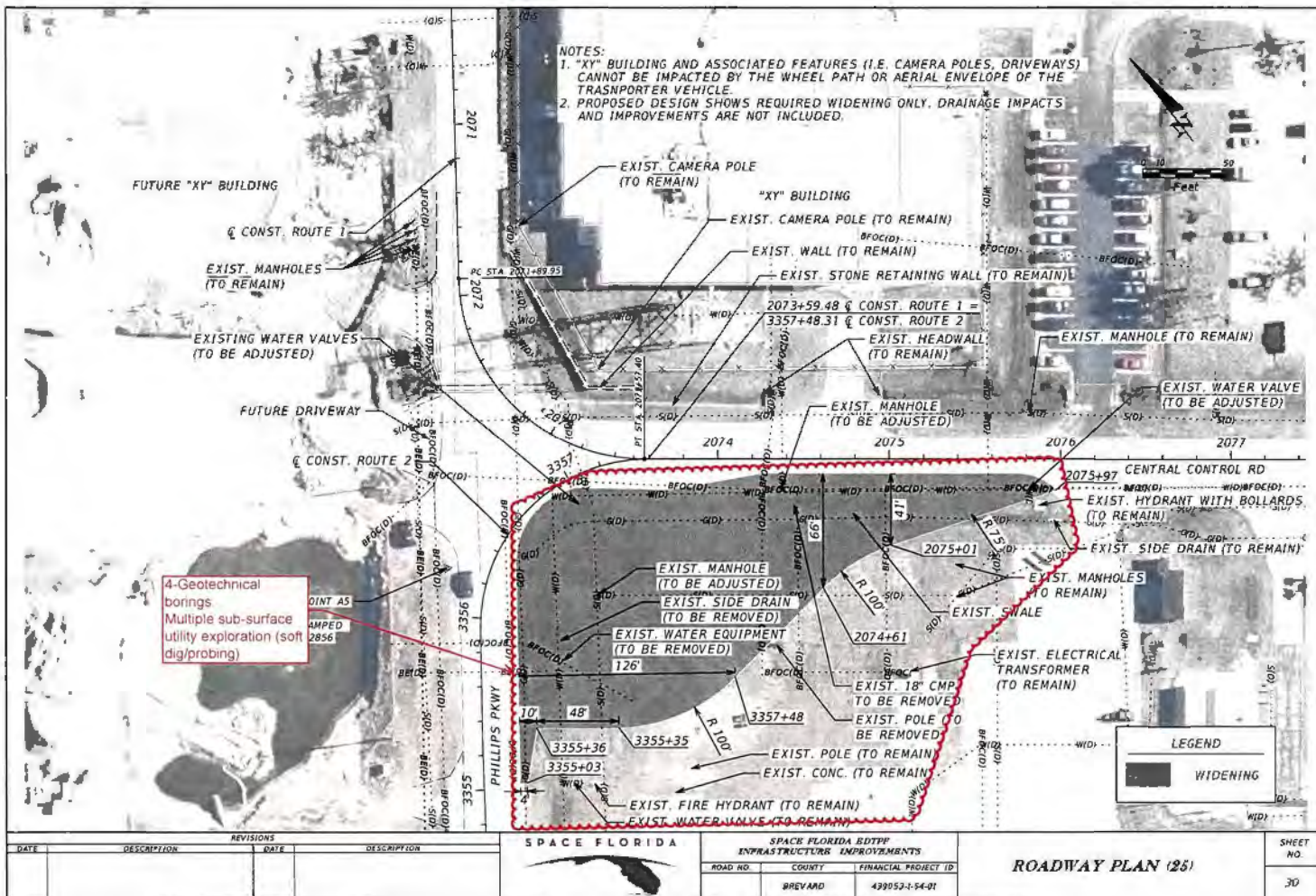
DATE		DESCRIPTION		REVISIONS		DATE		DESCRIPTION	

		SPACE FLORIDA BUTTP INFRASTRUCTURE IMPROVEMENTS		ROADWAY PLAN (22)		SHEET NO. 27
ROAD NO.		COUNTY		FINANCIAL PROJECT ID		
BREVARD		439053-1-54-01				

K:\Users\slidenberg\Documents\Space Florida\439053\15401\Roadway\01540123.dgn

NOTES:

1. "XY" BUILDING AND ASSOCIATED FEATURES (I.E. CAMERA POLES, DRIVEWAYS) CANNOT BE IMPACTED BY THE WHEEL PATH OR AERIAL ENVELOPE OF THE TRANSPORTER VEHICLE.
2. PROPOSED DESIGN SHOWS REQUIRED WIDENING ONLY. DRAINAGE IMPACTS AND IMPROVEMENTS ARE NOT INCLUDED.



SWO 103 Red

BASE CIVIL ENGINEER WORK REQUEST				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project 0704-0188, Washington DC 20503. Please DONOT RETURN your form to either of these addresses. Send your completed form to HQ AFESC/DEMG.					
SECTION I - TO BE COMPLETED BY REQUESTER					
1. FROM Space Florida		2. OFFICE SYMBOL N/A		3. DATE OF REQUEST September 24, 2019	
5. NAME AND PHONENO OF REQUESTER Gerard Nesel, Space Florida 321-730-5301 ext 118 845-416-5033 cell		6. REQUIRED COMPLETION DATE October 31, 2019		4. WORK REQUEST NO. (For BCE Use) 30125920	
7. BUILDING, FACILITY, OR STREET ADDRESS WHERE WORK IS TO BE ACCOMPLISHED Southeast quadrant of the Central Control Road and Phillips Pkwy intersection; Phillips Pkwy near SLC 37; Phillips Pkwy near the delta electrical substation; and Phillips Pkwy near the intersection of Hangar Road					
8. DESCRIPTION OF WORK TO BE ACCOMPLISHED For DE review and coordination only. Work to be performed by a Space Florida contractor. This request is to allow Geotech work and site investigation only. This request is for the FDOT Economic Development Transportation Project (EDTPF) Roadway Improvements which will require modification to the intersection of Central Control Road and Phillips Pkwy (opposite of Building XY). A paved turning widening area will be required in the SE quadrant of the intersection. Pavement widening along Phillips Parkway curves/turn radii will also be required near SLC 37, the delta electrical substation, and intersection near Hangar Road. This will require geotechnical site investigation (soil borings) and soft digs for the location and depth of existing utilities (SUE-subsurface utility explorations). Please see the attached graphic for more detail on the location. Technical Contact: Richard Wood, 321-432-8817					
9. BRIEF JUSTIFICATION FOR WORK TO BE ACCOMPLISHED (Not required for maintenance and repair) To safely move an oversized launch vehicle/transporter through CCAFS, the existing roadway intersection may have to be modified and therefore knowledge of the soil conditions and utilities is required.					
10. DONATED RESOURCES JON. 53249500					
<input type="checkbox"/> FUNDS		<input type="checkbox"/> LABOR		<input type="checkbox"/> MATERIAL	
<input type="checkbox"/> CONTRACT BY REQUESTER		<input type="checkbox"/> NONE			
5. NAME OF REQUESTER Gerard Nesel Director of Facilities Management, Spaceport Ops, Space Florida		12. GRADE OF REQUESTER N/A		13. SIGNATURE OF REQUESTER Gerard Nesel Digitally signed by Gerard Nesel Date: 2019.09.24 14:14:05 -04'00'	
14. COORDINATION 321-730-5301-118/19 AFESC/DEMG 25 Sep 19 AFCEC/0206 45119 25 Sep 19		15. WORK ORDER (Place an "X" in the appropriate box.) <input type="checkbox"/> IN-SERVICE <input type="checkbox"/> SELF-HELP <input type="checkbox"/> CONTRACT <input type="checkbox"/> SABER		16. DIRECT SCHEDULED WORK (Place an "X" in the appropriate box.) <input type="checkbox"/> EMERGENCY <input type="checkbox"/> URGENT <input type="checkbox"/> ROUTINE <input type="checkbox"/> SELF-HELP <input type="checkbox"/> M/C	
17. SELF-HELP (Place an "X" in the appropriate box.) <input type="checkbox"/> BRIEFING REQUIRED <input type="checkbox"/> ADEQUATE COORDINATION <input type="checkbox"/> INSPECTION REQUIRED		18. WORK CLASS		19. PRIORITY	
20. ESTIMATED HOURS		21. ESTIMATED FUNDED COST		22. ESTIMATED TOTAL COST	
<input checked="" type="checkbox"/> 23. THERE IS NO NEED FOR AN ENVIRONMENTAL ASSESSMENT (AFR 19-2)		<input type="checkbox"/> 24. A WRITTEN ASSESSMENT IS BEING/HAS BEEN PROCESSED		<input type="checkbox"/> 25. APPROVED <input type="checkbox"/> 26. DISAPPROVED	
27. REMARKS IRP will need to review Geotech sampling work plan. Work is within area of existing groundwater contamination. Please coordinate review with GMA Long. CATERAL 22 3-24-103 rfd. Coord IRP sampling plan w/ CELE (853-0910)					
28. NAME AND GRADE (Please Type or Print)		29. SIGNATURE		30. DATE	

SPACE FLORIDA ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF) INFRASTRUCTURE IMPROVEMENTS

ROADWAY PLANS (NOT FOR CONSTRUCTION)

FINANCIAL PROJECT ID 439053-1-54-01

DRAWING INDEX OF IMPROVEMENTS

SHEET NO. SHEET DESCRIPTION

1	KEY SHEET
2	PROJECT LAYOUT
3	TYPICAL DETAILS
4 - 5	GENERAL NOTES
6 - 36	ROADWAY PLAN
37	TEMPORARY TRAFFIC CONTROL PLAN
38-1 - 38-16	SUMMARY OF QUANTITIES
39 - 39-29	SIGNING AND PAVEMENT MARKINGS

ROUTE 1:
MANUFACTURING COMPLEX TO SLC-36

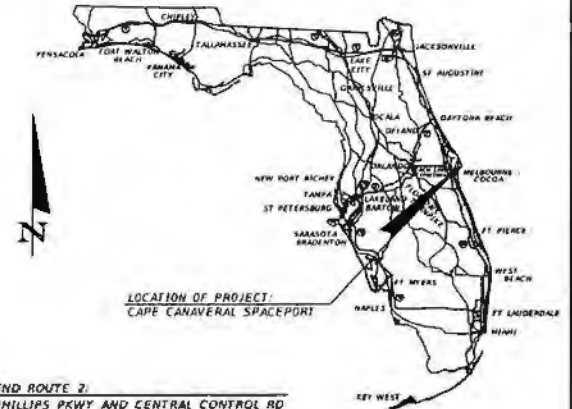
BEGIN ROUTE 1:
BLUE ORIGIN MANUFACTURING FACILITY

END ROUTE 2:
PHILLIPS PKWY AND CENTRAL CONTROL RD
(STA. 3357+48.31 ROUTE 2= STA. 2073+59.48 ROUTE 1)

END ROUTE 1:
SLC-36

BEGIN ROUTE 2:
PORT TO GROUPE ROAD

ROUTE 2:
PORT TO SLC 36



SUBMITTAL: 75% DESIGN CRITERIA
DATE: 09/11/2019

ROADWAY PLANS ENGINEER OF RECORD:

BRUNO J. FIORI, P.E. NO. 49150
AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
VENDOR NO. 952661922-011
CERTIFICATE OF AUTHORIZATION NO. B115

SIGNING AND PAVEMENT MARKING PLANS

ENGINEER OF RECORD:

PATRICK B. NEVIAH, P.E. NO. 72369
AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
VENDOR NO. 952661922-011
CERTIFICATE OF AUTHORIZATION NO. B115

SPACE FLORIDA PROJECT MANAGER:
STEVE SZABO, P.E.

SPACE FLORIDA

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2018-19 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs)

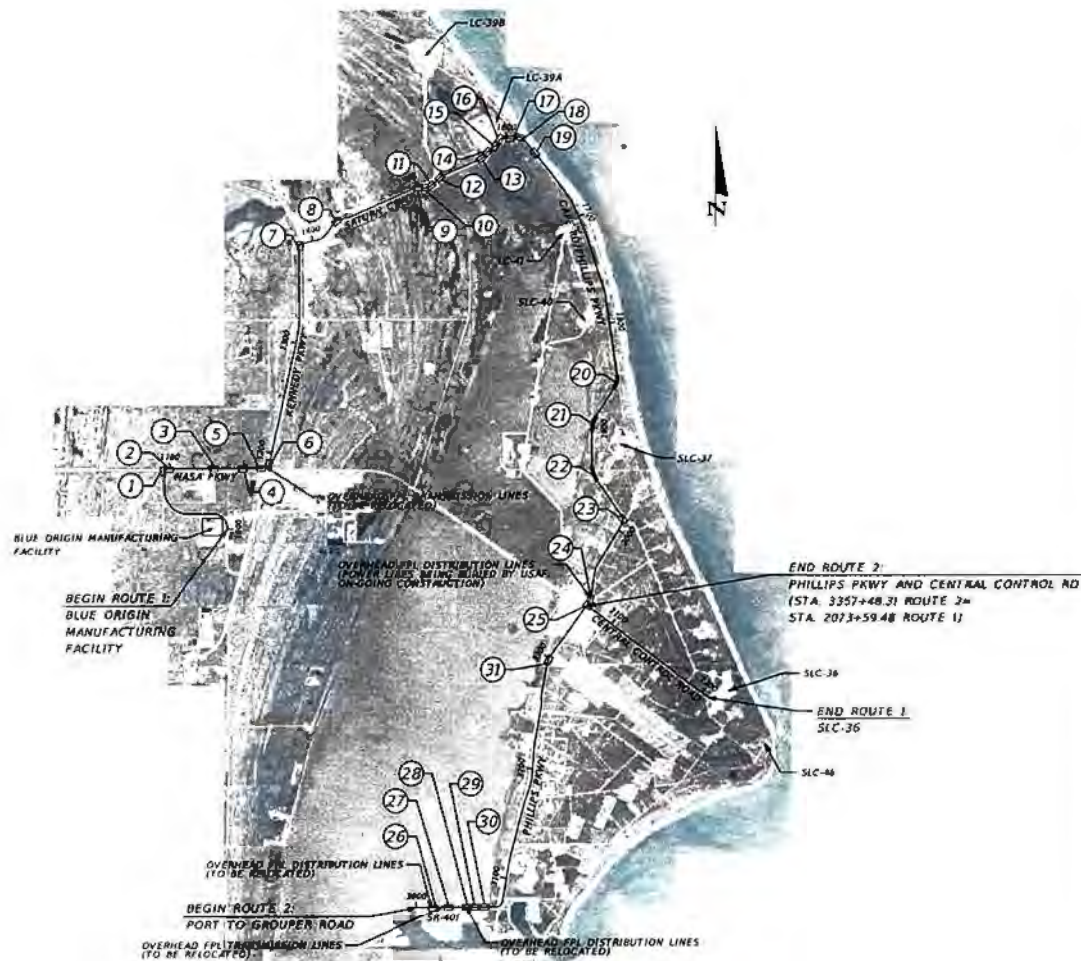
Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

SHEET
NO.

1

PROJECT LAYOUT - ROADWAY PLANS

ROADWAY PLAN NO.	ROADWAY PLAN DESCRIPTION
1	SPACE COMMERCE WAY AT NASA PKWY WIDENING
2	NASA PKWY
3	NASA PKWY AT KSC VISITOR CENTER
4	SECURITY GATE 3 AT NASA PKWY
5	NASA PKWY AT SB KENNEDY PKWY RAMP
6	NASA PKWY AT KENNEDY PKWY
7	KENNEDY PKWY AT SATURN CSWY
8	SATURN CSWY FIRST GUARDHOUSE
9 THRU 11	SATURN CSWY
12	SATURN CSWY SECOND GUARDHOUSE
13	SATURN CSWY
14	SATURN CSWY AT LC-39A
15 THRU 17	SATURN CSWY
18	SATURN CSWY AT CAPE RD
19	CAPE RD AT RAILROAD TRACKS
20 THRU 24	PHILLIPS PKWY
25	PHILLIPS PKWY AT CENTRAL CONTROL RD INTERSECTION
26	SR 401 AT GROUPEY RD
27	SR 401 AT PAYNE WAY
28	CCAFS BADGING STATION AT PHILLIPS PKWY
29	PHILLIPS PKWY AT POISEDON AVE
30	CCAFS SECURITY GATE AT PHILLIPS PKWY
31	PHILLIPS PKWY AT HANGAR RD



NOTES
 1 THE OVERHEAD FPL TRANSMISSION LINES OR DISTRIBUTION LINES ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT A PART OF THIS CONTRACT
 2 BREVARD COUNTY AERIALS WERE OBTAINED FROM THE 1001 SURVEY & MAPPING OFFICE AERIAL PHOTOGRAPHY ARCHIVE. AERIAL IMAGES WERE ACQUIRED BETWEEN 3/9/18 AND 4/17/18

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

SPACE FLORIDA



SPACE FLORIDA EDITOR
 INFRASTRUCTURE IMPROVEMENTS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	BREVARD	439053-1-54-01

PROJECT LAYOUT

SHEET NO.

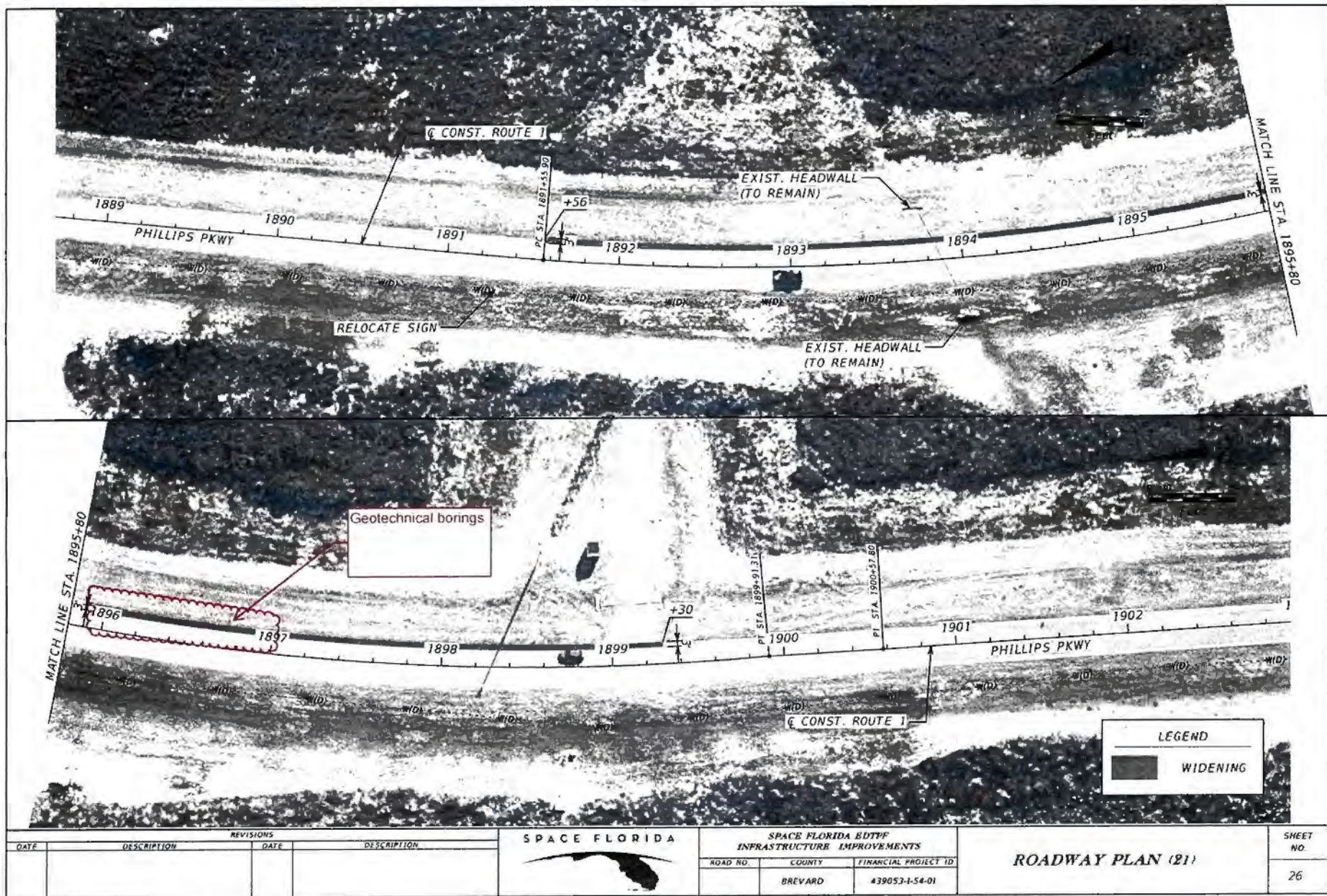
2

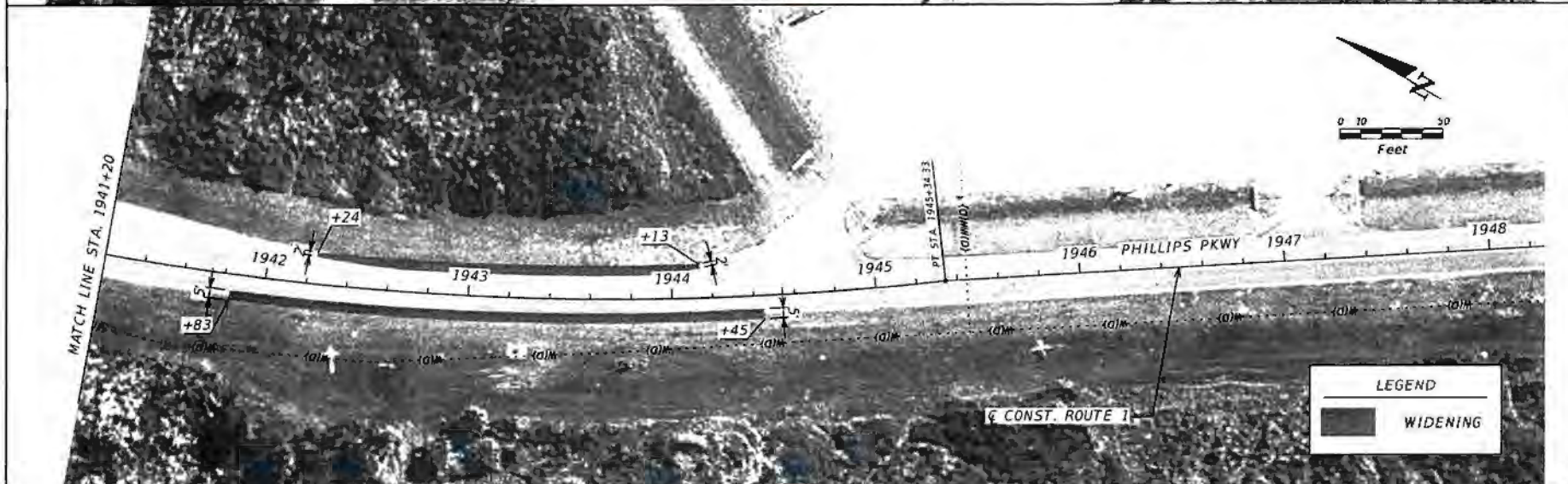
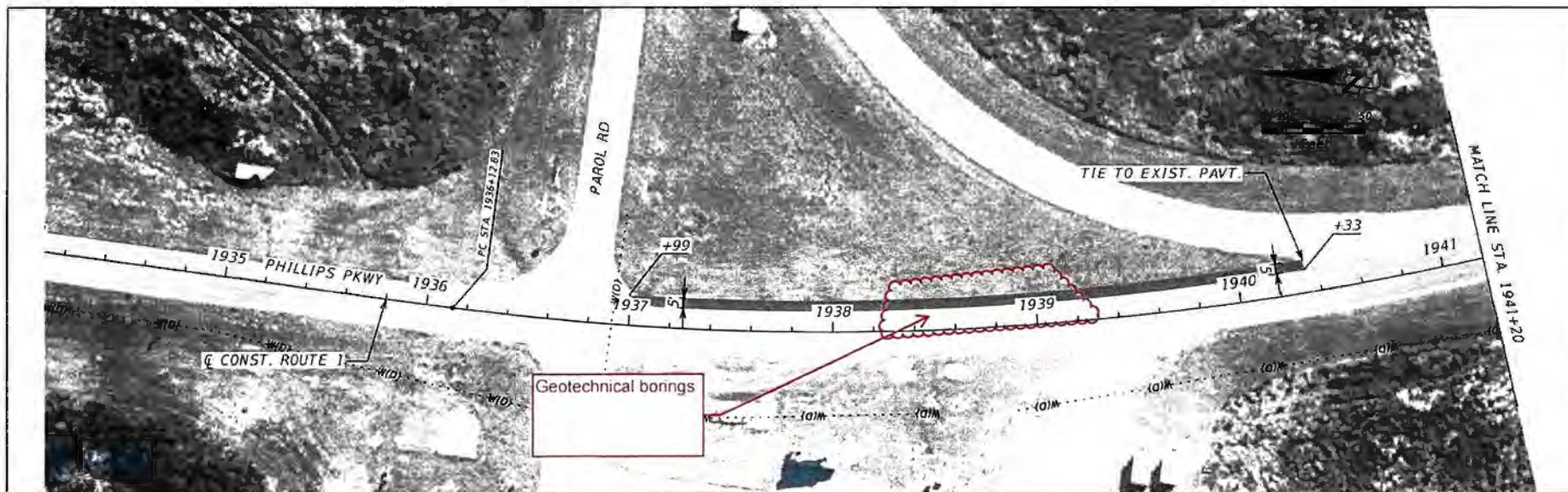
slabberg

5/17/2018

10:13 AM

C:\Users\slabberg\Documents\Space Florida\439053-1-54-01\Drawings\PLAT\ROAD1.DGN





REVISIONS				SPACE FLORIDA	SPACE FLORIDA EDTFF INFRASTRUCTURE IMPROVEMENTS		ROADWAY PLAN (22)	SHEET NO. 27
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY		
						BREVARD		
					FINANCIAL PROJECT ID 439053-1-54-01			

1/1/2010

10/15/08 AM

10/15/08 AM

C:\projects\submittal\Documents\Space Florida\439053-1-54-01\roadway\plan022.dgn



DATE		DESCRIPTION	REVISIONS		DATE	DESCRIPTION	DIVISIONS	SPACE FLORIDA		SPACE FLORIDA EUTPW INFRASTRUCTURE IMPROVEMENTS				ROADWAY PLAN (31)		SHEET NO
			DATE	DESCRIPTION						ROAD NO	COUNTY	FINANCIAL PROJECT ID				
																36

JENKINS, THOMAS L CTR USAF AFSPC CLOIS/ASRCC

From: DEAL, GREGORY A GS-12 USAF AFSPC 45 CES/CEZL
Sent: Tuesday, September 24, 2019 3:26 PM
To: DUCE, ANDREW D GS-13 USAF AFSPC 45 CES/CEZR
Cc: JENKINS, THOMAS L CTR USAF AFSPC CLOIS/ASRCC; STARK, ELAINE M GS-13 USAF AFSPC 45 CES/CEZL; Patel, Bunti A.; Gerard Nesel
Subject: FW: EDTPF FDOT Blue Origin Roadway Improvements - Geotechnical Investigations
Attachments: EDTPF AF 332 BASE CIVIL ENGINEER WORK REQUEST Roadway Geotech 9-24-2019.pdf
Importance: High

Andy,

I just got this 332 a few minutes ago. Any chance of a walk-on to get the request expedited?

Greg

From: Patel, Bunti A. <Bunti.Patel@aecom.com>
Sent: Tuesday, September 24, 2019 3:14 PM
To: DEAL, GREGORY A GS-12 USAF AFSPC 45 CES/CEZL <gregory.deal.1@us.af.mil>
Cc: STARK, ELAINE M GS-13 USAF AFSPC 45 CES/CEZL <elaine.stark@us.af.mil>; Gerard Nesel <gnesel@spaceflorida.gov>; Steve Szabo (sszabo@spaceflorida.gov) <sszabo@spaceflorida.gov>; Martin, Clint <Clint.Martin@aecom.com>; Wood, Richard <Richard.Wood2@aecom.com>; Ellen Cody <ecody@spaceflorida.gov>; Lyons, Jamie <jamie.lyons@aecom.com>
Subject: [Non-DoD Source] EDTPF FDOT Blue Origin Roadway Improvements - Geotechnical Investigations
Importance: High

Hello Mr. Deal,
Hope all is well.

On behalf of Space Florida, please find attached the AF 332 Base Civil Engineer Work Request for FDOT EDTPF Roadway Improvements to perform engineering geotechnical borings and soft digs for Subsurface Utility Explorations (SUE). The areas are shown on the attached exhibits. I do not have the email for CLOIS Work Mgmt. We might try to show up tomorrow to the 0900 WOR Board Meeting in Bldg. 60600 to get this expedited.

Please review and let me know if you have any concerns.

Bunti Patel, PE
Sr. Project Manager, Aviation, Transportation
D +1-813-636-2445
M +1-813-966-5597
bunti.patel@aecom.com

AECOM
7650 W Courtney Campbell Causeway
Tampa, Florida, 33607, USA
T +1-813-286-1711
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HERMANSON, SCOTT D CTR USAF AFSPC CLOIS/ASRCC

From: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Sent: Thursday, November 7, 2019 1:52 PM
To: Patel, Bunti A.
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE
Subject: RE: EDTPF Roadway Geotech Investigations - IRP Plan
Signed By: loren.lorenz.1@us.af.mil

Hi Bunti,

Looking at the location on the figure, Area 2 is out of our plume area and the IRP notes can be removed. John and I also re-evaluated Area 1 (Central Control and Phillips Parkway) and agree that the samples are out of the plume area there as well (and the IRP language can be removed). Area 3 is clear as discussed before. Based on these verifications, there are no issues with soil or decontamination of the equipment. Please let me know if you have any questions.

Thanks,

Loren

//SIGNED//

Loren M. Lorenz, GS-12, DAF
Restoration Project Manager
Patrick Installation Support Section
Air Force Civil Engineer Center (AFCEC/CZOE)
(321) 494-5221 (Desk) (DSN 854)
(321) 536-4759 (Mobile)
Loren.Lorenz.1@us.af.mil

From: Patel, Bunti A. <Bunti.Patel@aecom.com>
Sent: Thursday, November 7, 2019 11:46 AM
To: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; 'Pete Eggert' <peggert@spaceflorida.gov>; Martin, Clint <Clint.Martin@aecom.com>
Subject: [Non-DoD Source] Re: EDTPF Roadway Geotech Investigations - IRP Plan

Hey Loren,

The single hand auger boring we are planning to take is across Delta Substation and within 4 feet of Phillips Parkway (east side). I marked it with an X (Top Left of SWMU map) and just south of Parol Road. We are well north of the SWMU. I also included a Google KMZ point for this single boring. Is it safe to take Area 2's IRP notes completely off the IRP?

I also provide Area 3's approx.. single hand auger boring location which is north of SLC 37.

Appreciate your help.

Thank You,

Bunti Patel, PE

Senior Project Manager - AECOM

8136362445 - direct; 8139665597 - cell; bunti.patel@aecom.com

From: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO
Sent: Thursday, November 7, 2019 10:56 AM
To: Patel, Bunti A.
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE; 'Pete Eggert'
Subject: RE: EDTPF Roadway Geotech Investigations - IRP Plan

Hi Bunti,

Attached is a figure from our most recent LTM Report for Facility 38320 with our plume boundaries. Could you please mark the location of the geotech sample location on this figure? Based on a recent look at Sheet 27, I think the boring may actually be north of our plume. Let me know what you think.

Thanks,

Loren

//SIGNED//

Loren M. Lorenz, GS-12, DAF
Restoration Project Manager
Patrick Installation Support Section
Air Force Civil Engineer Center (AFCEC/CZOE)
(321) 494-5221 (Desk) (DSN 854)
(321) 536-4759 (Mobile)
Loren.Lorenz.1@us.af.mil

From: Patel, Bunti A. <Bunti.Patel@aecom.com>
Sent: Tuesday, November 5, 2019 4:14 PM
To: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; 'Pete Eggert' <peggert@spaceflorida.gov>
Subject: [Non-DoD Source] RE: EDTPF Roadway Geotech Investigations - IRP Plan

Loren,
Thanks for helping with this.

I have sent my revisions to Space Florida and Terracon for a quick review. I hope to get the updated IRP back to you and John tomorrow.

Thanks,
Bunti Patel, PE
AECOM
813-636-2445 (office) or 813-966-5597 (cell)

From: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Sent: Tuesday, November 05, 2019 1:59 PM
To: Patel, Bunti A. <Bunti.Patel@aecom.com>
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; 'Pete Eggert' <peggert@spaceflorida.gov>
Subject: RE: EDTPF Roadway Geotech Investigations - IRP Plan

Hi Bunti,

We have the following comments from FDEP:

1. Typos should be revised in the Work Plan (there are a several in each Area of Concern section).
2. Specify the type of equipment used to collect the borings (e.g. hollow-stem auger, DPT, etc.) and note that borings will be hand-dug to 4 ft bls.
3. Boring depth and the anticipation for not finding contamination at the proposed coring depth should be the same at each Area of Concern.
4. Terracon should inform the Air Force if suspected contaminants are detected while conducting the boring activities at these Areas of Concern.
5. As long as nothing is detected during coring activities (odors and/or vapors from contaminants in the subsurface), then the drilling equipment may be rinsed near the edge of the roadway (or in the case of Area 1 on the impervious surface of the parking lot) but away from the open bore hole. Please note this in Remedial Action "iii" for area affected (A and B).

For construction activities as part of the proposed project, dry soils to 2 feet could be removed/hailed off-site as they are not impacted by any known contamination. Any digging to or contacting the groundwater table would require further coordination through our office.

Please let me know if you have any questions.

Thanks,

Loren

//SIGNED//

Loren M. Lorenz, GS-12, DAF
Restoration Project Manager
Patrick Installation Support Section
Air Force Civil Engineer Center (AFCEC/CZOE)
(321) 494-5221 (Desk) (DSN 854)
(321) 536-4759 (Mobile)
Loren.Lorenz.1@us.af.mil

From: Patel, Bunti A. <Bunti.Patel@aecom.com>
Sent: Monday, October 28, 2019 9:42 AM
To: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; 'Pete Eggert' <peggert@spaceflorida.gov>
Subject: [Non-DoD Source] RE: EDTPF Roadway Geotech Investigations - IRP Plan

Hey Loren,

Thanks for the update.

For construction purposes, if we could also ask, would it be ok for contractor to remove and haul off dirt/excavations from the top 2 feet when we build the pavement/shoulder. We do not anticipate digging much deeper than that besides a small area to put a stormwater inlet/manhole. This way we can inform the contractor to price their bids appropriately. For anything deeper than 3 feet we can ask contractors to put the dirt/excavations at areas specified by USAF, spread it for embankment, or have contractor take it to approved disposable sites.

Thanks,
Bunti Patel, PE
AECOM
813-636-2445 (office) or 813-966-5597 (cell)
7650 West Courtney Campbell Causeway, Tampa, FL 33607

From: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Sent: Monday, October 28, 2019 9:20 AM
To: Patel, Bunti A. <Bunti.Patel@aecom.com>
Cc: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>
Subject: RE: EDTPF Roadway Geotech Investigations - IRP Plan

Hey Bunti,

Just wanted to let you know we are still working with our regulator on the plan as he had some additional comments on the borings and waste handling. I think we should have it resolved by mid-later this week.

Thanks,

Loren

//SIGNED//

Loren M. Lorenz, GS-12, DAF
Restoration Project Manager
Patrick Installation Support Section
Air Force Civil Engineer Center (AFCEC/CZOE)
(321) 494-5221 (Desk) (DSN 854)
(321) 536-4759 (Mobile)
Loren.Lorenz.1@us.af.mil

From: Patel, Bunti A. <Bunti.Patel@aecom.com>
Sent: Monday, October 14, 2019 5:41 PM
To: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>; LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>
Cc: LONG, EVA M CIV USAF AFSPC 45 CES/CEIE <eva.long@us.af.mil>; Pete Eggert <PEggert@spaceflorida.gov>; Wood, Richard <Richard.Wood2@aecom.com>; McMaster, Shenna L. <Shenna.McMaster@terracon.com>; Martin, Clint <Clint.Martin@aecom.com>; DEAL, GREGORY A GS-12 USAF AFSPC 45 CES/CEZL <gregory.deal.1@us.af.mil>
Subject: [Non-DoD Source] EDTPF Roadway Geotech Investigations - IRP Plan

Hello Loren and John,

As discussed on October 3rd, please find attached the Infrastructure Restoration Plan for the FDOT Economic Development Transportation Project Fund Roadway Widening's Geotechnical Investigations. Please also find attached the pending AF332 which shows the sketches of the areas.

Please let me know your thoughts and concerns.

Thanks,
Bunti Patel, PE
AECOM
813-636-2445 (office) or 813-966-5597 (cell)
7650 West Courtney Campbell Causeway, Tampa, FL 33607

From: LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Sent: Monday, October 07, 2019 2:36 PM
To: Patel, Bunti A. <Bunti.Patel@aecom.com>; LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>
Cc: LONG, EVA M CIV USAF AFSPC 45 CES/CEIE <eva.long@us.af.mil>; Pete Eggert <PEggert@spaceflorida.gov>; Wood, Richard <Richard.Wood2@aecom.com>; McMaster, Shenna L. <Shenna.McMaster@terracon.com>
Subject: RE: EDTPF Roadway - Geotech Support URP Question

Hi Bunti,

I will send you the latest long term monitoring report for Facility 38320 (SWMU C150, southwest of SLC-37) and the last report for Facility 44501 (SWMU C035, just east of the southeast parking lot at corner of Phillips and Central Control Road) via AMRDEC. Please let me know if you have any trouble accessing or downloading the documents.

Thanks,

Loren

//SIGNED//

Loren M. Lorenz, GS-12, DAF
Restoration Project Manager
Patrick Installation Support Section
Air Force Civil Engineer Center (AFCEC/CZOE)
(321) 494-5221 (Desk) (DSN 854)
(321) 536-4759 (Mobile)
Loren.Lorenz.1@us.af.mil

From: Patel, Bunti A. <Bunti.Patel@aecom.com>
Sent: Monday, October 7, 2019 12:13 PM
To: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Cc: LONG, EVA M CIV USAF AFSPC 45 CES/CEIE <eva.long@us.af.mil>; Pete Eggert <PEggert@spaceflorida.gov>; Wood, Richard <Richard.Wood2@aecom.com>; McMaster, Shenna L. <Shenna.McMaster@terracon.com>
Subject: [Non-DoD Source] RE: EDTPF Roadway - Geotech Support URP Question

Hello Loren and John,
Hope you had a great weekend.

If data is available, could you provide levels of petroleum near Building XY and chloride solvents near SLC 37/Phillips Parkway so Terracon (Geotechnical Firm) can update the attached working IRP? Any plumes/SWMU data that could help Terracon would be appreciated as well.

Thanks,
Bunti Patel, PE
AECOM

From: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>
Sent: Thursday, October 03, 2019 1:54 PM
To: Pete Eggert <PEggert@spaceflorida.gov>
Cc: Patel, Bunti A. <Bunti.Patel@aecom.com>; LONG, EVA M CIV USAF AFSPC 45 CES/CEIE <eva.long@us.af.mil>; LORENZ, LOREN M GS-12 USAF AFSPC AFCEC/CZO <loren.lorenz.1@us.af.mil>
Subject: RE: EDTPF Roadway - Geotech Support URP Question

Pete,

I've cc'd Loren on this and she will be able to help you out.

Thanks,

John Langett, DAF
Remedial Project Manager
Installation Restoration Program
Patrick Installation Support Section
Air Force Civil Engineer Center
DSN 467-6578/Comm (321) 853-6578
John.Langett.1@us.af.mil

From: Pete Eggert <PEggert@spaceflorida.gov>
Sent: Wednesday, October 2, 2019 10:48 AM
To: LANGETT, JOHN M GS-12 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>
Cc: Patel, Bunti A. <Bunti.Patel@aecom.com>; LONG, EVA M CIV USAF AFSPC 45 CES/CEIE <eva.long@us.af.mil>
Subject: [Non-DoD Source] EDTPF Roadway - Geotech Support URP Question

Hi John,

I don't know how familiar you are with the EDTPF project – which is essentially road and signal improvements to support Blue Origin's transporter vehicle from the manufacturing site in Exploration Park to the Launch Site at SLC36 and recovery from the port.

To support the project we need to perform some Geotech on CCAFS.

I have attached the 332 with the IRP comment.

It would be extremely helpful if you could identify the type of contamination in the proposed boring locations – please see the attached maps and areas for boring. The locations are outlined in the attached 103 and 332.

I believe we can develop a plan based on what the contamination is – and possibly avoid the contamination if we can understand where it is and what type.

This is the synopsis of the work - GEOTECHNICAL: We will be doing 6 borings and 1 corrosion series test. We will also be doing Limerock bearing ratio test at 3 of the 6 boring locations. Subsurface Utility Exploration: we will be doing 10 to 20 soft digs or probes to locate the depths of the utilities in the large area South of Bldg. XY.

I have copied Bunti Patel who is the project manager for this effort.

Please contact me or Bunti with questions.
We are happy to talk to walk you through it or answer questions.

Thanks,

Pete

Pete Eggert

Director, Environmental Health and Safety

SPACE FLORIDA



505 Odyssey Way, Suite 300,
Exploration Park, FL 32953

T 321.730.5301 (x123)

C 321.266.9020

F 321.730.5307

SpaceFlorida.gov

[Twitter](#) | [Facebook](#) | [LinkedIn](#)

Avoid Verbal Orders

TO: SPFL/Pete Eggert

DATE: 06/18/2019

FROM: SI-E3/Environmental Management Branch

SUBJECT: KSC Record of Environmental Consideration (REC)

REC #: 10678

1. PROJECT INFORMATION

Project Title: EDTPF Infrastructure Improvements

Project Lead: Gerard Nesel, Space Florida, 321-730-5301 x118

Project No.: SPFL-6-11-2019

Project Description: Roadway and infrastructure improvements (Economic Development Transportation Project Funds [EDTPF]) along Space Commerce Way, NASA Pkwy, Kennedy Pkwy, Saturn Cswy, Philips Pkwy, and Central Control Road for the transportation of Blue Origin's flight hardware from the Blue Origin Manufacturing Complex to SLC-36 and from the Port to SLC-36. Plans and drawings attached to the checklist.

EPB Reviewer: LPH

Facility No.: Roadway Improvements

2. NEPA DETERMINATIONS

☒ a. Categorical Exclusions per 14 CFR Part 1216.304(d)

☐ e. Centerwide EIS

☒ b. Environmental Assessment (EA) Required

☐ f. AF Project on KSC/813

☐ c. Environmental Impact Statement (EIS) Required

☒ g. NASA Project on CCAFS/813

☒ d. Existing FONSI or ROD

3. ENVIRONMENTAL REQUIREMENTS

a. Non-Permit Requirements

☒ YES

☐ NO

b. Permit Requirements

☒ YES

☐ NO

2.d.1. ENVIRONMENTAL ASSESSMENT (EA): This project cannot be categorically excluded (CATEX) as defined in 14 CFR 1216.305) from further NEPA review. The proposed action was covered under the Environmental Assessment for the Blue Origin Orbital Launch Site at Cape Canaveral Air Force Station, November 2016. For additional information, please contact Don Dankert of the NASA Environmental Management Branch (SI-E3, 321-861-1196).

2.g.1. AIR FORCE PROPERTY: Portions of this project are located on CCAFS property. Coordination with the 45th CES/CEIE is required prior to any construction activity related to the proposed infrastructure improvements. AF Form 813 must be completed for project review by the Air Force. Contact Eva Long (853-0910, 45 CES/CEIE) if clarification is required.

NOTE: Portions of this project are located on CCAFS as shown on overall project layout map. No detailed plan views of work on CCAFS were provided with the environmental checklist.

3.a.1. SOLID WASTE MANAGEMENT UNIT (SWMU)/POTENTIAL RELEASE LOCATION (PRL) SITES: The proposed project is located within the boundary of identified SWMU and PRL sites being investigated by the Remediation Group of the NASA Environmental Assurance Branch (SI-E2) or the AF Installation Restoration Program (IRP). A SWMU or PRL designation means a site has had historical operations which had the potential to impact the environment. This project includes work within the boundary of the following sites.

SWMU #043 East Crawler Park Site (RPM Lindsay Morgan, 867-5352). A LUCIP has been developed for PCB contaminated soils. Contact NASA RPM Lindsey Morgan (SI-E2, 867-5352) for guidance regarding handling of soil at this location. Additionally, this area overlies a plume of contaminated groundwater originating from SWMU 107, "LC39 Observation Gantry Area" which also has a LUCIP to prevent exposure to the groundwater. Contact NASA RPM Dinh Vo (SI-E2, 867-5964) for guidance regarding handling of groundwater at this location.

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SWMU #56 MLP Park Sites/VAB Area - This area is being investigated under Remediation Project Manager (RPM) Anne Chrest (SI-E2, 867-2056). A Land Use Control Implementation Plan (LUCIP) has been prepared for the SWMU. These controls are necessary to prohibit residential exposure to contaminated groundwater present at the site. All workers involved in subsurface/dewatering work must be notified (HAZCOM) of the potential for contamination present. Contact the NASA RPM for further guidance regarding handling and disposal of soil and/or groundwater at this location. Contact your company's Safety and Health Office or KEMCON/IMSS Industrial Hygiene (IH) for recommendations on personal protective equipment (PPE). KEMCON IH can be contacted at 867-2400 or at KSC-DL-EnvHealth/(KSC-DL-EnvHealth@mail.nasa.gov).

The proposed project is also within SWMU #111, LC-39A Operations Support Building Area. This area is being investigated by the NASA Remediation Group under RPM Ryan O'Meara (SI-E2, 861-7719). There are no soil contamination concerns however if dewatering becomes necessary, contact the RPM for guidance regarding handling of groundwater at this location.

Space Commerce Way and NASA Pkwy - SS 148 and LBS 55 are part of PRL #227 (Stand Alone Electrical Equipment). If disturbance of the concrete pads or surrounding soil is necessary, contact the RPM Lindsay Morgan (SI-E2, 867-5352) for specific guidance regarding handling of soil and concrete at this location.

NOTE: There may be active monitoring wells in the project area. Prior to project commencement, existing wells should be identified and precautions taken so as not to cover or damage the wells, or place heavy equipment or vehicles on top of the well covers.

The following areas have been deemed No Further Action (NFA) sites. There is no knowledge of any existing environmental contamination at these locations.

NASA Pkwy and Kennedy Pkwy Interchange - PRL #151 NASA/Kennedy Pkwy Interchange Bridge, NFA

PRL #171 Area 1 Rechlorination Buildings NFA

PRL #174 Area 2 Repeater Buildings, VAB Repeater Building, NFA

PRL #233 Acquired Structures with Engineering Drawings, NFA

PRL #193 Tracking Stations, Beach Tracking Site North, NFA

PRL #194 Radar Wind Profiler Site D, NFA

The following CCAFS IRP sites may be impacted by this project:

C025 Landfill #1

C107 TV Skyscreen Building

C126 XY Building

C131 Auxiliary Power

C133 UST Location

C150 Pad Mounted Transformer, Facility 38320

C188 Pad Mounted Transformer, Facility 42947 area

CC054 Launch Complex 34

Details of work to be performed on CCAFS should be provided to Remediation Project Manager John Langett (USAF AFCEC/CZOE, 853-6578) for guidance on soil and groundwater management at these AF sites.

3.a.2. MANHOLE DEWATERING POTENTIAL RELEASE LOCATION (PRL): This project includes work within the boundary of PRL 204, Manhole Dewatering Operations. There is an institutional control being implemented on the soil within a 25 ft radius of manholes on KSC. The soil adjacent to telecommunications and electrical manholes is contaminated with barium, copper, lead and polynuclear aromatic hydrocarbons. The maximum concentrations found

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are barium at 410 mg/kg, copper at 440 mg/kg, lead at 4,900 mg/kg and B(a)P Equivalent at 35.4 mg/kg. If handling the soil (excavation or any other activity in which the soil is disturbed and handled by workers) within 25 ft of a manhole, contact your company's Safety and Health Office for recommendations on appropriate personal protective equipment (PPE). All soil being disturbed within 25 ft of the manhole being dewatered must remain within that 25 ft radius. If this is not possible the soil must be properly disposed. All efforts should be made to cause the dewatered effluent to be discharged in a sheet flow along grade and not be allowed to scour the soil at the discharge point. Erosion protection will be provided as needed and applicable to prevent the disturbance/erosion of soil due to construction activities and dewatering near manholes. For more information, or if soil must be disturbed, please contact Mike Deliz (SI-E2, 867-6971) to discuss control/disposal options.

3.a.3. HAZARDOUS/NON-HAZARDOUS WASTE: All hazardous and non-hazardous wastes must be properly containerized, stored, labeled, manifested, shipped, and disposed of by Space Florida in full regulatory compliance. Hazardous wastes generated by this activity must be manifested, shipped, and disposed of under Space Florida or their contractor's Environmental Protection Agency (EPA) identification number for the premises. Space Florida shall maintain copies of waste management records and manifests onsite and make them available for review by NASA upon request. Space Florida is responsible for any spills, releases, or other environmental contamination that occurs as a result of the proposed activities. A KSC Pollution Incident Report (PIR) Form (KSC Form 21-555) must be completed and submitted to the NASA Environmental Assurance Branch within three (3) calendar days of the incident.

3.a.4. HAZARDOUS AND CONTROLLED WASTE (PAINT): This project may involve the application of paint coatings. All practical precautions must be taken to eliminate the possibility of a release of material or waste into the environment (primers/paints) from the paint surface preparation and painting operation. Paint chips, rust, debris, blast media, wastewater, etc. generated during preparation of surfaces will be contained and disposed of according to waste management guidelines given above in item 3.a.3.

3.a.5. PAINT DISTURBANCE/REMOVAL: Disturbance/removal of paint coatings has the potential to encounter the 8 RCRA hazardous metals (Ag, As, Ba, Cd, Cr, Hg, Pb, and Se) and PCBs. Materials with coatings which contain heavy metals or PCBs must be managed and disposed in accordance with OSHA standards and hazardous waste regulations. Disposal of painted materials: Painted construction and demolition waste items will be accepted at the KSC Class III Landfill without PCB or TCLP analysis but must be managed according to PCB bulk product waste storage regulations in 40 CFR Part 761 until disposal in the landfill. This includes covering the materials and storing them on an impermeable surface for protection against precipitation and prevention of soil contamination. Guidelines for disposal of items at the KSC Class III Landfill are outlined in Kennedy NASA Procedural Requirements (KNPR 8500.1, Chapter 14). Contact Zach Hall (SI-E2, 867-5178) for the current version of these requirements.

3.a.6. THREATENED AND ENDANGERED/PROTECTED SPECIES: Operations and future development at TENANT site have the potential to impact protected or threatened and endangered wildlife species including the Eastern indigo snake and the gopher tortoise. Measures must be taken to minimize impacts to the wildlife and their habitat. If indications of activity by any protected species are present in the project area, possible impacts must be evaluated, and in the case of the gopher tortoise, the burrows must be identified and avoided if possible. If identified burrows are within the area of construction, relocation of animal in question will be required. Relocation of gopher tortoises requires a Florida Fish and Wildlife Conservation Commission permit. Additional information on gopher tortoise permits can be found at <http://myfwc.com/license/wildlife/gopher-tortoise-permits/>. A biological survey will be required to identify potential impacts to habitat within the two weeks immediately preceding start of site work. After the survey has been performed and if gopher tortoise burrows are observed please contact Becky Bolt (IMSS-200, 867-7330). If any indigo snakes are observed, halt all work until the snake has left the area and please inform Becky of the sighting. Do not harm or harass the snakes. Becky is available to conduct a brief wildlife awareness training session for workers either on site or at

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another location. Please contact Becky at 867-7330 to schedule this wildlife awareness briefing prior to starting land disturbance and equipment mobilization. If vegetation clearing or any disturbance of vegetated areas is necessary, a biological survey will be required to identify potential impacts to habitat and wetlands prior to disturbances.

This project (proposed relocation of light poles) has the potential to impact protected bird species. Lighting, electrical, and communication structures on KSC have consistently been used by nesting birds such as ospreys. Because of the ospreys' protection under federal and state laws, disturbance of these nests while occupied with eggs and fledglings is illegal. If any nest is observed on the tower contact Becky Bolt (IMSS-200, 867-7330) at least 14 days prior to beginning work in order to schedule a biological survey. Other birds may use wooden towers for nesting, which may not be evident from the ground. If any wooden poles are to be removed during this project, they must be inspected for nests and eggs or fledglings. Please contact Becky Bolt (IMSS-200, 867-7330) 14 days prior to beginning work in order to schedule a biological survey for nesting birds.

3.a.7. EXTERIOR LIGHTING: The installation/modification and use of any lighting that is visible from the exterior of a facility or structure must be in compliance with the requirements in the KSC Exterior Lighting Guidelines in Chapter 24 of KNPR 8500.1 Rev. E, and requirements of the US Fish and Wildlife Service Biological Opinion for KSC regarding dark skies and artificial lighting. Safety and hazardous operations can apply for a waiver to allow for use of non-compliant lighting; however, justification must be provided to the NASA Environmental Office. Development of a lighting operations manual (LOM) that meets these criteria is required for all new structures or facilities. Please contact Don Dankert, NASA Environmental Management Branch (SI-E3) at 861-1196 for additional information, and for guidance on development of a LOM or for a copy of the referenced documents.

3.a.8. ARCHAEOLOGICAL/HISTORIC PROPERTY: The proposed infrastructure improvements will go through the Town of Orsino historic site and also impact NASA Parkway, identified as a historic road. Work may proceed, however if any archaeological material (e.g., artifacts and/or cultural features or human remains) is found, work must stop immediately and the KSC Cultural Resources Manager is to be contacted (Don Dankert, SI-E3, 861-1196).

3.a.9. EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs): Precautions must be made to eliminate or reduce to the greatest extent possible any discharge of sediments outside established project boundaries. This can be accomplished by initiating proactive erosion control BMPs. Installation and maintenance of appropriate erosion/sediment control devices (such as wattles, turbidity screens, silt fences, inlet protectors, floating turbidity booms, etc.) must be completed prior to initial land disturbance where the possibility of sediment discharge could impact surrounding stormwater conveyances and other surface waters. The BMPs must be maintained so they remain functional until such time that the newly exposed soils are stabilized with sod or natural vegetation.

3.a.10. CONCRETE WASHOUT: Water used to rinse out concrete trucks and other equipment used for concrete work must not be allowed to discharge to surface waters. Concrete washout water shall be diverted to a settling pond where suspended material will settle out and the water can percolate into the ground. Contact Doug Durham (SI-E2, 867-8429) with any question on this requirement. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes. After drying/settling, the residue may be disposed of at the Diverted Aggregate Reclamation and Collection Yard (DARCY); and the ground restored. Clean, unstained, unpainted concrete residue is accepted at the DARCY without any sampling and analysis. Contact Zach Hall (SI-E2, 867-5178) with any questions on this requirement.

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3.a.11. ASPHALT WASTE: All asphalt waste should be segregated from all other wastes generated, and transported to the KSC Landfill on Schwartz road. This material can be recycled in the form of roadway stabilization within the landfill if not contaminated by other waste streams. For more information, contact Zach Hall (SI-E2, 867-5178).

3.a.12. RECYCLING: The contractor must make every practical effort to reclaim and segregate materials that have the ability to be recycled. All reclaimed concrete (see Item 3.a.13) must be segregated from other wastes and transported to the KSC Landfill (L7-0071) on Schwartz Road. All reclaimed scrap metal, not being recycled by contractor outside of KSC, must be transported to the Reutilization, Recycling and Marketing Facility (RRMF) with a KSC Form 7-49. Please turn these items and the KSC Form 7-49 in to RRMF personnel to ensure the proper disposition of the materials prior to leaving the recycling area. For any other information regarding materials that can be recycled or other general information regarding recycling policies at KSC, please contact the Environmental Management Branch (Annie Williams, SI-E3, 867-8720).

3.a.13. CONCRETE RECYCLING/DISPOSAL: Clean, unstained, unpainted concrete is accepted at the Diverted Aggregate Reclamation and Collection Yard (DARCY) without any sampling and analysis. Painted concrete must have PCB and Total Metals analyses (limited to Pb, Cd, and Cr) performed to determine whether it will be accepted at the DARCY for reuse. The results of the analysis must show metal concentrations below the residential cleanup level (Pb = 400 ppm, Cd = 82 ppm, Cr = 210 ppm) and PCB levels below 0.5 ppm. If no testing is done or if PCB and/or Total Metals concentrations are above residential cleanup levels, coated concrete goes to the landfill as construction/demolition debris. When feasible, painted concrete should be segregated from unpainted concrete for placement in the DARCY. No oil-stained concrete will be accepted at the DARCY. Due to the potential for PCB contamination, all removed concrete associated with oil-containing electrical equipment must be disposed as regulated PCB waste. To coordinate or for more information, contact Zach Hall (SI-E2, 867-5178).

3.b.1. EXCAVATION PERMIT: A KSC Excavation Permit will be required for any digging proposed by this project. Please contact the Utility Locate/Excavation Permit Request Customer Helpline at 867-2406 or go to website at <http://epr.ksc.nasa.gov/Home/> for an underground utility scan and dig permit. NOTE: If a trench or pit is to be left open all day or overnight, the trench/pit must be checked for trapped animals at the beginning and end of each work shift. If an animal is observed trapped, contact Becky Bolt (IMSS-200, 867-7330) or the Duty Office (861-5050, email KSC-ISC-DutyOffice@mail.nasa.gov) to arrange removal/release. Do not handle the animal(s).

3.b.2. ENVIRONMENTAL RESOURCE PERMIT (ERP) - STORMWATER: The project area will impact existing Environmental Resource Permit (ERP) stormwater systems:

Space Commerce Way Phase II, #67717-3

Kennedy Parkway Extension, #16661-1

VAB Sub-basin 11, #16523-2

Launch Complex 39 Observation Tower, #24307-2

LC-39A Pad Support Building, #81270-1, SpaceX

A modification of existing permitting or new permitting will be required by the project. Application forms with supporting material including maps and engineering drawings must be submitted to Doug Durham (SI-E2, 867-8429) of the Environmental Assurance Branch (EAB) by the 90% Design Review phase for review and NASA signatures. An electronic version in PDF format should also be provided. It is the responsibility of the project proponent to submit the application to the regulatory agencies and pay the application fee. No work can be performed until the permit process is completed. Please contact Doug Durham for additional information.

3.b.3. ENVIRONMENTAL RESOURCE PERMIT (ERP) and ACOE Permit: Wetland permits from the St. Johns River Water Management District (SJRWMD) and US Army Corp of Engineers (ACOE) will be required for the proposed culvert pipe extension and endwall construction. Application forms with supporting material such as maps and

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engineering drawings must be submitted to the EAB (Doug Durham, SI-E2, 867-8429) for review and NASA signatures. An electronic version in PDF format should also be provided. It is the responsibility of the project proponent to submit the application to the regulatory agencies and pay the application fee. No work can be performed until the permit process is completed. Please contact Doug Durham for additional information.

3.b.4. FDEP NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION ACTIVITY PERMIT: This project may require an NPDES Phase II construction permit. If 1 acre or more of land will be disturbed, a NPDES Construction Activity Permit from the Florida Department of Environmental Protection (FDEP) is required under F.A.C. 62-621.300(4), Notice of Intent to Use Generic Permit for Stormwater Discharge from Large (If over 5 Acres) and Small (1 Acre To 5 Acres) Construction Activities. http://www.dep.state.fl.us/water/stormwater/npdes/forms/cgp_noi.pdf.

This includes construction activity which will disturb less than one acre of land area that is part of a larger common plan of development that will ultimately disturb equal to or greater than one acre of land. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site. A condition of this permit is to provide a Stormwater Pollution Prevention Plan (SWPPP) detailing erosion and turbidity controls for the site. Information on completing the permit application and development of the SWPPP can be obtained by contacting Doug Durham (SI-E2, 867-8429).

3.b.5. WATER RESOURCE PERMITTING (Potable Water): The proposed project may require a permit for the alteration or installation of utilities for transport of potable or FIREX water. Any work done will be per standards and criteria set forth in the permit requirements, and not jeopardize the health and safety of personnel due to effects of the construction/modification on the KSC potable water system (i.e. disinfection and verification prior to use).

Space Florida shall obtain all required environmental permits, prepare application, and pay application fees. The proposed connection to the potable water system must be coordinated with the KSC public water system operator. The NASA EAB will sign permit applications as landowner or utility system owner if legally required contact Doug Durham (SI-E2, 867-8429) for assistance. Space Florida shall submit courtesy copies of all applications to the NASA EAB within five (5) working days after submission to FDEP. Space Florida shall submit courtesy copies of the permit to the NASA EAB within five (5) working days after receipt from FDEP, and ensure that all operations, activities, equipment, and facilities are in full compliance with all permit conditions. Space Florida shall maintain copies of all records required to demonstrate compliance with the permit onsite and make them available for review by NASA upon request.

No other environmental issues were identified based upon the information provided in the KSC Environmental Checklist. This Record of Environmental Consideration (REC) does not relinquish the project lead from obtaining and complying with any other internal NASA permits or directives necessary to ensure all organizations potentially impacted by this project are notified and concur with the proposed project.

Due to potential changes in regulations, permit requirements and environmental conditions, statements in this REC are valid for 6 months, and subject to review after this period. It is the responsibility of the project lead to submit current project information for a REC update prior to project commencement if REC is older than 6 months; and also to notify the Environmental Management Branch (SI-E3) if the scope of the project changes at any time after the REC is issued.

P. Eggert/SPFL

cc:

G. Nese/SPFL

B. Bolt/IMSS-200

J. Ryba/SI-E3

D. Dankert/SI-E3

D. Durham/SI-E2

E. Long/45 CES/CEIE

J. Langett/AFCEC/CZOE

L. Lorenz/AFCEC/CZOE

Avoid Verbal Orders

TO: SPFL/Pete Eggert

DATE: 06/18/2019

FROM: SI-E3/Environmental Management Branch

SUBJECT: KSC Record of Environmental Consideration (REC)

REC #: 10678

4. Upon evaluation of the subject project, the above determinations have been made and identified. Contact the Environmental Management Branch (SI-E3) at 861-1196 for re-evaluation should there be any modifications to the scope of work.



James Brooks

06/18/2019 07:36

Date

Attachment “D”

Plans

SPACE FLORIDA ECONOMIC DEVELOPMENT TRANSPORTATION PROJECT FUND (EDTPF) INFRASTRUCTURE IMPROVEMENTS

ROADWAY PLANS

FINANCIAL PROJECT ID 439053-1-54-01

DRAWING INDEX OF IMPROVEMENTS*

SHEET NO. SHEET DESCRIPTION

1	KEY SHEET
2 - 3	SIGNATURE SHEET
4	SUMMARY OF PAY ITEMS
5	DRAINAGE MAP
6	TYPICAL DETAILS
7	PROJECT LAYOUT
8 - 9	GENERAL NOTES
10 - 40	ROADWAY PLAN
41 - 42	GRADING AND DRAINAGE PLAN
43	POND AND OUTFALL DETAILS
44	POND AND DITCH BLOCK DETAILS
45	COMM MANHOLE ADJUSTMENT AND ERCP ENCASEMENT DETAILS
46 - 76	CROSS SECTIONS
77 - 78	STORMWATER POLLUTION PREVENTION PLAN
79 - 80	TEMPORARY TRAFFIC CONTROL PLAN
S-1	SIGNING AND PAVEMENT MARKINGS LAYOUT
S-2 - S-29	SIGNING AND PAVEMENT MARKINGS
L-1 - L-6	LIGHTING PLAN
L-7	LIGHT POLE FOUNDATION DETAIL

* ALL SHEET ARE PART OF THE BASE BID
UNLESS OTHERWISE INDICATED WITHIN
THE SHEET DESCRIPTION.

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2019-20 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, January 2020 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>.



ROUTE 1:
MANUFACTURING COMPLEX TO SLC-36

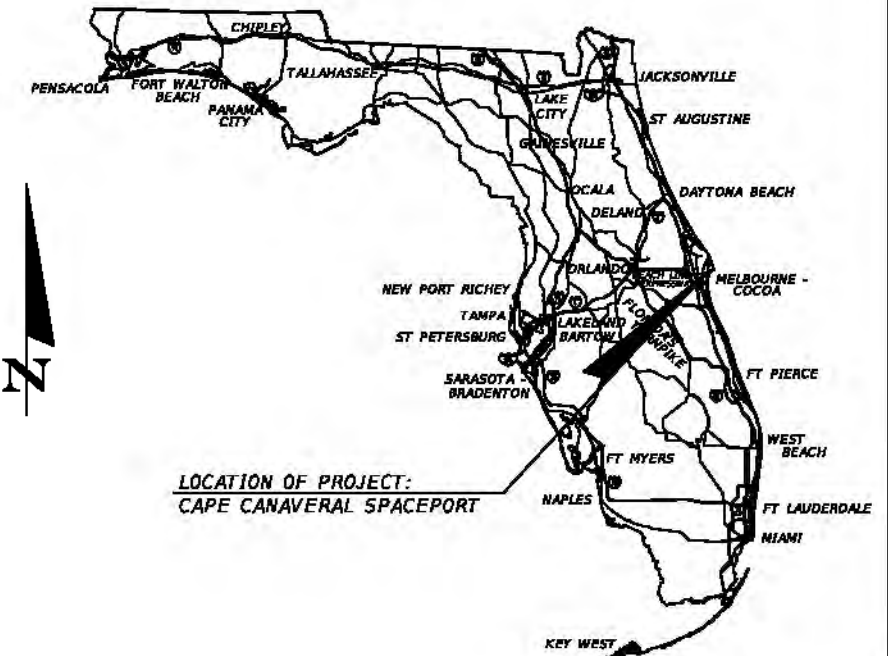
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STA. 1000+00.00 Q ROUTE 1

BEGIN ROUTE 2: PORT TO GROUPE ROAD
STA. 3012+30.00 Q ROUTE 2

ROUTE 2:
PORT TO SLC-36

REVISIONS:

1 Addendum 1 - Entire Set Reissued
(Revised 3/24/20)



LOCATION OF PROJECT:
CAPE CANAVERAL SPACEPORT

END ROUTE 2: PHILLIPS PKWY AND CENTRAL CONTROL RD
(STA. 3357+48.31 Q CONST. ROUTE 2=
STA. 2073+59.48 Q CONST. ROUTE 1)

ADDENDUM 1 SUBMITTAL
MARCH 24, 2020

END ROUTE 1: SLC-36
STA. 2206+89.41 Q ROUTE 1

ROADWAY PLANS

ENGINEER OF RECORD:

BRUNO J. FIORI, P.E. NO.: 49150
AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
VENDOR NO.: 952661922-011

AECOM PROJECT MANAGER:

BUNTI PATEL, P.E.

SPACE FLORIDA PROJECT MANAGER:

STEVE SZABO, P.E.

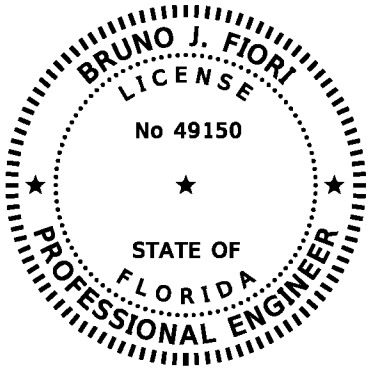
SPACE FLORIDA



KEY SHEET REVISIONS	
DATE	DESCRIPTION
3/24/20	Addendum 1 - Entire Sheet Reissued

SHEET
NO.

1



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

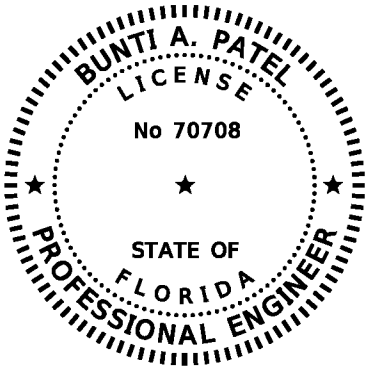
ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED.
THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION NO.: 8115
BRUNO J. FIORI, P.E. NO.: 49150

THE ABOVE PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
1	KEY SHEET
2	SIGNATURE SHEET
4	SUMMARY OF PAY ITEMS
6	TYPICAL DETAILS
7	PROJECT LAYOUT
10 - 40	ROADWAY PLAN
46 - 76	CROSS SECTIONS
79 - 80	TEMPORARY TRAFFIC CONTROL PLAN



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:

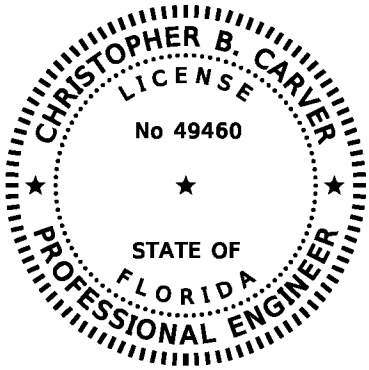
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AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION NO.: 8115
BUNTI A. PATEL, P.E. NO.: 70708

THE ABOVE PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
2	SIGNATURE SHEET
7 - 8	GENERAL NOTES
42	GRADING AND DRAINAGE PLAN
43	POND AND OUTFALL DETAILS
44	POND AND DITCH BLOCK DETAILS



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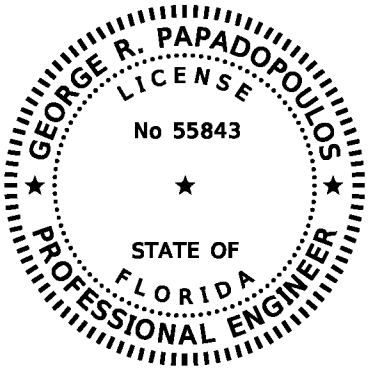
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7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION NO.: 8115
CHRISTOPHER BRADLEY CARVER, P.E. NO.: 49460

THE ABOVE PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
2	SIGNATURE SHEET
5	DRAINAGE MAP
41	GRADING AND DRAINAGE PLAN
77 - 78	STORMWATER POLLUTION PREVENTION PLAN



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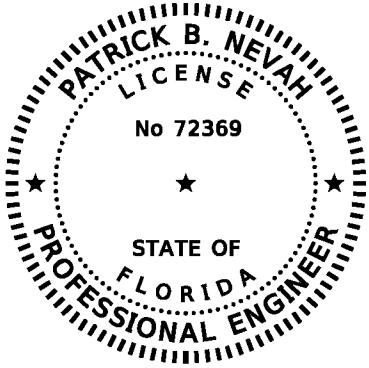
AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION NO.: 8115
GEORGE R. PAPADOPOULOS, P.E. NO.: 55843

THE ABOVE PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
2	SIGNATURE SHEET
45	COMM MANHOLE ADJUSTMENT AND ERCP ENCASEMENT DETAILS
L-7	LIGHT POLE FOUNDATION DETAIL

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SHEET NO. 2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01	

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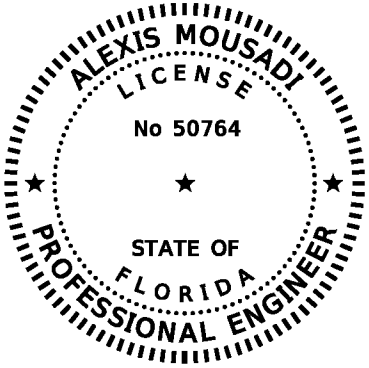
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AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION NO.: 8115
PATRICK B. NEVAH, P.E. NO.: 72369

THE ABOVE PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
3	SIGNATURE SHEET
S-1	SIGNING AND PAVEMENT MARKINGS LAYOUT
S-2 - S-29	SIGNING AND PAVEMENT MARKINGS



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7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION NO.: 8115
ALEXIS MOUSADI, P.E. NO.: 50764

THE ABOVE PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE
FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
3	SIGNATURE SHEET
L-1 - L-6	LIGHTING PLAN

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SIGNATURE SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01		3

SUMMARY OF PAY ITEMS - BASE BID			
FDOT PAY ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
101-1	Mobilization	LS	1
102-1	Maintenance of Traffic	LS	1
102-60	Work Zone Sign	ED	22,496
102-71-13	Temporary Barrier, F&I, Low Profile, Concrete	LF	4,110
102-71-16	Temporary Barrier, F&I, Free Standing	LF	1,442
102-71-23	Temporary Barrier, Relocate, Low Profile, Concrete	LF	20,024
102-74-1	Channelizing Device-Types I, II, DI, VP, DRUM, OR LCD	ED	42,272
102-74-2	Channelizing Device-Type III, 6'	ED	742
102-89-1	Temporary Crash Cushion, Redirective Option	LO	4
102-99	Portable Changeable Message Sign - Temporary	ED	742
102-913-11	Removable Tape, Black, Solid, 6"	LF	8,755
102-913-21	Removable Tape, White, Solid, 6"	LF	19,055
102-913-31	Removable Tape, Yellow, Solid, 6"	LF	34,505
104-1	Artificial Coverings/Rolled Erosion Control Products	SY	103
104-10-3	Sediment Barrier	LF	21,059
104-11	Floating Turbidity Barrier	LF	86
104-12	Staked Turbidity Barrier, Nylon Reinforced PVC	LF	334
104-15	Soil Tracking Prevention Device	EA	17
104-18	Inlet Protection System	EA	5
104-19	Chemical Treatment Powdered - For Erosion Control	SY	103
110-1-1	Clearing & Grubbing	AC	6.00
110-4-10	Removal of Existing Concrete	SY	566
120-1	Regular Excavation	CY	11,845
120-6	Embankment	CY	670
160-4	Type B Stabilization	SY	14,841
285-709	Optional Base, Base Group 09	SY	14,841
285-715	Optional Base, Base Group 15	SY	748
327-70-6	Milling Exist Asph Pavt, 1 1/2" Avg Depth	SY	2,064
334-1-13	Superpave Asphaltic Conc, Traffic C	TN	2,652.0
400-1-2	Concrete Class I, Endwalls	CY	1.50
400-4-1	Concrete Class IV, Culverts	CY	16.50
425-1-521	Inlets, DT Bot, Type C, <10'	EA	1
425-1-561	Inlets, DT Bot, Type F, <10'	EA	2
425-5-1	Manhole, Adjust, Utilities	EA	2
425-6	Valve Boxes, Adjust	EA	9
425-7	Manhole Cover - Replace	EA	1
430-175-115	Pipe Culvert (15" RCP)	LF	145
430-175-124	Pipe Culvert (24" RCP)	LF	125
430-175-218	Pipe Culvert (14"x23" ERCP)	LF	12
430-200-29	Flared End Section, Concrete 24"	EA	1
520-1-10	Concrete Curb and Gutter, Type F	LF	932

PAY ITEM NOTES:

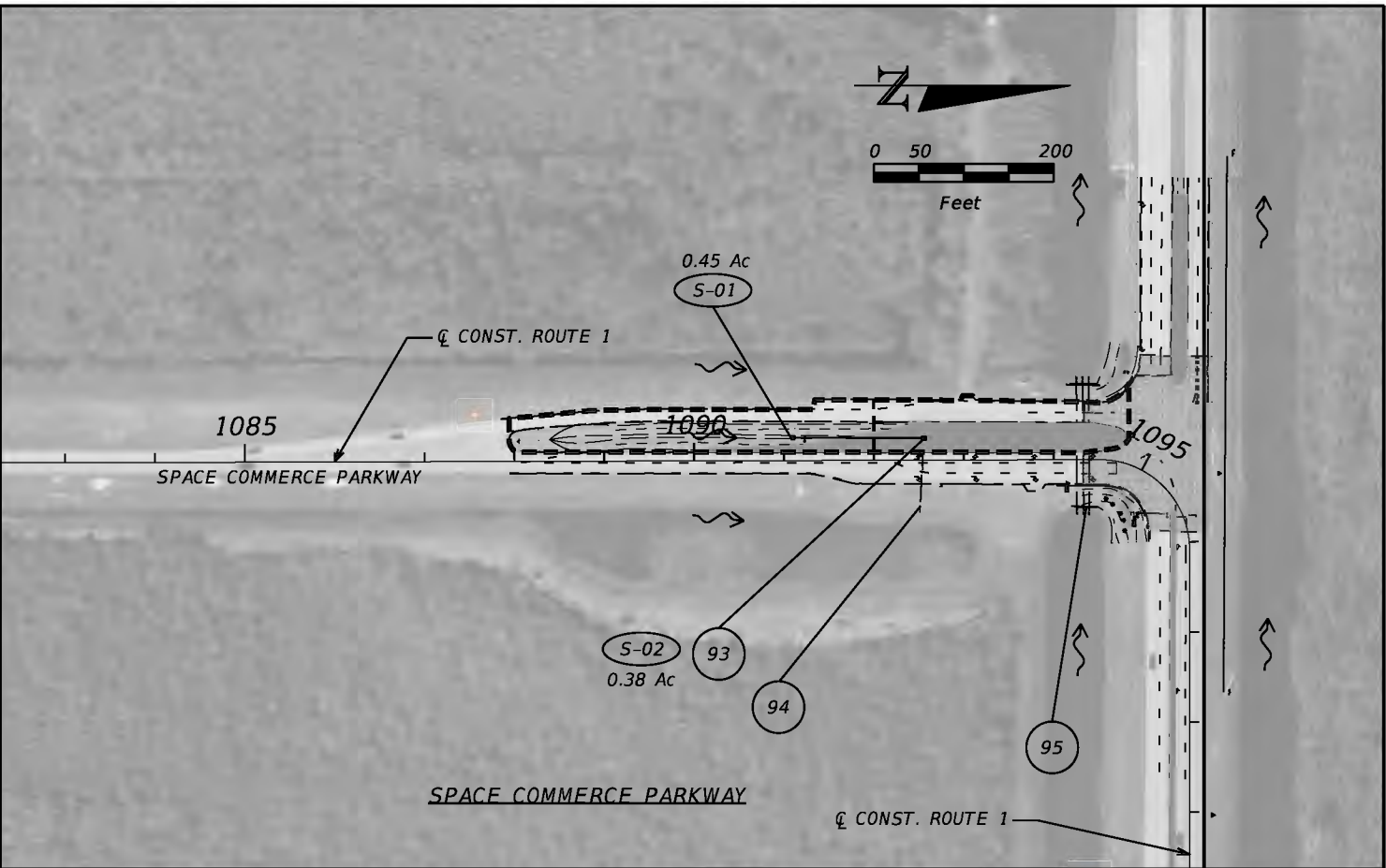
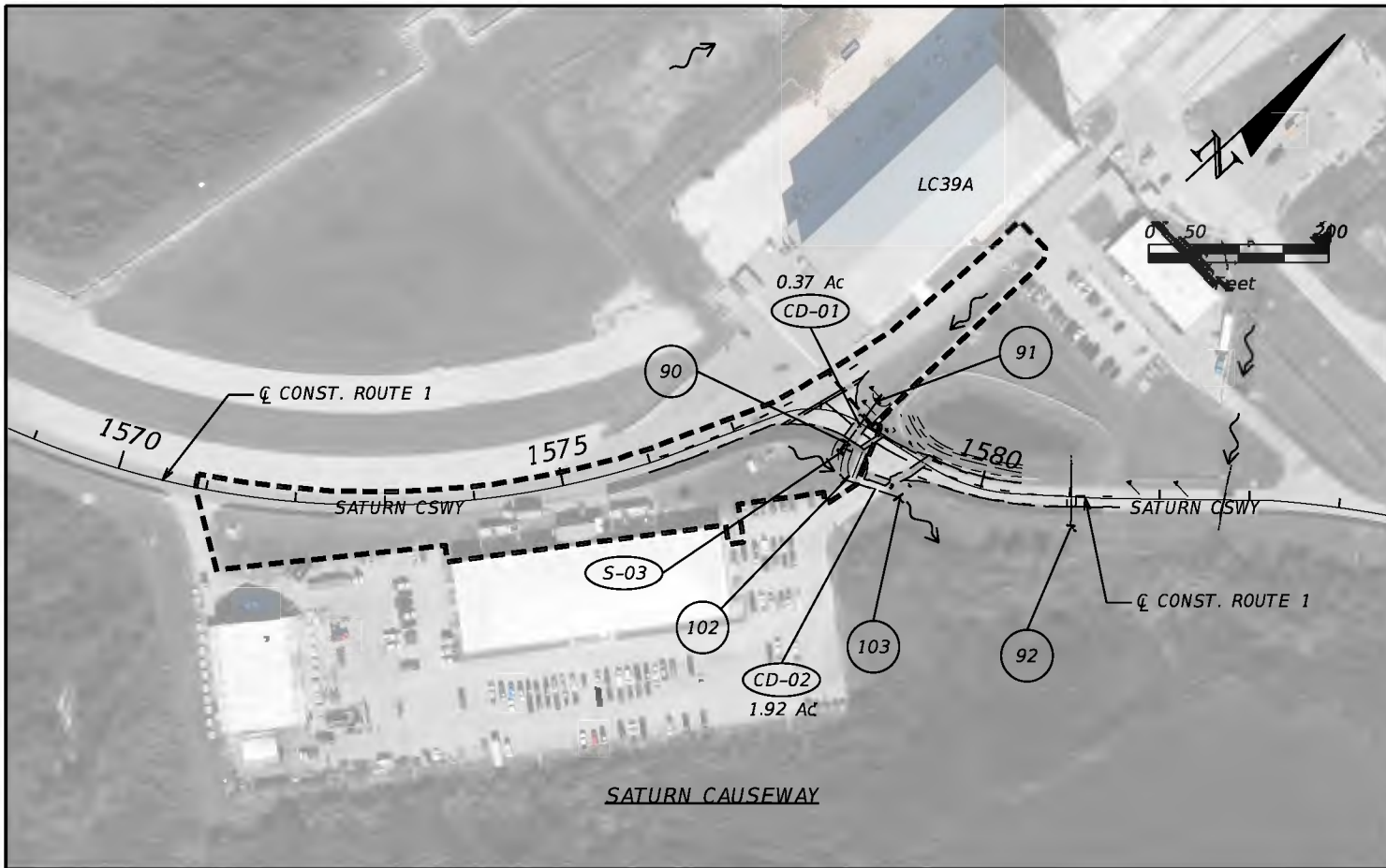
101-1	INCLUDES COST OF SPACE FLORIDA GENERAL CONDITIONS/ FRONT END SPECIFICATIONS.
110-1-1	INCLUDES COST OF BACKFLOW PREVENTOR REMOVAL AT STA. 3355+60.
160-4	INCLUDES COST OF 6" OF LIMEROCK IN LIEU OF 12" TYBE B STABILIZATION (LBR 40).
400-4-1	INCLUDES COST OF REINFORCEMENT.
425-6	INCLUDES COST OF MONITORING WELL ADJUSTMENT AT STA. 1943+56.
425-7	INCLUDES COST OF DEMOLITION AND BRICKS.
715-4-17	RE-AIM LIGHT SOURCE TOWARDS CENTER OF RAMP PAVEMENT TO MAXIMIZE LUMEN OUTPUT ON RAMP PAVEMENT.
715-4-60	INCLUDES NEW POLE FOUNDATION; RE-AIM LIGHT SOURCE TOWARDS CENTER OF RAMP PAVEMENT TO MAXIMIZE LUMEN OUTPUT ON RAMP PAVEMENT.

SUMMARY OF PAY ITEMS - BASE BID (CONTINUED)			
FDOT PAY ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
524-1-2	Concrete Ditch Pavement- Non Reinforced, 4"	SY	20
524-1-29	Concrete Ditch Pavement- Reinforced	SY	70
550-60-400	Fence Gate, Reset Existing	EA	1
570-1-2	Performance Turf, Sod	SY	10291
630-2-11	Conduit, Furnish & Install, Open Trench	LF	623
630-2-12	Conduit, Furnish & Install, Directional Bore	LF	997
635-2-11	Pull & Splice Box, F&I, 13"X24" Cover Size	EA	19
639-3-12	Electrical Service Disconnect, F&I, Cabinet	EA	1
700-1-11	Single Post Sign, F&I Ground Mount, Up To 12 SF	AS	5
700-1-50	Single Post Sign, Relocate	AS	12
700-1-60	Single Post Sign, Remove	AS	15
700-2-50	Multi-Post Sign, Ground Mount, Relocate	AS	2
706-3	Retro-reflective/Raised Pavement Markers	EA	522
710-11-101	Painted Pavement Markings, Standard, White, Solid, 6"	GM	3.3
710-11-102	Painted Pavement Markings, Standard, White, Solid For Interchange and Urban Island, 8"	GM	0.100
710-11-124	Painted Pavement Markings, Standard, White, Solid For Diagonal and Chevron, 18"	LF	2732
710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	GM	0.9
710-11-224	Painted Pavement Markings, Standard, Yellow, Solid For Diagonal and Chevron, 18"	LF	729
711-11-124	Thermoplastic, Standard, White, Solid, 18" for Diagonal and Chevrons	LF	2732
711-11-224	Thermoplastic, Standard, Yellow, Solid, 18" for Diagonal or Chevrons	LF	729
711-16-101	Thermoplastic, Standard-Other Surfaces, White, Solid, 6"	GM	3.300
711-16-102	Thermoplastic, Standard-Other Surfaces, White, Solid, 8"	GM	0.100
711-16-201	Thermoplastic, Standard-Other Surfaces, White, Solid, 6"	GM	0.9
711-17	Thermoplastic, Remove Existing Thermoplastic Pavement Markings: Non-Conflicting Only	SF	773
715-1-12	Lighting Conductors, F&I, Insulated, No.8-6	LF	1235
715-1-13	Lighting Conductors, F&I, Insulated, No 4 to No 2	LF	4985
715-1-60	Lighting Conductors, Remove & Dispose	LF	1685
715-4-17	Light Pole Complete (F&I), Pole-20'	EA	6
715-4-60	Light Pole Complete, Relocate	EA	10
715-4-70	Light Pole Complete Remove Pole and Foundation	EA	5
715-500-1	Pole Cable Distribution System, Conventional	EA	16

SUMMARY OF PAY ITEMS - ADD ALTERNATE 1			
FDOT PAY ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
101-1	Mobilization	LS	1
102-1	Maintenance of Traffic	LS	1
104-1	Artificial Coverings	SY	30
104-10-3	Sediment Barrier	LF	-456
104-18	Inlet Protection System	EA	2
104-19	Chemical Treatment Powdered - For Erosion Control	SY	30
110-1-1	Clearing & Grubbing	AC	0.50
110-4-10	Removal of Exist. Concrete	SY	600
120-1	Regular Excavation	CY	1,725
120-6	Embankment	CY	70
425-1-549	Inlets, DT Bot, Type D, Modify	EA	1
425-1-561	Inlets, DT Bot, Type F, <10'	EA	-1
425-6	Valve Boxes, Adjust	EA	1
430-175-124	Pipe Culvert (24" RCP)	LF	27
430-200-29	Flared End Section, Concrete 24"	EA	-1
524-1-29	Concrete Ditch Pavement- Reinforced	SY	55
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	15.0
570-1-2	Performance Turf, Sod	SY	3030

SUMMARY OF PAY ITEMS - ADD ALTERNATE 2			
FDOT PAY ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
101-1	Mobilization	LS	1
102-1	Maintenance of Traffic	LS	1
104-1	Artificial Coverings	SY	25
104-10-3	Sediment Barrier	LF	300
104-19	Chemical Treatment Powdered - For Erosion Control	SY	25
110-1-1	Clearing & Grubbing	AC	0.30
120-1	Regular Excavation	CY	175
120-6	Embankment	CY	525
524-3	Conc Core Ditch Blocks	CY	2.0
570-1-2	Performance Turf, Sod	SY	2500

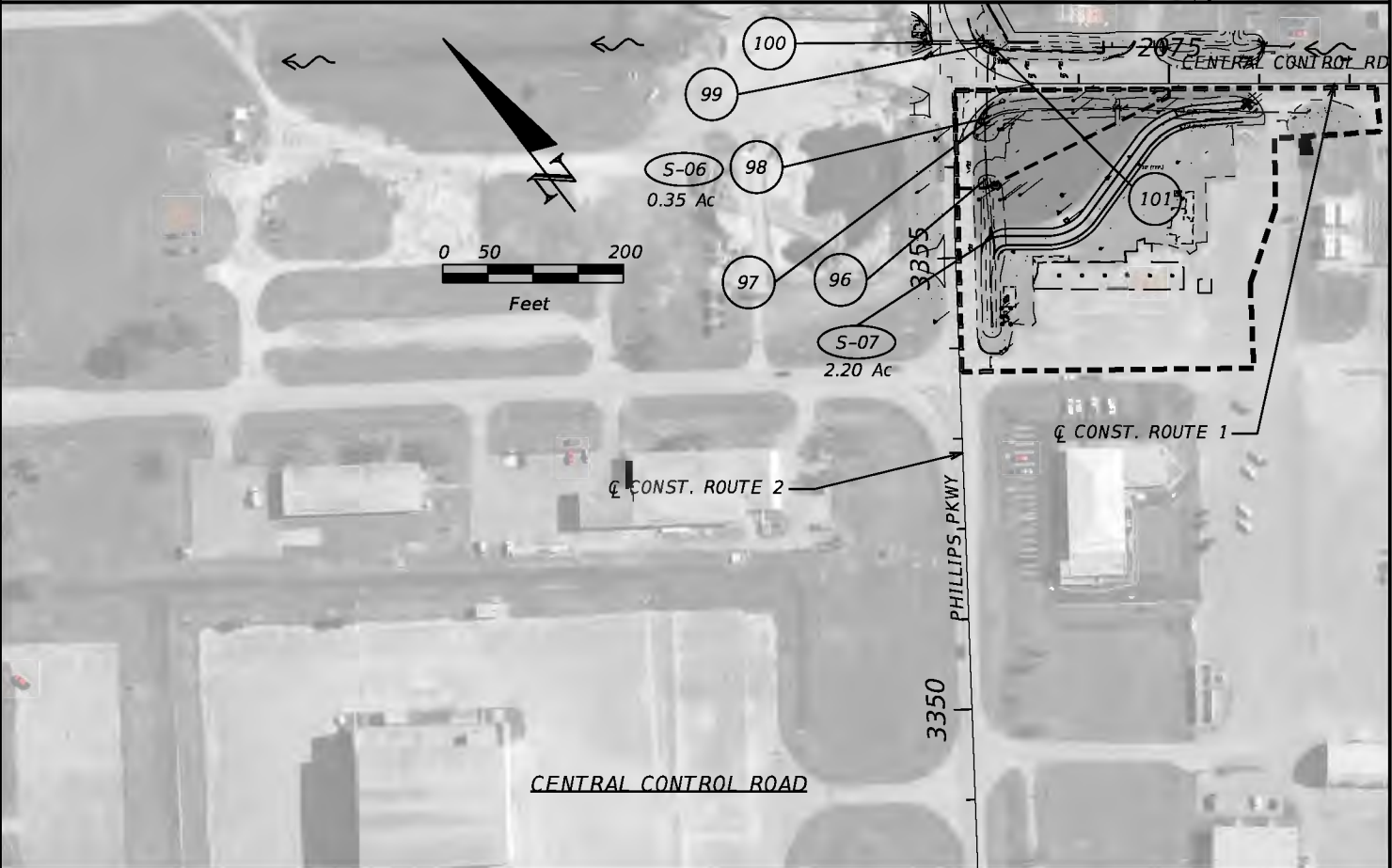
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
3/24/20	<div><div>1</div><div>ADDENDUM 1- SHEET REISSUED</div></div>					BREVARD	439053-1-54-01	SUMMARY OF PAY ITEMS 4



EXISTING DRAINAGE STRUCTURES TABLE

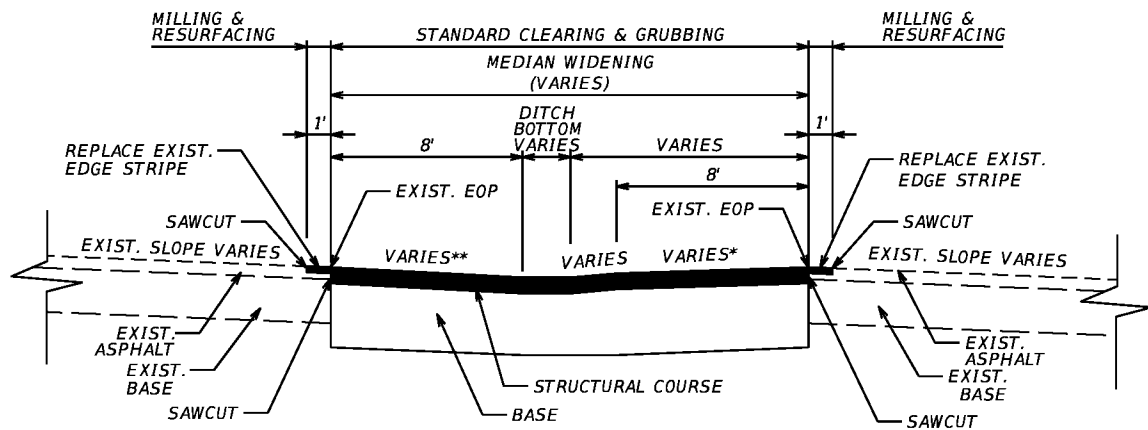
SATURN CSWY		SPACE COMMERCE PARKWAY		CENTRAL CONTROL ROAD	
90	CROSS DRAIN EW S. EL. 4.29 (14" x 23") N. INV. EL. 2.32	93	DBI GRATE EL. 3.65 15" E. INV. EL. 1.32	96	PIPE END 18" NE. INV. EL. 4.27
91	CROSS DRAIN EW N. EL. 5.20 (14" x 23") S. INV. EL. 2.65	94	FES 15" W. INV. EL. 0.52	97	PIPE END 18" SW. INV. EL. 4.08
92	CROSS DRAIN EW S. EL. 3.58 (14" x 23") N. INV. EL. 1.04	95	CROSS DRAIN EW W. EL. 2.80 EW E. EL. 2.56 (3-48") E. INV. EL. -2.85 (3-48") W. INV. EL. -2.56	98	PIPE END 24" NE. INV. EL. 3.47
102	CROSS DRAIN EW W. EL. 5.03 (24") E. INV. EL. 1.73			99	PIPE END 24" SW. INV. EL. 2.81
103	CROSS DRAIN EW E. EL. 4.62 (24") W. INV. EL. 1.52			100	CROSS DRAIN 24" SE. INV. EL. 2.32 24" SE. INV. EL. 2.16
				101	CROSS DRAIN 24" NW. INV. EL. 2.90 24" NW. INV. EL. 2.60

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES. THIS SHEET IS IN THE PLANS FOR DOCUMENTATION AND TO ASSIST CONSTRUCTION PERSONNEL WITH DRAINAGE CONCERNS.



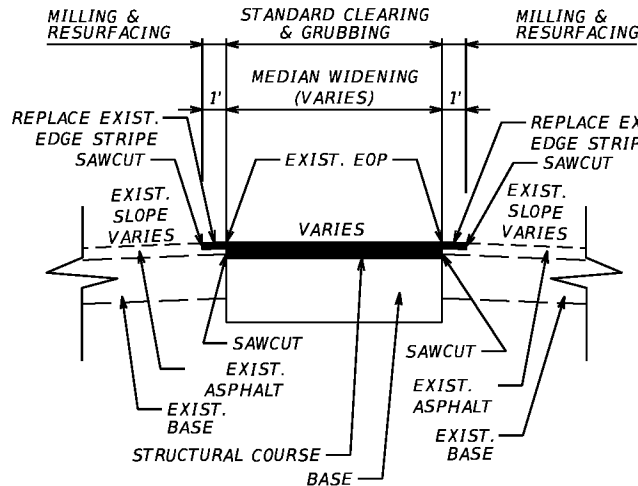
REVISIONS				CHRISTOPHER BRADLEY CARVER, P.E. P.E. LICENSE NUMBER 49460 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			DRAINAGE MAP	SHEET NO. 5
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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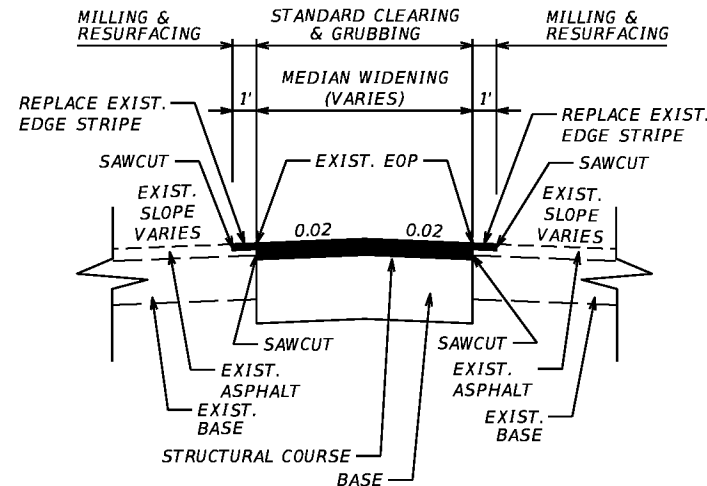
MEDIAN WIDENING DETAIL 1

☐ CONST. ROUTE 1:
STA. 1090+14 TO STA. 1094+77
STA. 1386+80 TO STA. 1387+55



MEDIAN WIDENING DETAIL 2

STA. 1095+60 TO STA. 1100+61****
STA. 1387+79 TO STA. 1388+22
STA. 1529+28 TO STA. 1530+08



MEDIAN WIDENING DETAIL 3

WEST LEG OF NASA PARKWAY AND
SPACE COMMERCE WAY INTERSECTION

WIDENING

BASE: 16" LIMEROCK BASE, COMPACT TO 98% MODIFIED
PROCTOR DENSITY, MIN LBR 100

STRUCTURAL COURSE: 2 LAYERS OF ASPHALTIC CONCRETE
PRIME COAT BASE COURSE
1ST COURSE 1.5" FDOT TYPE SP-12.5
2ND COURSE 1.5" FDOT TYPE SP-12.5
TACK COAT BETWEEN COURSES

**WIDENING (ASPHALT BASE OPTION)
SEE PLANS FOR LOCATION**

BASE: 4" GRANULAR SUBBASE, MIN LBR 100
AND 7" TYPE B-12.5

STRUCTURAL COURSE: 2 LAYERS OF ASPHALTIC CONCRETE
PRIME COAT BASE COURSE
1ST COURSE 1.5" FDOT TYPE SP-12.5
2ND COURSE 1.5" FDOT TYPE SP-12.5
TACK COAT BETWEEN COURSES

MILLING & RESURFACING ***

MILL EXIST. ASPHALT PAVEMENT (1.5" DEPTH)
1.5" FDOT TYPE SP-12.5

NOTES:

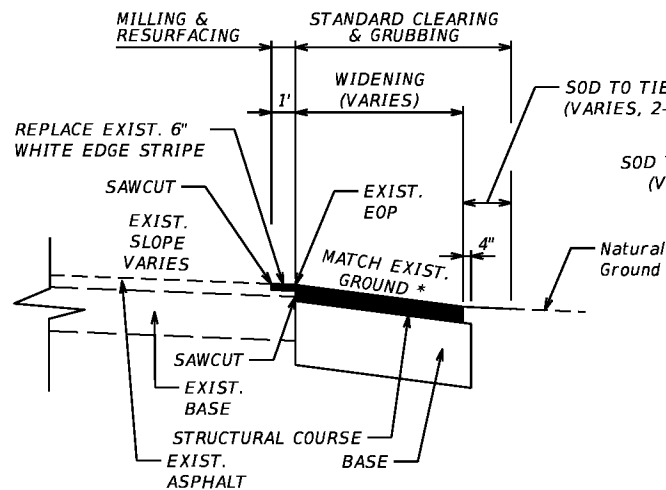
* SLOPES VARIES, 7% MAX BREAKOVER WITH
EXIST. SLOPE OF ADJACENT LANE.

** SLOPE VARIES TO PROVIDE 8' WIDE SHLDR.

*** TO BE CONSTRUCTED UNIFORMLY WITH THE
CONSTRUCTION OF THE WIDENING COURSES.

**** REMOVE ADDITIONAL 1' OF EXIST. PAVEMENT
ON NORTH SIDE OF MEDIAN AND RECONSTRUCT
TO PROVIDE 7% MAX BREAKOVER FROM EXIST.
SLOPE OF ADJACENT LANE.

***** CONTRACTOR TO VERIFY CROSS SLOPES, IF
CROSS SLOPE EXCEEDS 11%, CROSS SLOPE
CORRECTION IS TO BE ACCOMPLISHED VIA ASPHALT
OVERBUILD UTILIZING VARIABLE THICKNESS OF
TYPE SP-9.5 FINE AND SHOULDER REWORK TO TIE
BACK TO EXIST. GROUND.



OUTSIDE WIDENING DETAIL 1

☐ CONST. ROUTE 1:

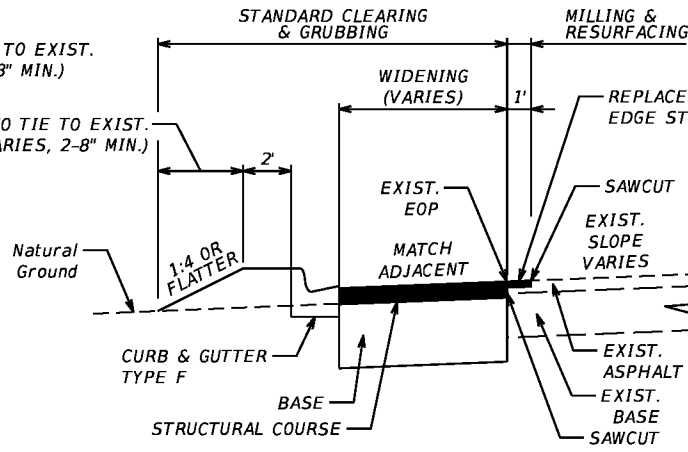
STA. 1099+90 TO STA. 1101+34 (RT)
STA. 1140+35 TO STA. 1142+81 (LT)
STA. 1164+06 TO STA. 1166+06 (LT)
STA. 1186+84 TO STA. 1188+09 (RT)
STA. 1424+62 TO STA. 1426+25 (LT)
STA. 1427+07 TO STA. 1431+26 (LT)
STA. 1505+78 TO STA. 1508+81 (RT)
STA. 1510+50 TO STA. 1518+57 (RT)
STA. 1530+13 TO STA. 1532+20 (RT)
STA. 1568+55 TO STA. 1570+61 (RT)
STA. 1571+19 TO STA. 1572+46 (RT)
STA. 1575+47 TO STA. 1578+73 (RT)
STA. 1578+38 TO STA. 1579+32 (LT)
STA. 1579+25 TO STA. 1581+37 (RT)
STA. 1583+10 TO STA. 1589+98 (RT)
STA. 1592+31 TO STA. 1597+41 (RT)

☐ CONST. ROUTE 1 (CONT'D):

STA. 1594+80 TO STA. 1596+96 (LT)
STA. 1600+07 TO STA. 1603+19 (LT)
STA. 1600+08 TO STA. 1607+24 (RT)
STA. 1609+97 TO STA. 1610+98 (LT)
STA. 1609+98 TO STA. 1616+19 (RT)
STA. 1611+93 TO STA. 1614+43 (LT)
STA. 1615+31 TO STA. 1615+99 (LT)
STA. 1847+76 TO STA. 1852+81 (LT)
STA. 1853+24 TO STA. 1858+13 (LT)
STA. 1891+56 TO STA. 1899+60 (LT)
STA. 1934+16 TO STA. 1936+50 (LT)
STA. 1936+91 TO STA. 1940+30 (LT)
STA. 1944+85 TO STA. 1946+92 (LT)
STA. 1952+12 TO STA. 1963+79 (LT)
STA. 1974+57 TO STA. 1982+97 (LT)

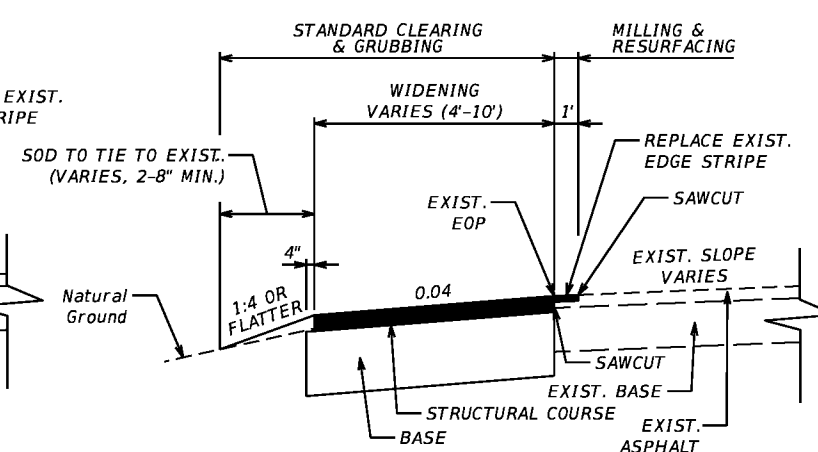
☐ CONST. ROUTE 2:

STA. 3028+02 TO STA. 3031+94 (LT)
STA. 3052+31 TO STA. 3054+95 (LT)
STA. 3295+02 TO STA. 3301+51 (LT)
STA. 3355+21 TO STA. 2075+93 (☐ CONST. ROUTE 1) (RT)
STA. 3355+85 TO STA. 3356+37 (LT)



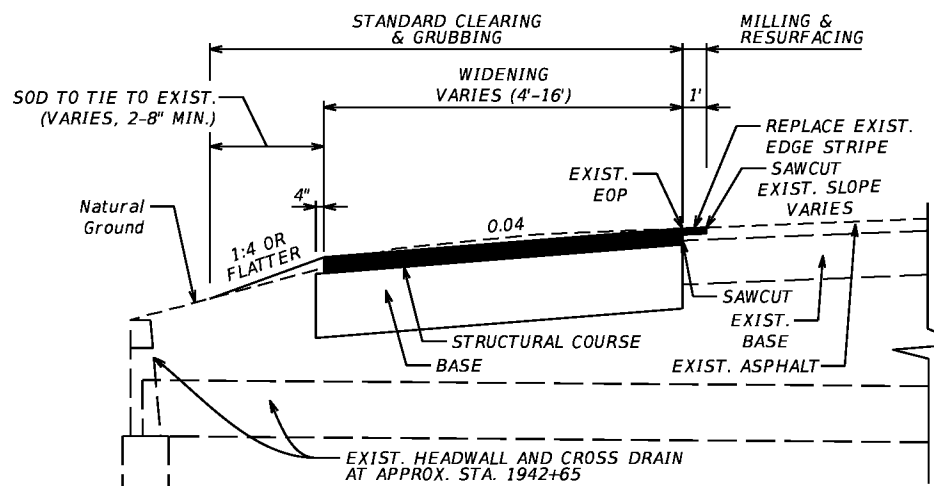
OUTSIDE WIDENING DETAIL 2

☐ CONST. ROUTE 1:
STA. 1180+30 TO STA. 1188+99 (LT)



OUTSIDE WIDENING DETAIL 3

☐ CONST. ROUTE 1
STA. 1963+79 TO STA. 1974+57 (LT)



OUTSIDE WIDENING DETAIL 4

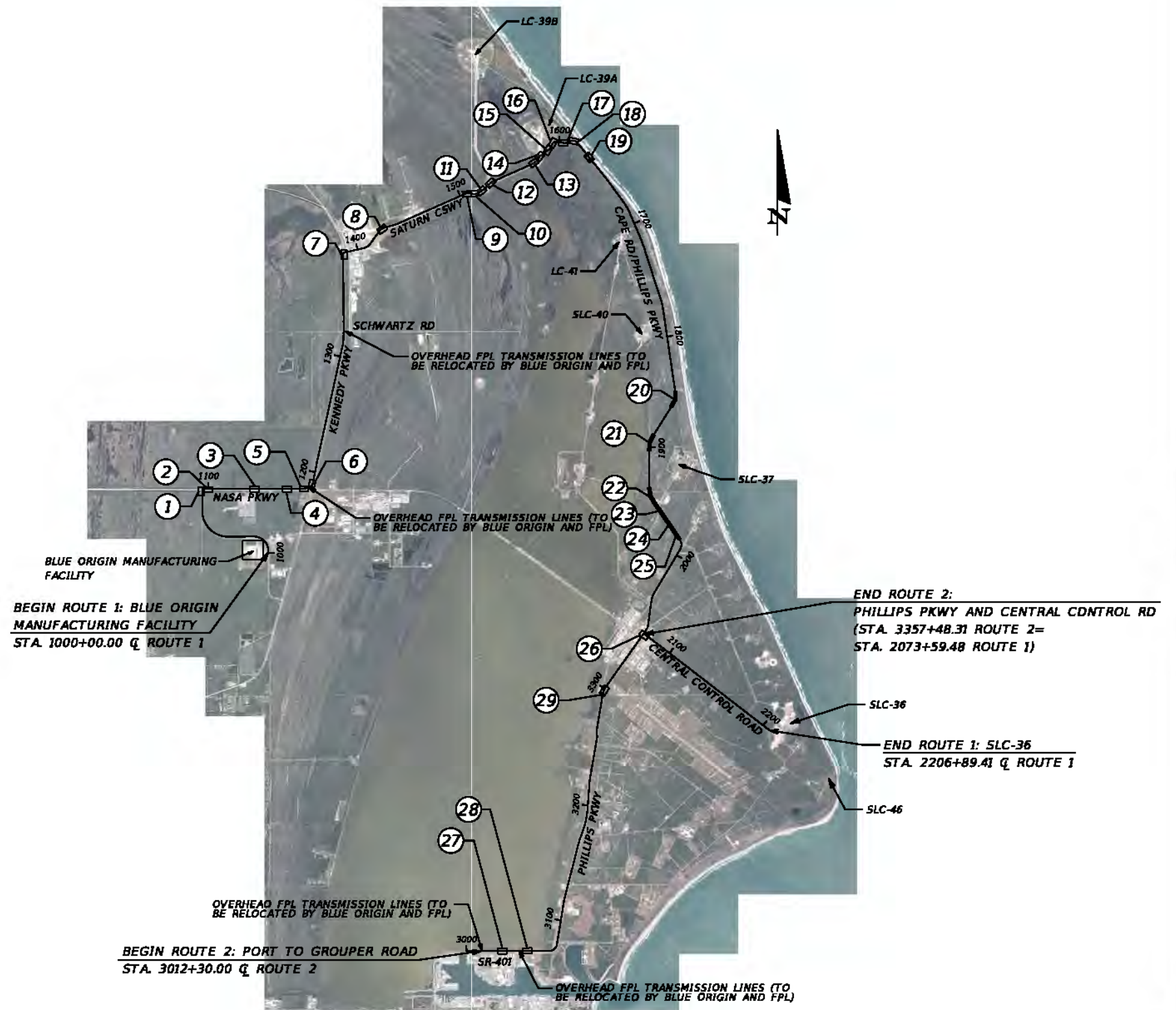
☐ CONST. ROUTE 1
STA. 1941+12 TO STA. 1944+47 (LT)

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

PROJECT LAYOUT - ROADWAY PLANS

ROADWAY PLAN NO.	ROADWAY PLAN DESCRIPTION
1	SPACE COMMERCE WAY AT NASA PKWY
2	NASA PKWY
3	NASA PKWY AT KSC VISITOR CENTER
4	SECURITY GATE 3 AT NASA PKWY
5	NASA PKWY AT SB KENNEDY PKWY RAMP
6	NASA PKWY AT KENNEDY PKWY
7	KENNEDY PKWY AT SATURN CSWY
8	SATURN CSWY FIRST GUARDHOUSE
9 THRU 11	SATURN CSWY
12	SATURN CSWY SECOND GUARDHOUSE
13	SATURN CSWY
14	SATURN CSWY AT LC-39A
15 THRU 17	SATURN CSWY
18	SATURN CSWY AT CAPE RD
19	CAPE RD AT RAILROAD TRACKS
20 THRU 25	PHILLIPS PKWY
26	PHILLIPS PKWY AT CENTRAL CONTROL RD INTERSECTION
27	SR 401 AT PAYNE WAY
28	PHILLIPS PKWY AT POSEIDON AVE
29	PHILLIPS PKWY AT HANGAR RD

- NOTES:
1. THE OVERHEAD FPL TRANSMISSION LINES OR DISTRIBUTION LINES ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT A PART OF THIS CONTRACT.
 2. BREVARD COUNTY AERIALS WERE OBTAINED FROM THE FOOT SURVEY & MAPPING OFFICE AERIAL PHOTOGRAPHY ARCHIVE. AERIAL IMAGES WERE ACQUIRED BETWEEN 3/9/18 AND 4/17/18.
 3. ENTRANCE/EXIT TO AND FROM BLUE ORIGIN MANUFACTURING FACILITY, SLC-36 AND PORT CANAVERAL BEING CONDUCTED BY BLUE ORIGIN UNDER OTHER PROJECTS.
 4. LANDOWNER LIMITS ARE AS FOLLOWS:
NASA KSC: STA. 1000+00.00 TO STA. 1775+00.00, Q ROUTE 1
USAF CCAS: STA. 1780+00.00 TO STA. 2206+89.41, Q ROUTE 1
STA. 3041+50.00 TO STA. 3357+48.31, Q ROUTE 2
PORT CANAVERAL AUTHORITY: STA. 3012+30.00 TO STA. 3041+50.00, Q ROUTE 2



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS		PROJECT LAYOUT	SHEET NO. 7
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
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GENERAL NOTES			10. THE CONTRACTOR IS ADVISED THAT OTHER CONSTRUCTION ACTIVITIES MAY BE TAKING PLACE IN AND AROUND THE PROJECT AREA. CONTRACTOR IS REQUIRED TO COORDINATE THEIR ACTIVITIES WITH OTHER CONTRACTORS THAT MAY BE WORKING IN THE AREA.			2. ALL EXISTING DRAINAGE/STORMWATER STRUCTURES AND FEATURES ARE TO REMAIN OPERATIONAL IN THEIR EXISTING CAPACITY UNLESS OTHERWISE NOTED.		
1. SPACE FLORIDA WILL BE THE GOVERNING ENTITY FOR THIS PROJECT. THE LAND IS OWNED BY NASA WITHIN KENNEDY SPACE CENTER (KSC) LIMITS, UNITED STATES AIR FORCE (USAF) WITHIN CAPE CANAVERAL AIR FORCE STATION (CCAFS), AND FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)/CANAVERAL PORT AUTHORITY WITHIN SR 401 AND PAYNE WAY INTERSECTION. THE CONTRACTOR SHALL COORDINATE ACCESS TO AND HAUL ROUTES WITHIN WITH SPACE FLORIDA AND THE AFOREMENTIONED ENTITIES PRIOR TO BEGINNING CONSTRUCTION OPERATIONS. SPACE FLORIDA HAS OBTAINED CONSTRUCTION EASEMENTS FROM NASA, USAF AND CANAVERAL PORT AUTHORITY WHICH THE CONTRACTOR SHALL COMPLY WITH.			11. THE CONTRACTOR IS ADVISED THAT ALL HIS/HER EMPLOYEES WORKING INSIDE THE CCAFS AND WITHIN NASA PROPERTY MUST CONFORM TO ALL FACILITY SECURITY REQUIREMENTS.			3. THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED CLEARANCES CAN BE MET, AND IF ANY CANNOT BE MET, THE CONTRACTOR SHALL NOTIFY THE OAR/ENGINEER/CEI IN WRITING A MINIMUM OF 14 WORKING DAYS PRIOR TO CONSTRUCTING ANY SUCH ITEM.		
2. ALL EXISTING DIMENSIONS, MEASUREMENTS, AND FEATURES SHOWN ON THE PLANS ARE APPROXIMATE, OBTAINED FROM THE BEST INFORMATION AVAILABLE, AND SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER/OWNER IMMEDIATELY.			12.THE CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING AND SUBMITTING ALL PERMITS REQUIRED FROM USAF, NASA KSC, BREVARD COUNTY OR OTHER GOVERNING AGENCIES THAT APPLY TO THIS PROJECT. CONTRACTOR SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERIC PERMIT FOR STORMWATER DISCHARGES. ALL PERMITTING SHALL BE COORDINATED THROUGH THE OWNER AND APPROPRIATE NASA OR CCAFS ORGANIZATION.			4. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVES/ ENGINEER/CEI IN WRITING A MINIMUM OF 14 WORKING DAYS PRIOR TO MAKING ANY CONNECTION TO THE WATER, SEWER, COMMUNICATION, ELECTRIC, OR OTHER UTILITY SERVICE. ADDITIONALLY, THE CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE CONTRACTING OFFICER A MINIMUM OF 14 WORKING DAYS PRIOR TO INTERRUPTING WATER, SEWER, COMMUNICATION, ELECTRICAL, OR OTHER UTILITY SERVICE.		
3. ANY DAMAGE TO EXISTING INFRASTRUCTURE/FACILITIES TO REMAIN INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, BUILDINGS, CONCRETE SLABS, UTILITIES, PAVEMENT, LIGHTING, GRASS AREAS, FENCE, GATES, AND SIGNS SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.			13. ALL UTILITY OUTAGES ASSOCIATED WITH NEW UTILITY INSTALLATION OR MODIFICATIONS OF EXISTING UTILITIES (I.E., POWER, WATER, SEWER, COMMUNICATIONS) SHALL BE COORDINATED WITH SPACE FLORIDA OWNER/ OWNER'S AUTHORIZED REPRESENTATIVE (OAR)/ ENGINEER, NASA KSC,AND USAF. WORK SHALL NOT BEGIN UNTIL APPROVAL HAS BEEN GRANTED BY NASA KSC, USAF, AND/ OR SPACE FLORIDA. ALL EXISTING FIXTURES SUCH AS WATER MAIN VALVES AND HYDRANTS SHOULD ONLY BE OPERATED BY AUTHORIZED NASA KSC OR USAF APPROVED CONTRACTORS, UNLESS EXPRESS PERMISSION OR OVERSIGHT IS PROVIDED. UTILITY OUTAGES FOR SUCH SYSTEMS MUST BE COORDINATED AND APPROVED THROUGH NASA KSC OR USAF PRIOR TO WORK BEING PERFORMED.			5. CONTRACTOR SHALL HAND EXCAVATE WITHIN 4 FEET OF ALL EXISTING UNDERGROUND UTILITIES AND/OR ALL EXCAVATION SHALL COMPLY WITH THE REQUIREMENTS SET FORTH IN THE APPLICABLE DIG PERMIT.		
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH USAF 45TH SPACE WING, NASA KSC ISC DUTY OFFICE SUPPORT, AND ALL UTILITY OWNERS THAT HAVE UTILITIES WITHIN THE LIMITS OF CONSTRUCTION FOR BOTH UTILITY IMPACTS AND UTILITY LOCATES.			14. THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL EXCESS, UNSUITABLE OR UNUSABLE MATERIAL FROM NASA, USAF AND CANAVERAL PORT AUTHORITY PROPERTY. THE COST OF ANY REMOVAL, DISPOSAL AND HAULING SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.			6. REGRADE AREAS SURROUNDING THE IMPROVEMENTS TO PROVIDE POSITIVE DRAINAGE AND PREVENT LOCALIZED PONDING OR LOW SPOTS.		
5. CONTRACTOR IS REQUIRED TO CONTROL DUST AT ALL TIMES.			18. CONTRACTOR SHALL ADHERE TO RULES AND REGULATIONS MANDATED BY USAF 45TH SPACE WING FOR CONSTRUCTION ACTIVITIES WITHIN CCAFS AND BY NASA FOR CONSTRUCTION ACTIVITIES WITHIN KSC.			7. ALL EXCAVATIONS, CORING, AND DIGGING OPERATIONS ASSOCIATED WITH CONSTRUCTION WITHIN CCAFS AND KSC LIMITS REQUIRE A DIG PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING DIG PERMITS, INCLUDING LOCATOR SERVICES SPECIFIC FOR KSC, CCAFS, AND SUNSHINE 811 SERVICE FOR THE PROJECT. ALL DIGGING ACTIVITIES SHALL BE COORDINATED, DEPENDING ON LOCATION, WITH USAF 45TH SW CAPE SUPPORT, NASA KSC ISC DUTY OFFICE SUPPORT, SPACE FLORIDA, AND SPACE FLORIDA CEI, EACH DAY PRIOR TO COMMENCING ANY DIGGING OR EXCAVATION WORK. CAPE CANAVERAL SPACEPORT HAS MANDATED "NO DIG DAYS" DUE TO LAUNCHES/OPERATIONAL RESTRICTIONS; THEREFORE, PRIOR TO DIGGING OR AT THE BEGINNING OF THE WORK DAY, CONTRACTOR SHALL ENSURE AREAS WHERE THE DIGGING IS TO OCCUR ARE NOT WITHIN "NO DIG DAY" ZONES.		
6. IN CASE OF DISCREPANCIES BETWEEN ANY PORTION OF CONTRACT DOCUMENTS AND REFERENCED REQUIREMENTS, OWNER AND/OR REGULATORY AGENCIES WILL DETERMINE WHICH REQUIREMENT GOVERNS.			CIVIL/UTILITIES NOTES			9. NASA KSC DIG PERMIT: ALL CONSTRUCTION WITHIN KSC REQUIRE A DIG PERMIT VIA, "KSC FORM 26-312V3 NS (REV. 08/09)". CONTRACTOR SHALL COORDINATE FORM SUBMITTAL VIA SPACE FLORIDA. DIG PERMIT AND SPECIFIC LOCATOR SERVICES CAN BE OBTAINED THROUGH 321-749-4840. WHEN THE LOCATOR SERVICE (INCLUDING SUNSHINE 811 SERVICE) HAS BEEN COMPLETED, THE DIG PERMIT IS CONSIDERED APPROVED BY KSC AND CONSTRUCTION CAN PROGRESS.		
7. THE CONTRACTOR IS RESPONSIBLE FOR ANY WATER AND OTHER UTILITIES NEEDED TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL COORDINATE WITH NASA KSC OR USAF UTILITY CONTRACTOR COMPANIES FOR TEMPORARY SERVICES IF NEEDED AND IF AVAILABLE AND OBTAIN APPLICABLE METERS AND PERMITS AS NECESSARY. THE OWNER IS UNDER NO OBLIGATION TO PROVIDE TEMPORARY SERVICES.			1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PROVIDED FROM THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY LOCATE UNDERGROUND UTILITIES BEFORE WORK IS PERFORMED IN THE AREA THAT COULD DAMAGE ANY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER PRIOR TO COMMENCING WORK IN ANY AREA. UNIDENTIFIED UTILITIES/STRUCTURES SHALL BE LOCATED, IDENTIFIED, AND REPORTED PROMPTLY TO THE ENGINEER. IF, IN THE COURSE OF THE WORK, ANY UTILITY IS DAMAGED, THE CONTRACTOR SHALL MAKE AN IMMEDIATE, CONTINUOUS EFFORT TO RESTORE SERVICE AS SOON AS POSSIBLE AT NO EXPENSE TO THE OWNER.. THE UTILITIES PROVIDERS IDENTIFIED DURING THE GEOTECHNICAL BORINGS DIG PERMITTING PROCESS INCLUDED, BUT ARE NOT LIMITED TO:			10. CCAFS DIG PERMIT: ALL CONSTRUCTION WITHIN CCAFS LIMITS REQUIRE A DIG PERMIT VIA, "USAF AF FORM 332/103". CONTRACTOR SHALL COORDINATE FORM SUBMITTAL VIA SPACE FLORIDA. REQUIRED FORMS INCLUDE FORM 332 (WORK REQUEST FORM) AND FORM 103 (WORK CLEARANCE FORM). FORM 332 (PREPARED BY THE CONTRACTOR) DEFINES THE PROJECT AND RESULTS IN FORM 103 (PREPARED BY THE USAF) DEFINING THE WORK REQUIREMENTS. FORM 103 IDENTIFIES EXCAVATION RESTRICTIONS AND REQUIRES THE CONTRACTOR TO CONTACT LOCATOR SERVICES FOR UTILITIES, COMM LINES, ENVIRONMENTAL, AND SUNSHINE 811 SERVICE. CONTRACTOR AND SPACE FLORIDA WILL BE REQUIRED TO SIGN THE FINAL DIG PERMIT AFTER ALL APPROVALS ARE GRANTED. A COPY WILL NEED TO BE SUBMITTED TO USAF AND SPACE FLORIDA.		
8. PRIOR TO START OF WORK, THE CONTRACTOR SHALL ARRANGE TO HAVE A QUALIFIED EMPLOYEE FUNCTIONING IN THE CAPACITY OF CONSTRUCTION SUPERINTENDENT. THE CONSTRUCTION SUPERINTENDENT WILL BE REQUIRED TO BE ON-SITE AT ALL TIMES DURING CONSTRUCTION, WILL BE AUTHORIZED TO ACT ON THE CONTRACTOR'S BEHALF, AND WILL BE AVAILABLE FOR CONTACT AND TO BE ON SITE IF NEEDED, ON A 24 HOUR/DAY, 7 DAYS A WEEK BASIS.			SUNSHINE 811 (CELL) (800)-432-4770 LEVEL 3 COMMUNICATIONS (801)-364-1063 ATT (800)-778-9140 BRIGHT HOUSE (800)-778-9140 COCOA WATER (321)-433-8404 CENTURY LINK (877)-366-8344 CITY GAS (321)-288-1126/(786)-459-3655 FPL (800)-778-9140 NASA KSC LOCATOR SUPPORT (321)-749-4840 SEAPORT CANAVERAL (321)-785-2713 USAF/CCAFS COMM LOCATES (321)-853-2141 USAF/CCAFS UTILITIES (321)-423-0582			10. ALL WORK ACTIVITES WITHIN THE INTERSECTION OF PAYNE WAY/SR-401 INTERSECTION SHALL BE HANDLED AS STATE PROPERTY AND LOCATOR SERVICES SHALL BE OBTAINED PRIOR TO ANY EXCAVATION. IN ADDITION, SEAPORT CANAVERAL SHALL BE CONTACTED TO LOCATE THE FUEL LINE WITHIN THE VICINITY OF THE PROJECT: ADAM LOCKE, SEAPORT CANAVERAL MAINTENANCE MANAGER, 321-785-2713. THE CANAVERAL PORT AUTHORITY CONTACT WILL BE PATRICK HAMMOND, PE, PROJECT MANAGER CONSTRUCTION, 321-394-3419.		
9. NASA KSC & CCAFS FACILITIES WILL BE ACTIVE DURING THE CONSTRUCTION OF THIS CONTRACT. THE CONTRACTOR WILL BE EXPECTED TO CONDUCT THE WORK SUCH THAT THE SAFETY OF OPERATIONS IS NOT REDUCED AND THAT THE OPERATIONS ARE MAINTAINED AT ALL TIMES, EXCEPT AS MAY BE SPECIFICALLY PROVIDED FOR IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS ADVISED AND SHALL ACCEPT AS AN IMPORTANT CONSIDERATION OF THE WORK, THAT THE MAINTENANCE OF SAFE, SECURE, AND EFFICIENT OPERATION OF THE FACILITIES IS AN INTEGRAL PART OF THE WORK, AND THAT SOME AREAS ARE RESTRICTED AND WORK IN THESE AREAS MAY NOT BE PERMITTED OR RESTRICTED DURING CERTAIN PORTIONS OF THE CONSTRUCTION PERIOD. ADDITIONALLY, THE CONTRACTOR IS ADVISED THAT DUE TO LAUNCH RELATED ACTIVITIES OR MISSION RELATED OPERATIONS, SOME TIME PERIODS WILL NOT BE AVAILABLE FOR WORK. CONTRACTOR MAY BE REQUESTED TEMPORARILY TO ADJUST BARRICADES AND EQUIPMENT, FROM ROADWAY SHOULDERS/RIGHT OF WAY, TO ACCOMODATE LARGE TRANSPORTERS CARRYING LARGE INFRASTRUCTURE.								

11. ALL DESIGN DEVELOPMENT AND/OR CONSTRUCTION SHALL COMPLY WITH THE CAPE CANAVERAL SPACEPORT DEVELOPMENT MANUAL (LATEST VERSION), FOUND ON THE SPACE FLORIDA WEBSITE.

12. CONTRACTOR SHALL CONTACT USAF NATURAL RESOURCES OFFICE AT LEAST 3 WEEKS PRIOR TO MOBILIZATION AT 321-853-6822/321-794-5268/321-853-0964 TO DETERMINE IF ANY WILDLIFE OR HABITAT NEEDS TO BE PROTECTED FOR ALL ACTIVITIES WITHIN CCAFS PROPERTY.

13. CONTRACTOR SHALL CONTACT SPACE FLORIDA AT LEAST 3 WEEKS PRIOR TO MOBILIZATION TO DETERMINE IF ANY WILDLIFE OR HABITAT NEED TO BE PROTECTED FOR ALL ACTIVITIES WITHIN NASA KSC LIMITS. THIS PROJECT WAS GRANTED A RECORD OF ENVIRONMENTAL CONSIDERATIONS NO. 10678. REC #: 10678 WHICH IS PROVIDED AS AN APPENDIX TO THE PROJECT MANUAL.

14. CONTRACTOR SHALL COMPLY WITH THE NASA KSC RECORD OF ENVIRONMENTAL CONSIDERATIONS NO. 10678 REQUIREMENTS ASSOCIATED WITH CONSTRUCTION IMPACTS AND CONSTRUCTION MATERIALS/WASTE CLEANUP.

15. CONTRACTOR SHALL COORDINATE WITH USAF ENVIRONMENTAL ALL CONCRETE WASHOUT AREAS, AND REMOVAL OF CONSTRUCTION WASTE.

16. NO CONSTRUCTION WILL BE ALLOWED WITHIN 15 FEET (RADIALLY) OF THE CLOSEST FLORIDA POWER AND LIGHT COMPANY (FPL) LINE ALONG NASA PARKWAY/SR 405, PHILLIPS PARKWAY AND SR 401. THIS COMPLIES WITH THE OSHA REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH FPL WHEN WORKING WITHIN THE VICNITY OF FPL POWERLINES.

SAFETY AND SECURITY NOTES

1. NASA KSC BADGING – ALL CONTRACTOR AND SUBCONTRACTOR PERSONNEL NEEDING ACCESS TO THE NASA KSC SHALL OBTAIN A BADGE VIA THE NASA BADGING ID STATION LOCATED ON SR 405 NASA PARKWAY WEST OF KSC MAIN GATE. APPLICATION FORMS SHALL BE REQUESTED FROM SPACE FLORIDA; ONCE COMPLETED AND SIGNED THEY SHALL BE SUBMITTED TO SPACE FLORIDA FOR FINAL SIGNATURES. SPACE FLORIDA WILL FORWARD BADGING FORMS TO NASA KSC; NASA KSC RESERVES THE RIGHT TO DENY BADGES DEPENDENT ON SECURITY AND BACKGROUND CHECKS. ALL CONTRACTOR PERSONNEL SHALL PROVIDE TWO FORMS OF VALID U.S. IDENTIFICATION MEDIA. THE BADGES ARE FREE; HOWEVER, THERE IS A CHARGE FOR LOST BADGES. TYPICALLY, IT TAKES APPROXIMATELY 3 BUSINESS DAYS.

2. USAF CCAFS BADGING – ALL CONTRACTOR AND SUBCONTRACTOR PERSONNEL NEEDING ACCESS TO THE USAF CCAFS SHALL OBTAIN A BADGE VIA THE CCAFS BADGING ID STATION LOCATED ON SR 401 PHILLIPS PARKWAY WEST OF CCAFS MAIN GATE. APPLICATION FORMS SHALL BE REQUESTED FROM SPACE FLORIDA; ONCE COMPLETED AND SIGNED THEY SHALL BE SUBMITTED TO SPACE FLORIDA FOR FINAL SIGNATURES. SPACE FLORIDA WILL FORWARD BADGING FORMS TO USAF; USAF RESERVES THE RIGHT TO DENY BADGES DEPENDENT ON SECURITY AND BACKGROUND CHECKS. ALL CONTRACTOR PERSONNEL SHALL PROVIDE TWO FORMS OF VALID U.S. IDENTIFICATION MEDIA. THE BADGES ARE FREE; HOWEVER, THERE IS A CHARGE FOR LOST BADGES. TYPICALLY, IT TAKES APPROXIMATELY 3 BUSINESS DAYS.

3. VEHICLE/EQUIPMENT INSPECTIONS: ALL CONTRACTOR, VENDOR, AND SUBCONTRACTOR PERSONNEL VEHICLES AND EQUIPMENT SHALL ADHERE TO NASA KSC AND CCAFS REQUIREMENTS. THESE MUST GO THROUGH THE SECURITY CHECK LOCATED AT THE RESPECTIVE BADGING STATIONS. EVERYONE NEEDING TO ACCESS KSC AND CCAFS WILL BE REQUIRED TO HAVE AN APPROVED BADGE.

4. GROUND CONTROL – CONTRACTOR VEHICLES WILL NOT BE PERMITTED ON SECURED AREAS WITHIN NASA KSC AND CCAFS. CONTRACTOR SHALL ENSURE CONTRACTOR PERSONNEL AND VEHICLES REFRAIN FROM TOURING OTHER AREAS OF NASA KSC AND CCAFS.

5. ROADWAY CLOSURES – ROADS SHALL NOT BE CLOSED WITHOUT APPROVAL OF SPACE FLORIDA, NASA KSC, USAF, FDOT AND PORT CANAVERAL. A MINIMUM OF 14 CALENDAR DAYS WRITTEN NOTICE OF REQUESTED CLOSING SHALL BE SUBMITTED TO LAND OWNERS VIA SPACE FLORIDA, WHO WILL COORDINATE THE REQUEST WITH USAF/NASA KSC/FDOT/PORT CANAVERAL.

6. OPEN TRENCHES – ANY CONSTRUCTION ACTIVITY OR OPEN TRENCHES SHALL BE CLEARLY MARKED, AND ALL TRENCHING MUST BE CONSTRUCTED TO MEET THE TRENCH SAFETY ACT.

7. STOCKPILE, EROSION AND DUST CONTROL – STOCKPILED MATERIAL AND DUST CONTROL SHALL BE TREATED IN SUCH A MANNER AS TO PREVENT MOVEMENT RESULTING FROM WIND CONDITIONS IN EXCESS OF 10 KNOTS.

8. INSPECTIONS – UPON COMPLETION OF THE CONTRACTOR'S WORK AND PRIOR TO OPENING FOR USE, THE CONTRACTOR WILL ARRANGE FOR INSPECTIONS BY SPACE FLORIDA, NASA KSC, USAF OR OTHER REGULATORY AGENCIES (IF APPLICABLE) FOR CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS .

9. BARRICADES – FDOT APPROVED BARRICADES SHALL BE PLACED AT LOCATIONS APPROVED BY NASA KSC/ USAF/ SPACE FLORIDA PRIOR TO CONSTRUCTION OPERATIONS.

10. STAGING/STORAGE AREA – THE CONTRACTOR SHALL USE AN APPROVED STAGING AREA BY SPACE FLORIDA, NASA KSC, USAF, FDOT, PORT CANAVERAL AND SHALL BE RESPONSIBLE FOR THE SECURITY AND SAFETY OF THEIR EQUIPMENT AND MATERIALS. ALL DAMAGES DUE TO CONTRACTOR'S USAGE SHALL BE REPAIRED AT NO COST TO THE OWNER.

11. CONTRACTOR ACTIVITIES ARE RESTRICTED TO THE AREA WITHIN THE IMMEDIATE PROJECT CONSTRUCTION LIMITS EXCEPT FOR ACCESS AND DELIVERIES TO THE SITE. CONTRACTOR SHALL MAINTAIN A CLEAN WORK AREA FREE FROM TRASH.

12. SPILLS: CCAFS HAS SPECIFIC PROCEDURES FOR SPILLS. ALL SPILLS MUST BE REPORTED TO THE OWNER AND CCAFS CAPE SUPPORT AT 321-853-5211 OR NASA KSC DUTY OFFICE: 321-861-5050.

13. HAZARDOUS/CONTROLLED WASTE: IN THE EVENT HAZARDOUS WASTE IS GENERATED NOTIFY THE OWNER AND FOLLOW CCAFS HAZARDOUS WASTE MANAGEMENT PLAN AND CONTACT 321-853-6985.

BACKFLOW PREVENTER REMOVAL (STA 3355+60)

1. THE ABANDONED BACKFLOW PREVENTER IS COMING OFF THE MAIN LINE RUNNING NORTH/SOUTH ALONG PHILLIPS PARKWAY. THIS IS PART OF A WATERLINE FED INTO A BUILDING THAT HAS SINCE BEEN DEMOLISHED LEAVING THE ENTIRE LINE ABANDONED IN PLACE.

2. THE CONTRACTOR SHALL REMOVE THE ABOVE GROUND PIPING, CONCRETE PAD, AND FOUR BOLLARDS (INCLUDING CONCRETE FOUNDATION) IN THEIR ENTIRETY, AS WELL AS THE ABANDONED WATER LINE GOING BACK TO THE MAIN LINE (APPROXIMATELY 25 FEET).

3. THE CONTRACTOR SHALL HAND EXCAVATE THE ABANDONED WATER LINE BACK TO THE MAIN LINE, SHUT OFF THE CORPORATION STOP VALVE AND REMOVE THE EXISTING PIPE.

4. THE ABANDONED PIPE FROM THE BACKFLOW PREVENTER THAT EXTENDS TOWARD THE ABANDONED BUILDING SHALL BE DEMOLISHED AT THE 90 DEGREE BEND TO THE BACKFLOW PREVENTER, WITH THE REMAINDER OF THE LATERAL FEEDING THE BUILDING BEING ABANDONED IN PLACE. THE ABANDONED IN PLACE PIPE SHALL EITHER BE PLUGGED OR GROUTED.

5. NO WATER OUTAGE ARE ANTICIPATED FOR THIS EFFORT. ALL OUTAGES WILL REQUIRE USAF APPROVAL. THE WATER MAIN IS ON A LOOP AND CAN BE SHUT DOWN WITH PROPER PERMITTING AND NOTICE.

SURVEY NOTES

1. THE CENTERLINE OF CONSTRUCTION ALIGNMENT IS NOT A SURVEYED ALIGNMENT AND IS FOR REFERENCE PURPOSES ONLY.

2. THE DESIGN SURVEY WAS COMPLETED BY NV5, INC. THE DESIGN GEOTECHNICAL INVESTIGATIONS WERE COMPLETED BY TERRACON, INC.

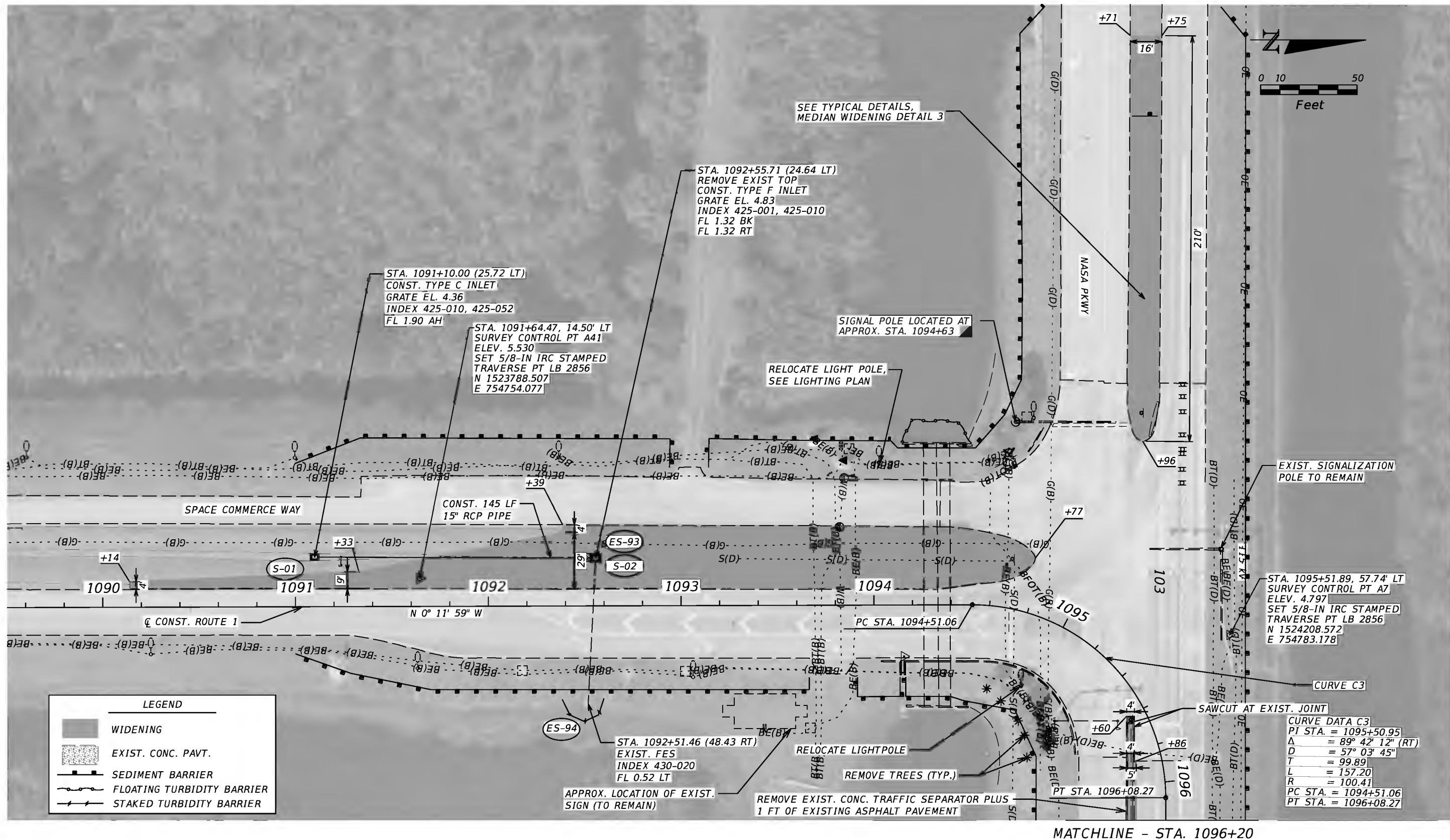
3. SURVEY CONTROL POINTS SHOWN ON PLANS ARE NAD 1983, 2011 ADJUSTMENT HORIZONTAL DATUM AND ASSUMED VERTICAL DATUM (BASED ON RTK GPS DERIVED ORTHOMETRIC HEIGHT PLUS 500.00). ELEVATIONS ARE ON AN ASSUMED VERTICAL DATUM EXCEPT FOR THREE KEY DRAINAGE LOCATIONS (SPACE COMMERCE WAY AT NASA PARKWAY, SATURN CAUSEWAY AT SPACEX/LC 39A AND PHILLIPS PARKWAY AT CENTRAL CONTROL ROAD) WHICH ARE NAVD 88 BASED ON TRK GPS OBSERVATIONS TO EXISTING VERTICAL CONTROL.

4. DUE TO LIMITED SURVEY FOR THE PROJECT, OFFSETS FOR WIDENING ARE NOT SHOWN ON THE PLANS. WIDTH OF WIDENING TO BE MEASURED FROM EXISTING EDGE OF PAVEMENT.

5. AT CERTAIN LOCATIONS THE FDOT AERIALS AND FIELD SURVEY DO NOT EXACTLY MATCH OR LINE UP DUE TO MINOR COORDINATES VARIATIONS ASSOCIATED WITH IMPORTING FDOT AERIALS INTO MICROSTATION.

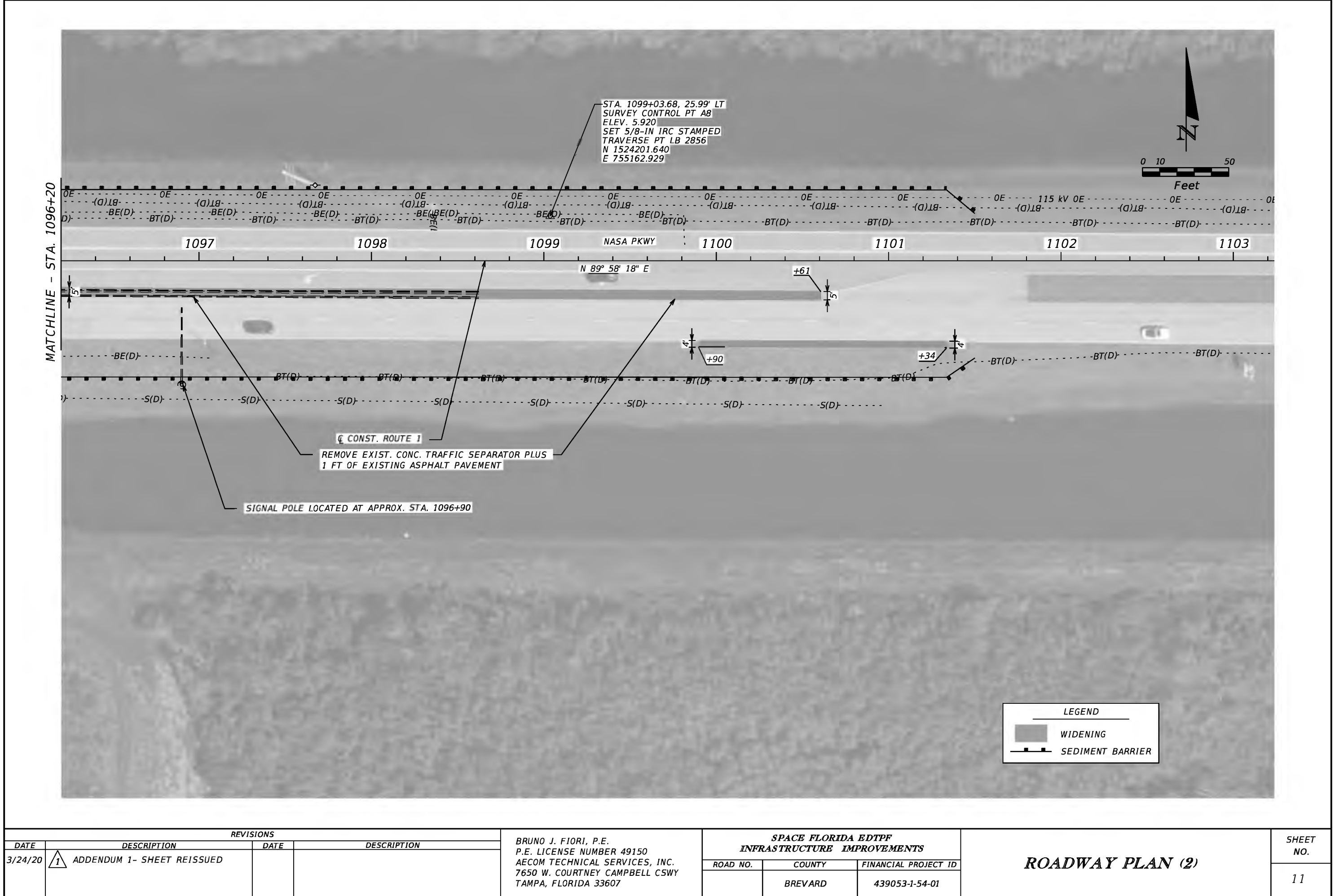
6. DUE TO LIMITED SURVEY, CROSS SECTIONS WERE NOT OBTAINED AT EVERY LOCATION PROPOSED FOR WIDENING. CONTRACTOR IS TO FIELD VERIFY THAT CROSS SLOPES DO NOT EXCEED 11%. IF CROSS SLOPES EXCEED 11%, CONTRACTOR IS TO NOTIFY THE ENGINEER.

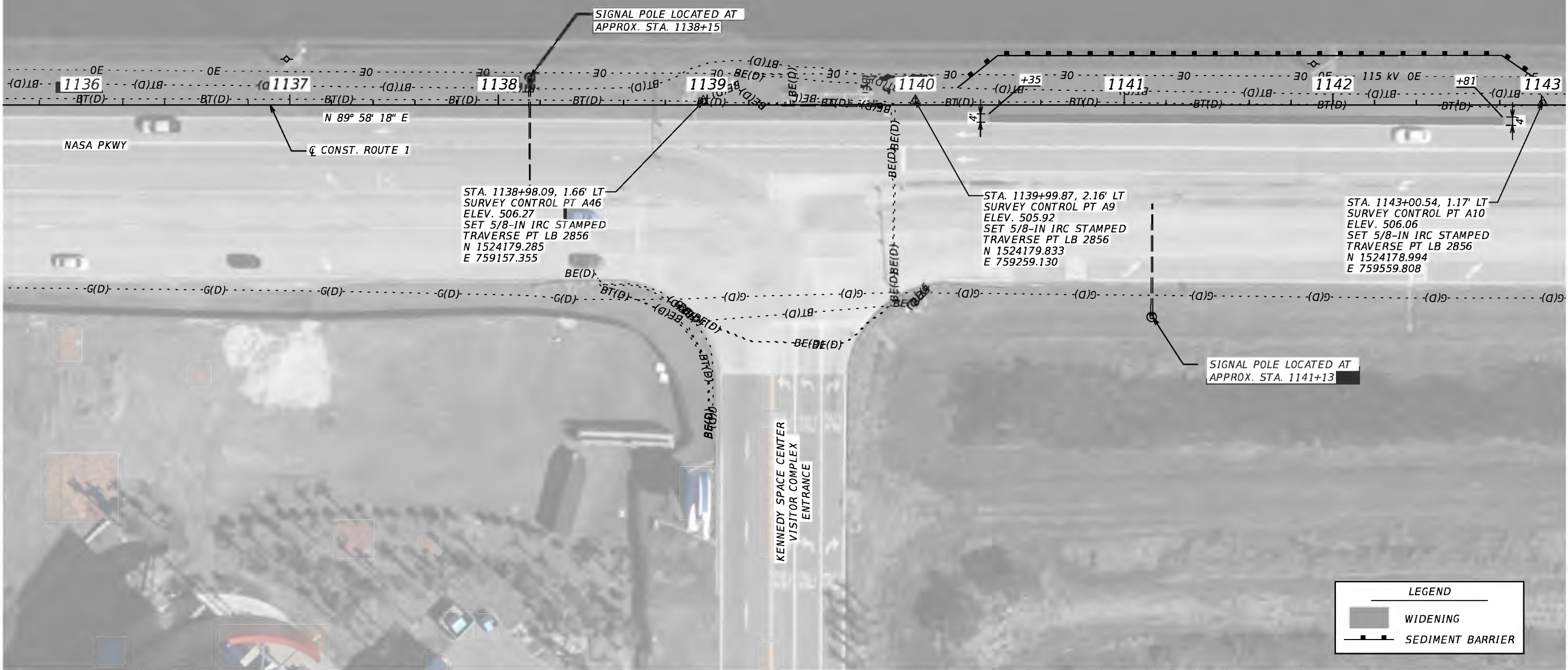
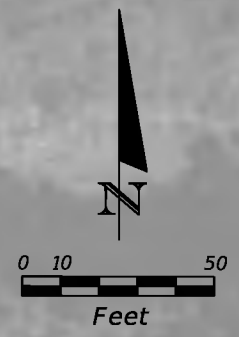
REVISIONS				BUNTI A. PATEL, P.E. P.E. LICENSE NUMBER 70708 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			GENERAL NOTES (2)	SHEET NO.
DATE	DESCRIPTION		DATE		DESCRIPTION		ROAD NO.		COUNTY
3/24/20	1	ADDENDUM 1- SHEET REISSUED						BREVARD	439053-1-54-01



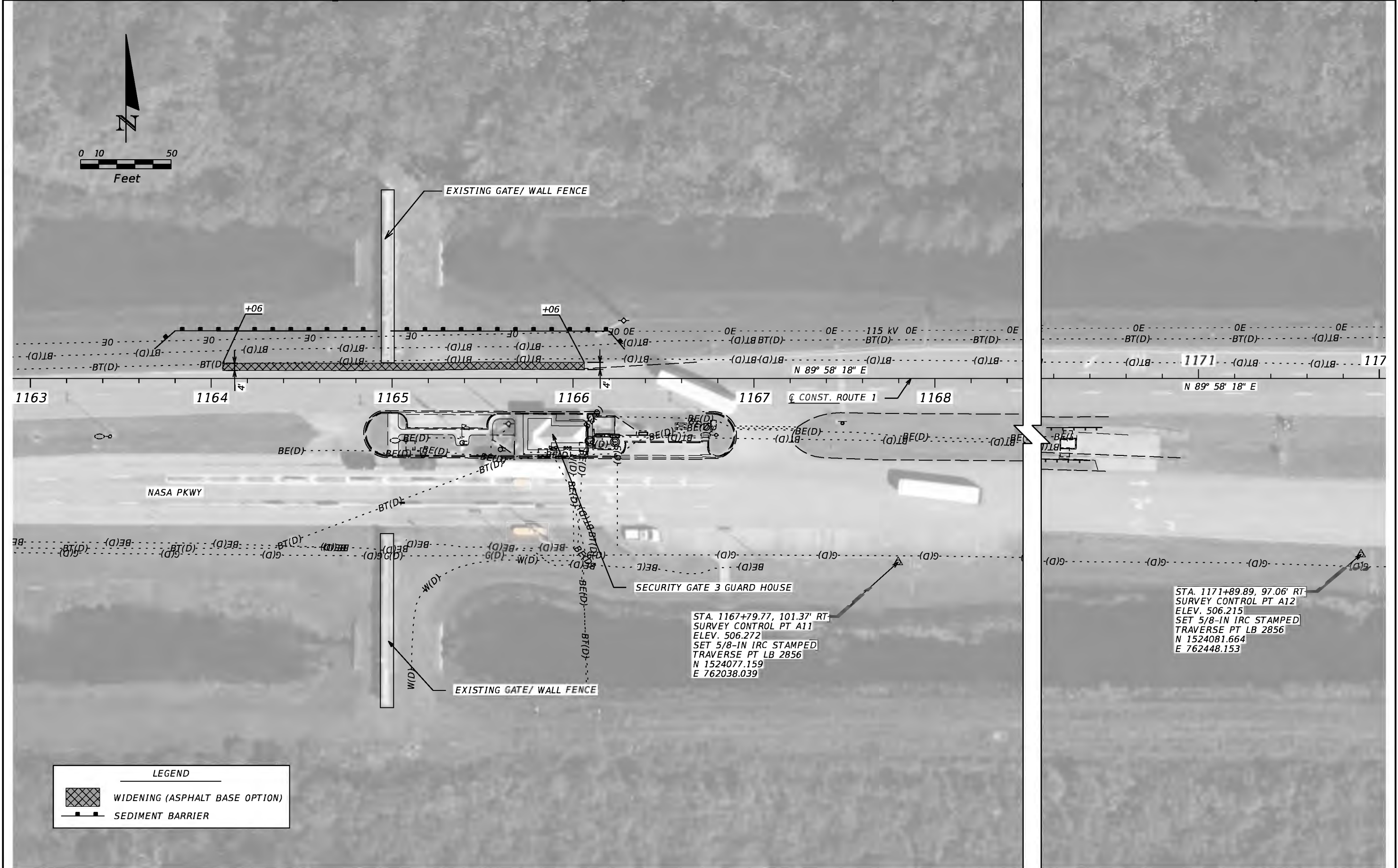
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS		ROADWAY PLAN (1)	SHEET NO. 10
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



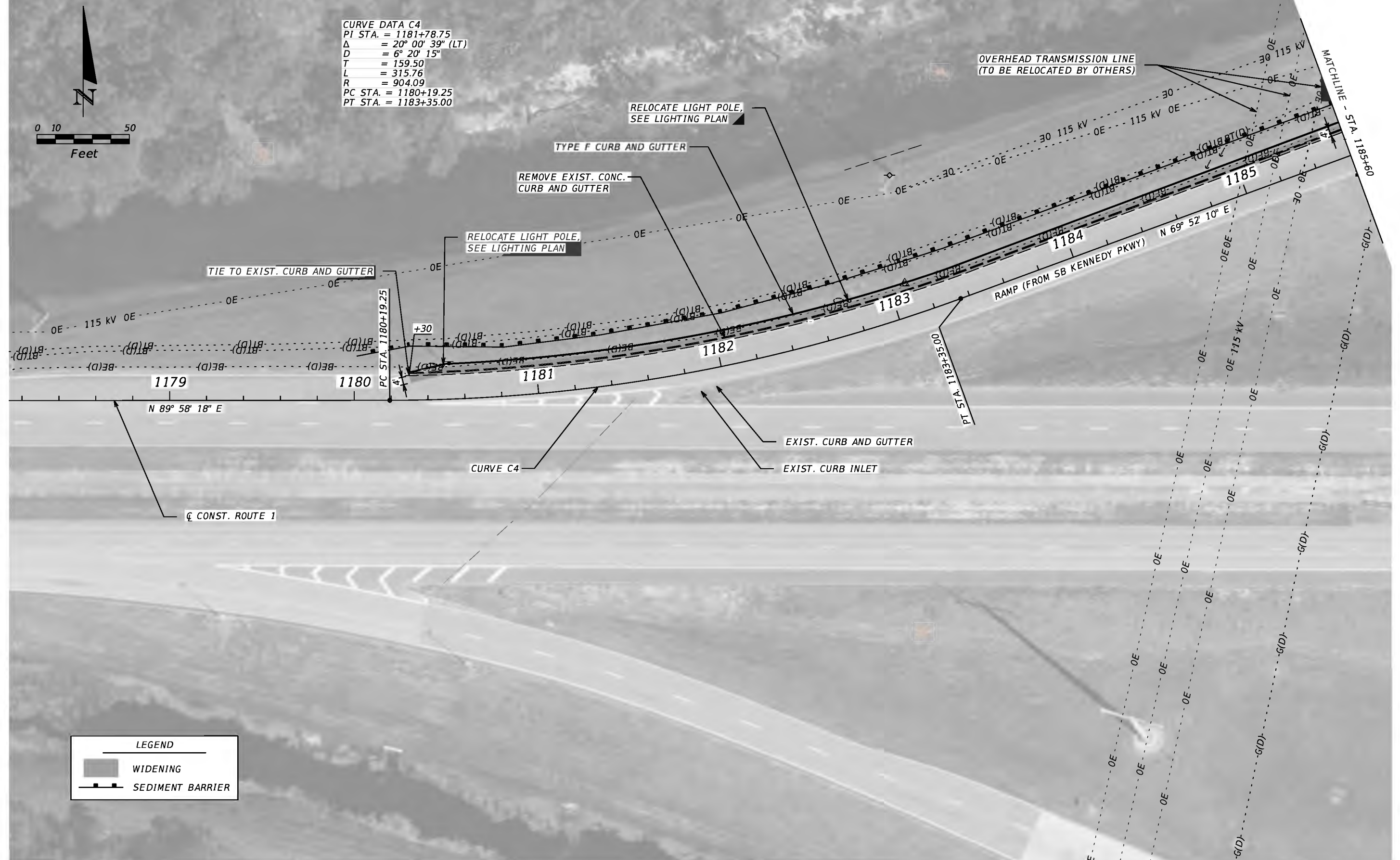


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (3)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		12



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (4)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		13

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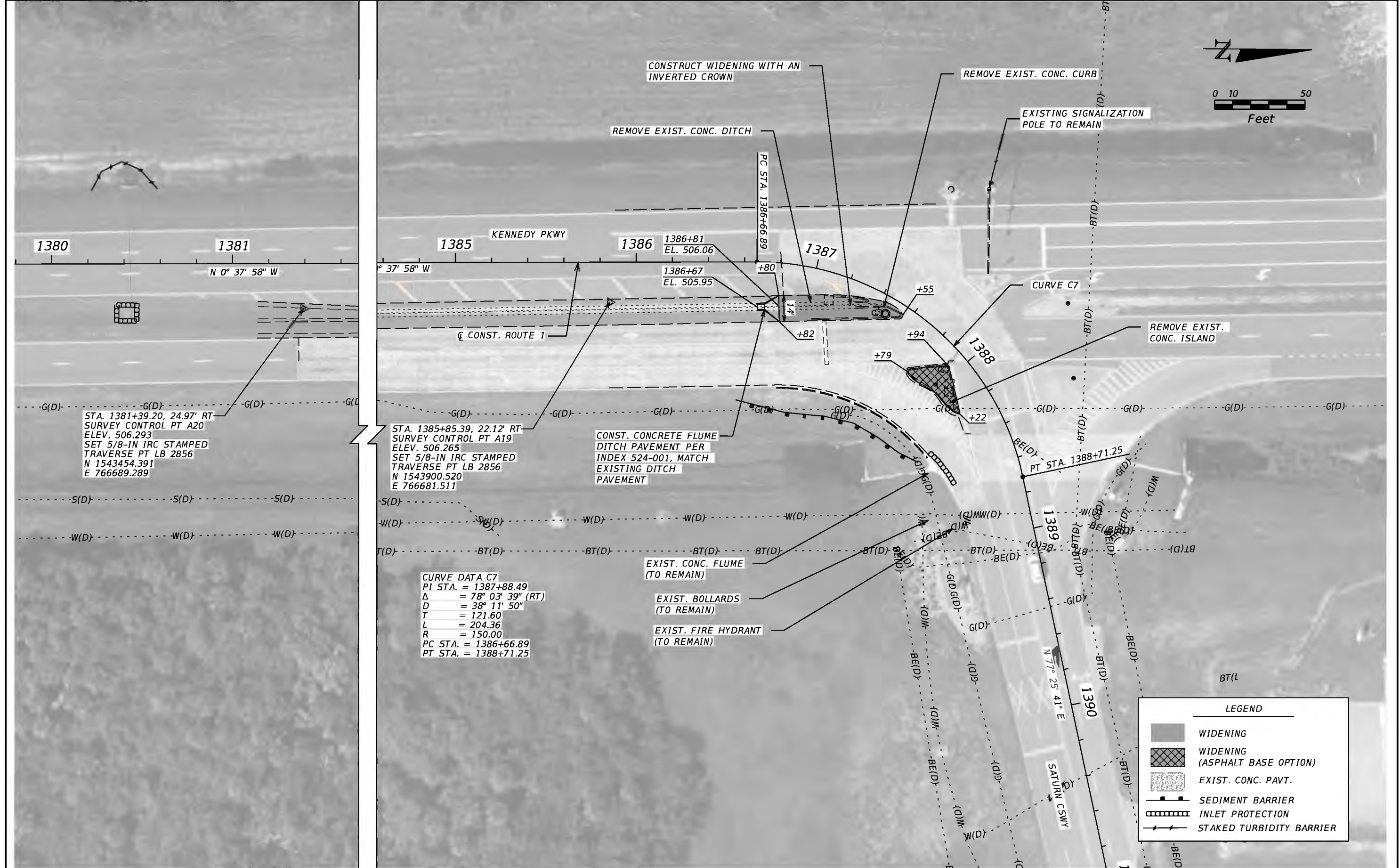


CURVE DATA C5
PI STA. = 1188+20.45
 Δ = 57° 58' 40" (LT)
D = 32° 44' 26"
T = 96.96
L = 177.08
R = 175.00
PC STA. = 1187+23.49
PT STA. = 1189+00.58



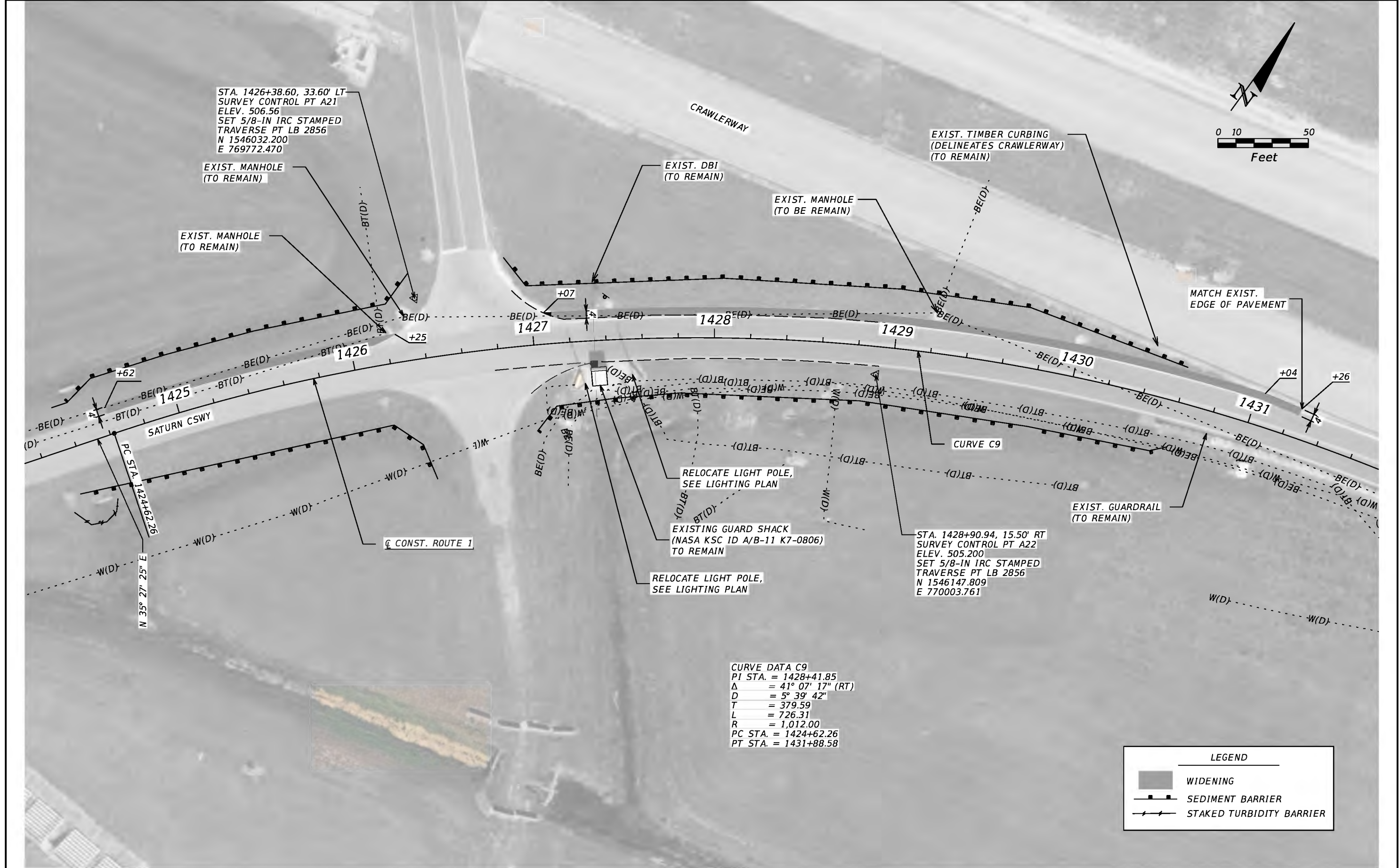
LEGEND	
	WIDENING
	EXIST. CONC. PAVT.
	SEDIMENT BARRIER
	INLET PROTECTION
	STAKED TURBIDITY BARRIER

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (6)	SHEET NO. 15
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		



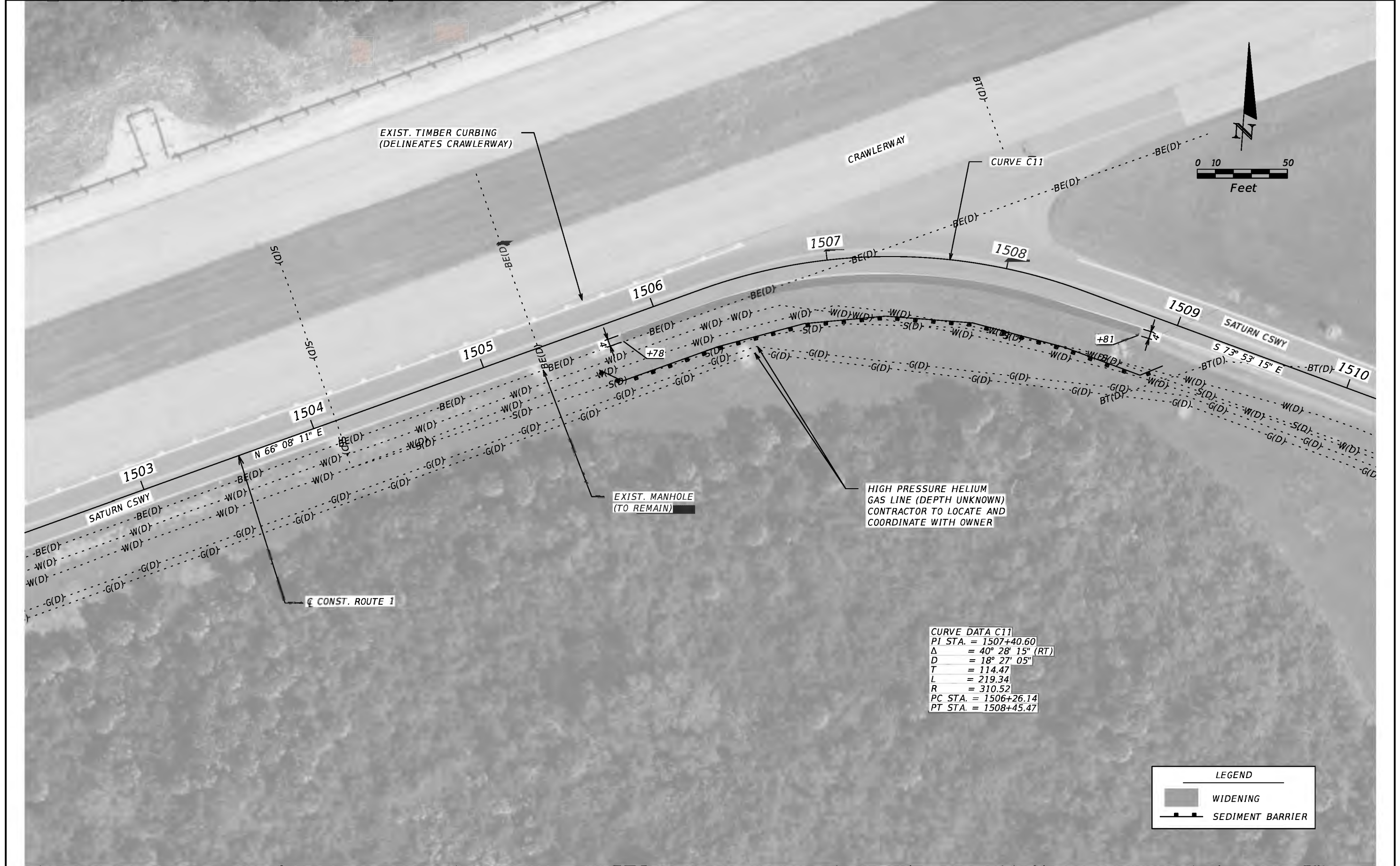
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (7)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		16

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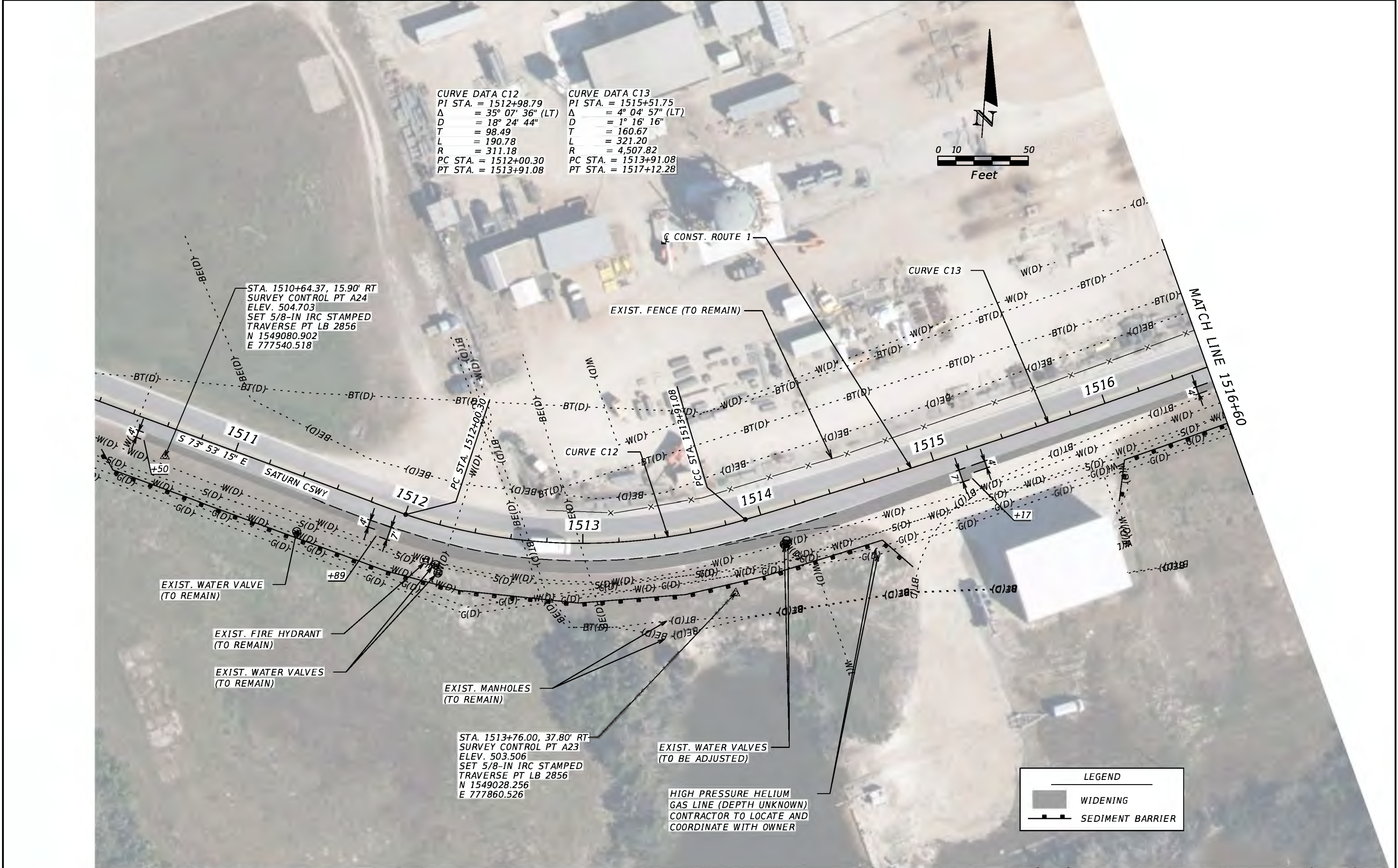
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (8)	SHEET NO. 17
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EITPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (9)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		18

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

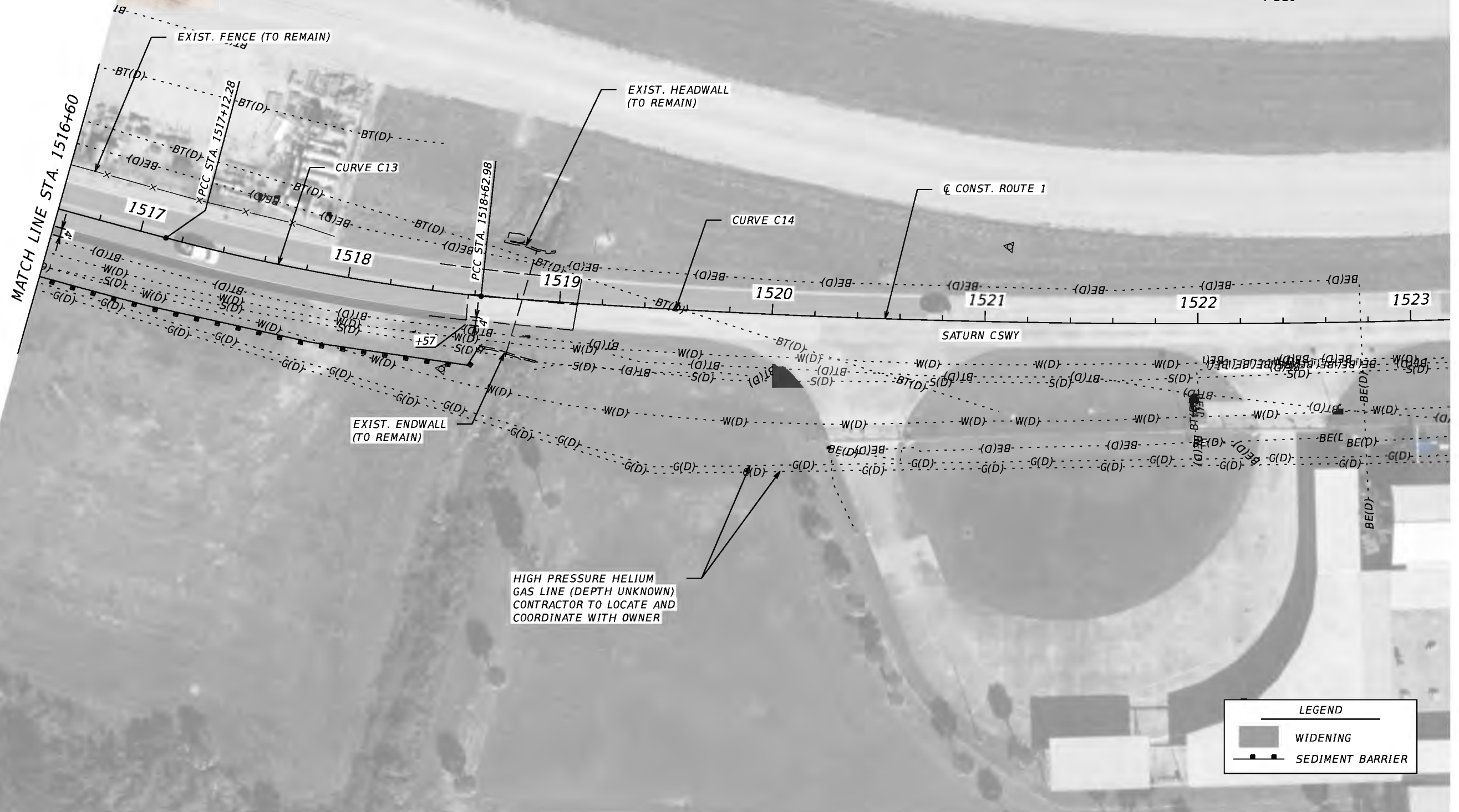
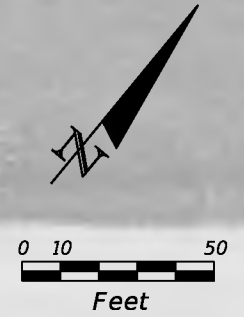


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (10)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		19

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

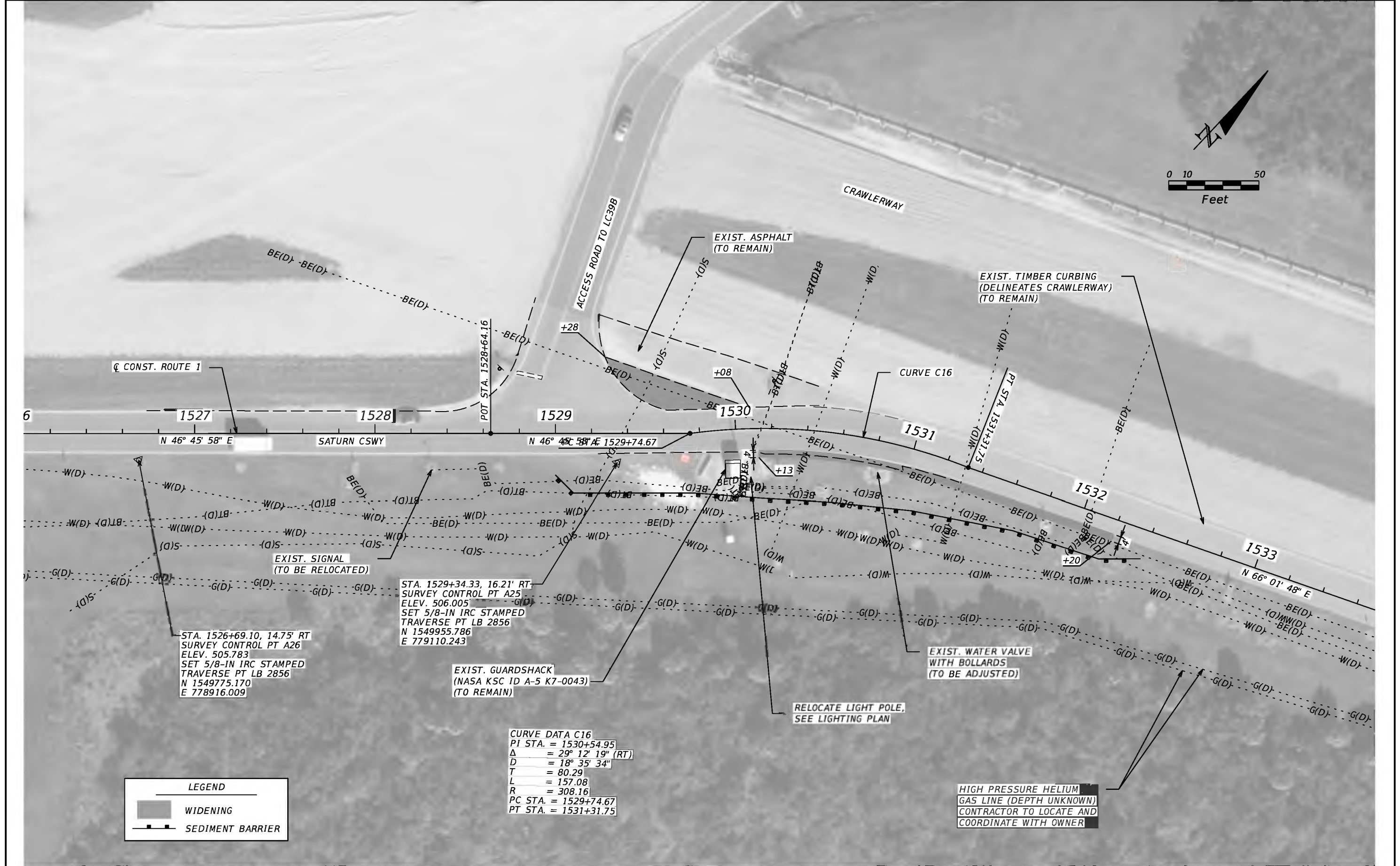
CURVE DATA C13
PI STA. = 1515+51.75
 Δ = 4° 04' 57" (LT)
D = 1° 16' 16"
T = 160.67
L = 321.20
R = 4,507.82
PC STA. = 1513+91.08
PT STA. = 1517+12.28

CURVE DATA C14
PI STA. = 1517+87.77
 Δ = 8° 36' 19" (LT)
D = 5° 42' 37"
T = 75.49
L = 150.70
R = 1,003.38
PC STA. = 1517+12.28
PT STA. = 1518+62.98



LEGEND	
	WIDENING
	SEDIMENT BARRIER

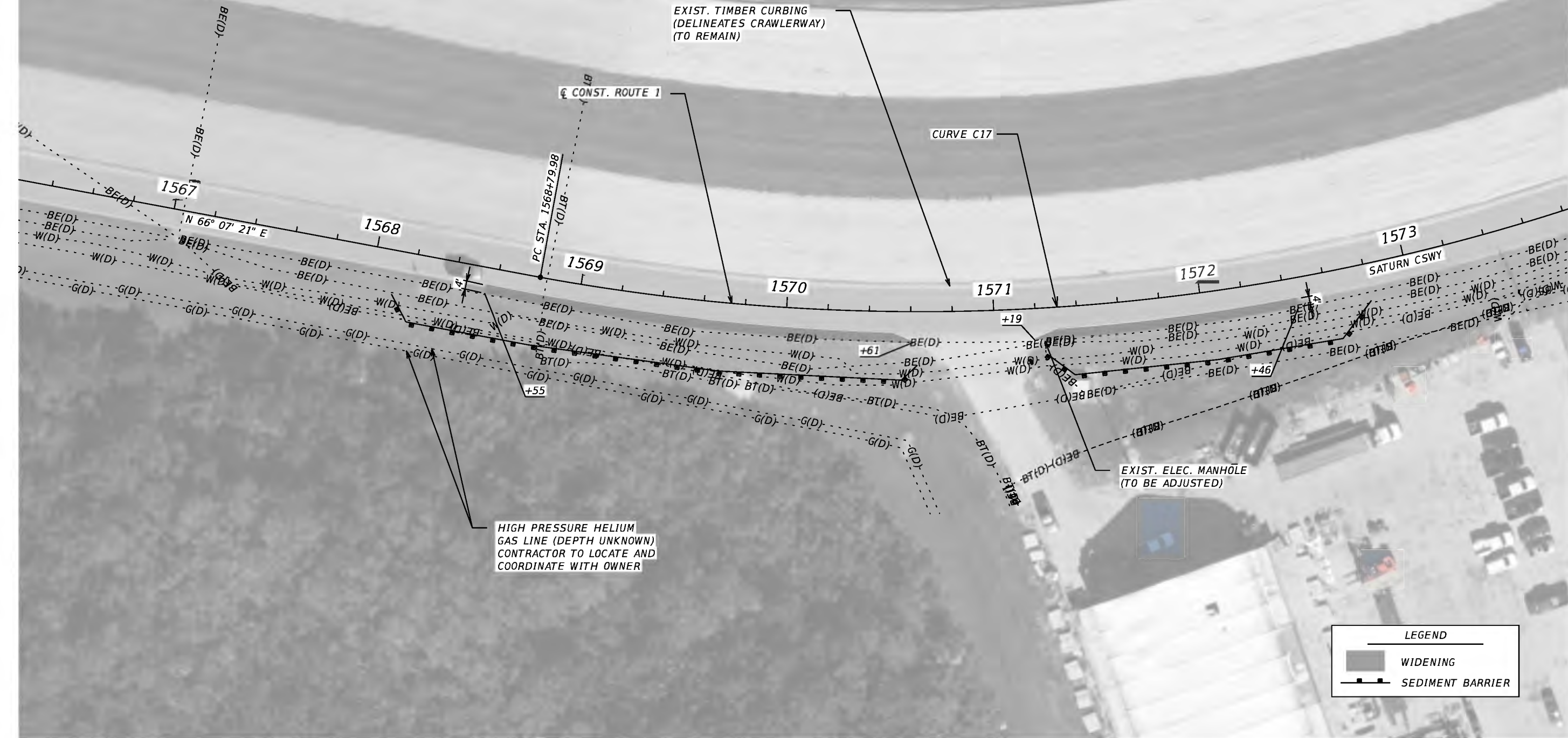
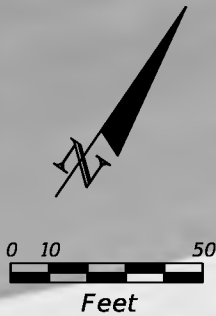
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (11)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		20



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (12)	SHEET NO. 21
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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CURVE DATA C17
PI STA. = 1572+59.30
Δ = 40° 55' 20" (LT)
D = 5° 38' 09"
T = 379.32
L = 726.11
R = 1,016.64
PC STA. = 1568+79.98
PT STA. = 1576+06.09



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (13)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		22

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CURVE DATA C17
PI STA. = 1572+59.30
 Δ = 40° 55' 20" (LT)
D = 5° 38' 09"
T = 379.32
L = 726.11
R = 1,016.64
PC STA. = 1568+79.98
PT STA. = 1576+06.09

LC39A



CURVE DATA C19
PI STA. = 1579+91.01
 Δ = 29° 06' 35" (LT)
D = 28° 38' 52"
T = 51.93
L = 101.61
R = 200.00
PC STA. = 1579+39.09
PT STA. = 1580+40.70

STA. 1582+18.53, 17.99' LT
SURVEY CONTROL PT A30
ELEV. 3.180
SET 5/8-IN IRC STAMPED
TRAVERSE PT LB 2856
N 1552511.643
E 783599.709

STA. 1581+66.50, 17.71' LT
SURVEY CONTROL PT A45
ELEV. 3.520
SET 5/8-IN IRC STAMPED
TRAVERSE PT LB 2856
N 1552473.897
E 783563.994

REMOVE PRESSURE GAUGE AND RISER ASSEMBLY.
COORDINATE WITH OWNER TO CAP LINE.

CURVE C17

CONST. ROUTE 1

EXIST. TIMBER
CURBING (DELINEATES
CRAWLERWAY)
(TO REMAIN)

SPACEX PARKING/ STORAGE AREA

PC STA. 1577+50.78

CONST. 12' LF (CLASS V)
14" X 23" ERCP PIPE

CURVE C18

EXIST. ENDWALL
(TO BE REMOVED)

STA. 1578+40.40, 39.97' LT
SURVEY CONTROL PT A44
ELEV. 5.720
SET 5/8-IN IRC STAMPED
TRAVERSE PT LB 2856
N 1552335.246
E 783291.943

EXIST. HEADWALL
(TO REMAIN)

PT STA. 1578+50.68

REMOVE. EXIST. CONC. SIDEWALK

SAWCUT AT EXIST. JOINT

CURVE C19

PT STA. 1580+40.70

PI STA. 1581+36.50

REGRADE DITCH BOTTOM
AND SIDE SLOPES

STA. 1578+44.93 (38.95 RT)
CONST. CONCRETE ENDWALL
INDEX 430-030
FL 2.25

SAWCUT AT EXIST. JOINT

EXIST. HEADWALL
(TO REMAIN)

SAWCUT AT EXIST. JOINT

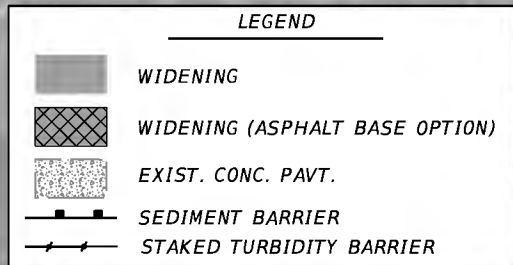
REMOVE. EXIST. CONC. SIDEWALK

SAWCUT AT EXIST. JOINT

EXIST. 24" PIPE

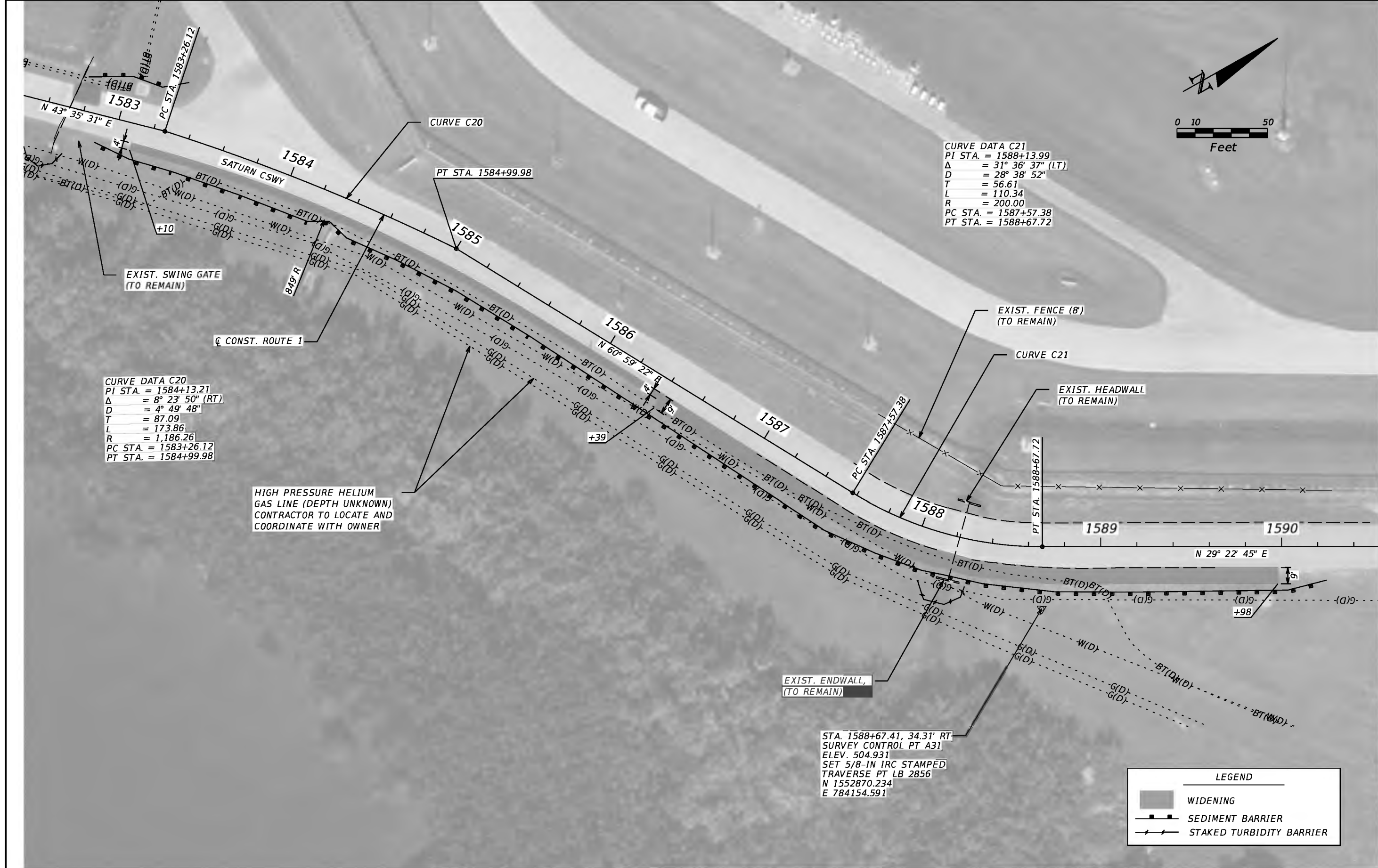
EXIST. ENDWALL

CURVE DATA C18
PI STA. = 1578+05.04
 Δ = 55° 29' 33" (RT)
D = 55° 33' 03"
T = 54.26
L = 99.89
R = 103.14
PC STA. = 1577+50.78
PT STA. = 1578+50.68

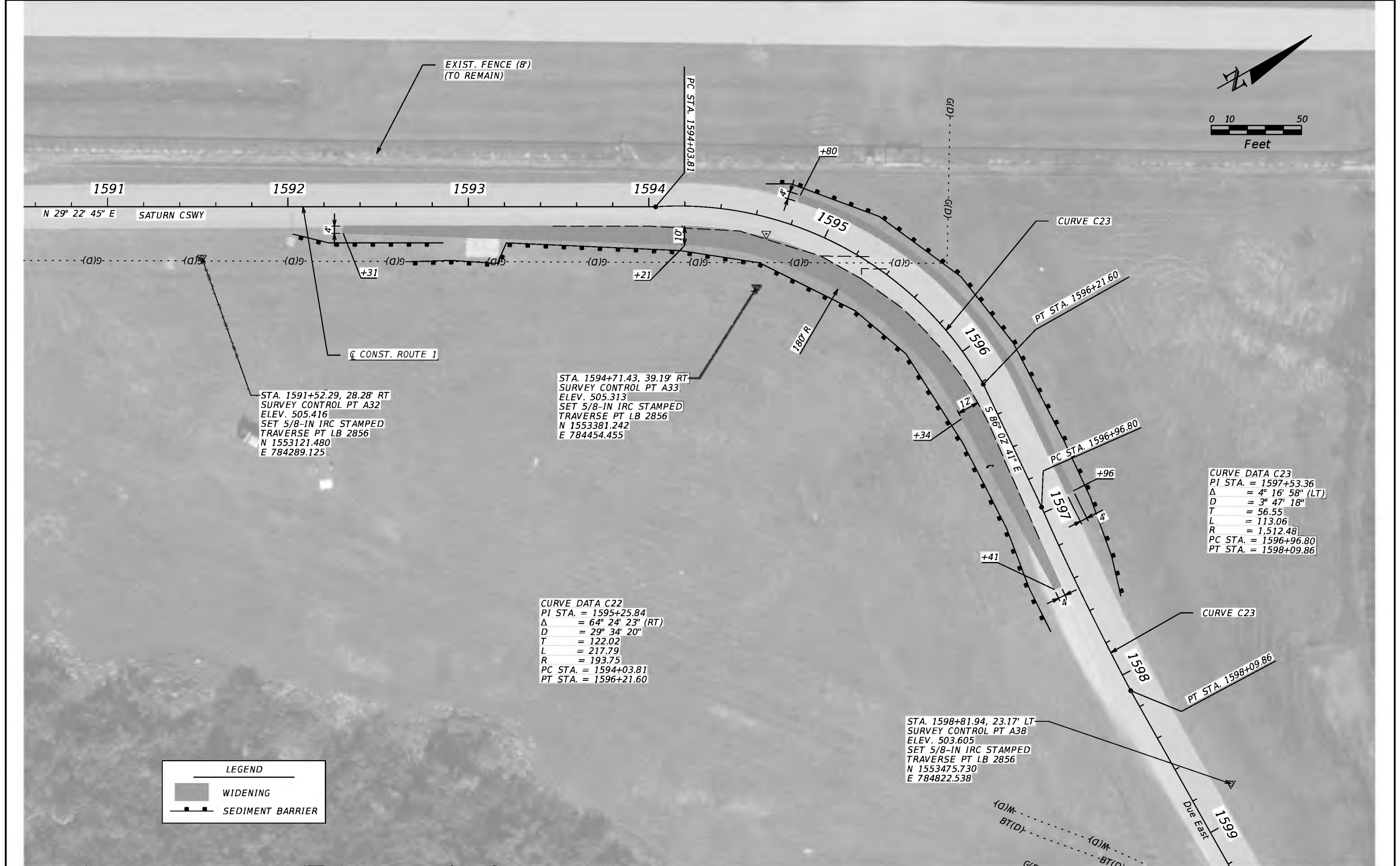


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EITPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (14)	SHEET NO. 23
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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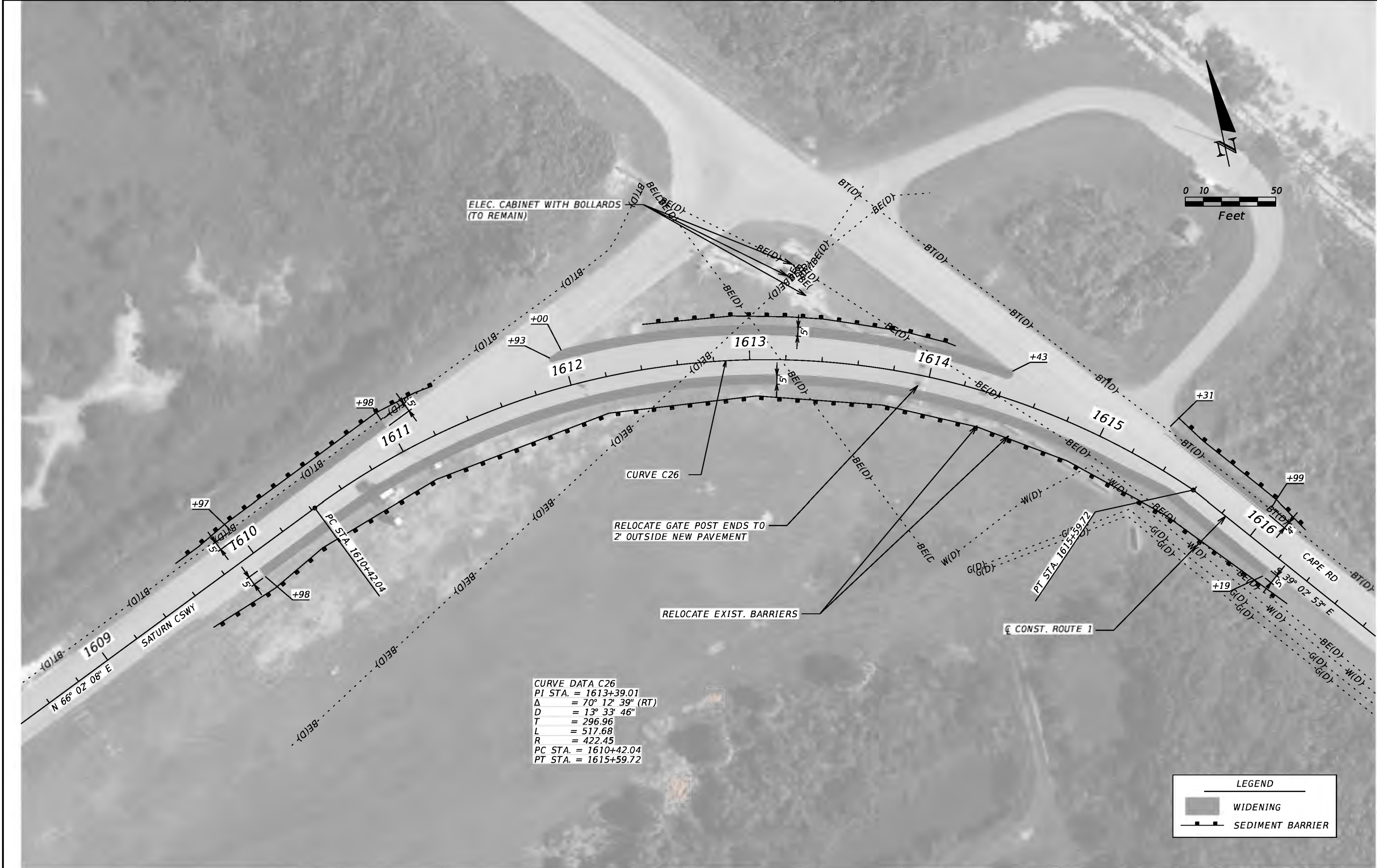


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (15)	SHEET NO. 24
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		



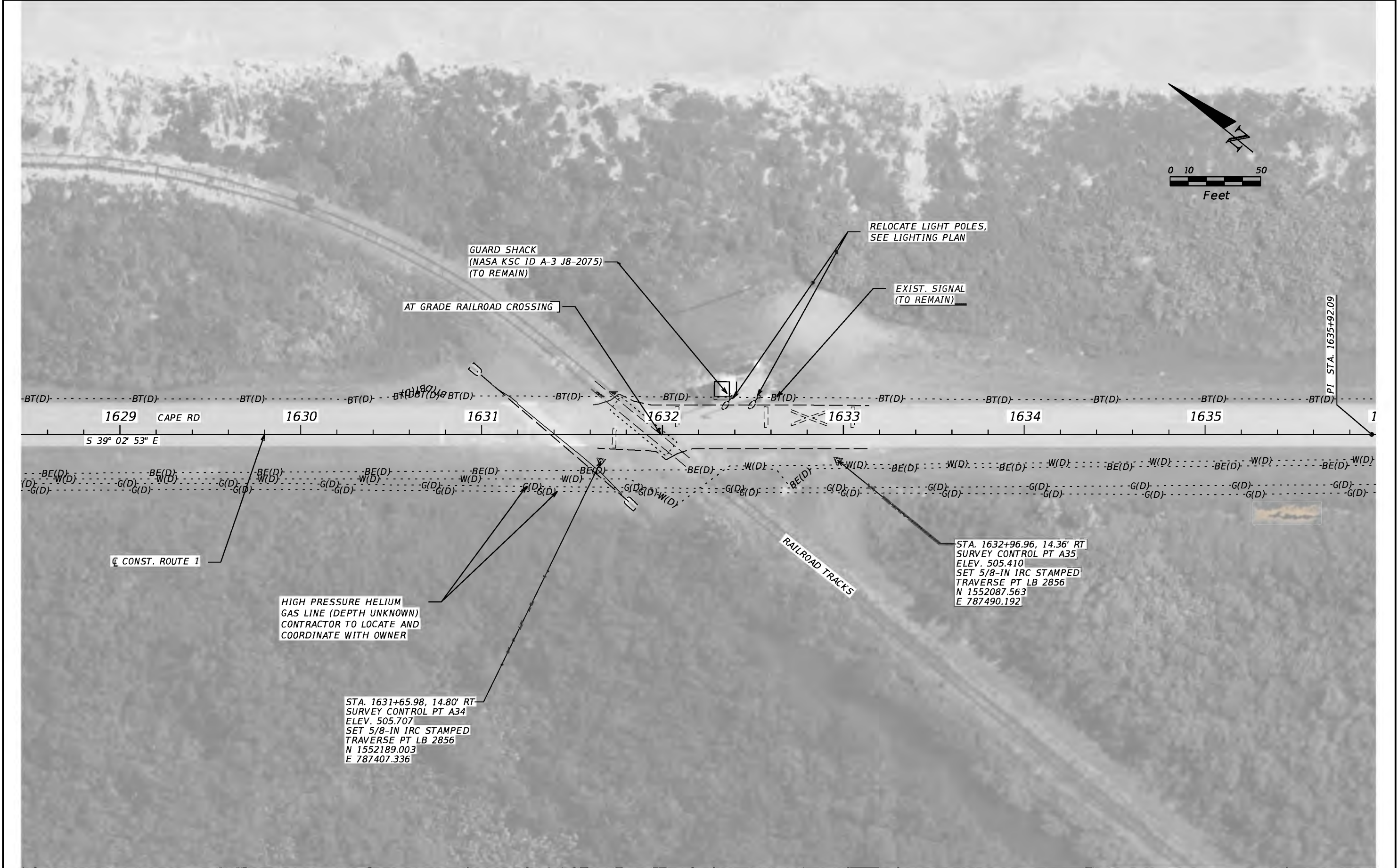
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (16)	SHEET NO. 25
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

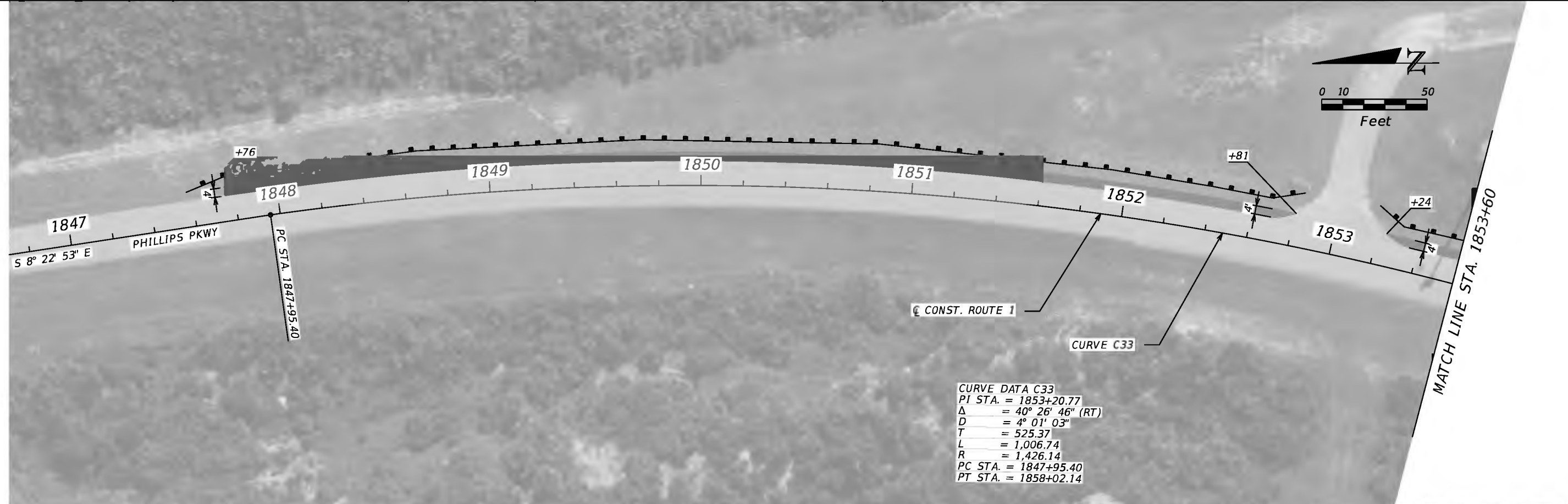


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (18)	SHEET NO. 27
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

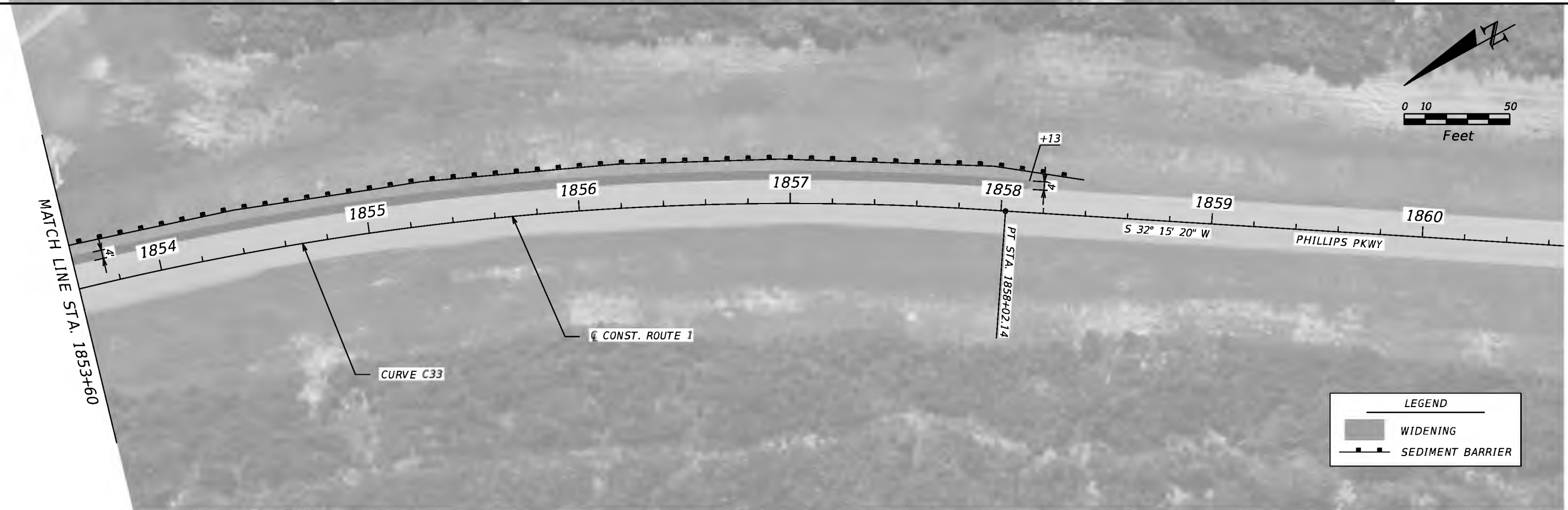
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (19)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		28



CURVE DATA C33
PI STA. = 1853+20.77
Δ = 40° 26' 46" (RT)
D = 4° 01' 03"
T = 525.37
L = 1,006.74
R = 1,426.14
PC STA. = 1847+95.40
PT STA. = 1858+02.14



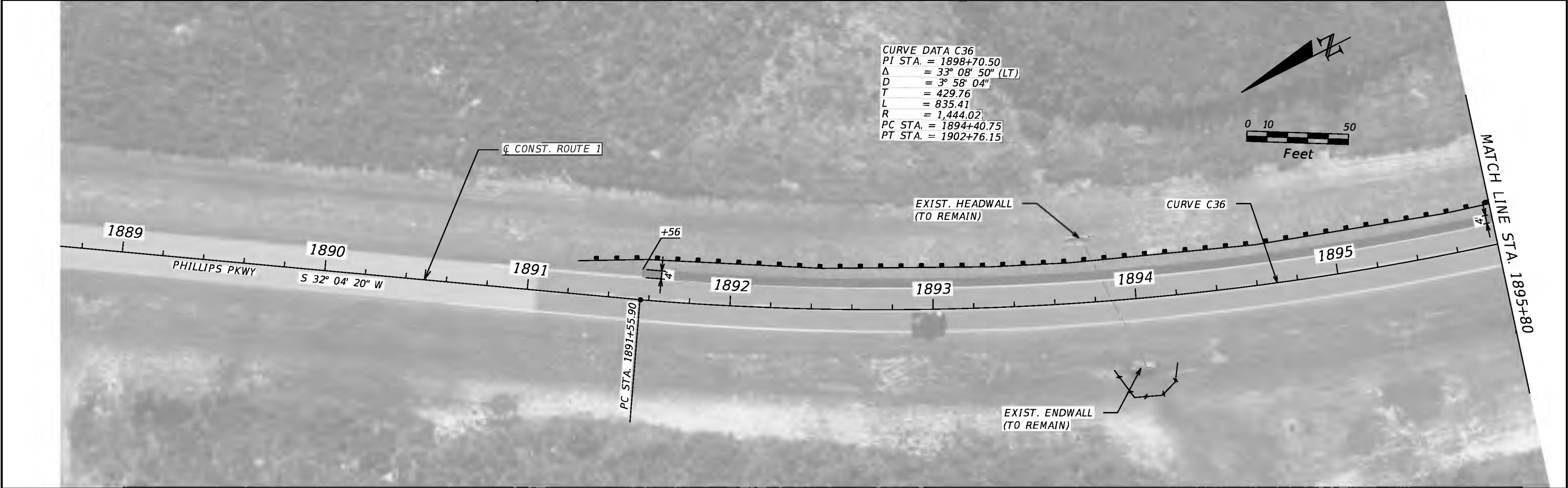
LEGEND

WIDENING

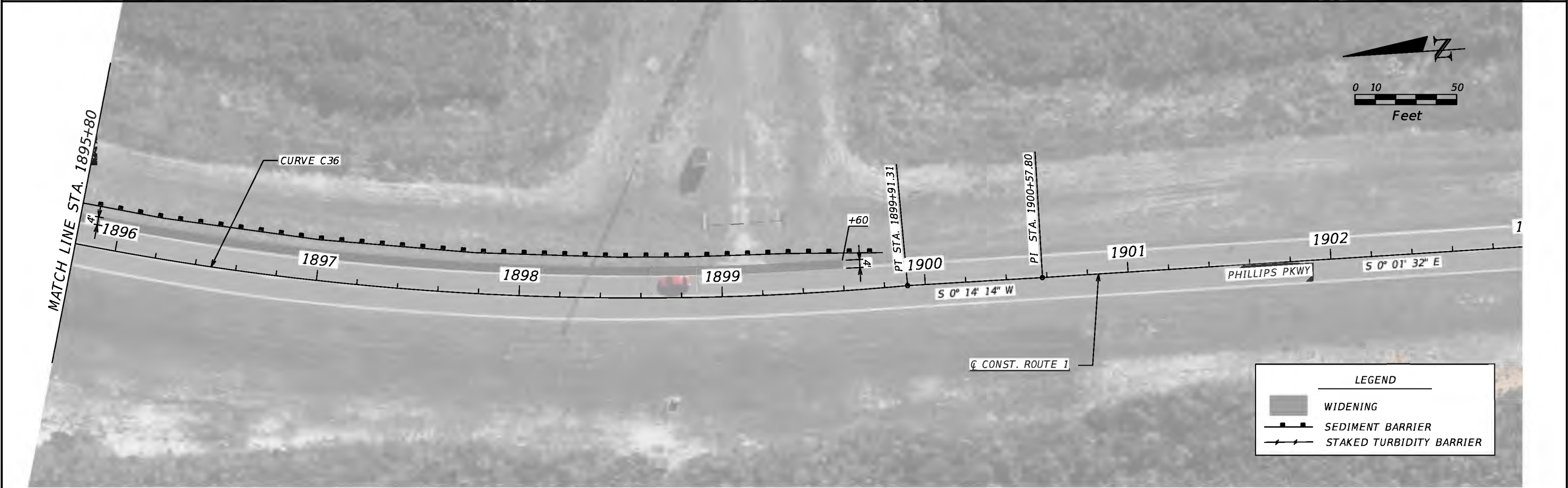
SEDIMENT BARRIER

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (20)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		29

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CURVE DATA C36
PI STA. = 1898+70.50
Δ = 33° 08' 50" (LT)
D = 3° 58' 04"
T = 429.76
L = 835.41
R = 1,444.02
PC STA. = 1894+40.75
PT STA. = 1902+76.15



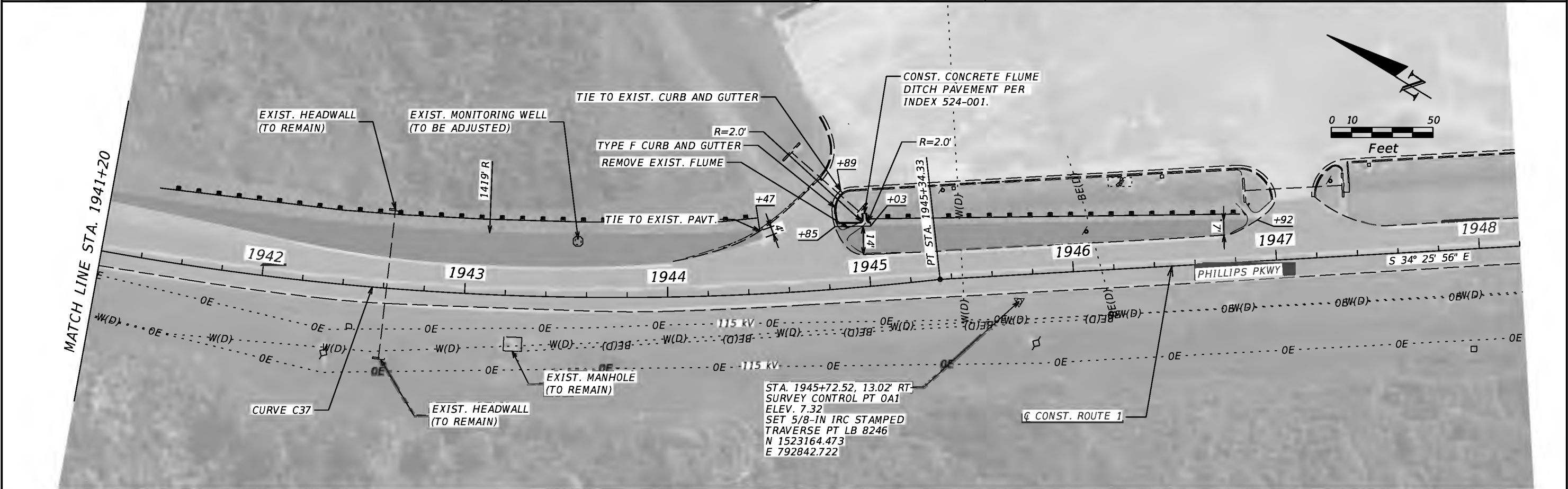
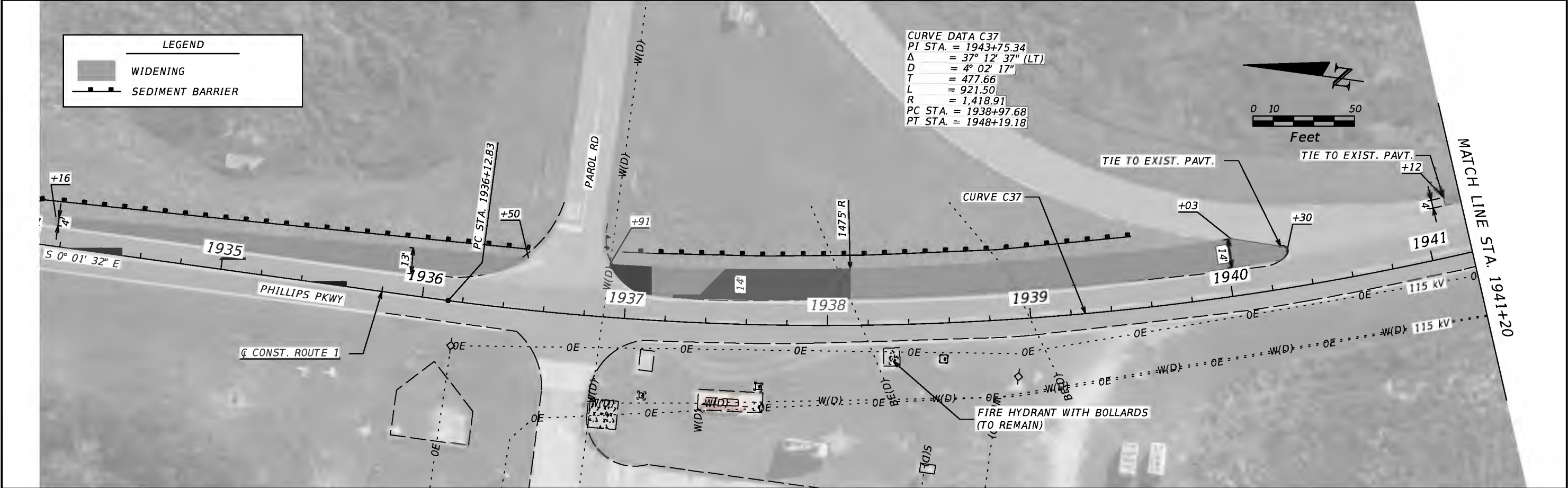
LEGEND

WIDENING

SEDIMENT BARRIER

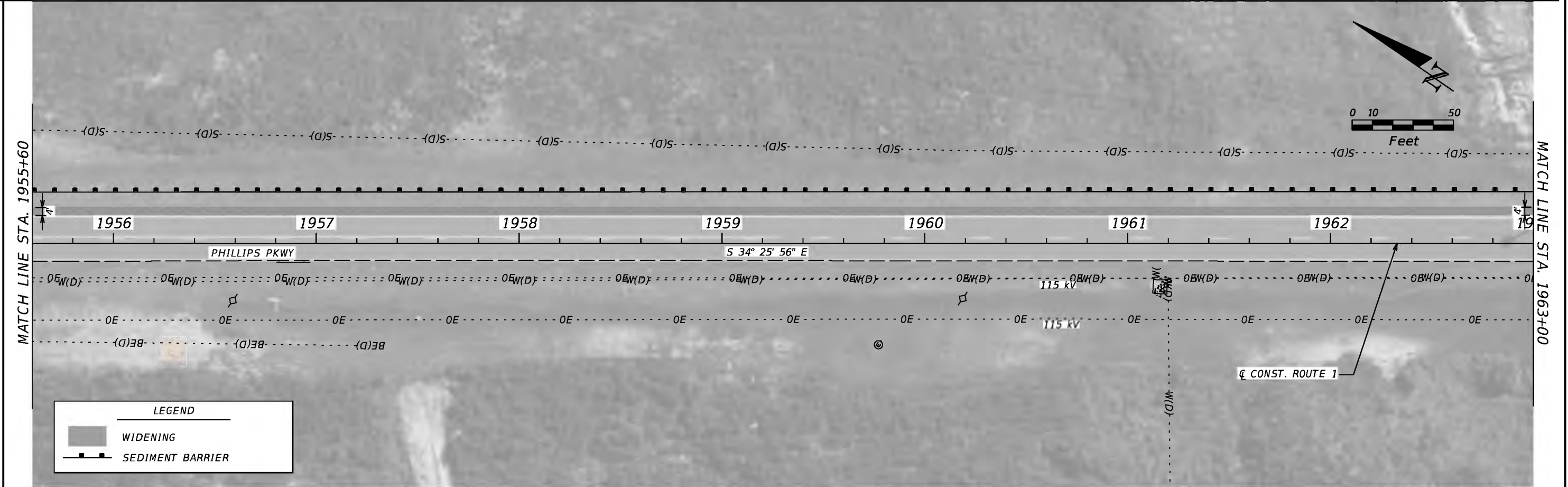
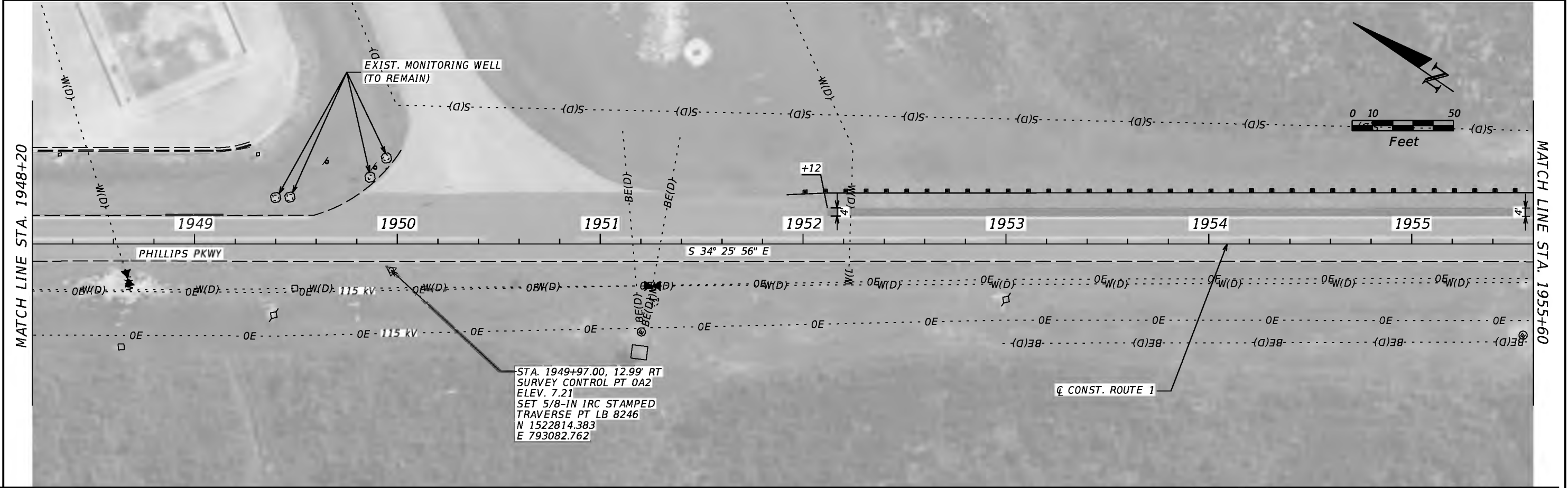
STAKED TURBIDITY BARRIER

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (21)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		30

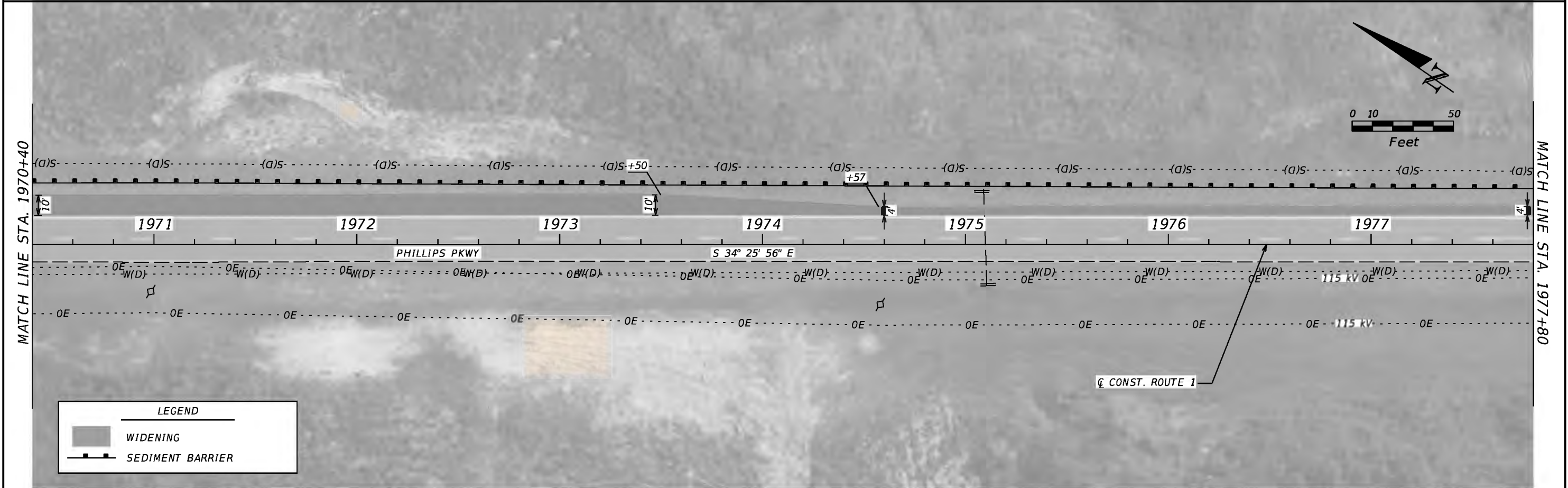
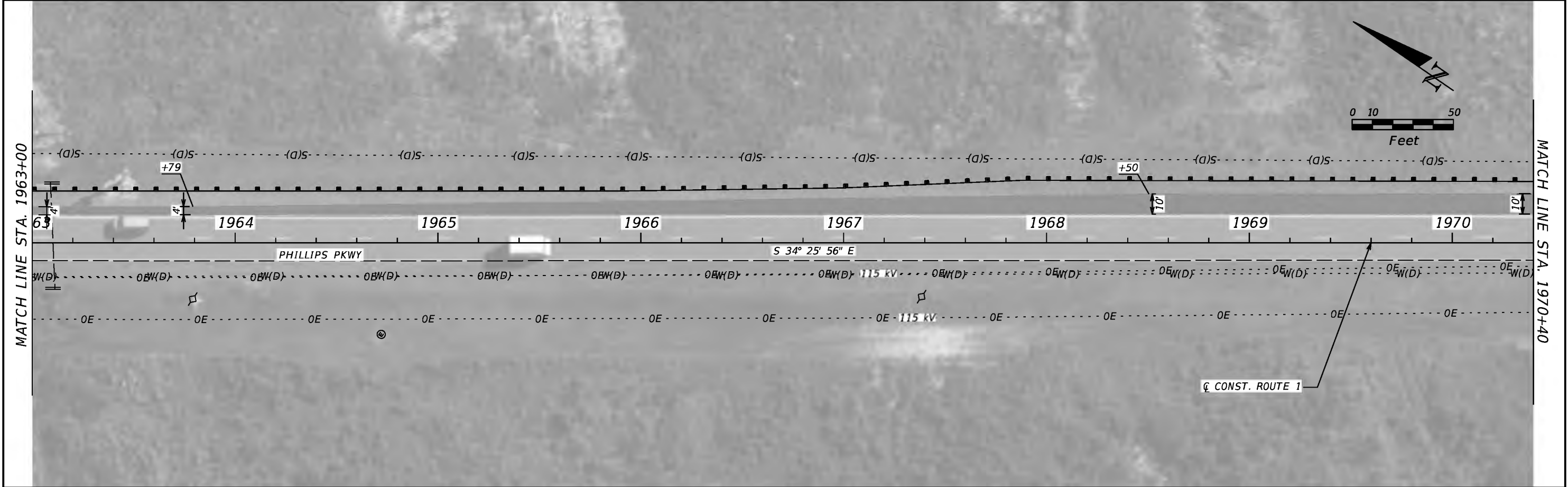


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EITPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (22)	SHEET NO. 31
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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REVISIONS				AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (23)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		32
						BREVARD	439053-1-54-01		



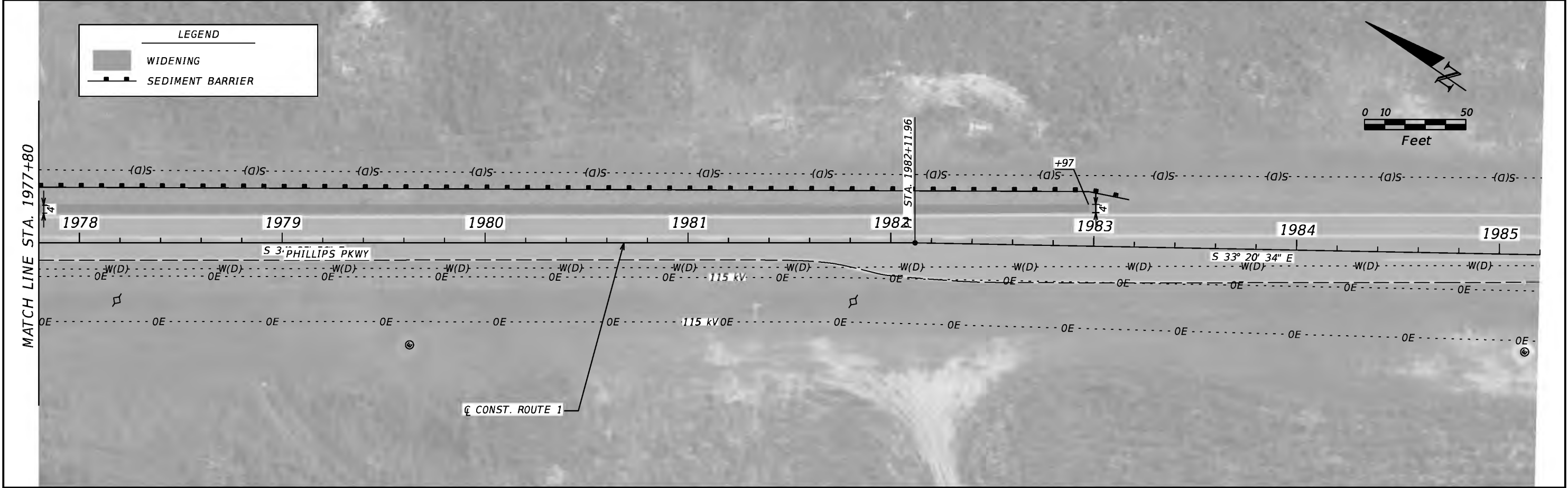
LEGEND

WIDENING

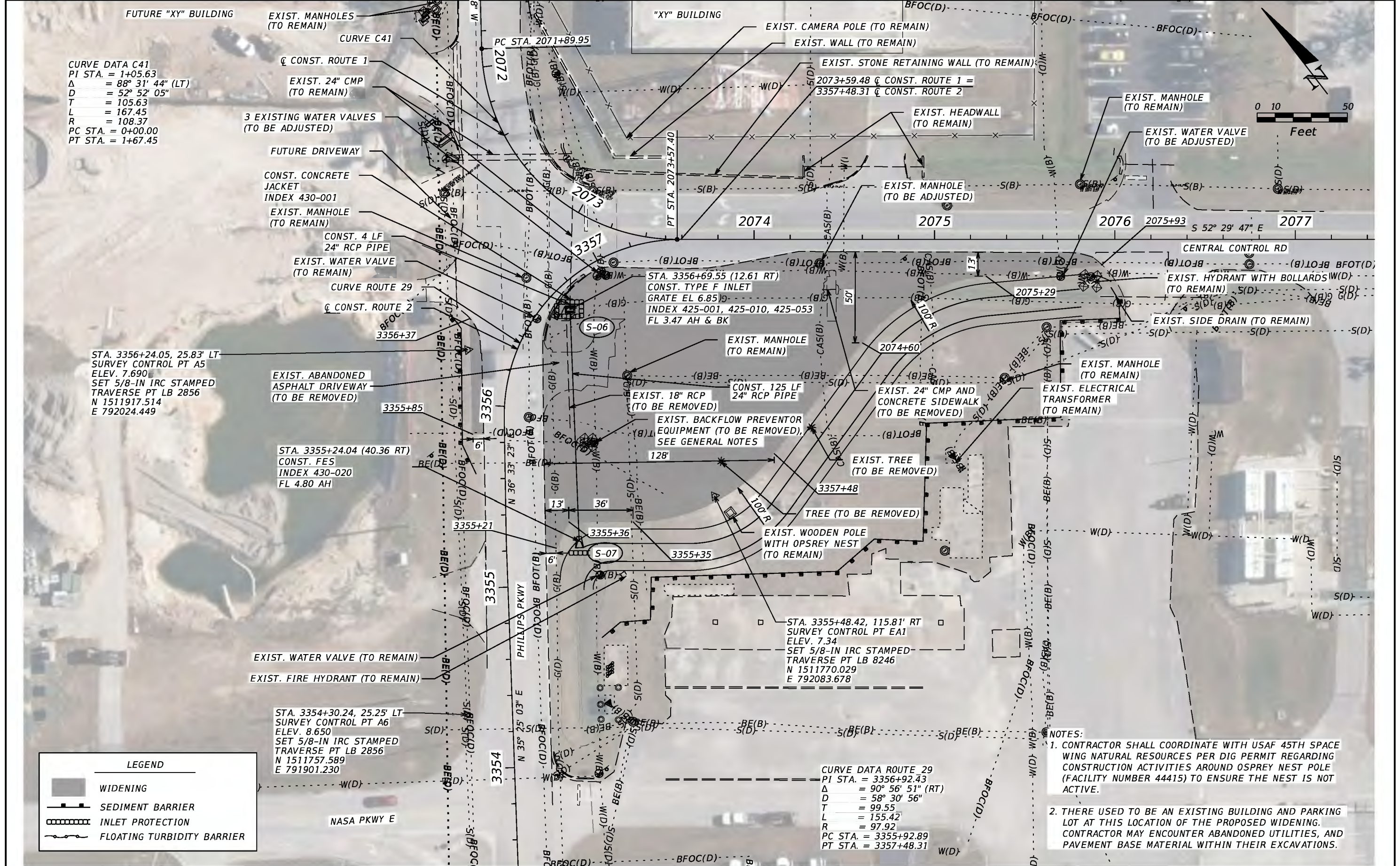
SEDIMENT BARRIER

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (24)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		33

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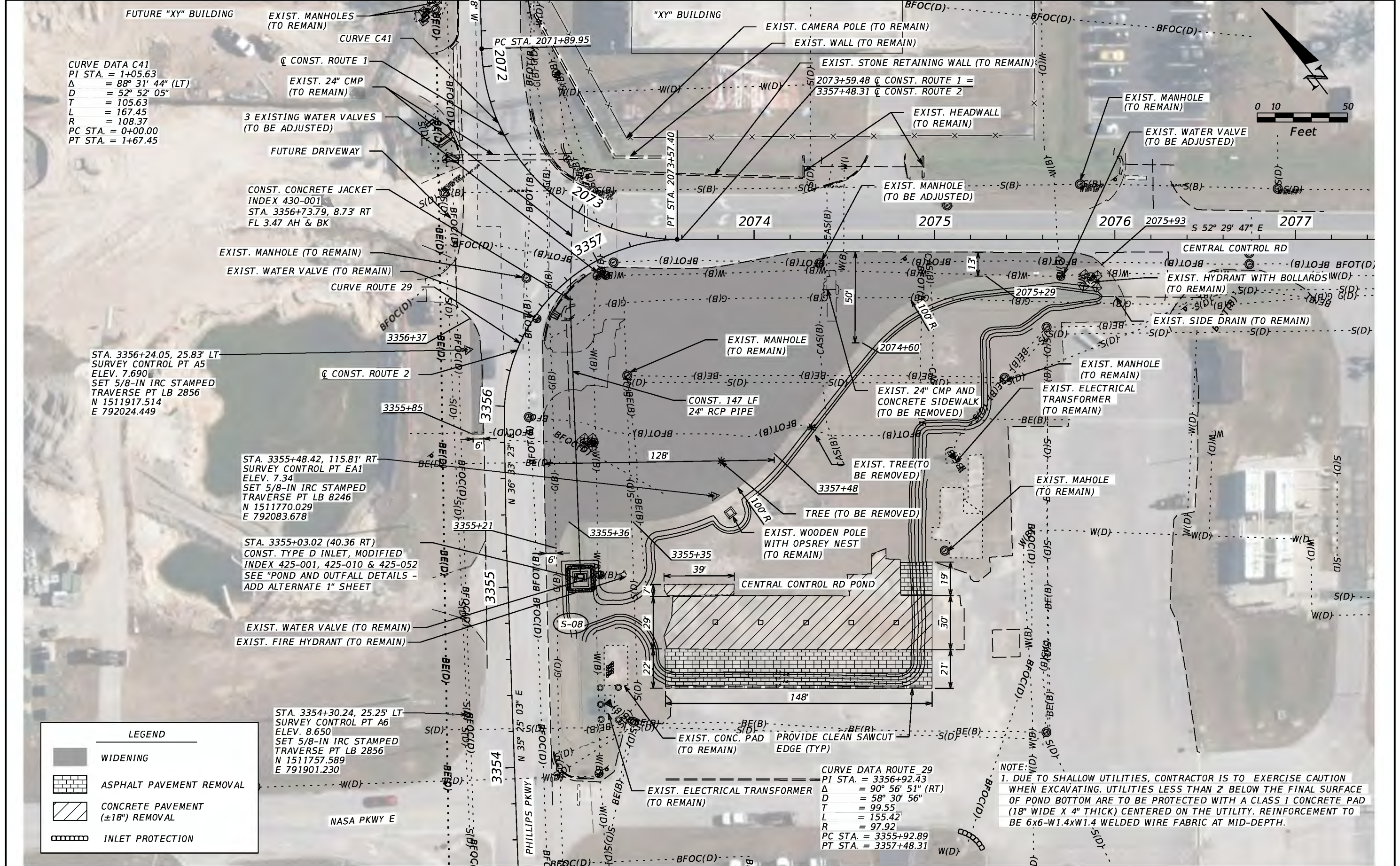


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (25)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		34



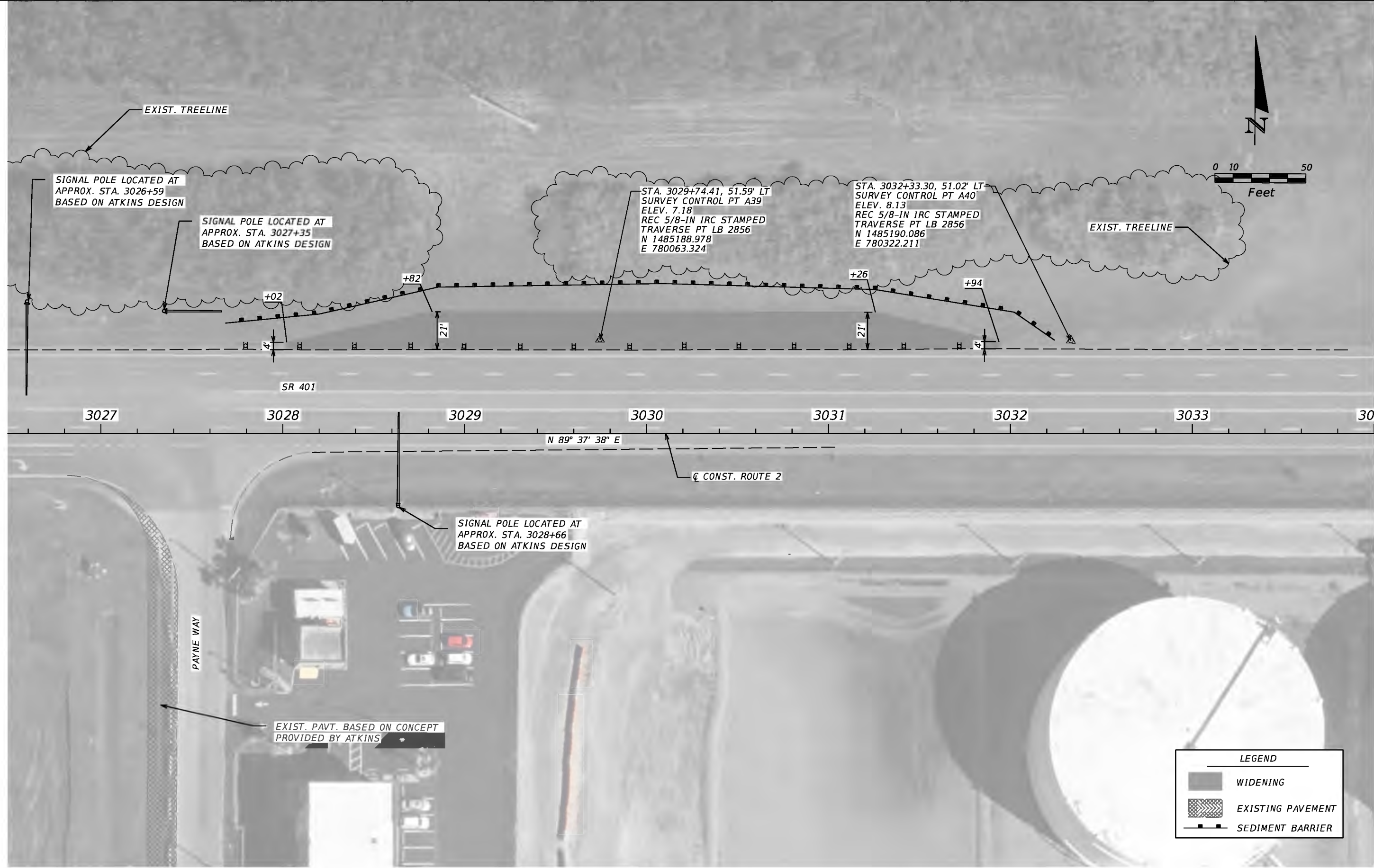
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EITPF INFRASTRUCTURE IMPROVEMENTS		ROADWAY PLAN (26)	SHEET NO. 35
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	4390531-54-01	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

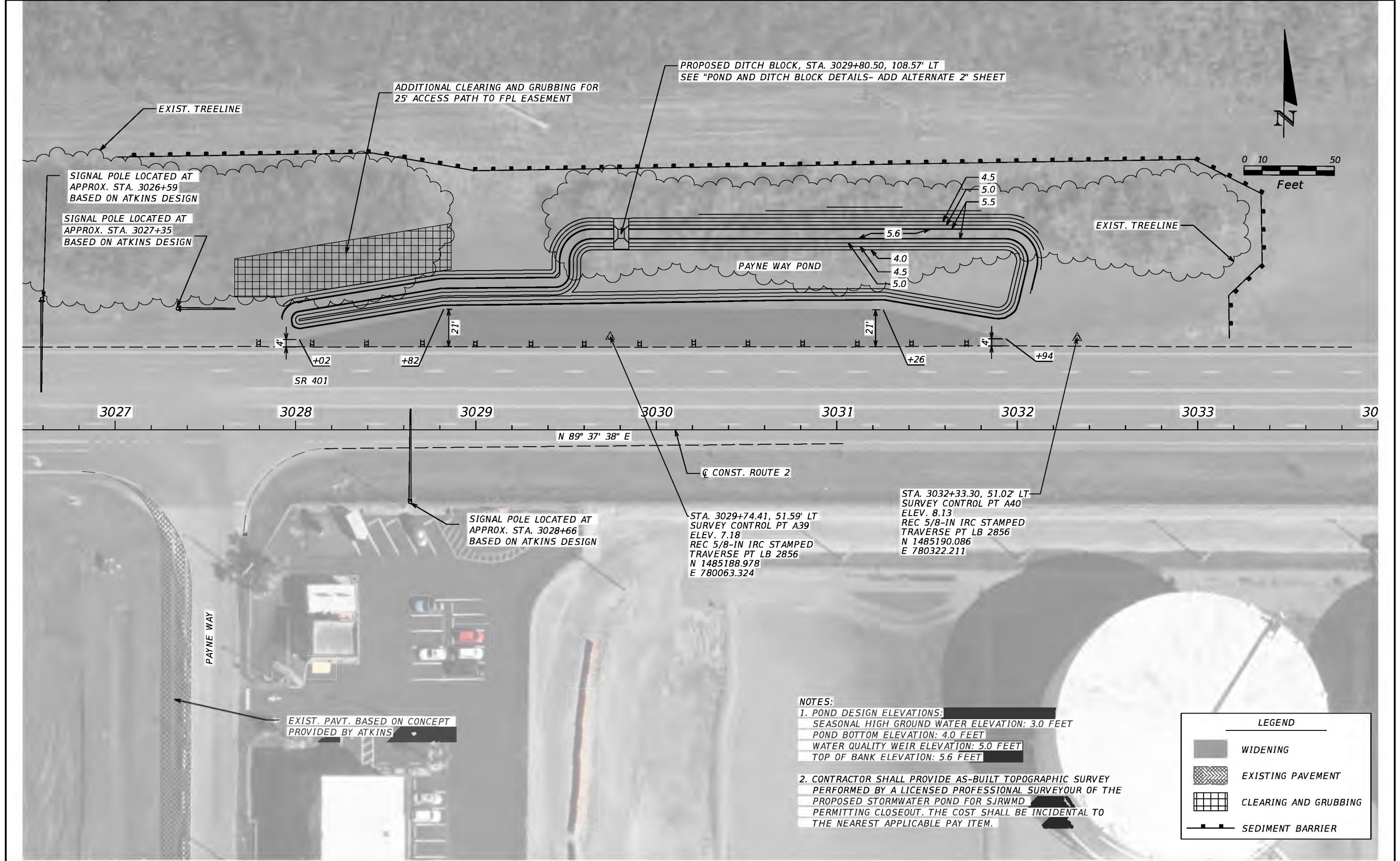


REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS		ROADWAY PLAN (26) - ADD ALTERNATE 1	SHEET NO. 36
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	4390531-54-01	

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REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (27)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		37



NOTES:
1. POND DESIGN ELEVATIONS:
SEASONAL HIGH GROUND WATER ELEVATION: 3.0 FEET
POND BOTTOM ELEVATION: 4.0 FEET
WATER QUALITY WEIR ELEVATION: 5.0 FEET
TOP OF BANK ELEVATION: 5.6 FEET
2. CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A LICENSED PROFESSIONAL SURVEYOR OF THE PROPOSED STORMWATER POND FOR SJRWMD PERMITTING CLOSEOUT. THE COST SHALL BE INCIDENTAL TO THE NEAREST APPLICABLE PAY ITEM.

LEGEND

WIDENING

EXISTING PAVEMENT

CLEARING AND GRUBBING

SEDIMENT BARRIER

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EITPF INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (27)- ADD ALTERNATE 2	SHEET NO. 38
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01		

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NOTE:
GOPHER TORTOISE BURROWS WERE SPOTTED
DURING OCTOBER 2019 INSPECTIONS.

CURVE DATA ROUTE 28
PI STA. = 3298+10.61
Δ = 23° 56' 00" (RT)
D = 3° 51' 28"
T = 314.79
L = 620.41
R = 1,485.24
PC STA. = 3294+95.82
PT STA. = 3301+16.23

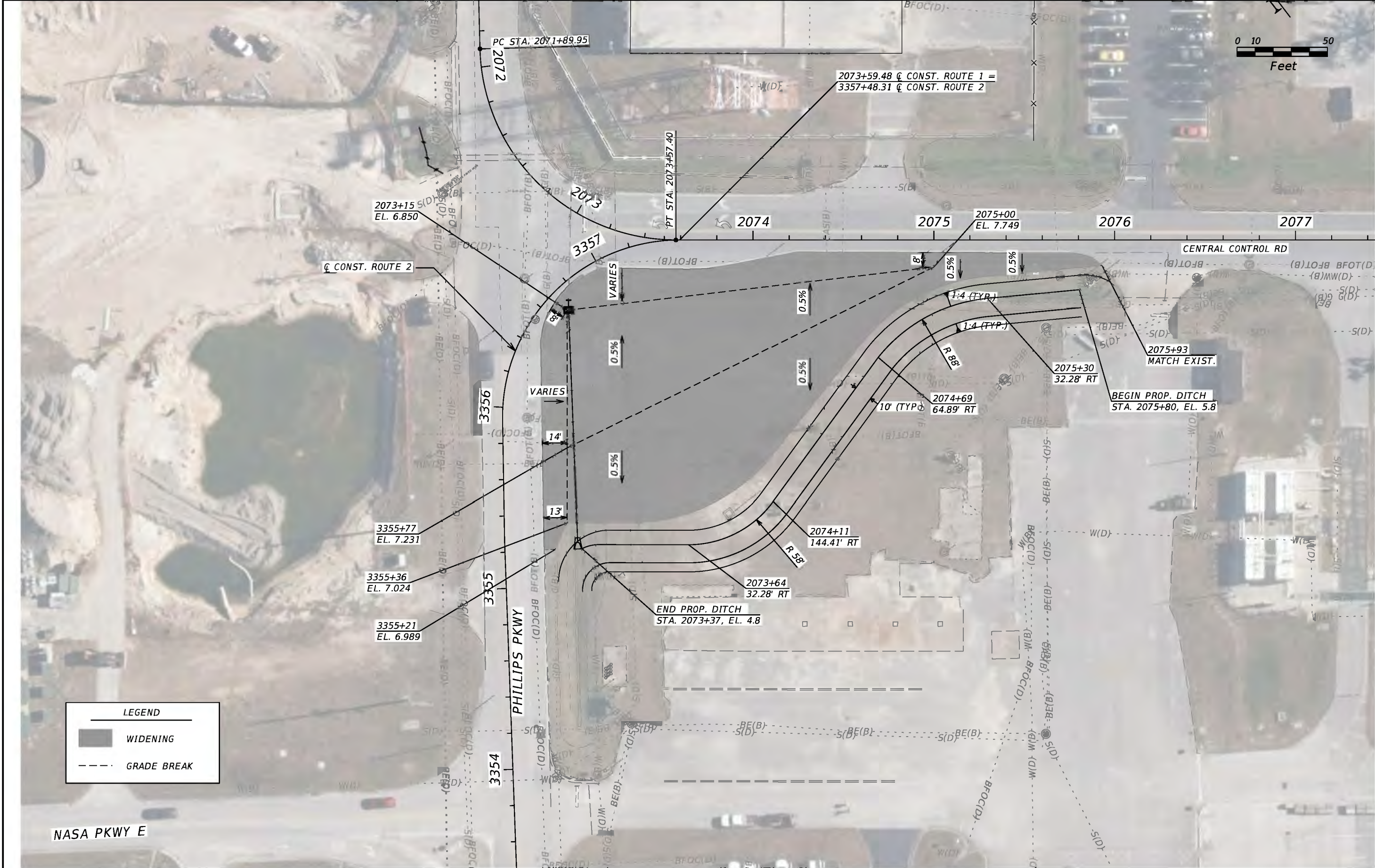
LEGEND

WIDENING

SEDIMENT BARRIER

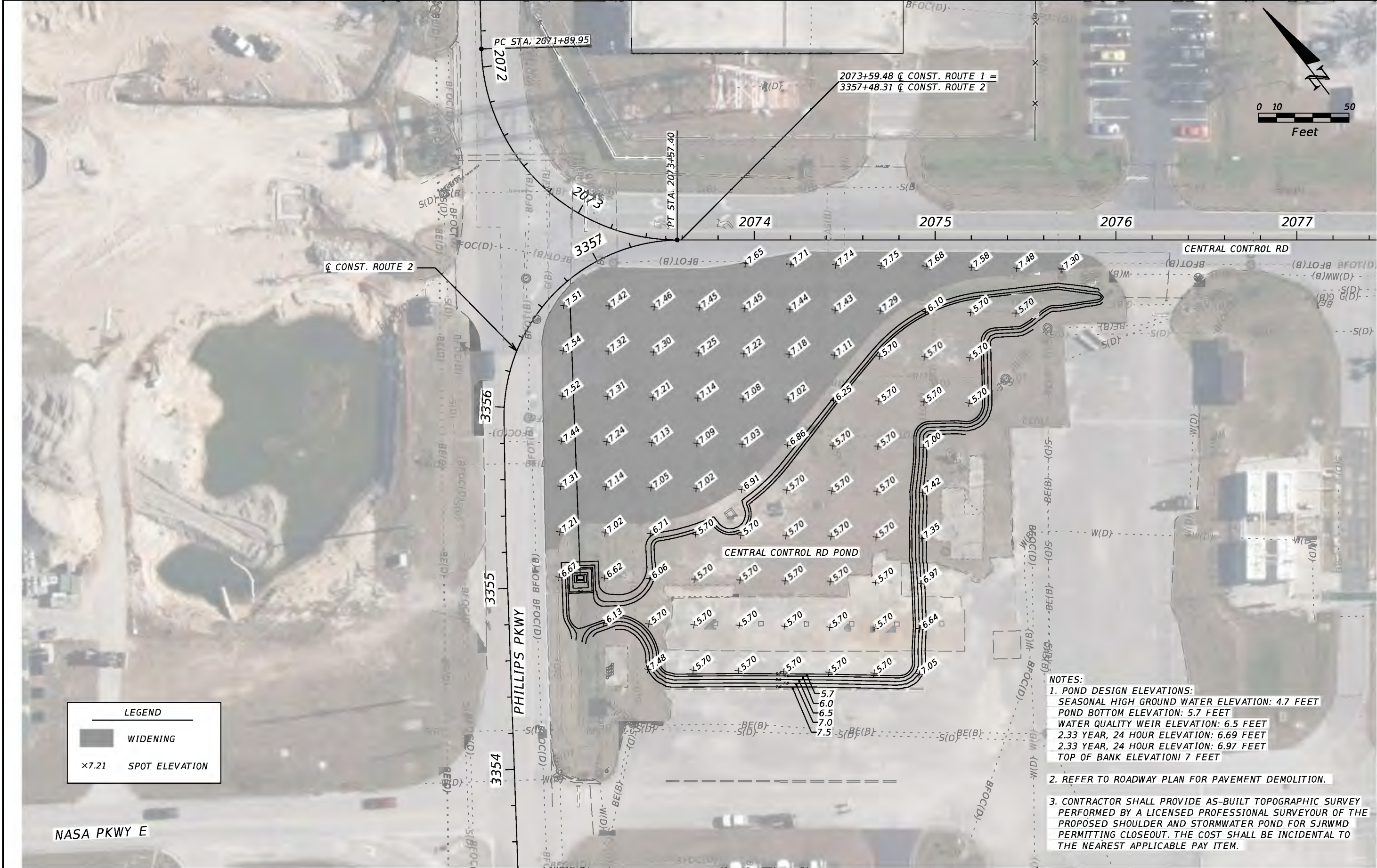
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFP INFRASTRUCTURE IMPROVEMENTS			ROADWAY PLAN (29)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		40
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



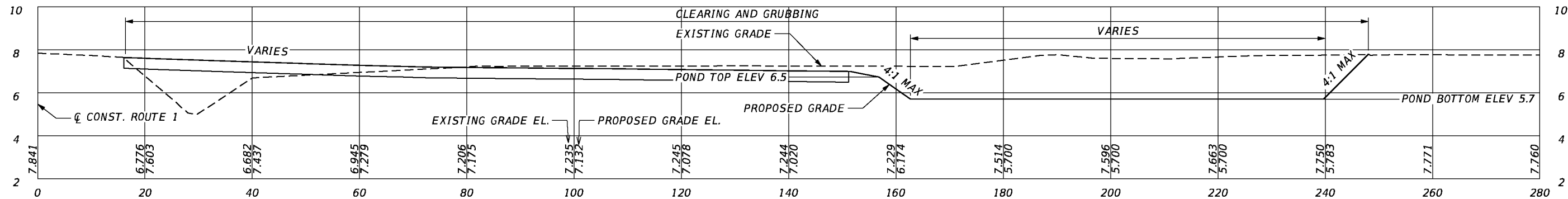
REVISIONS				CHRISTOPHER BRADLEY CARVER, P.E. P.E. LICENSE NUMBER 49460 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			GRADING AND DRAINAGE PLAN		SHEET NO. 41
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	4390531-54-01			

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- NOTES:
1. POND DESIGN ELEVATIONS:
SEASONAL HIGH GROUND WATER ELEVATION: 4.7 FEET
POND BOTTOM ELEVATION: 5.7 FEET
WATER QUALITY WEIR ELEVATION: 6.5 FEET
2.33 YEAR, 24 HOUR ELEVATION: 6.69 FEET
2.33 YEAR, 24 HOUR ELEVATION: 6.97 FEET
TOP OF BANK ELEVATION: 7 FEET
 2. REFER TO ROADWAY PLAN FOR PAVEMENT DEMOLITION.
 3. CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A LICENSED PROFESSIONAL SURVEYOR OF THE PROPOSED SHOULDER AND STORMWATER POND FOR SJRWMD PERMITTING CLOSEOUT. THE COST SHALL BE INCIDENTAL TO THE NEAREST APPLICABLE PAY ITEM.

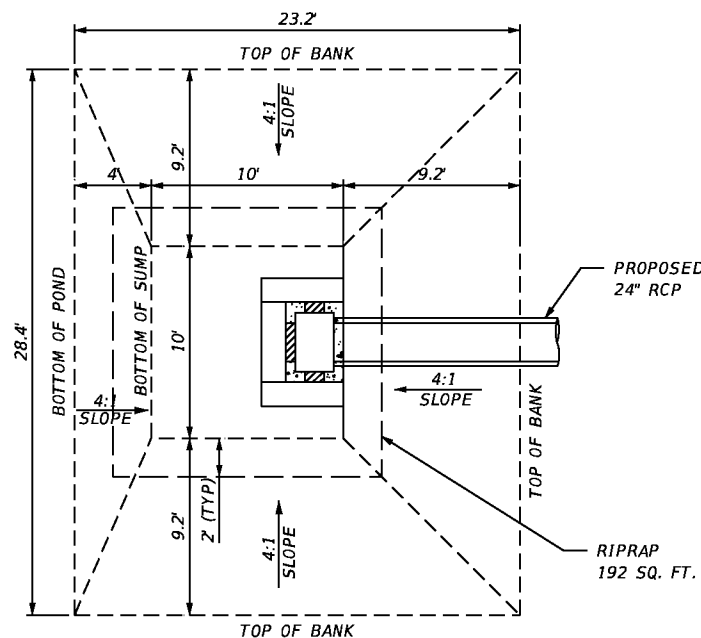
REVISIONS				BUNTI A. PATEL, P.E. P.E. LICENSE NUMBER 70708 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			GRADING AND DRAINAGE PLAN - ADD ALTERNATE 1	SHEET NO. 42
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01		



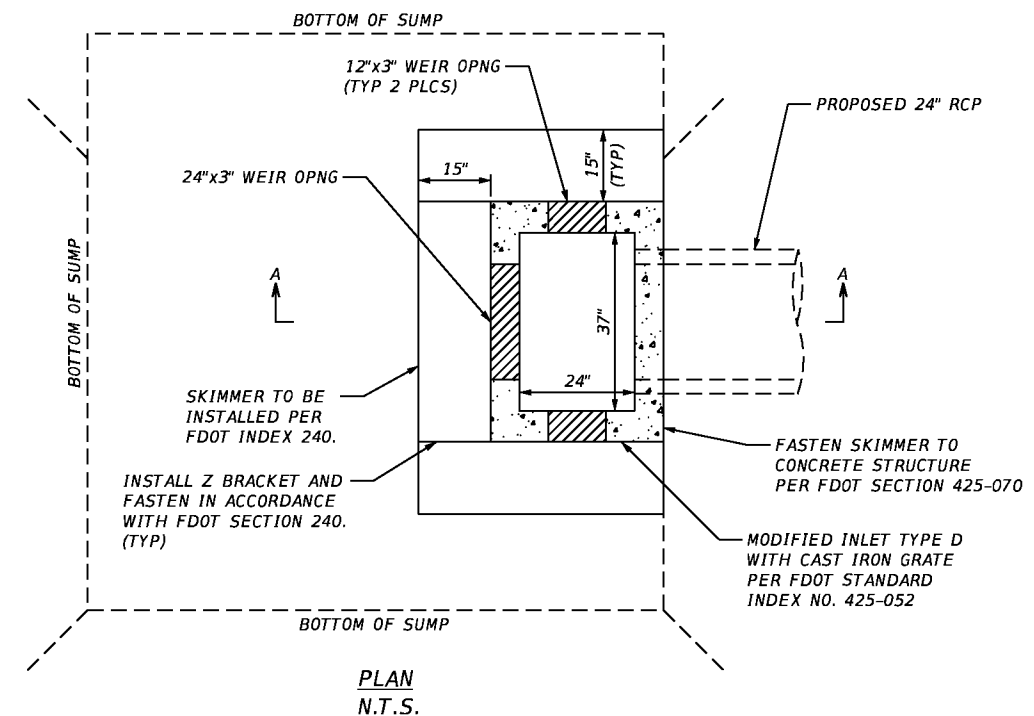
POND DESIGN ELEVATIONS:
SEASONAL HIGH GROUND WATER ELEVATION: 4.7 FEET
POND BOTTOM ELEVATION: 5.7 FEET
WATER QUALITY WEIR ELEVATION: 6.5 FEET
2.33 YEAR, 24 HOUR ELEVATION: 6.69 FEET
2.33 YEAR, 24 HOUR ELEVATION: 6.97 FEET
TOP OF BANK ELEVATION: 7 FEET

CENTRAL CONTROL ROAD POND - SECTION

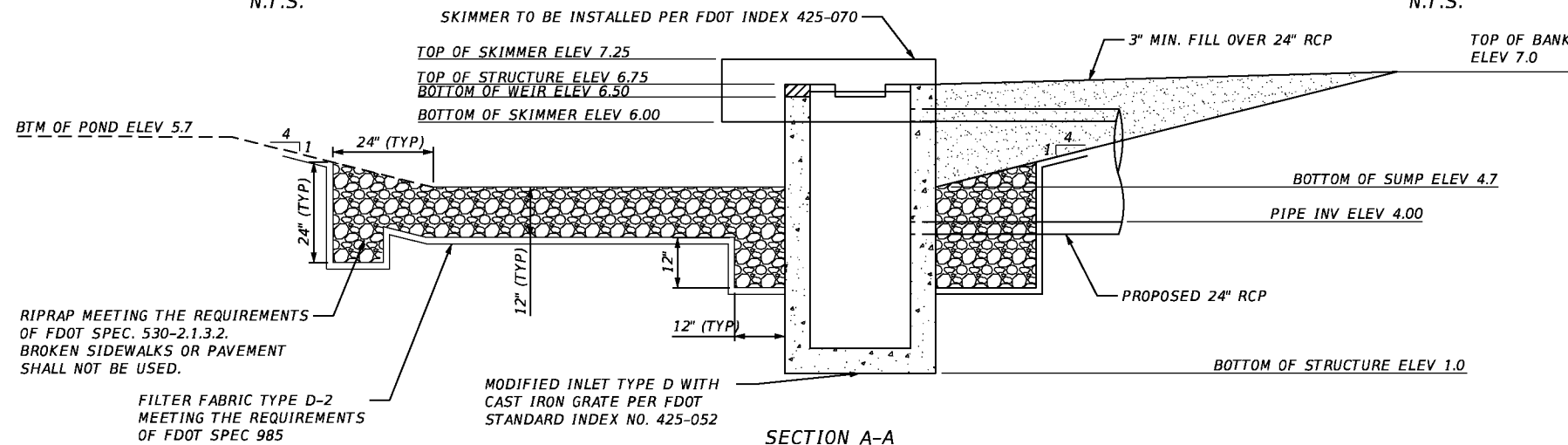
1"=20' HORIZONTAL
1"=5' VERTICAL



OVERALL SUMP LAYOUT
N.T.S.



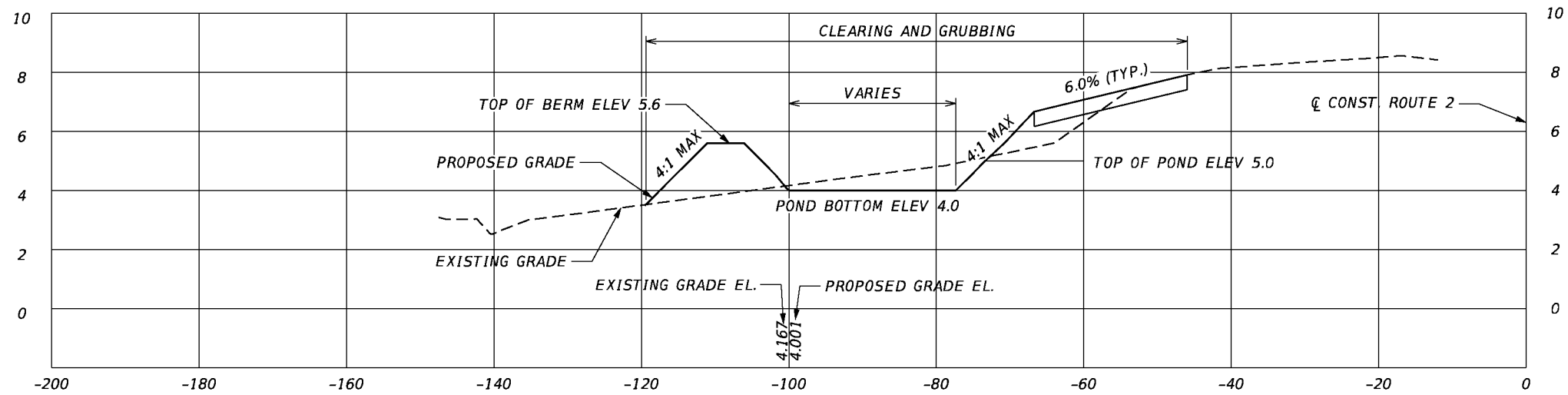
PLAN
N.T.S.



SECTION A-A
N.T.S.

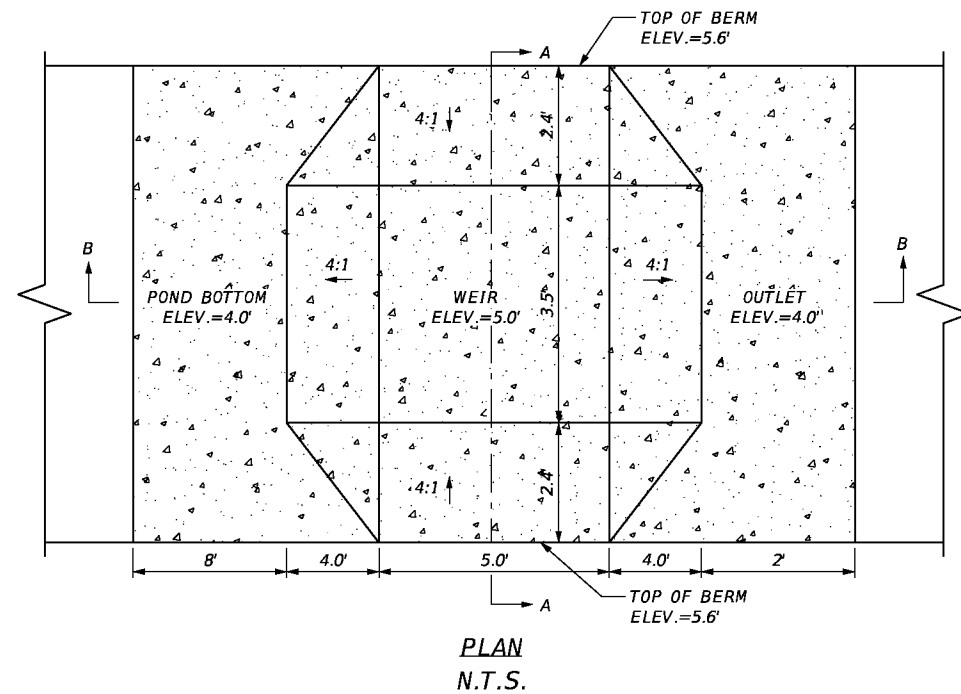
INLET (TYPE D) MODIFIED

REVISIONS				BUNTI A. PATEL, P.E. P.E. LICENSE NUMBER 70708 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			POND AND OUTFALL DETAILS- ADD ALTERNATE 1	SHEET NO. 43
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	4390531-54-01		

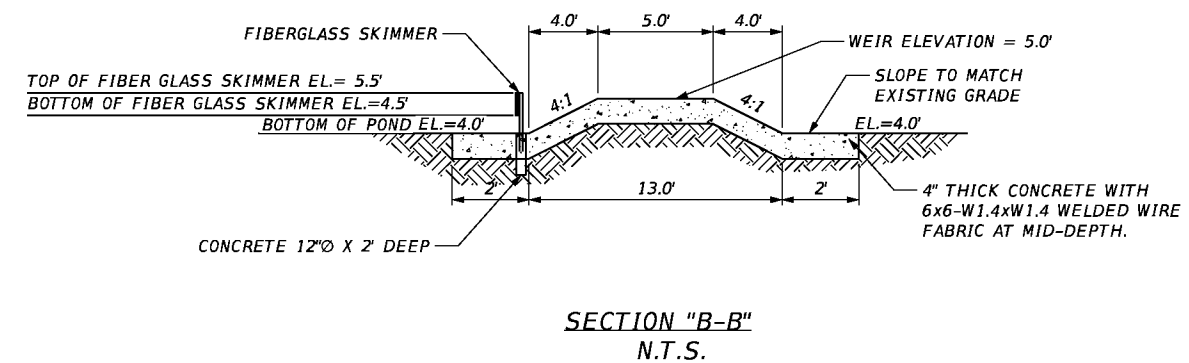
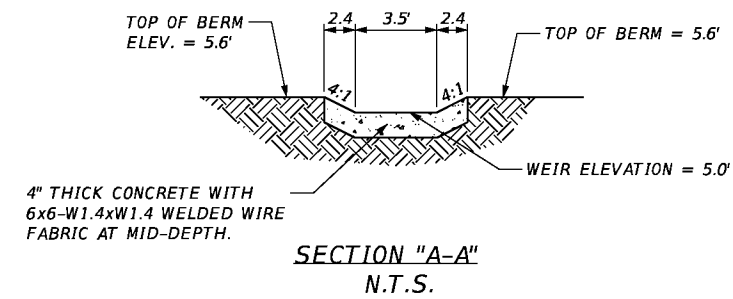


PAYNE WAY POND - SECTION

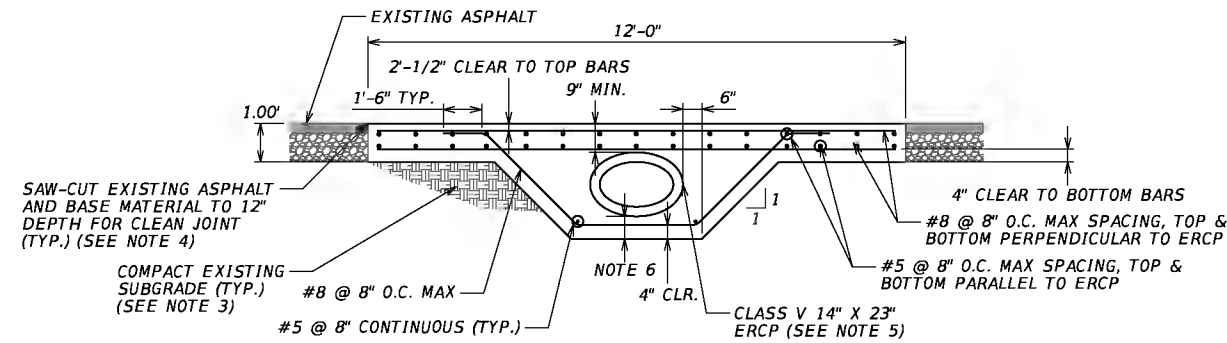
1"=20' HORIZONTAL
1"=5' VERTICAL



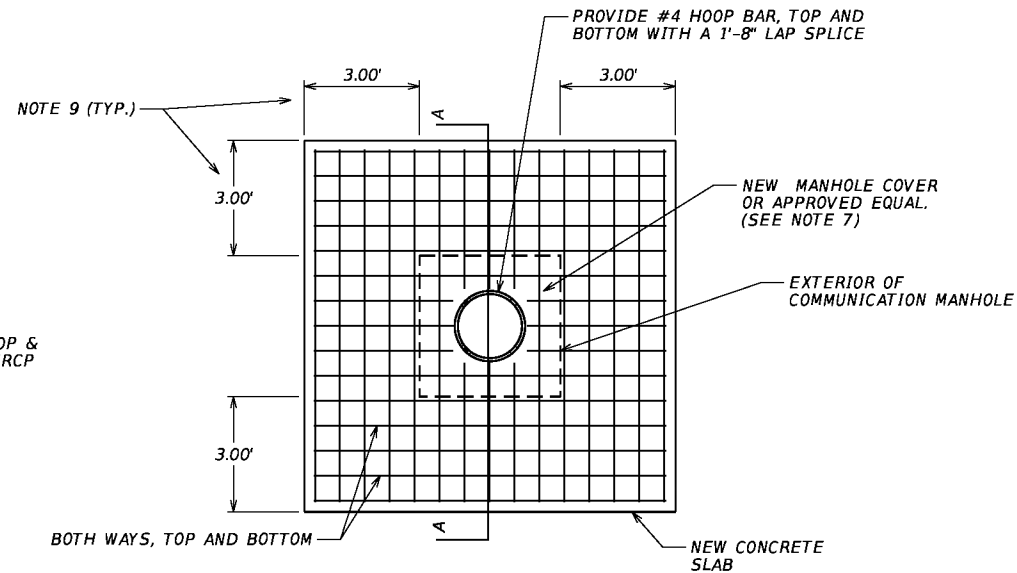
PAYNE WAY POND DITCH BLOCK



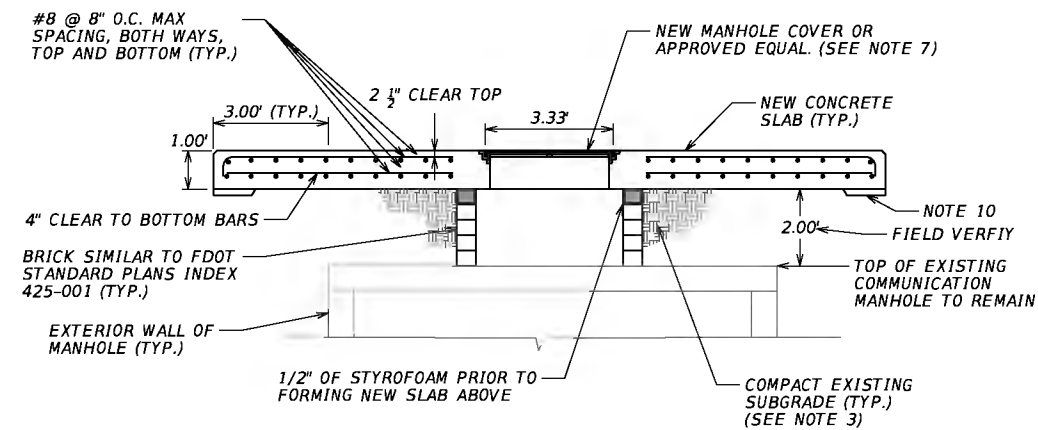
REVISIONS				BUNTI A. PATEL, P.E. P.E. LICENSE NUMBER 70708 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			POND AND DITCH BLOCK DETAILS- ADD ALTERNATE 2	SHEET NO. 44
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01		



CONCRETE ENCASED ERCP DETAIL
N.T.S. (SEE NOTES 1 AND 2)

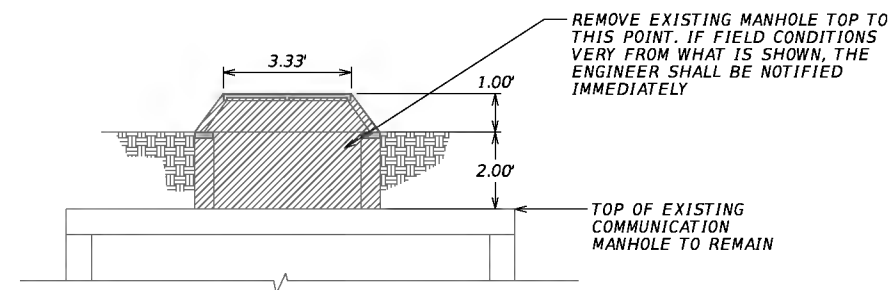


COMMUNICATIONS MANHOLE MODIFICATIONS
N.T.S. (SEE NOTE 1, 2, AND 8)



PROPOSED

SECTION A-A
N.T.S.



DEMOLITION CONDITIONS

SECTION A-A
N.T.S.

GENERAL NOTES:

1. CONCRETE SHALL BE FDOT CLASS IV (5500 PSI).
2. REFORCING STEEL SHALL BE PER FDOT SPECIFICATION 415.
3. EXISTING SUBGRADE SHALL BE PREPARED AND COMPACTED PER FDOT SPECIFICATION 455 (SPREAD FOOTING).
4. REFER TO STANDARD PLANS INDEX 350-001 FOR CONCRETE-ASPHALT JOINT.
5. PROVIDE 1/2" EXPANSION JOINT MATERIAL ALL AROUND PIPE.
6. PROVIDE A MINIMUM OF 8" OF CONCRETE UNDER ERCP.
7. NEW FRAME AND COVER SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. PROVIDE USF 119 RING AND BM COVER (HEAVY DUTY, GRAY CAST IRON, ASTM A48 CLASS 35B) BY U.S. FOUNDRY OR APPROVED EQUAL.
8. ALL EXPOSED CORNERS OF THE NEW CONCRETE SLAB SHALL HAVE A 3/4" CHAMFER.
9. 3'-0" FROM EXTERIOR WALL OF MANHOLE TO EDGE OF NEW CONCRETE SLAB.
10. THICKENED SLAB, 3" DEEP X 8" WIDE ALL AROUND PERIMETER OF NEW SLAB

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
3/24/20	1 ADDENDUM 1- SHEET REISSUED		

GEORGE R. PAPADOPOULOS, P.E.
P.E. LICENSE NUMBER 55843
AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607

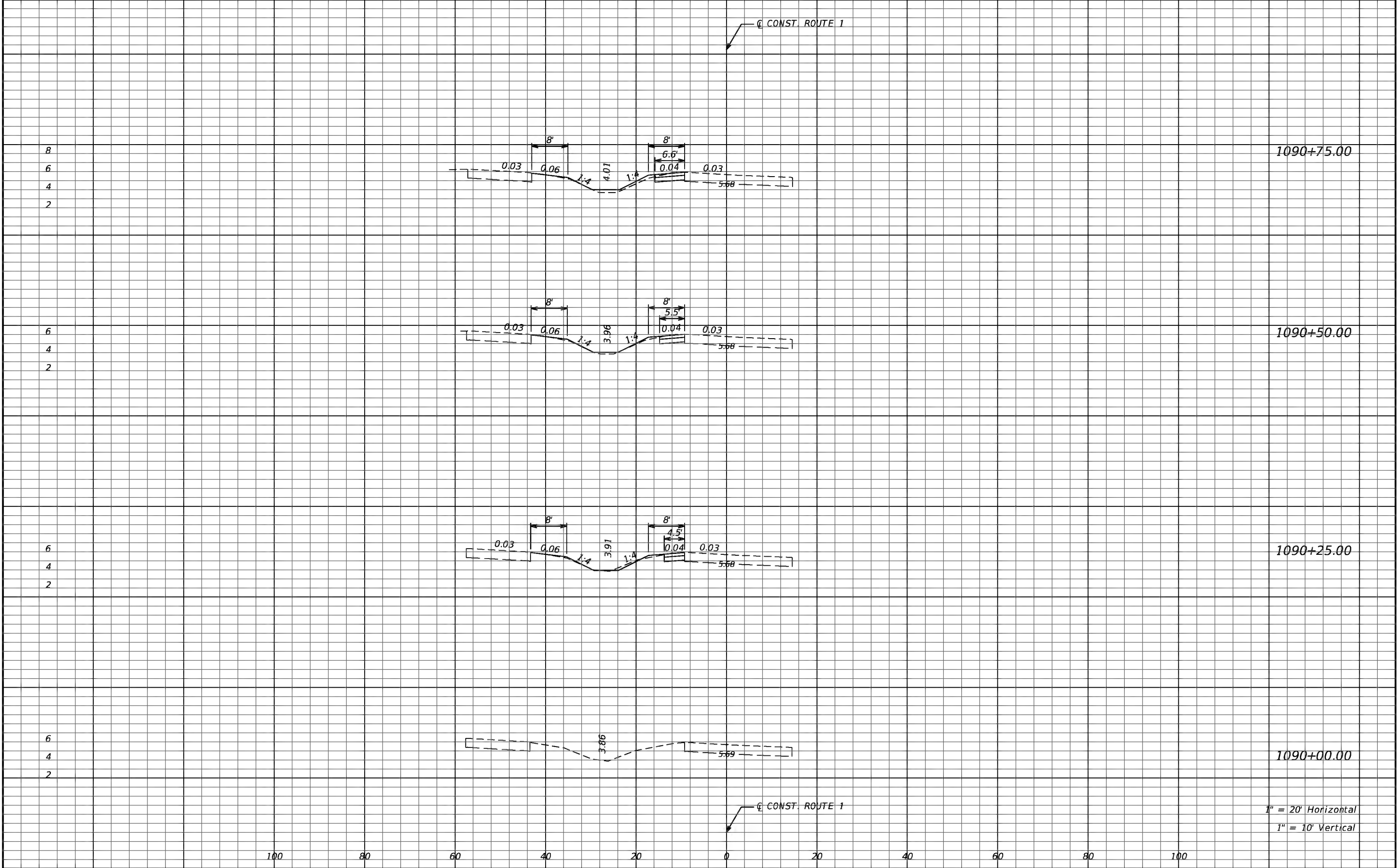
**SPACE FLORIDA EDTPF
INFRASTRUCTURE IMPROVEMENTS**

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	BREVARD	439053-1-54-01

**COMM MANHOLE
ADJUSTMENT AND ERCP
ENCASEMENT DETAILS**

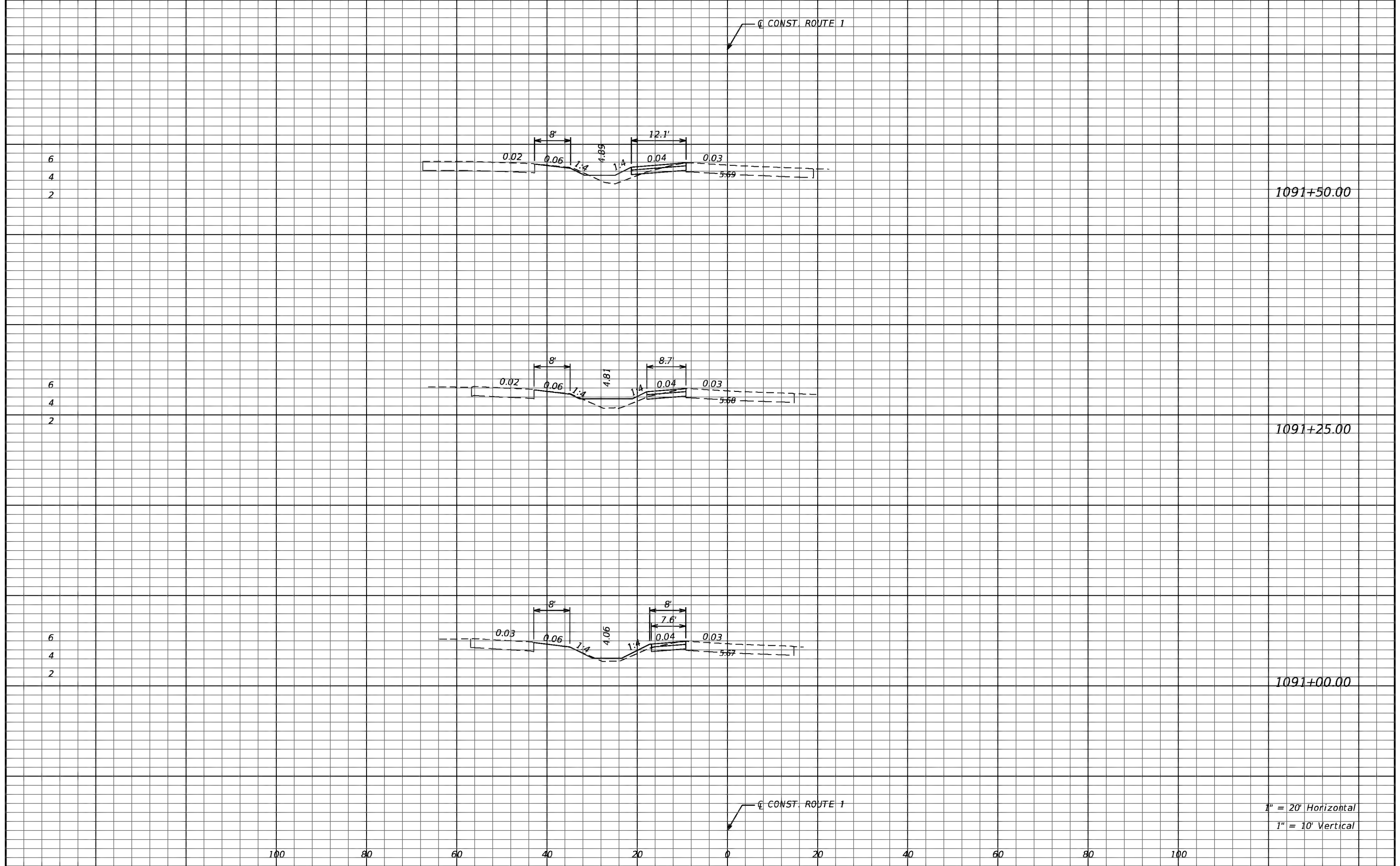
SHEET
NO.

45



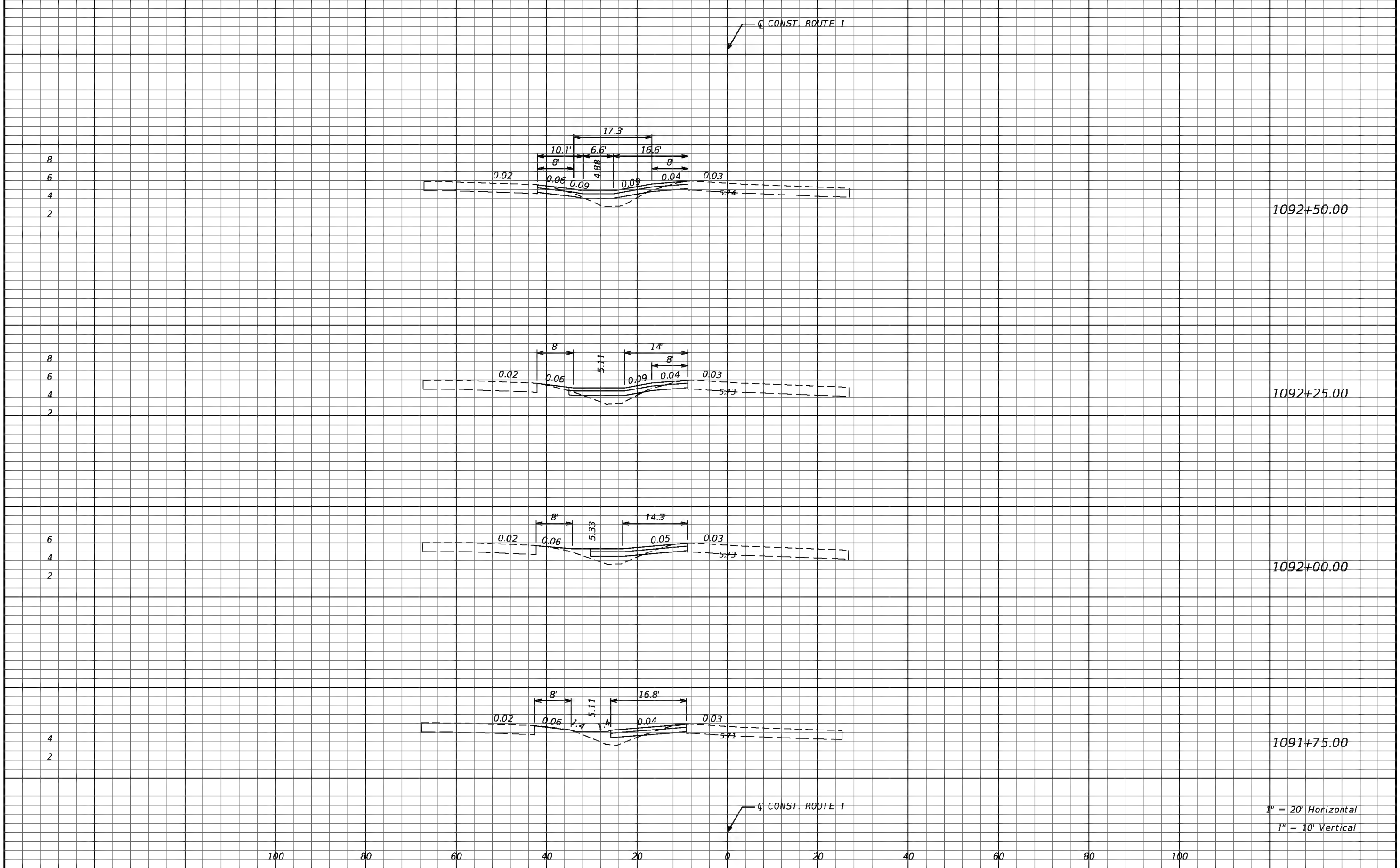
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		46

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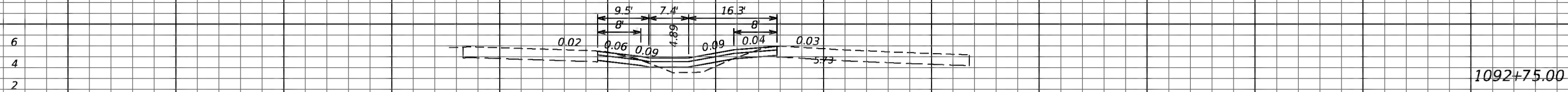
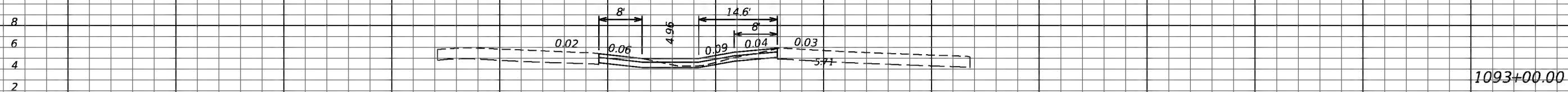
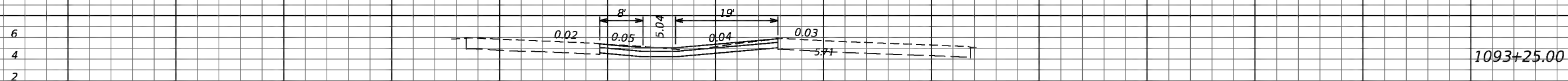
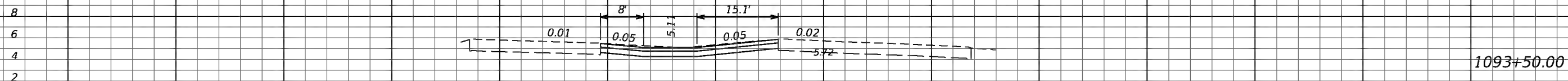
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (2)	SHEET NO. 47
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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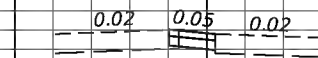
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (3)	SHEET NO. 48
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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1" = 20' Horizontal
1" = 10' Vertical

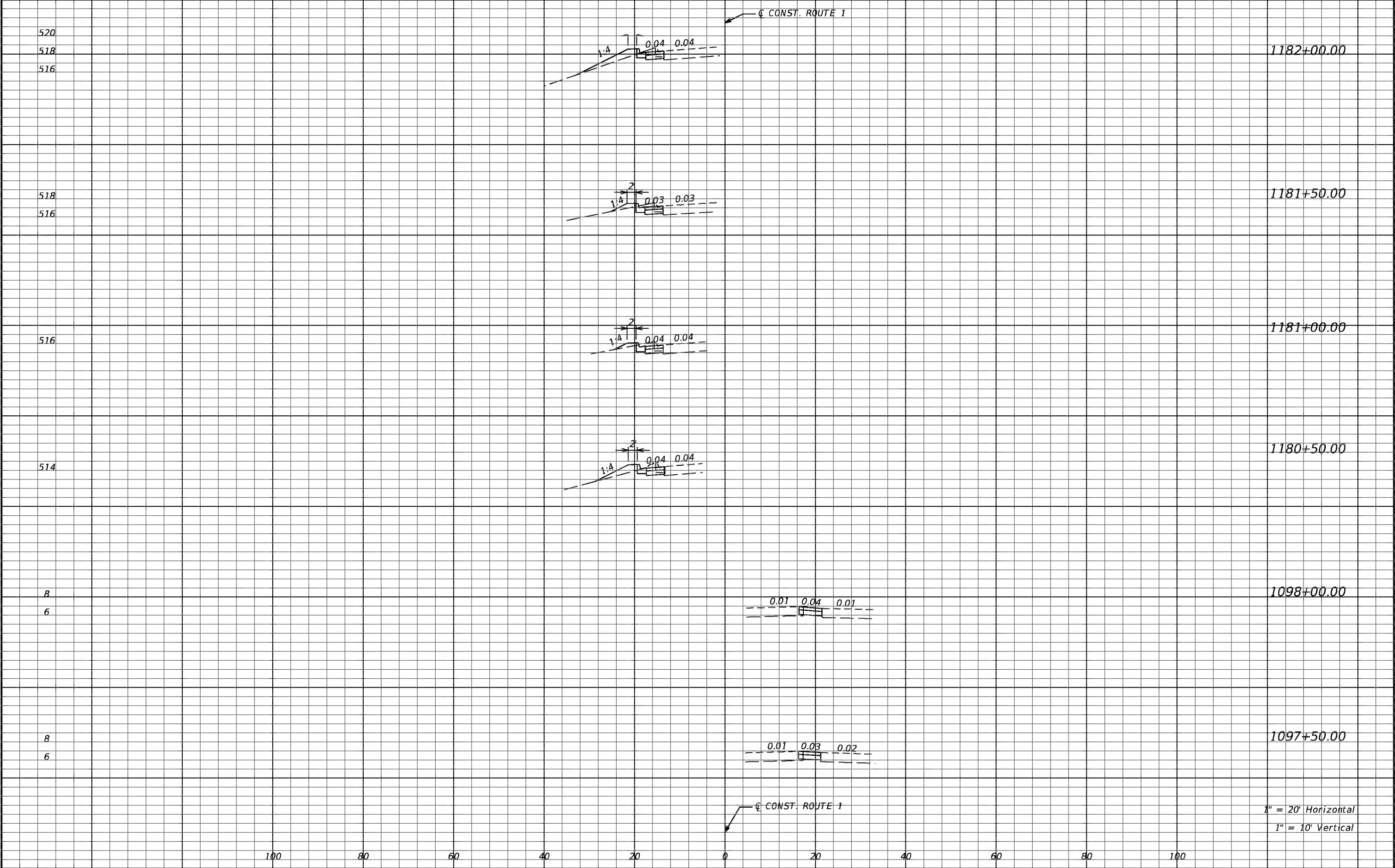
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		49



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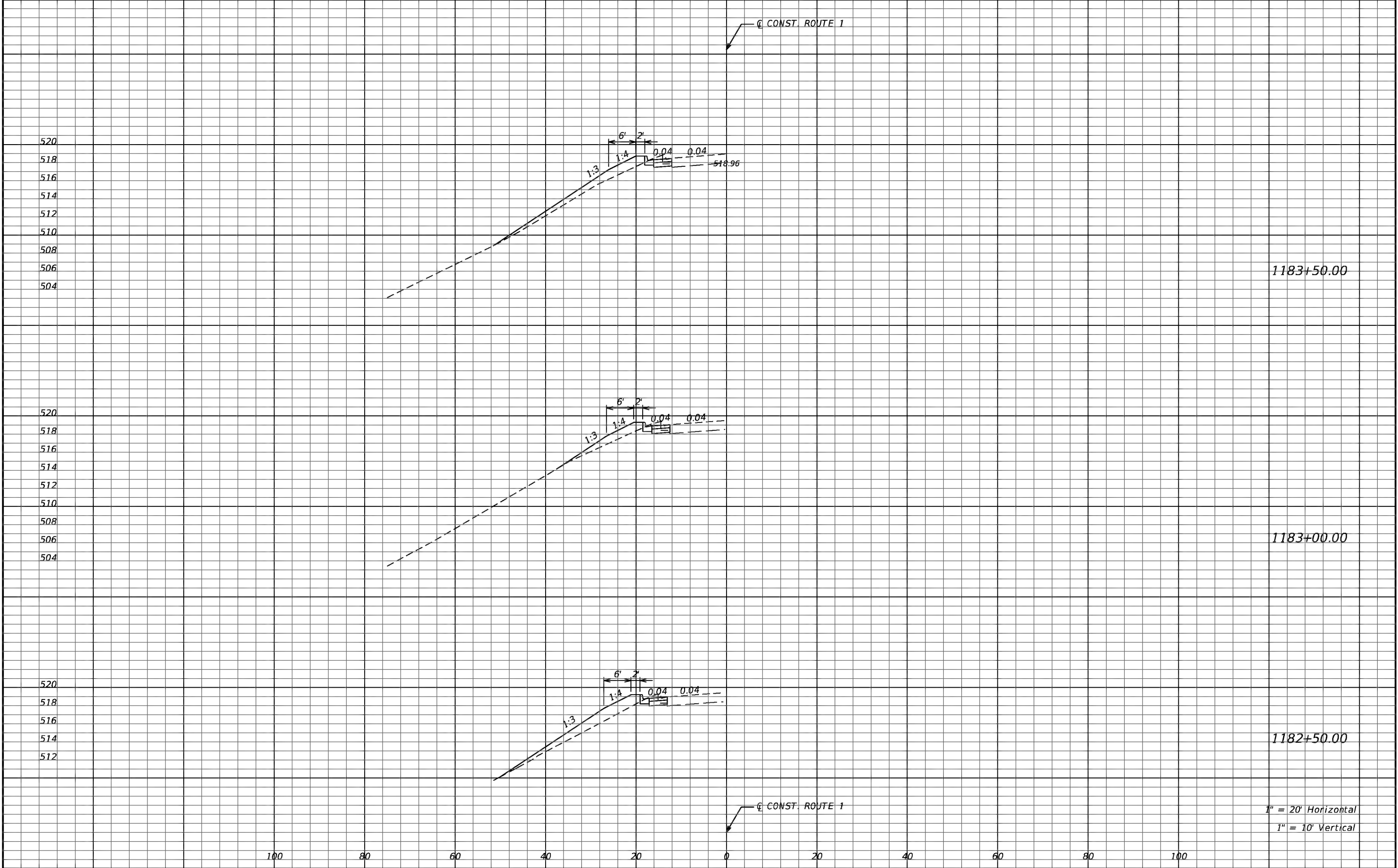
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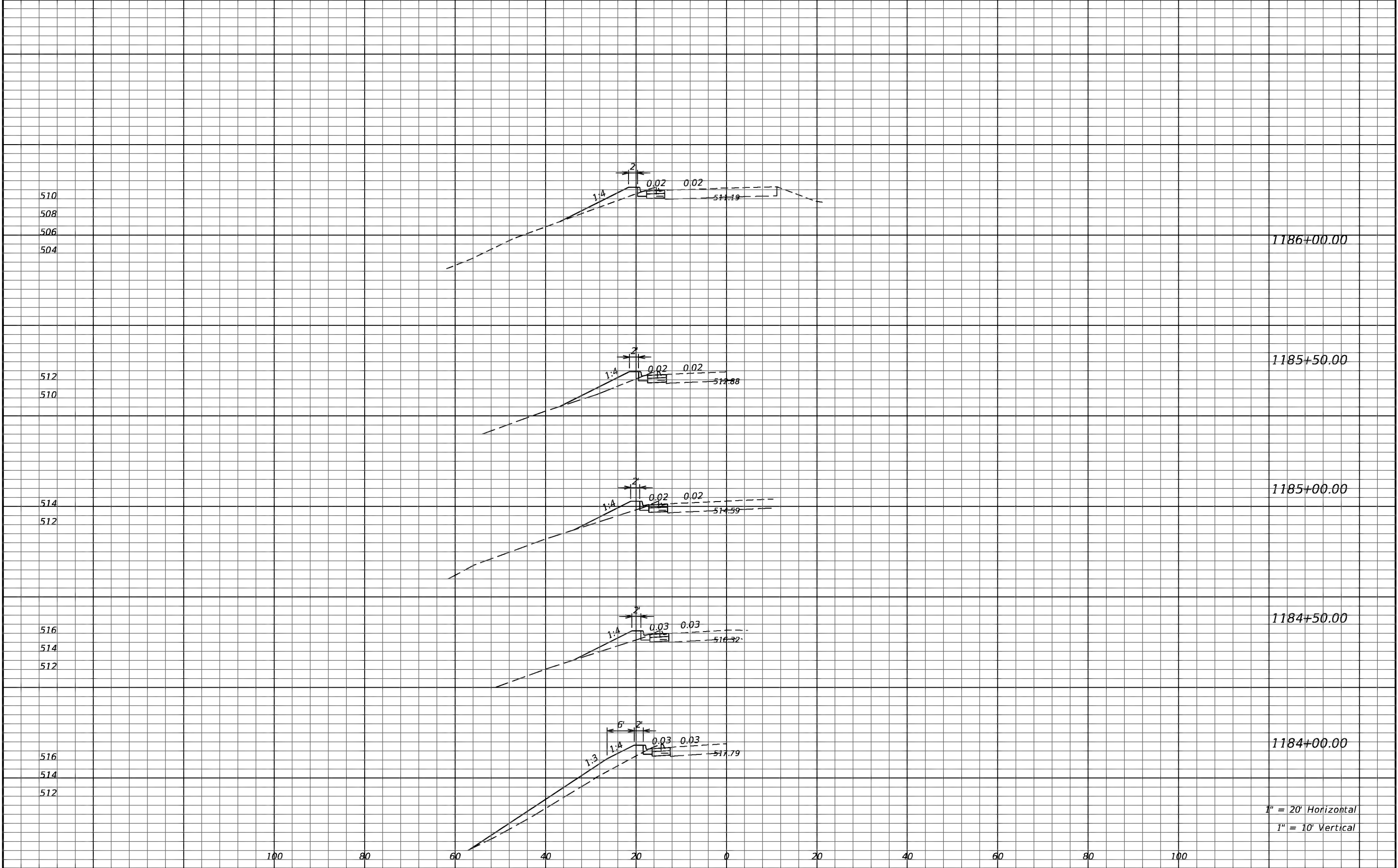
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01	52	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



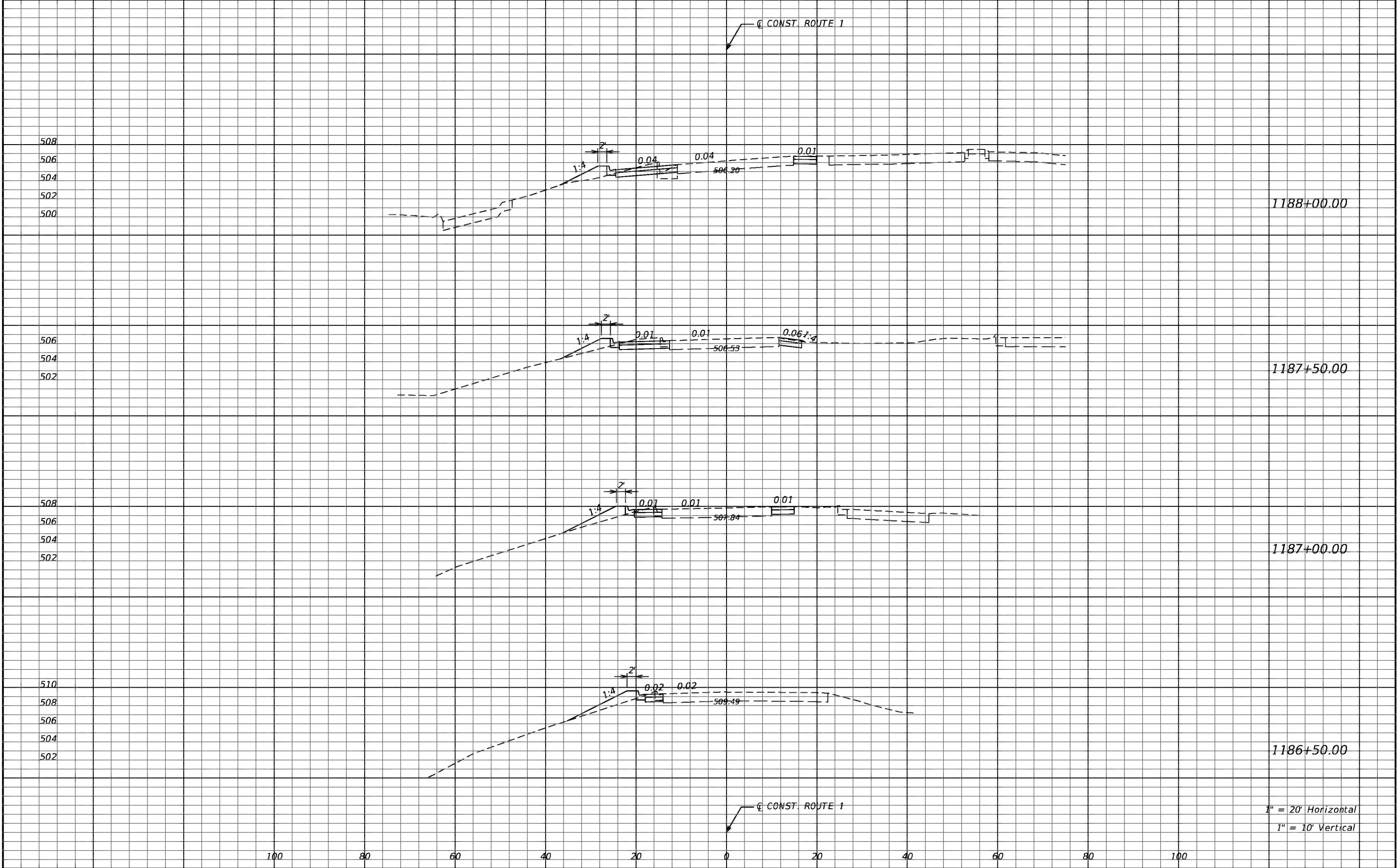
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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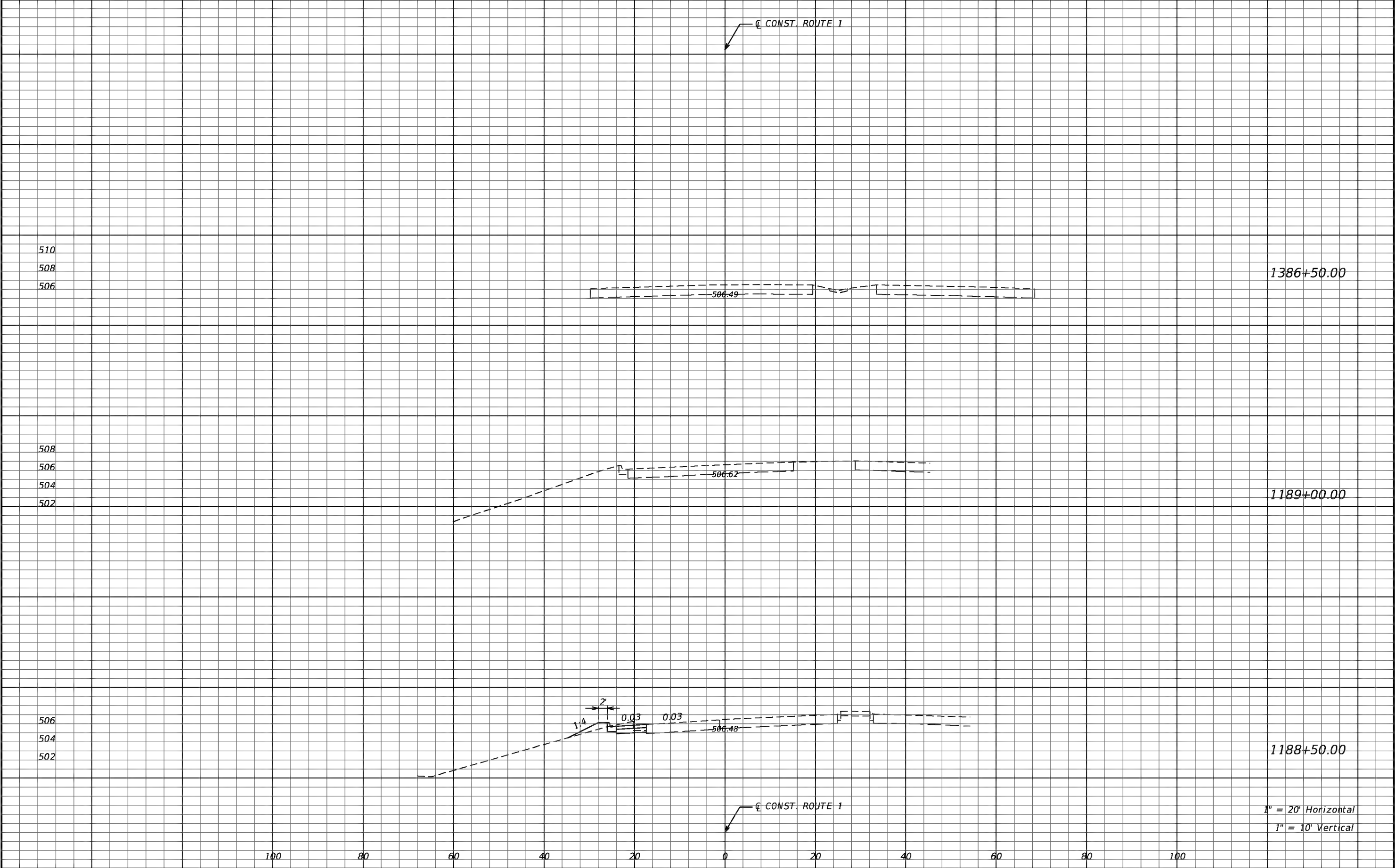
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		54

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



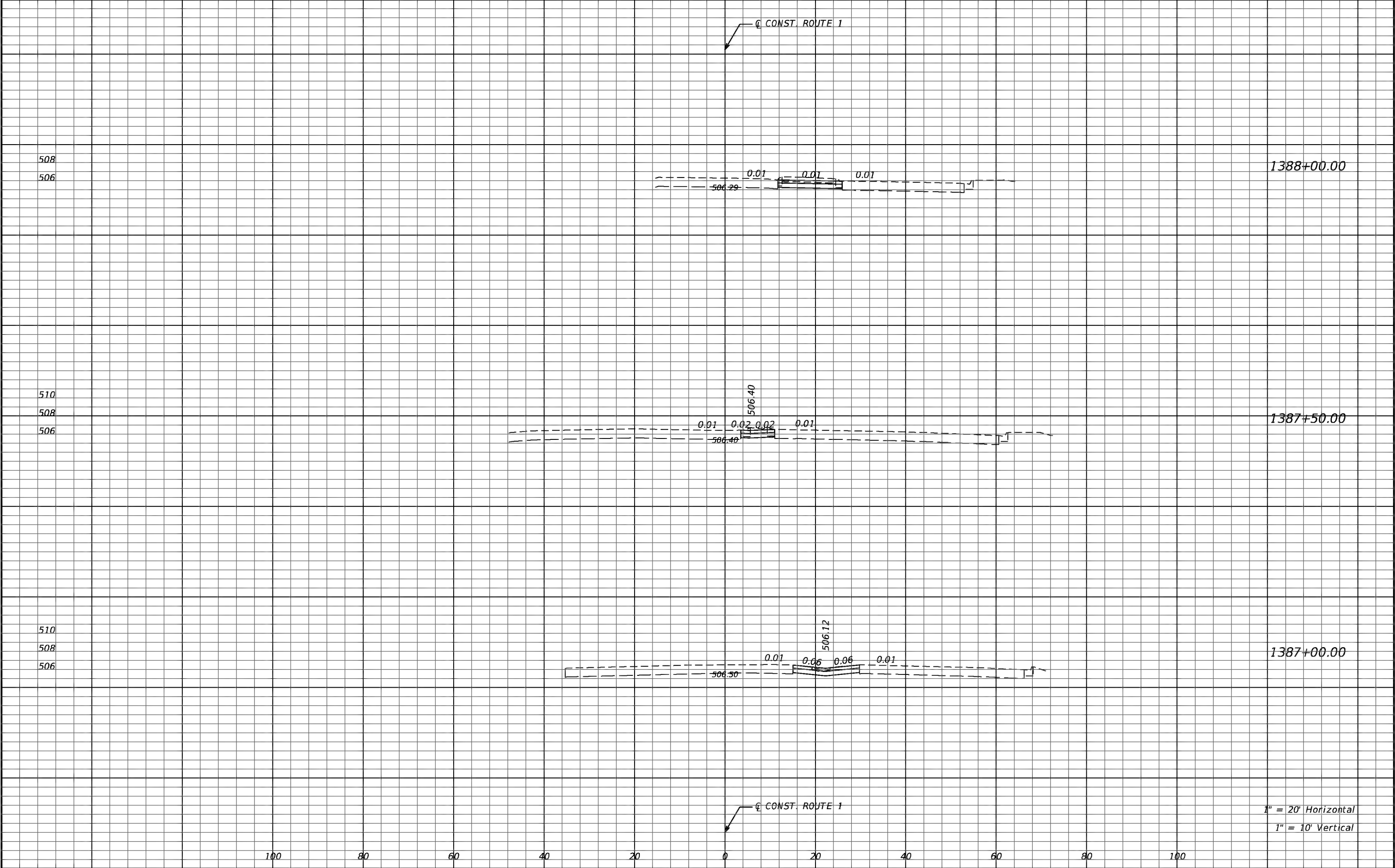
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		55

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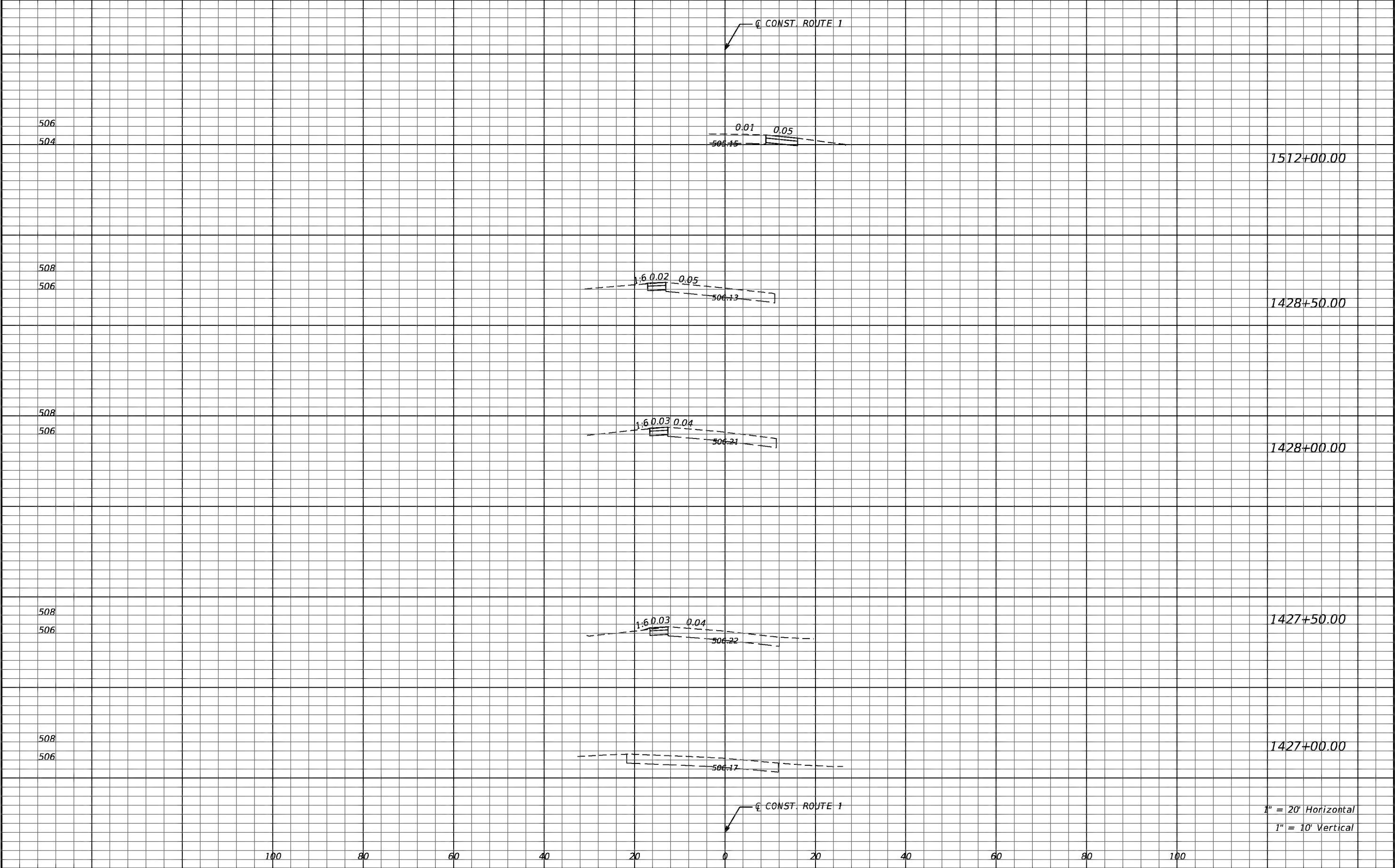
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (11)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		56

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



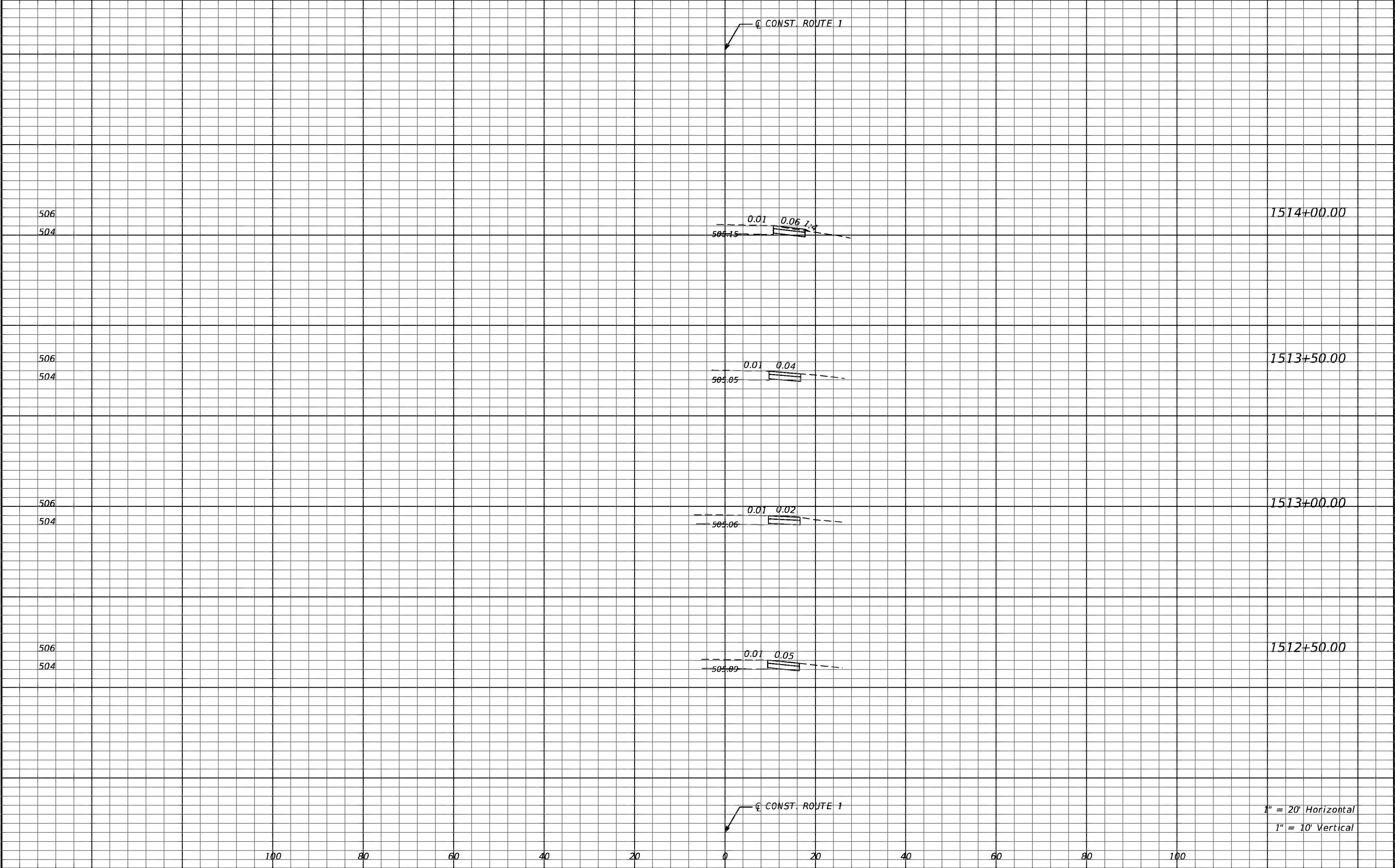
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		57

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



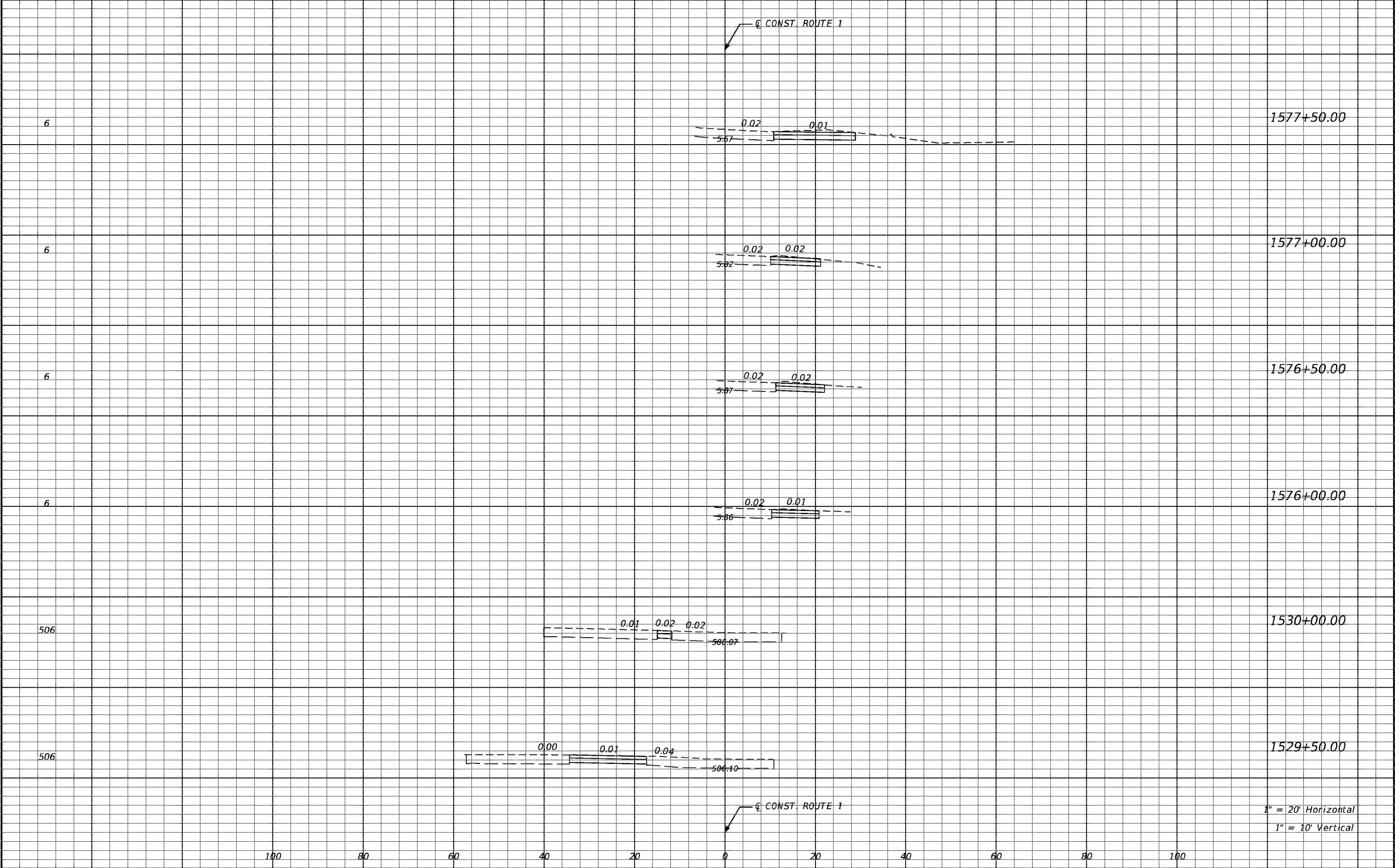
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		58

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



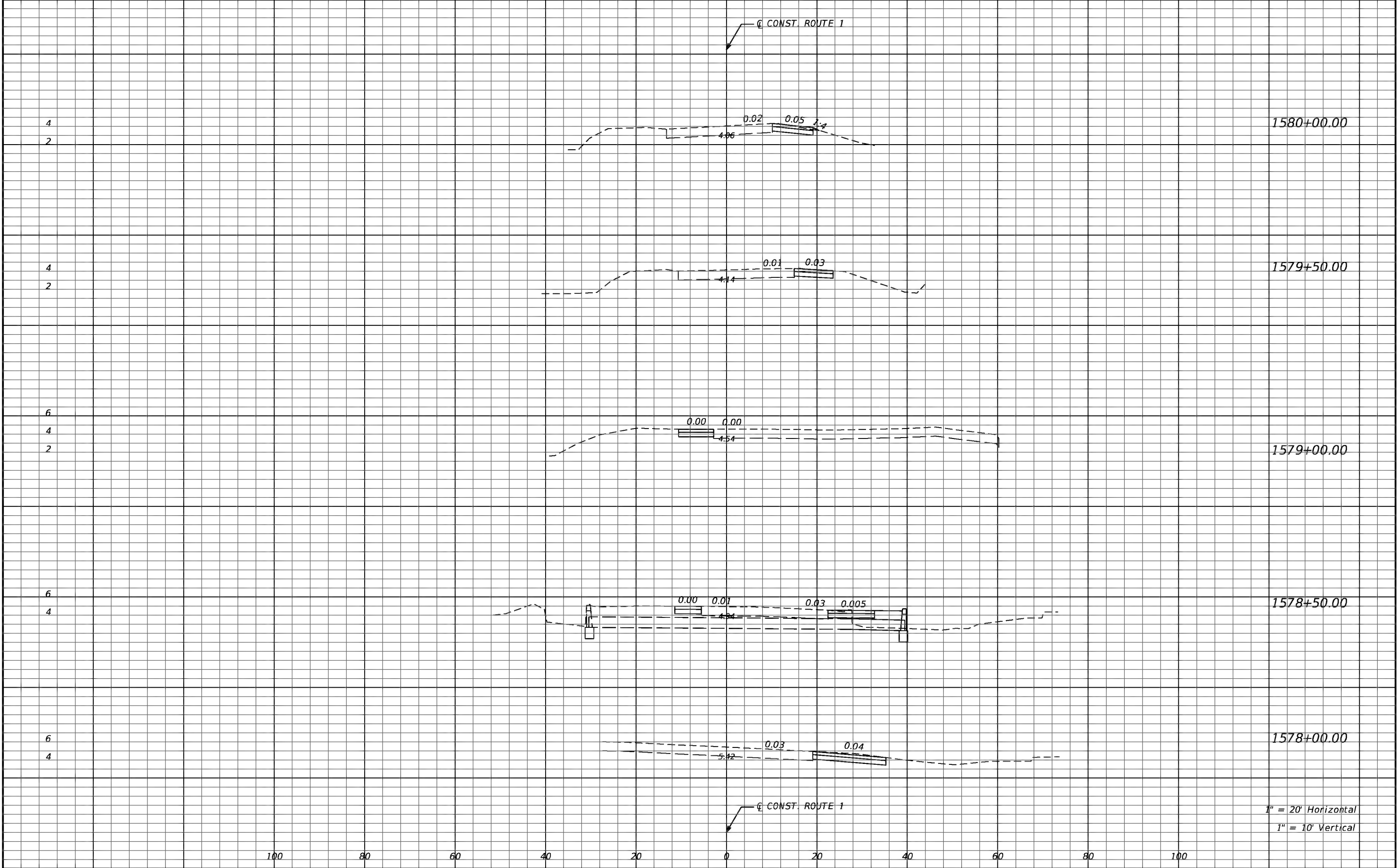
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		59

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



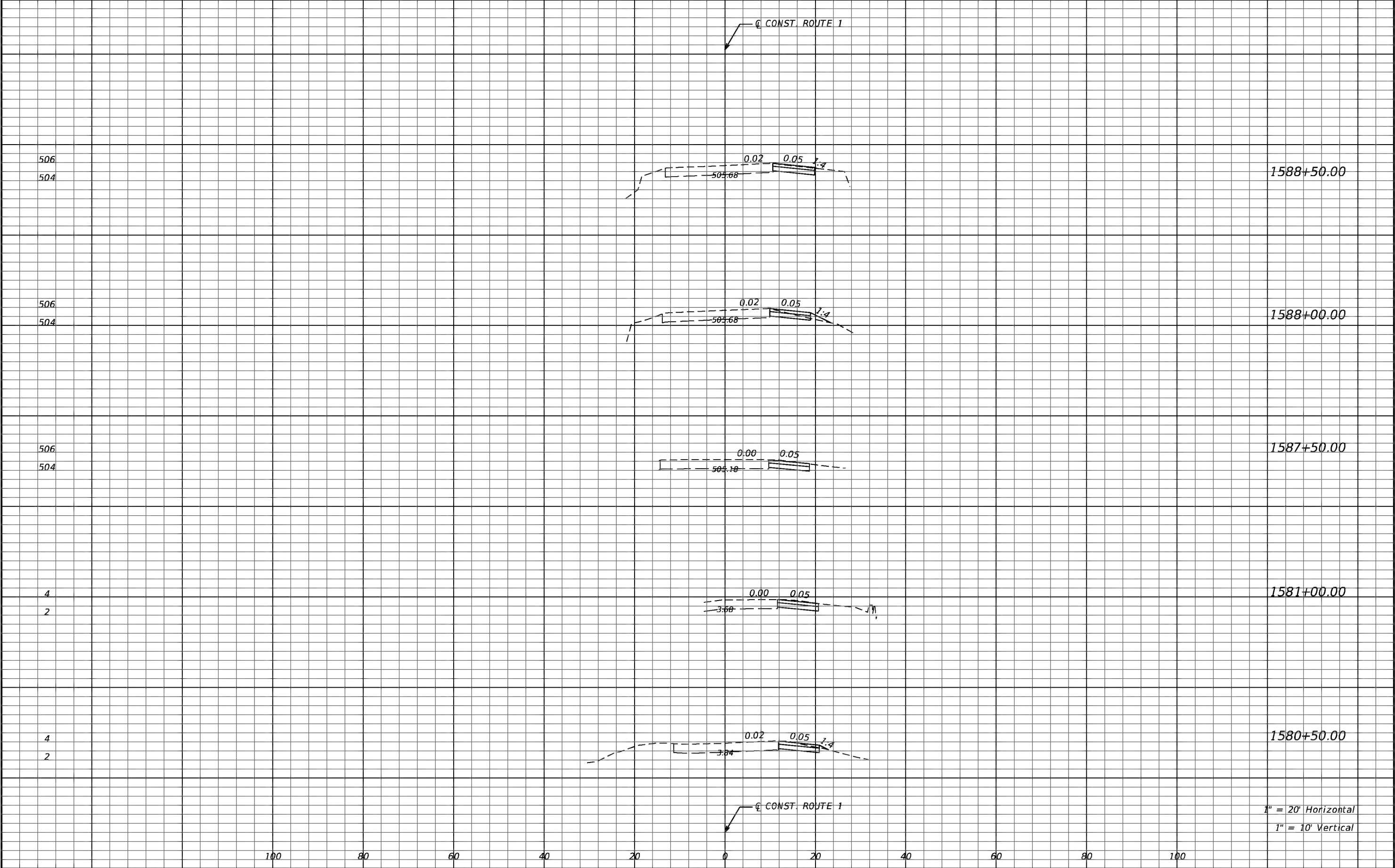
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (15)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		60

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



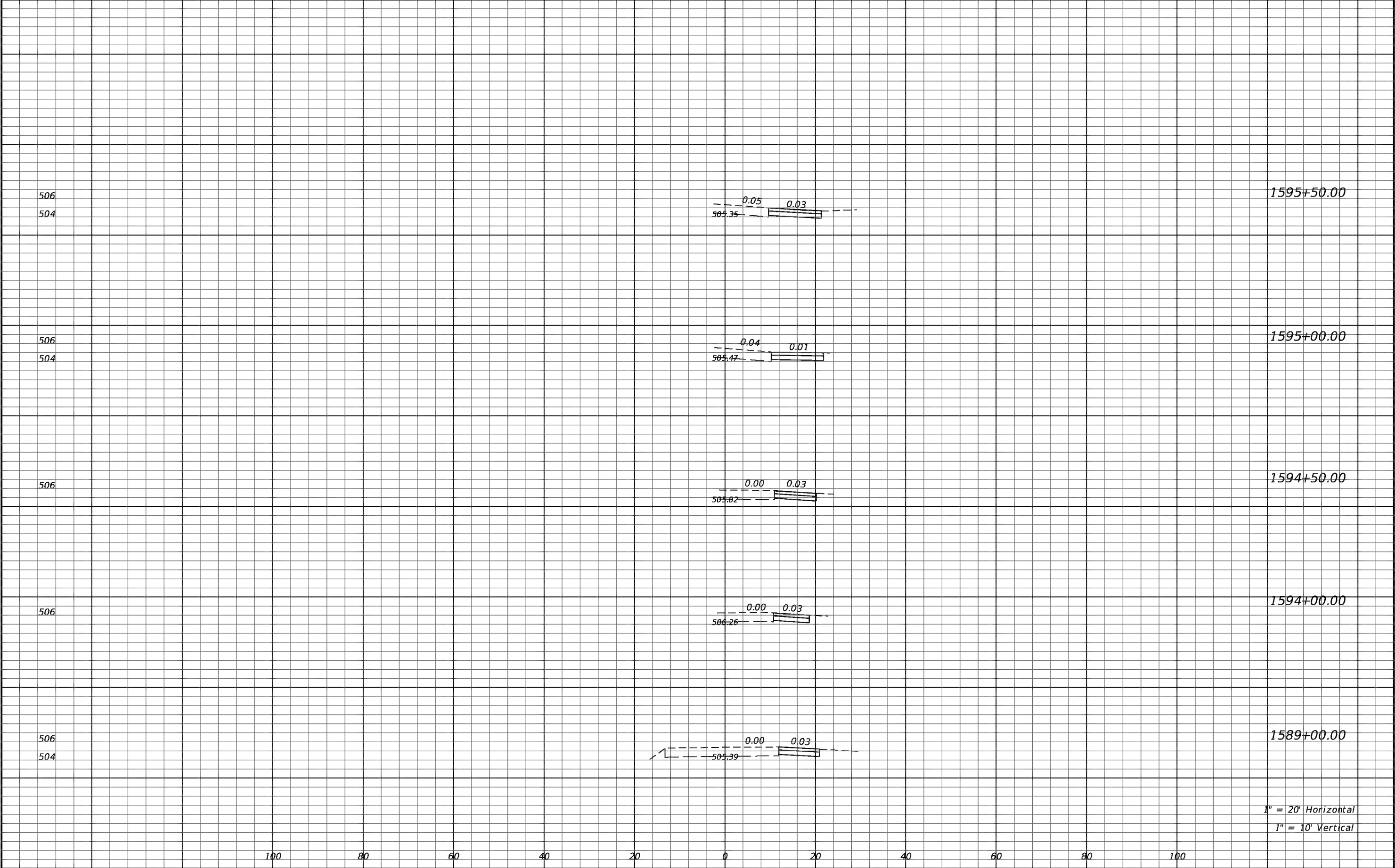
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (16)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		61

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (17)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		62

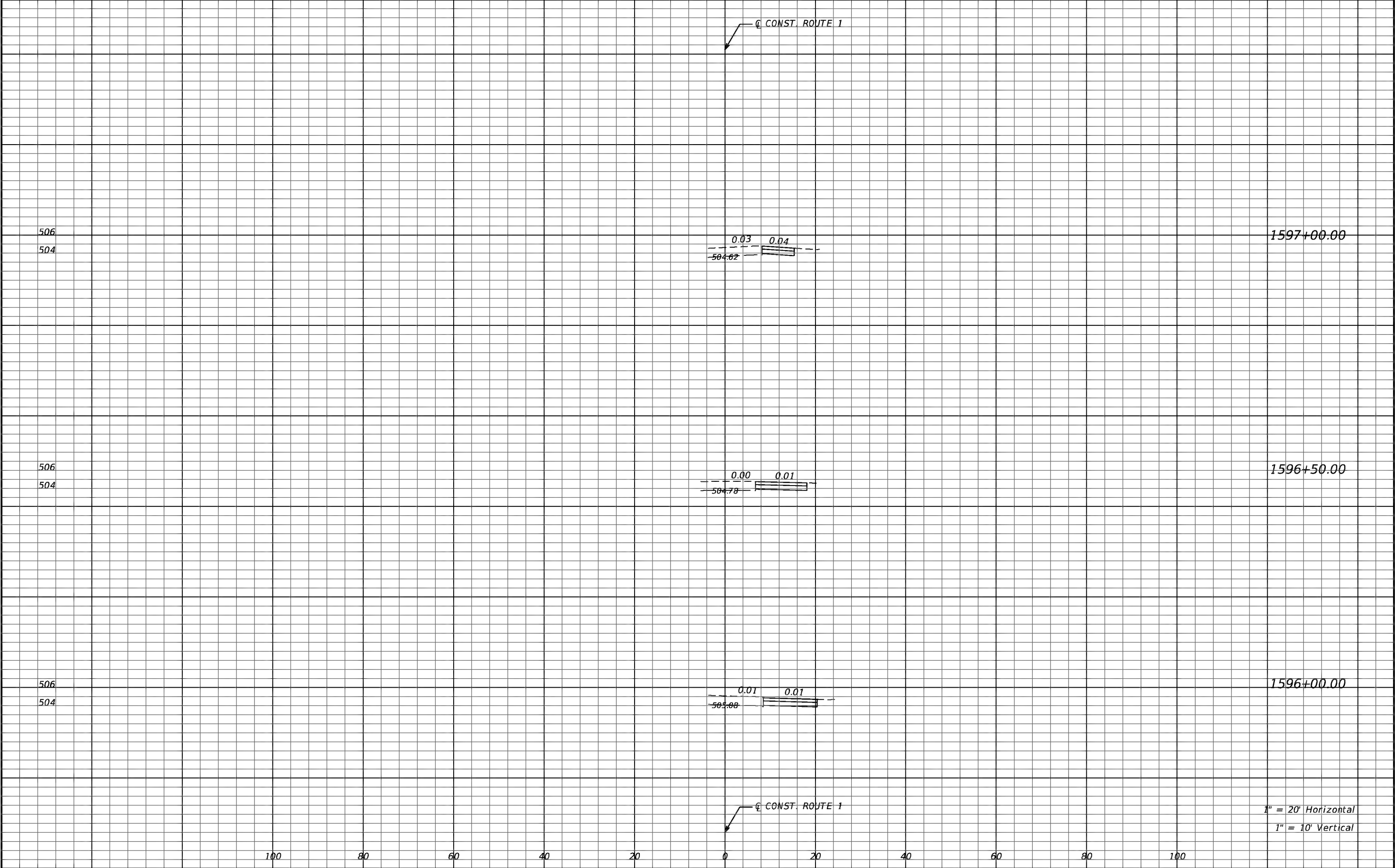
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



1" = 20' Horizontal
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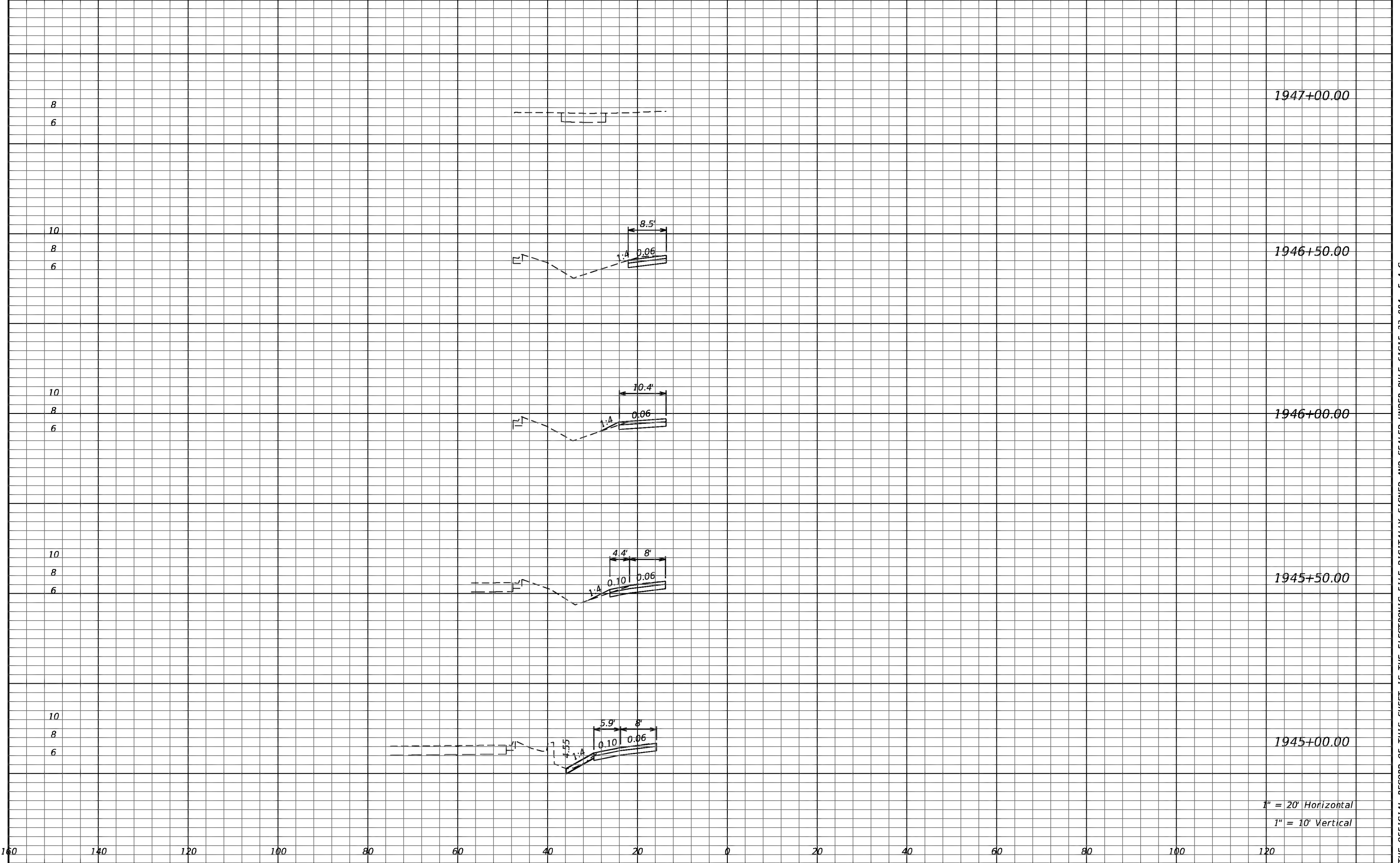
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (18)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		63

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REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (19)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		64
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

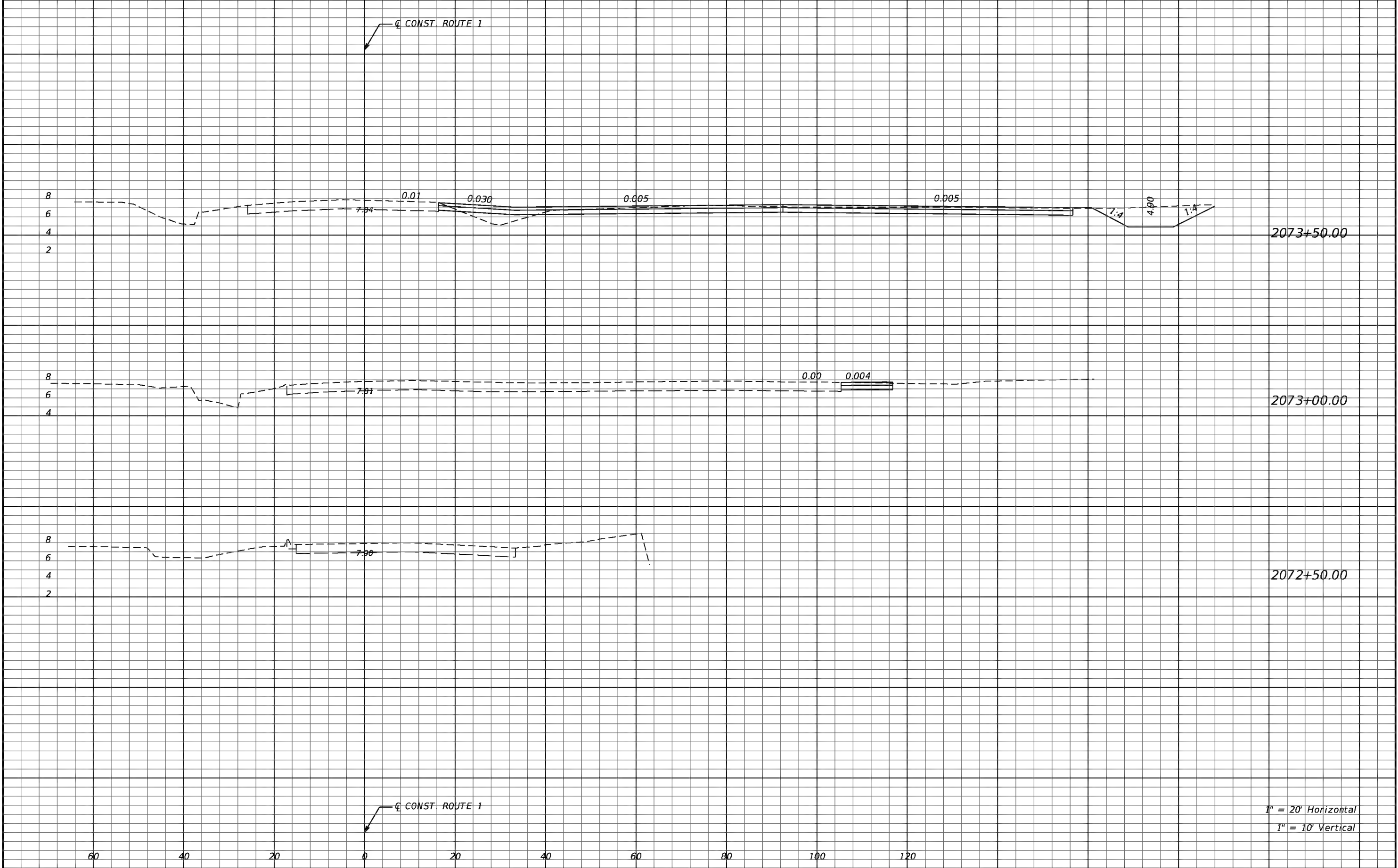
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1" = 20' Horizontal
1" = 10' Vertical

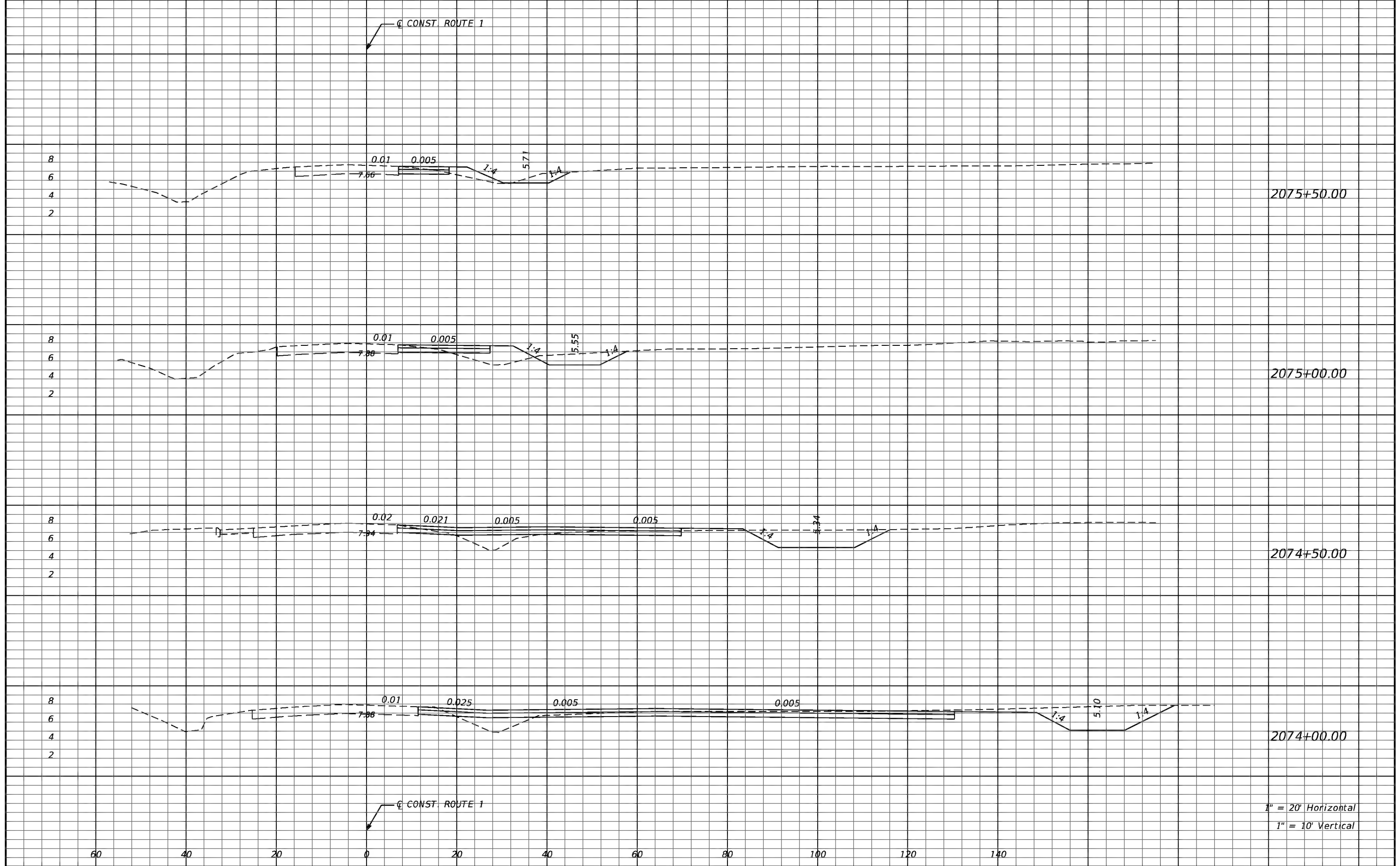
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (20)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		65

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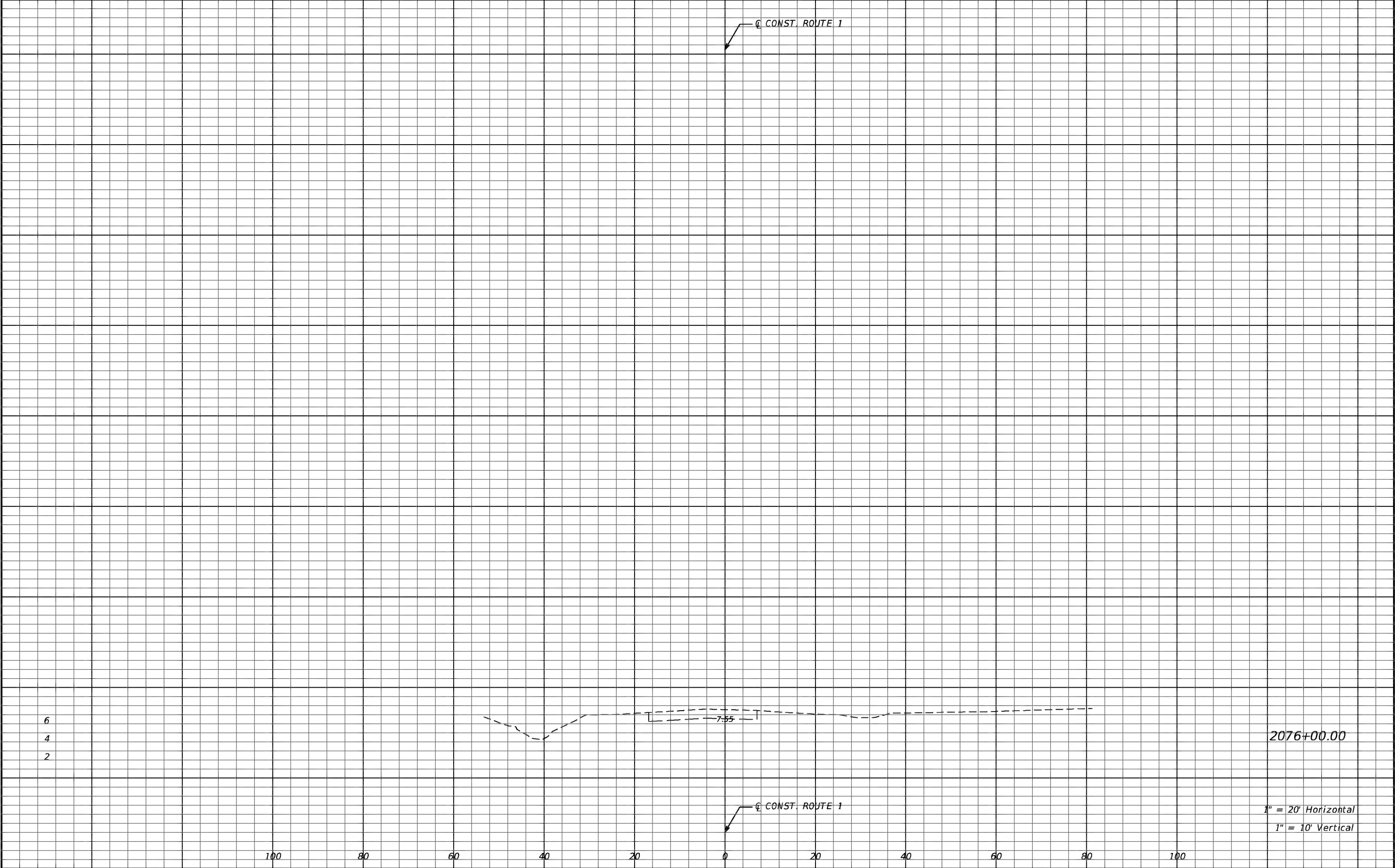
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (21)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		66

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



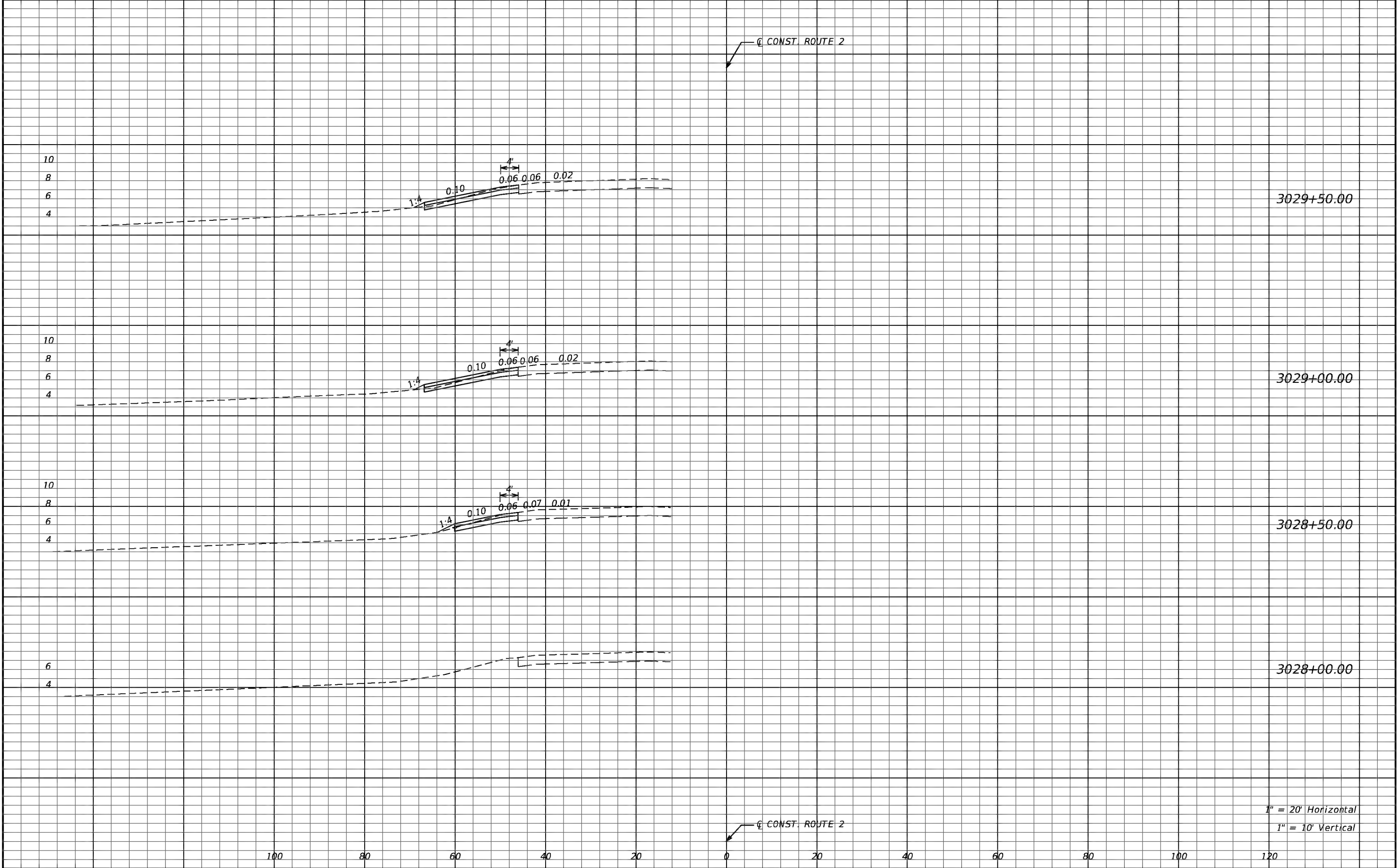
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (22)	SHEET NO. 67
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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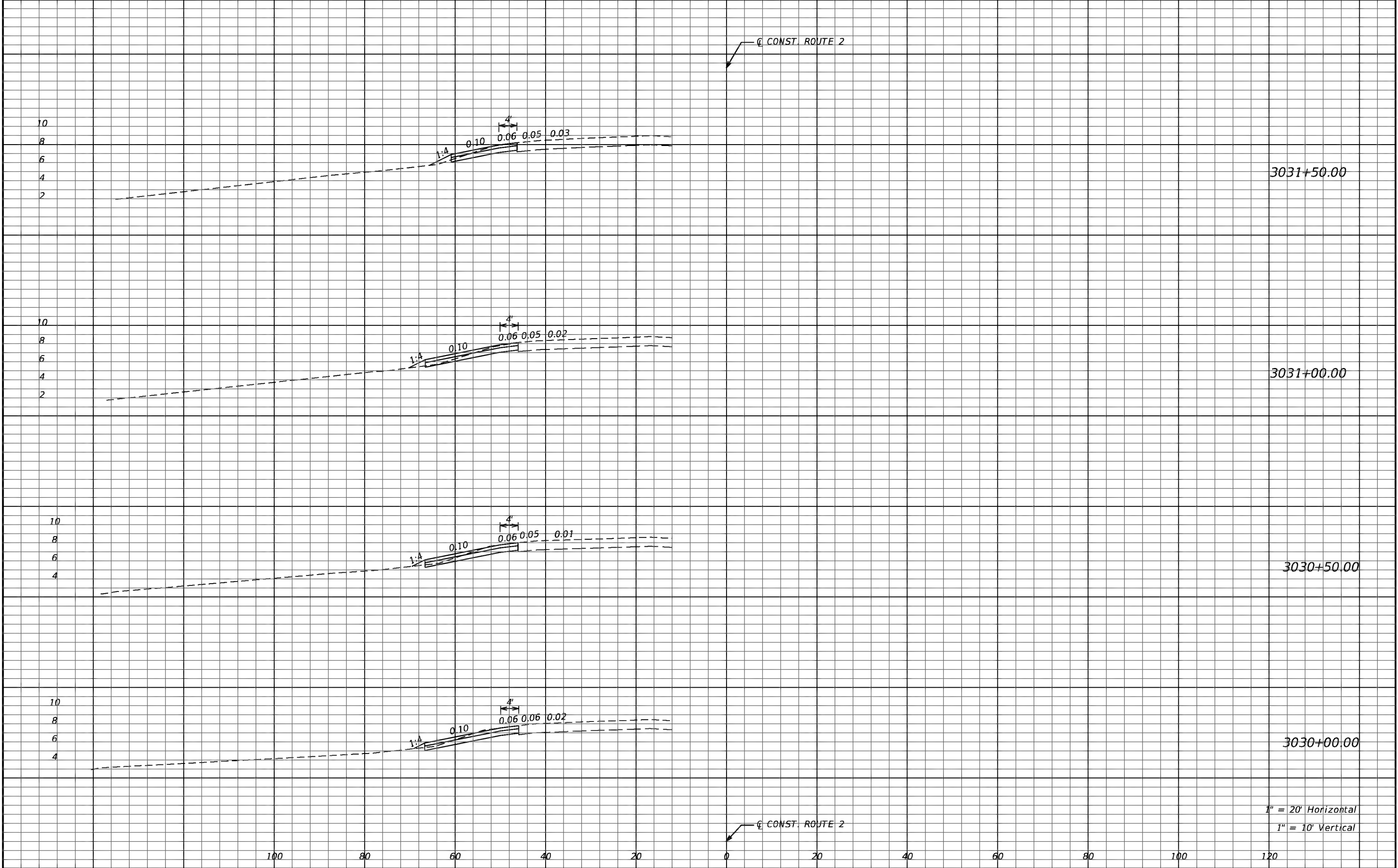
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (23)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		68
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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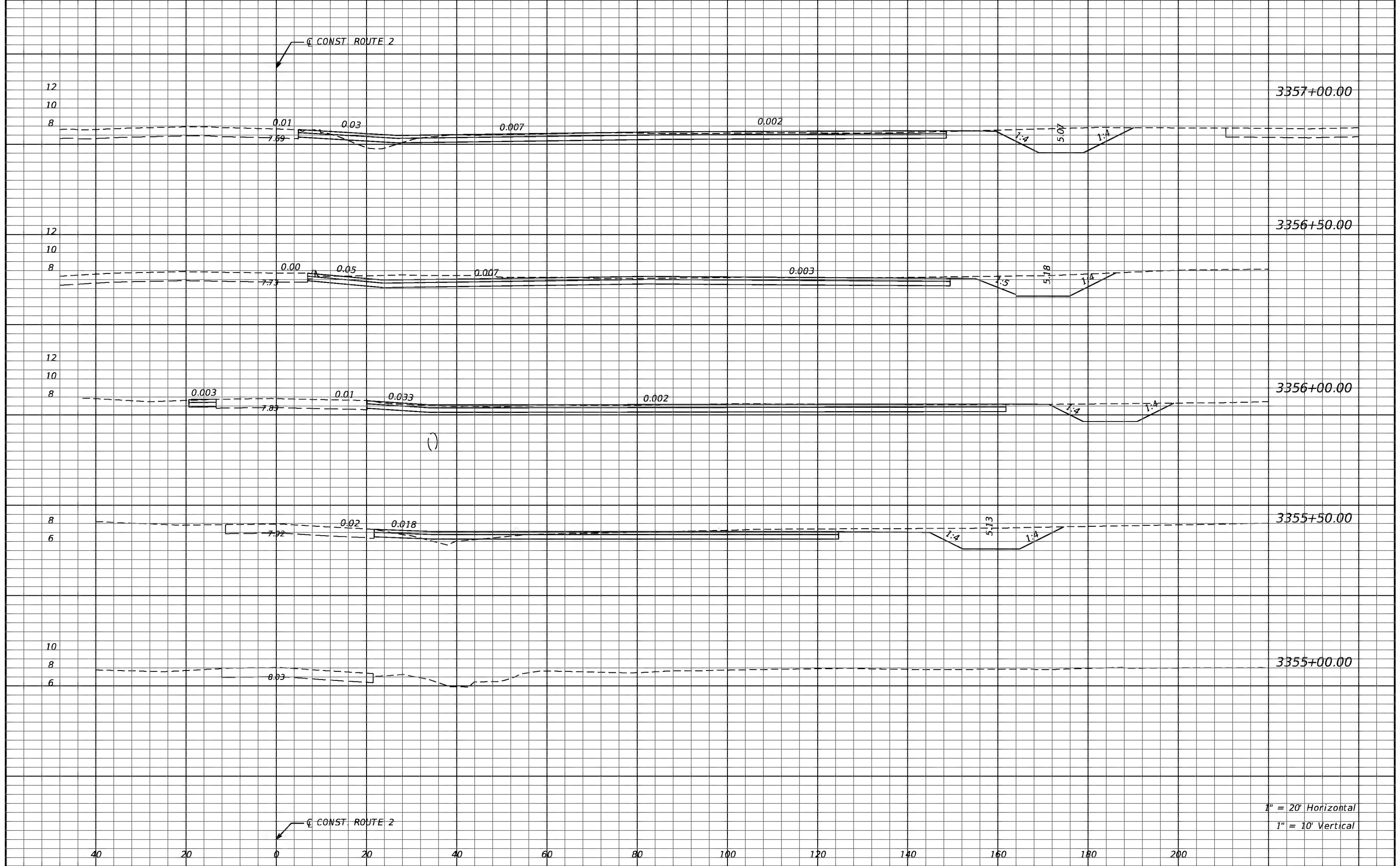
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (24)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		69

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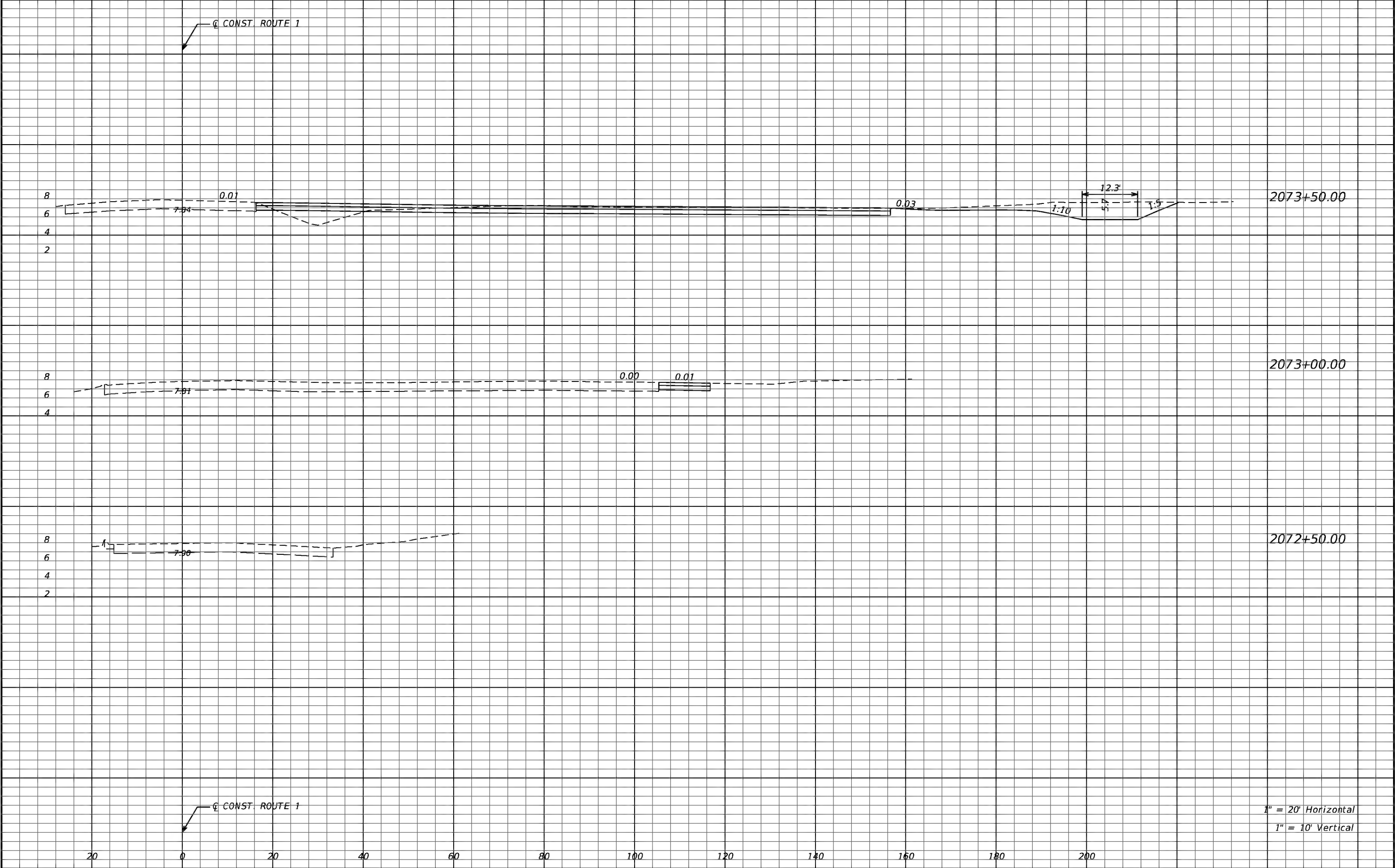
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (25)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		70

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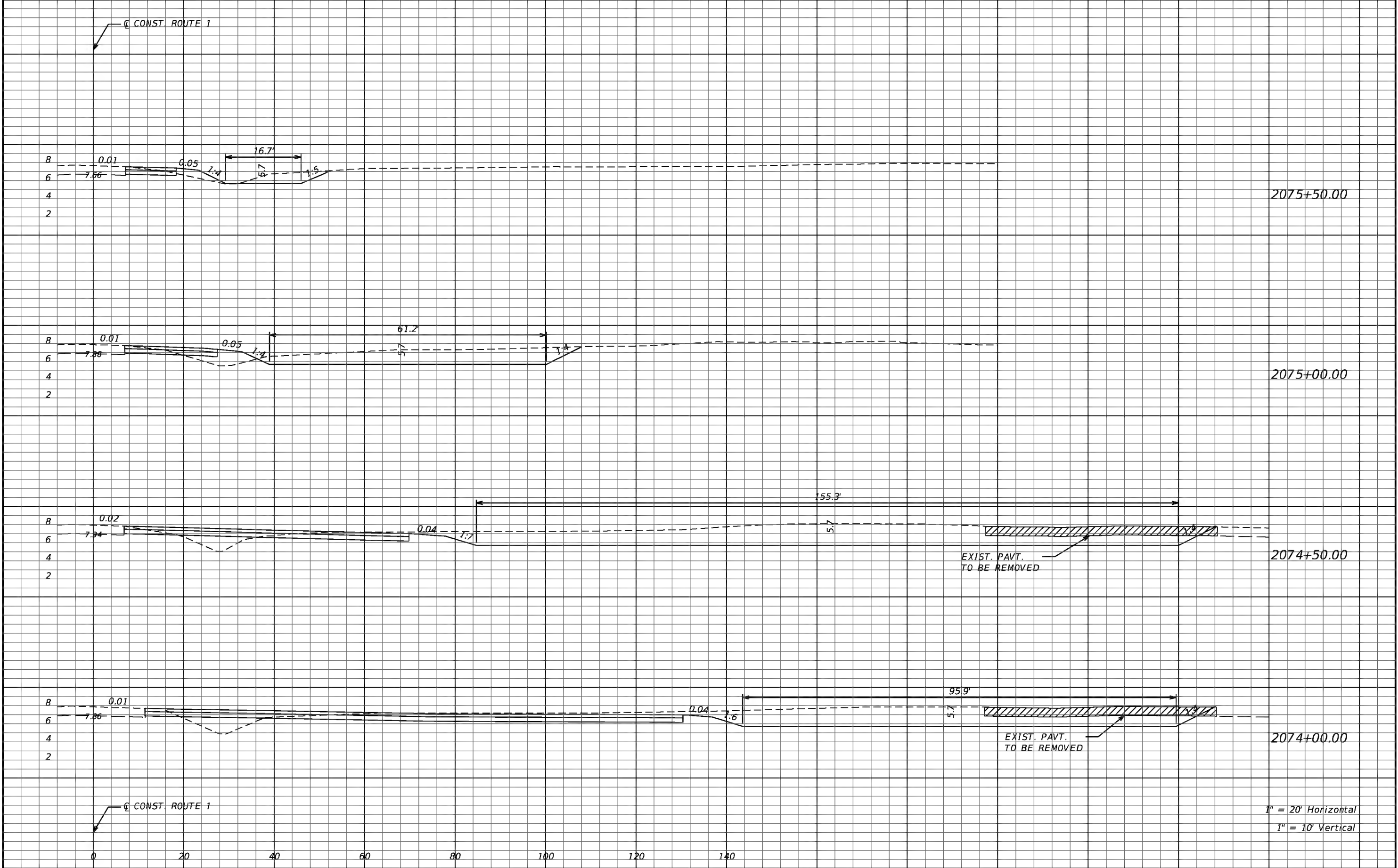
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (26)	SHEET NO. 71
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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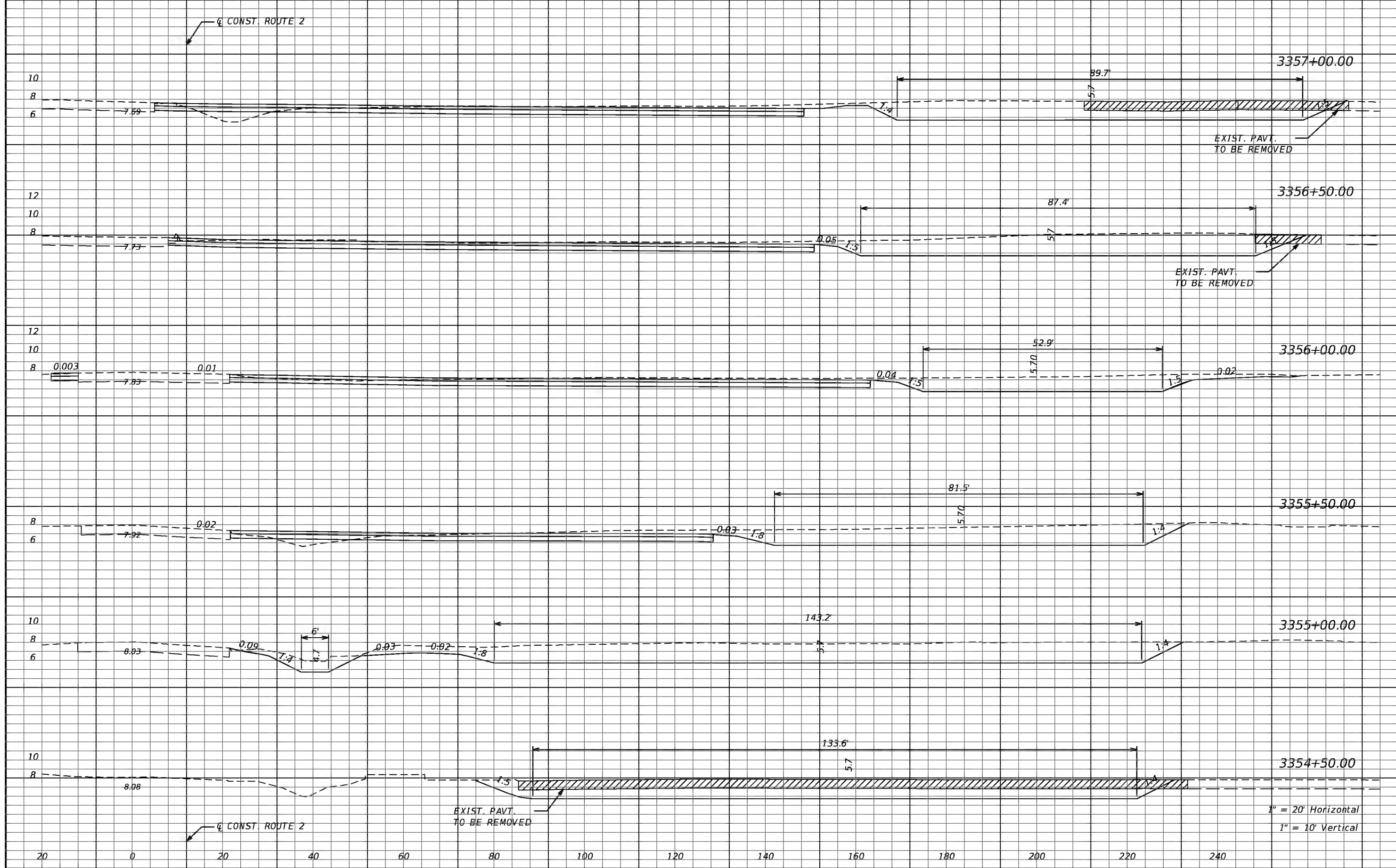
REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			CROSS SECTIONS (21) - ADD ALTERNATE 1		SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			72	
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01				

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01		

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	<div>1</div> ADDENDUM 1- SHEET ADDED					BREVARD	439053-1-54-01		

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THE FOLLOWING NARRATIVE OF THE STORMWATER POLLUTION PREVENTION PLAN CONTAINS REFERENCES TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE STANDARD PLANS, AND OTHER SHEETS OF THESE CONSTRUCTION PLANS. THE FIRST SHEET OF THE CONSTRUCTION PLANS (CALLED THE KEY SHEET) CONTAINS AN INDEX TO THE OTHER SHEETS. THE COMPLETE STORMWATER POLLUTION PREVENTION PLAN INCLUDES SEVERAL ITEMS: THIS NARRATIVE DESCRIPTION, THE DOCUMENTS REFERENCED IN THIS NARRATIVE, THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN REQUIRED BY SPECIFICATION SECTION 104, AND REPORTS OF INSPECTIONS MADE DURING CONSTRUCTION.

1.0 SITE DESCRIPTION:

ROADWAYS LOCATED AT KENNEDY SPACE CENTER, CAPE CANAVERAL AIR STATION AND PORT CANAVERAL IN BREVARD COUNTY, FLORIDA.

1.A. NATURE OF CONSTRUCTION ACTIVITY:

THE PROJECT IS PAVING SHOULDER AND MEDIAN AREAS ALONG SPACE COMMERCE PARKWAY, KENNEDY PARKWAY, SATURN CAUSEWAY, PHILLIPS PARKWAY AND CENTRAL CONTROL ROAD.

1.B. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, PROVIDE A DETAILED SEQUENCE OF CONSTRUCTION FOR ALL CONSTRUCTION ACTIVITIES. FOLLOW THE SEQUENCE OF MAJOR ACTIVITIES DESCRIBED BELOW, UNLESS A SEQUENCE IS PROPOSED THAT IS EQUAL OR BETTER AT CONTROLLING EROSION AND TRAPPING SEDIMENT AND IS APPROVED BY THE ENGINEER.

FOR EACH CONSTRUCTION PHASE, INSTALL PERIMETER CONTROLS AFTER CLEARING AND GRUBBING NECESSARY FOR INSTALLATION OF CONTROLS BUT BEFORE BEGINNING OTHER WORK FOR THE CONSTRUCTION PHASE. REMOVE PERIMETER CONTROLS ONLY AFTER ALL UPSTREAM AREAS ARE STABILIZED.

1. CLEARING AND GRUBBING, EARTHWORK, AND STORM DRAIN CONSTRUCTION.

2. STORM DRAIN AND ROADWAY.
CONSTRUCT THE STORM DRAIN PIPE IN THE UPSTREAM DIRECTION.

3. EARTHWORK ASSOCIATED WITH THE CONSTRUCTION OF ROADWAY, CURB, SUBGRADE, BASE AND PAVEMENT.

1.C. AREA ESTIMATES:

TOTAL SITE AREA:
8.00 AC (KSC=3.50 AC; USAF=3.50 AC; PORT=1.00 AC).
TOTAL AREA TO BE DISTURBED:
7.50 AC (KSC=3.45 AC; USAF=3.20 AC; PORT=0.85 AC).

1.D. RUNOFF DATA:

RUNOFF COEFFICIENTS:

BEFORE: VARIES FROM 0.30 TO 0.60
DURING: VARIES FROM 0.25 TO 0.90
AFTER: 0.90

SOILS DATA: THE RESULTS OF THE SOIL BORINGS ALONG THE ROADWAY ARE SHOWN IN THE ROADWAY SOIL SURVEY SHEET(S). (FORTHCOMING)

PREDOMINAT SOILS ALONG THE PROJECT ARE:

- * URBAN LAND AND CANAVERAL-URBAN LAND COMPLEX
- * WELAKA SAND
- * PALM BEACH SAND
- * IMMOKALEE SAND
- * CANAVERAL-ANCLOTE COMPLEX
- * TURNBULL AND RIOMAR SOILS - TIDAL

OUTFALL INFORMATION:

THERE ARE 3 PRIMARY OUTFALLS.

#1 DESCRIPTION: CANALS ALONG NASA PARKWAY FLOWING EAST.

LOCATION: LATITUDE 28° 31' 34"N, LONGITUDE, 80° 41' 4534"W.
RECEIVING WATER NAME: INDIAN RIVER.

#2 DESCRIPTION: TIDAL AREA SOUTH OF SATURN PARKWAY THAT FLOWS TO THE BANANA RIVER.

LOCATION: LATITUDE 28° 36' 12"N, LONGITUDE 80° 36' 13"W.
RECEIVING WATER NAME: BANANA RIVER.

#3 DESCRIPTION: CONVEYANCE SYSTEMS THAT FLOWS WEST FROM THE CENTRAL CONTROL ROAD TO THE BANANA RIVER.

LOCATION: LATITUDE 28° 29' 33"N, LONGITUDE 80° 34' 37"W
RECEIVING WATER NAME: BANANA RIVER.

1.E. SITE MAP:

THE CONSTRUCTION PLANS ARE BEING USED AS THE SITE MAPS. THE LOCATION OF THE REQUIRED INFORMATION IS DESCRIBED BELOW. THE SHEET NUMBERS FOR THE PLAN SHEETS REFERENCED ARE IDENTIFIED ON THE KEY SHEET OF THESE CONSTRUCTION PLANS.

* DRAINAGE PATTERNS: THE DRAINAGE BASIN DIVIDES AND FLOW DIRECTIONS ARE SHOWN ON THE DRAINAGE MAPS.

* APPROXIMATE SLOPES: THE SLOPES OF THE SITE CAN BE SEEN IN THE CROSS SECTION SHEETS AND THE PLAN-PROFILE SHEETS.

* AREAS OF SOIL DISTURBANCE: THE AREAS TO BE DISTURBED ARE INDICATED ON THE PLAN-PROFILE SHEETS AND THE CROSS SECTION SHEETS. ANY AREAS WHERE PERMANENT FEATURES ARE SHOWN TO BE CONSTRUCTED ABOVE OR BELOW GROUND WILL BE DISTURBED.

* AREAS NOT TO BE DISTURBED: ESSENTIALLY THE WHOLE PROJECT WILL BE DISTURBED DURING CONSTRUCTION.

* LOCATIONS OF TEMPORARY CONTROLS: THESE ARE SHOWN ON THE PLAN SHEETS.

* AREAS TO BE STABILIZED: TEMPORARY STABILIZATION PRACTICES ARE SHOWN IN THE SAME LOCATION AS THE TEMPORARY CONTROLS MENTIONED ABOVE. PERMANENT STABILIZATION IS SHOWN ON THE TYPICAL SECTION SHEETS.

1.F. RECEIVING WATERS:

SEE ITEM 1.D FOR THE OUTFALL LOCATIONS AND RECEIVING WATER NAMES.

REVISIONS				CHRISTOPHER BRADLEY CARVER, P.E. P.E. LICENSE NUMBER 49460 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			STORMWATER POLLUTION PREVENTION PLAN (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
3/24/20	<div><div>1</div><div>ADDENDUM 1- SHEET REISSUED</div></div>				ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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2.0 CONTROLS:

2.A. EROSION AND SEDIMENT CONTROLS:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE PROPOSED STABILIZATION AND STRUCTURAL PRACTICES BASED ON THE CONTRACTOR'S PROPOSED TEMPORARY TRAFFIC CONTROL(TTC) PLAN. THE FOLLOWING RECOMMENDED GUIDELINES ARE BASED ON THE TEMPORARY TRAFFIC CONTROL PLAN OUTLINED IN THE CONSTRUCTION PLANS. WHERE FOLLOWING THE TEMPORARY TRAFFIC CONTROL PLAN OUTLINED IN THESE CONSTRUCTION PLANS, THE CONTRACTOR MAY CHOSE TO ACCEPT THE FOLLOWING GUIDELINES OR MODIFY THEM IN THE SEDIMENT AND EROSION CONTROL PLAN, SUBJECT TO APPROVAL BY THE ENGINEER. AS WORK PROGRESSES, MODIFY THE PLAN TO ADAPT TO SEASONAL VARIATION, CHANGES IN CONSTRUCTION ACTIVITIES, AND THE NEED FOR BETTER PRACTICES.

FOR EACH CONSTRUCTION PHASE, INSTALL PERIMETER CONTROLS AFTER CLEARING AND GRUBBING NECESSARY FOR INSTALLATION OF CONTROLS BUT BEFORE BEGINNING OTHER WORK FOR THE CONSTRUCTION PHASE. REMOVE PERIMETER CONTROLS ONLY AFTER ALL UPSTREAM AREAS ARE STABILIZED.

2.A.1 STABILIZATION PRACTICES

IN THE SEDIMENT AND EROSION CONTROL PLAN, DESCRIBE THE STABILIZATION PRACTICES PROPOSED TO CONTROL EROSION. INITIATE ALL STABILIZATION MEASURES AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. THE STABILIZATION PRACTICES SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

TEMPORARY:

* ARTIFICIAL COVERINGS IN ACCORDANCE WITH SPECIFICATION SECTION 104.

* TURF AND SOD IN ACCORDANCE WITH SPECIFICATION SECTION 104.

PERMANENT:

* ASPHALT OR CONCRETE SURFACE.

* SOD IN ACCORDANCE WITH SPECIFICATION SECTION 570.

2.A.2 STRUCTURAL PRACTICES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, DESCRIBE THE PROPOSED STRUCTURAL PRACTICES TO CONTROL OR TRAP SEDIMENT AND OTHERWISE PREVENT THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. SEDIMENT CONTROLS SHALL BE IN PLACE BEFORE DISTURBING SOIL UPSTREAM OF THE CONTROL. THE STRUCTURAL PRACTICES SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER:

TEMPORARY:

* SEDIMENT BARRIERS IN ACCORDANCE WITH DESIGN SPECIFICATION SECTION 104, AND FDEP EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL.

* INLET PROTECTION IN ACCORDANCE FDEP EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL, AND SPECIAL DETAILS SHOWN IN THE TTC PLAN.

PERMANENT:

PERMANENT:

* SOD.

2.C OTHER CONTROLS:

2.C.1 WASTE DISPOSAL:

IN THE SEDIMENT AND EROSION CONTROL PLAN, DESCRIBE THE PROPOSED METHODS TO PREVENT THE DISCHARGE OF SOLID MATERIALS, INCLUDING BUILDING MATERIALS, TO WATERS OF THE UNITED STATES. THE PROPOSED METHODS SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER:

* PROVIDING LITTER CONTROL AND COLLECTION WITHIN THE PROJECT DURING CONSTRUCTION ACTIVITIES.

* DISPOSING OF ALL FERTILIZER OR OTHER CHEMICAL CONTAINERS ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.

* DISPOSING OF SOLID MATERIALS INCLUDING BUILDING AND CONSTRUCTION MATERIALS OFF THE PROJECT SITE BUT NOT IN SURFACE WATERS, OR WETLANDS.

2.C.2 OFF-SITE VEHICLE TRACKING & DUST CONTROL:

IN THE SEDIMENT AND EROSION CONTROL PLAN, DESCRIBE THE PROPOSED METHODS FOR MINIMIZING OFFSITE VEHICLE TRACKING OF SEDIMENTS AND GENERATING DUST. THE PROPOSED METHODS SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

* COVERING LOADED HAUL TRUCKS WITH TARPAULINS.

* REMOVING EXCESS DIRT FROM ROADS DAILY.

* STABILIZING CONSTRUCTION ENTRANCES ACCORDING TO STANDARD PLANS 106.

* USING ROADWAY SWEEPERS DURING DUST GENERATING ACTIVITIES SUCH AS EXCAVATION AND MILLING OPERATIONS.

2.C.3 STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS:

IN THE SECTION 104 EROSION CONTROL PLAN, DESCRIBE THE PROPOSED PROCEDURES TO COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL, AND SANITARY SEWER OR SEPTIC SYSTEMS.

2.C.4 FERTILIZERS AND PESTICIDES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, DESCRIBE THE PROCEDURES FOR APPLYING FERTILIZERS AND PESTICIDES. THE PROPOSED PROCEDURES SHALL COMPLY WITH APPLICABLE SUBSECTIONS OF SECTION 570 OF THE SPECIFICATIONS.

2.C.5 TOXIC SUBSTANCES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, PROVIDE A LIST OF TOXIC SUBSTANCES THAT ARE LIKELY TO BE USED ON THE JOB AND PROVIDE A PLAN ADDRESSING THE GENERATION, APPLICATION, MIGRATION, STORAGE, AND DISPOSAL OF THESE SUBSTANCES.

2.D.4 APPROVED STATE AND LOCAL PLANS AND PERMITS:

* SWFWMD ERP IN PROGRESS

3.0 MAINTENANCE:

IN THE SEDIMENT AND EROSION CONTROL PLAN, PROVIDE A PLAN FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROLS THROUGHOUT CONSTRUCTION. THE MAINTENANCE PLAN SHALL AT A MINIMUM, COMPLY WITH THE FOLLOWING:

* SILT FENCE: MAINTAIN PER SECTION 104. ANTICIPATE REPLACING SILT FENCE ON 12-MONTH INTERVALS.

* SEDIMENT BARRIERS: REMOVE SEDIMENT AS PER MANUFACTURER'S RECOMMENDATIONS OR WHEN WATER PONDS IN UNACCEPTABLE AMOUNTS OR AREAS.

4.0 INSPECTIONS:

QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.50 INCHES OR GREATER.

TO COMPLY, INSTALL AND MAINTAIN RAIN GAUGES AND RECORD THE DAILY RAINFALL. WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. INSPECT THAT CONTROLS INSTALLED IN THE FIELD AGREE WITH THE LATEST STORMWATER POLLUTION PREVENTION PLAN.

* POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES.

* POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM DRAIN SYSTEMS.

* DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.

* AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.

* STRUCTURAL CONTROLS.

* STORMWATER MANAGEMENT SYSTEMS.

* LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

INITIATE REPAIRS WITHIN 24 HOURS OF INSPECTIONS THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER.

IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, PROVIDE ADDITIONAL MEASURES, AS APPROVED BY THE ENGINEER.

5.0 NON-STORMWATER DISCHARGES:

IN THE SECTION 104 EROSION CONTROL PLAN, IDENTIFY ALL ANTICIPATED NON-STORMWATER DISCHARGES (EXCEPT FLOWS FROM FIRE FIGHTING ACTIVITIES). THE CONTRACTOR SHALL DESCRIBE THE PROPOSED MEASURES TO PREVENT POLLUTION OF THESE NON-STORMWATER DISCHARGES. IF THE CONTRACTOR ENCOUNTERS CONTAMINATED SOIL OR GROUNDWATER, CONTACT DAVE LETTERMAN, DISTRICT HAZARDOUS MATERIALS COORDINATOR AT (888) 874-5343.

REVISIONS				CHRISTOPHER BRADLEY CARVER, P.E. P.E. LICENSE NUMBER 49460 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			STORMWATER POLLUTION PREVENTION PLAN (2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		78
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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TEMPORARY TRAFFIC CONTROL NOTES

UTILIZING INDEX 102-100, 102-110, 102-120, 102-600, 102-602, 102-612, 102-615, 102-616:

1. PLACE A PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) 14 DAYS IN ADVANCE OF THE PROPOSED CONSTRUCTION START DATE ALONG THE APPROACHES TO THE PROJECT LIMITS AT LEAST 500 FEET IN ADVANCE OF THE WORK ZONE LIMITS SUGGESTED MESSAGES:

CONST
BEGINS

MONTH
DAY

2. PLACE ADVANCE WARNING SIGNS, WORK ZONE SIGNS, AND TRAFFIC CONTROL DEVICES AS REQUIRED PER 2019 / 2020 STANDARD PLAN INDEXES, 102-602,102-603, 102-612 AND 102-613.

3. EACH DAY PRIOR TO ANY WORK REQUIRING TRAFFIC CONTROL, THE CONTRACTOR SHALL NOTIFY THE KSC DUTY OFFICE (321-861-5050) OR CAPE SUPPORT (321-853-5211) AS APPROPRIATE.

PROJECT PHASING AND SCHEDULING NOTES

1. ALL WORK FOR THIS PROJECT TO BE COMPLETED AS FOLLOWS AND AS ESTABLISHED BETWEEN THE CONTRACTOR AND SPACE FLORIDA.

A. MOBILIZATION/LEAD TIME 30 CALENDAR DAYS (CONTRACTOR PERMITTED TO PERFORM CONSTRUCTION ACTIVITIES WITHIN THIS TIME FRAME)

B. CONSTRUCTION/SUBSTANTIAL COMPLETION 150 CALENDAR DAYS

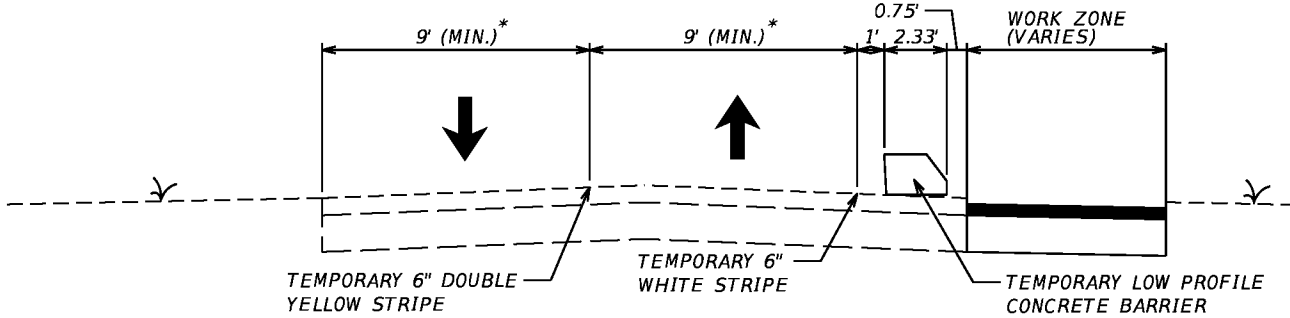
C. FINAL COMPLETION 30 CALENDAR DAYS

D. Total Duration COMPLETION 210 CALENDAR DAYS

2. TYPICAL CONSTRUCTION HOURS FOR THIS PROJECT ARE FROM 0700 TO 1800 HOURS. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THIS TIME FRAME TO BE COORDINATED WITH SPACE FLORIDA AND RESPECTIVE LAND OWNERS.

3. CONTRACTOR MAY BE REQUESTED TO ALTER THE MOT OR WORKING SCHEDULES to ACCOMMODATE KSC AND CCAFS LAUNCH/MISSION.

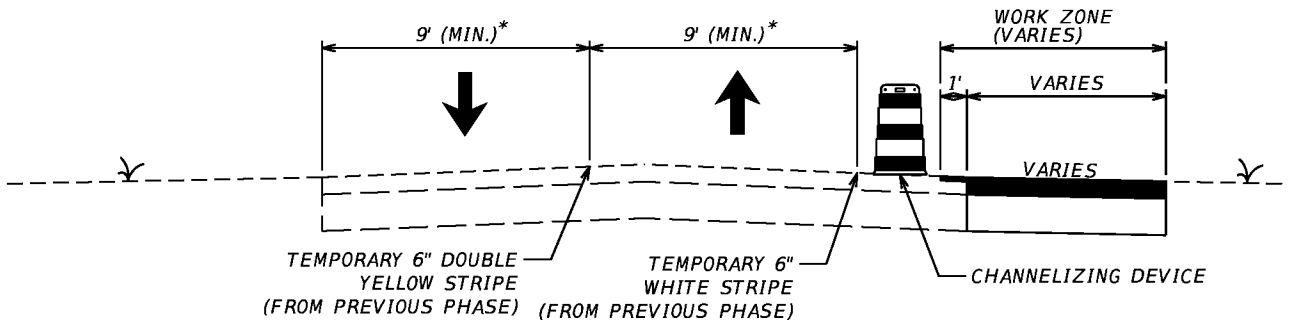
4. CAPE CANAVERAL SPACEPORT (KSC AND CCAFS) HAS MANDATED "NO DIG DAYS" DUE TO LAUNCHES/OPERATIONAL RESTRICTIONS; THEREFORE, PRIOR TO DIGGING OR AT THE BEGINNING OF THE WORK DAY, CONTRACTOR to ENSURE AREAS WHERE THE DIGGING IS TO OCCUR ARE NOT WITHIN "NO DIG DAY" ZONES. PRIOR TO EXCAVATION, THE CONTRACTOR to DAILY CONTACT USAF CAPE SUPPORT DUTY OFFICE AT 321-853-5211 FOR CRITICAL DAY STATUS. PRIOR TO EXCAVATION, THE CONTRACTOR to DAILY CONTACT NASA KSC ISC DUTY OFFICE AT 321-861-5050 FOR CRITICAL DAY STATUS.



PHASE I

1. PLACE TEMPORARY STRIPING AND TEMPORARY LOW PROFILE CONCRETE BARRIER IN ACCORDANCE WITH STANDARD PLANS INDEX 102-120
2. SAWCUT EXISTING EDGE OF PAVEMENT
3. CONSTRUCT BASE MATERIAL
4. CONSTRUCT 1.5" (FIRST LIFT) OF PROPOSED ASPHALT

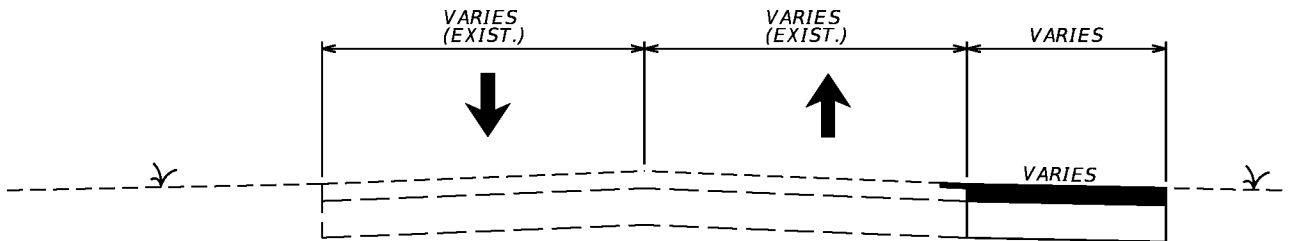
* 9' MIN. FOR 35 MPH,
10' MIN. FOR 45 MPH



PHASE II

1. REMOVE TEMPORARY LOW PROFILE CONCRETE BARRIER
2. PLACE CHANNELIZING DEVICES
3. MILL 1.5" FOR A 1' WIDE STRIP AT EDGE OF EXISTING PAVEMENT.
4. CONSTRUCT 1.5" (SECOND LIFT) ASPHALT STRUCTURAL COURSE ACROSS MILLED SURFACE AND WIDENING AREA

* 9' MIN. FOR 35 MPH,
10' MIN. FOR 45 MPH



PHASE III

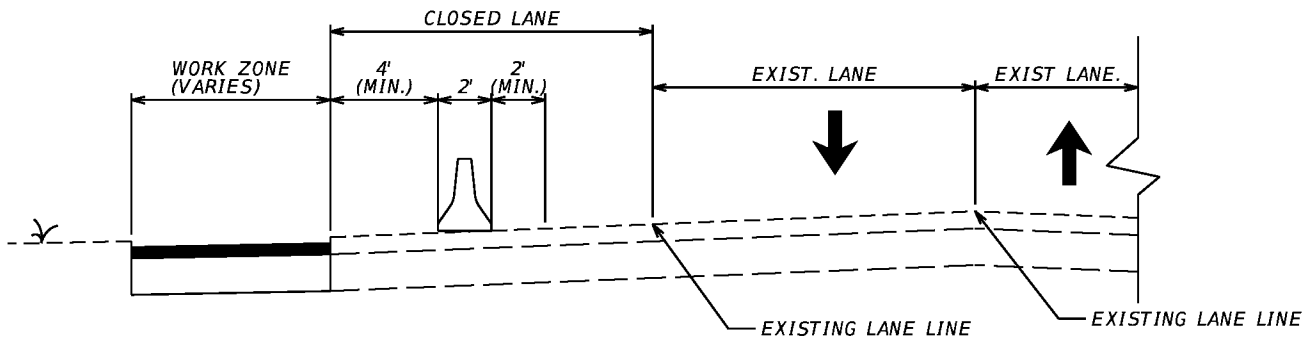
1. PLACE FINAL STRIPING AND REMOVE CHANNELIZING DEVICES

TEMPORARY TRAFFIC CONTROL TYPICALS

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			TEMPORARY TRAFFIC CONTROL PLAN (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		79

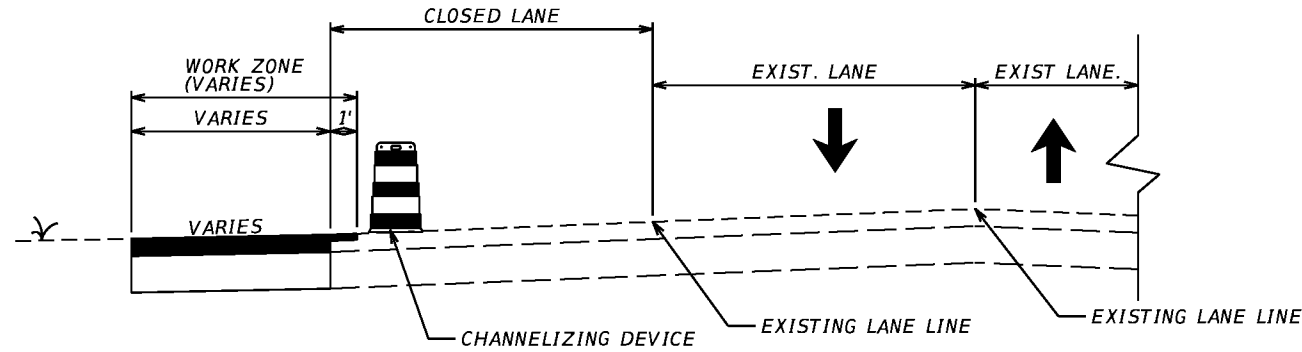
THESE TEMPORARY TRAFFIC CONTROL TYPICALS ARE FOR THE WIDENING
SECTIONS ON ROUTE 2 FOR 50 MPH SECTIONS:

STA. 3028+02 TO STA. 3031+94
STA. 3295+02 TO STA. 3301+51



PHASE I

1. PLACE TEMPORARY BARRIER IN ACCORDANCE WITH STANDARD PLANS
INDEX 102-100 AND 544-001 TO SET UP WORK ZONE
2. SAWCUT EXISTING EDGE OF PAVEMENT
3. CONSTRUCT BASE MATERIAL
4. CONSTRUCT 1.5" (FIRST LIFT) OF PROPOSED ASPHALT



PHASE II

1. REMOVE TEMPORARY BARRIER
2. PLACE CHANNELIZING DEVICES
3. MILL 1.5" FOR A 1' WIDE STRIP AT EDGE OF EXISTING PAVEMENT.
4. CONSTRUCT 1.5" (SECOND LIFT) ASPHALT STRUCTURAL COURSE
ACROSS MILLED SURFACE AND WIDENING AREA.
5. PLACE FINAL STIPING

REVISIONS				BRUNO J. FIORI, P.E. P.E. LICENSE NUMBER 49150 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			TEMPORARY TRAFFIC CONTROL PLAN (2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		80

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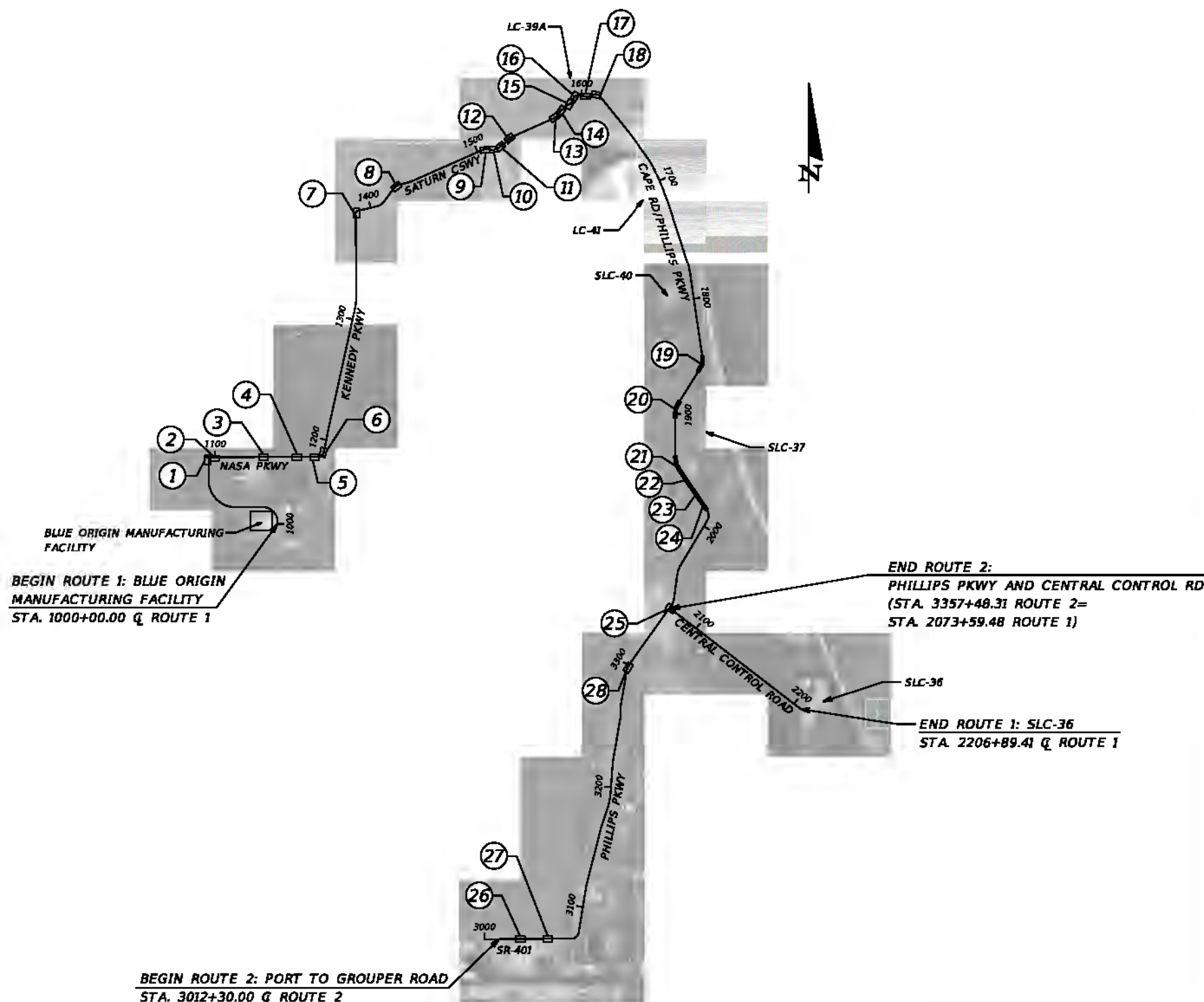
PROJECT LAYOUT - SIGNING AND PAVEMENT MARKINGS

SIGNING AND PAVEMENT
MARKINGS PLAN NO.

SIGNING AND PAVEMENT MARKINGS DESCRIPTION

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9 THRU 11
- 12
- 13
- 14
- 15 THRU 18
- 19 THRU 24
- 25
- 26
- 27
- 28

SPACE COMMERCE WAY AT NASA PKWY
NASA PKWY
NASA PKWY AT KSC VISITOR CENTER
SECURITY GATE 3 AT NASA PKWY
NASA PKWY AT SB KENNEDY PKWY RAMP
NASA PKWY AT KENNEDY PKWY
KENNEDY PKWY AT SATURN CSWY
SATURN CSWY FIRST GUARDHOUSE
SATURN CSWY
SATURN CSWY SECOND GUARDHOUSE
SATURN CSWY
SATURN CSWY AT LC-39A
SATURN CSWY
PHILLIPS PKWY
PHILLIPS PKWY AT CENTRAL CONTROL RD INTERSECTION
SR 401 AT PAYNE WAY
PHILLIPS PKWY AT POSEIDON AVE
PHILLIPS PKWY AT HANGAR RD



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
3/24/20	1 ADDENDUM 1- SHEET REISSUED		

PATRICK B. NEVAH, P.E.
P.E. LICENSE NUMBER 72369
AECOM TECHNICAL SERVICES, INC.
7650 W. COURTNEY CAMPBELL CSWY
TAMPA, FLORIDA 33607

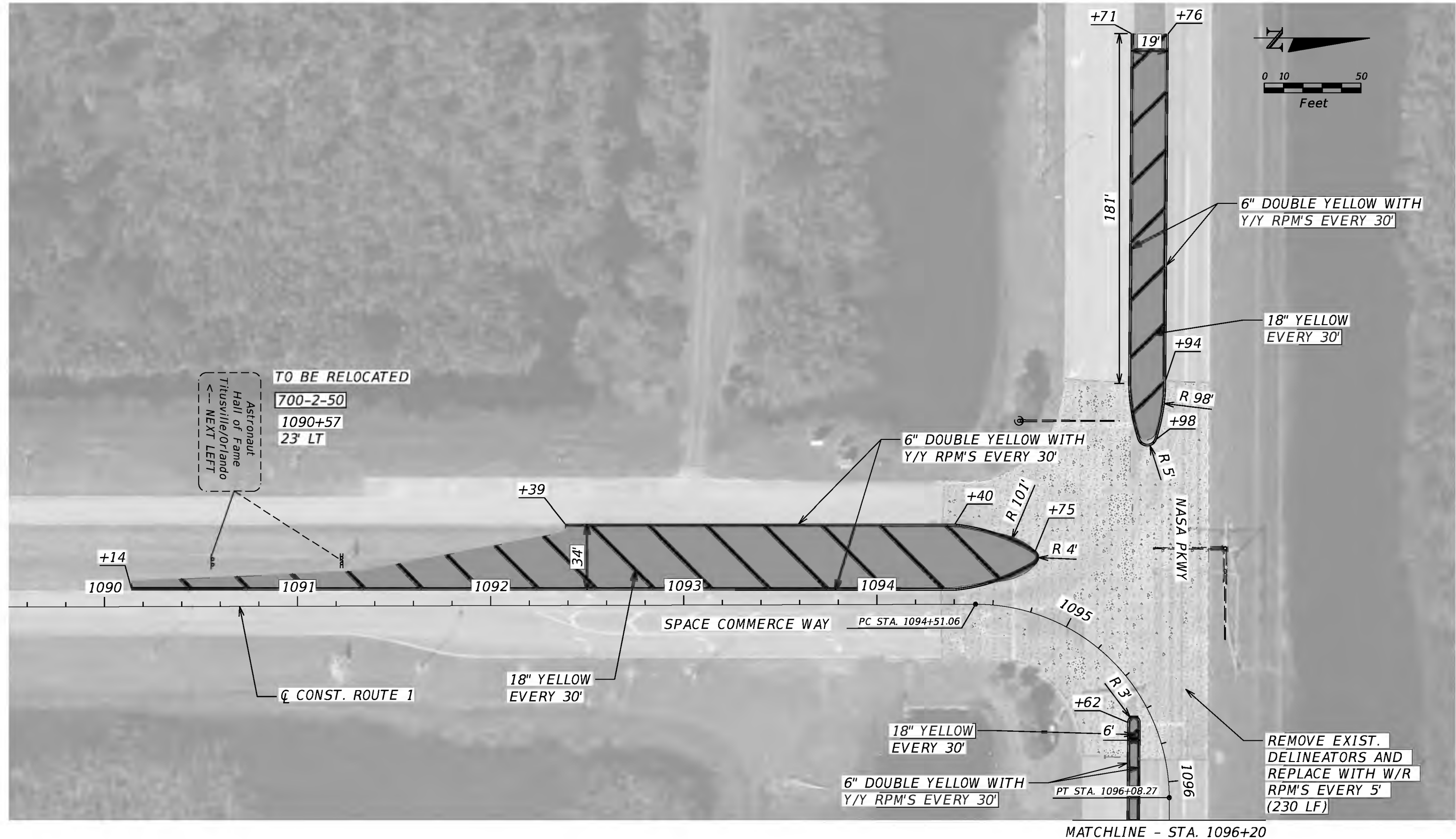
SPACE FLORIDA EDTPE
INFRASTRUCTURE IMPROVEMENTS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	BREVARD	439053-1-54-01

**SIGNING AND PAVEMENT
MARKINGS LAYOUT**

SHEET
NO.

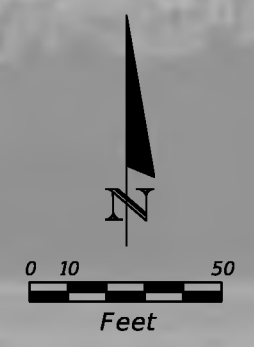
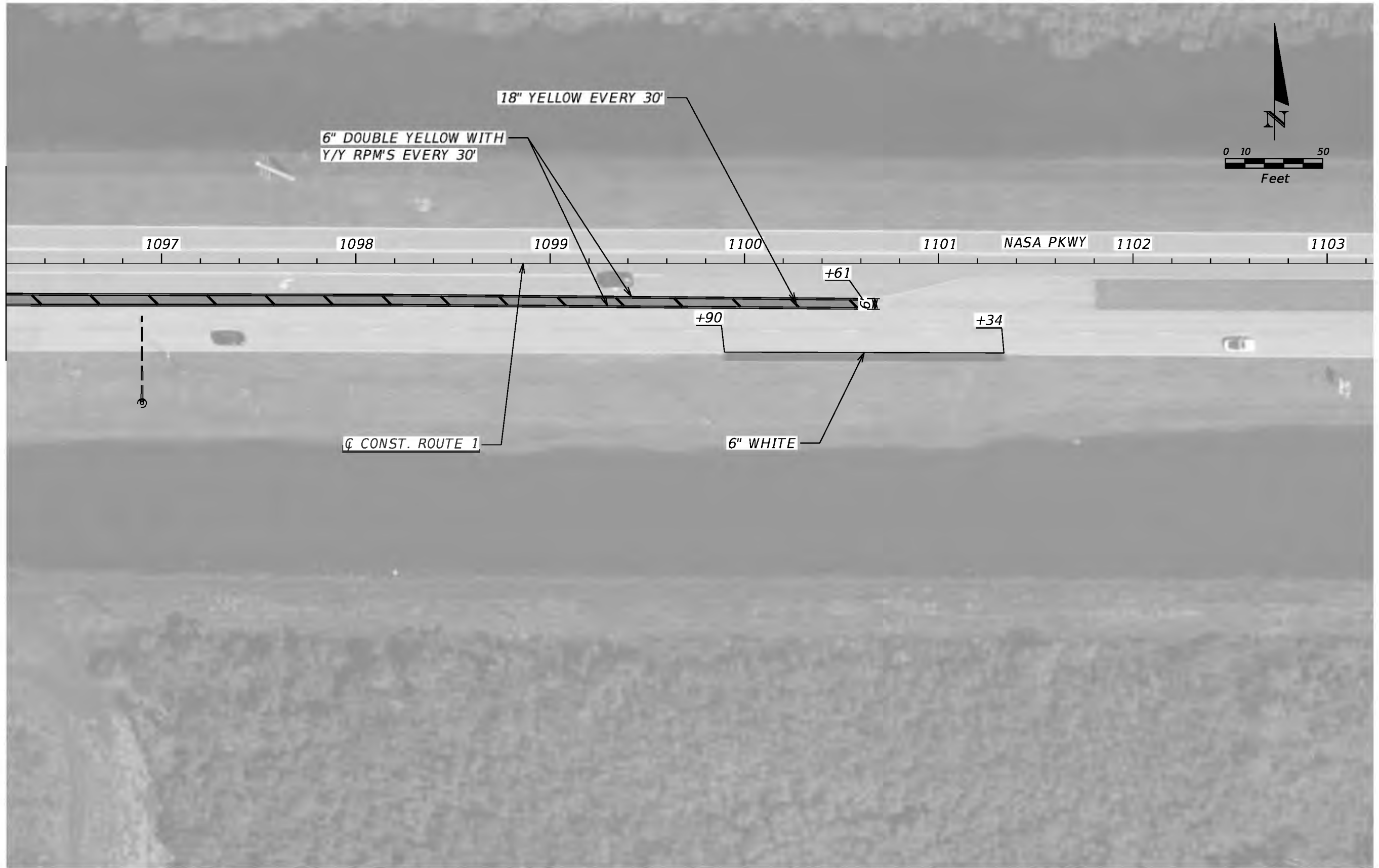
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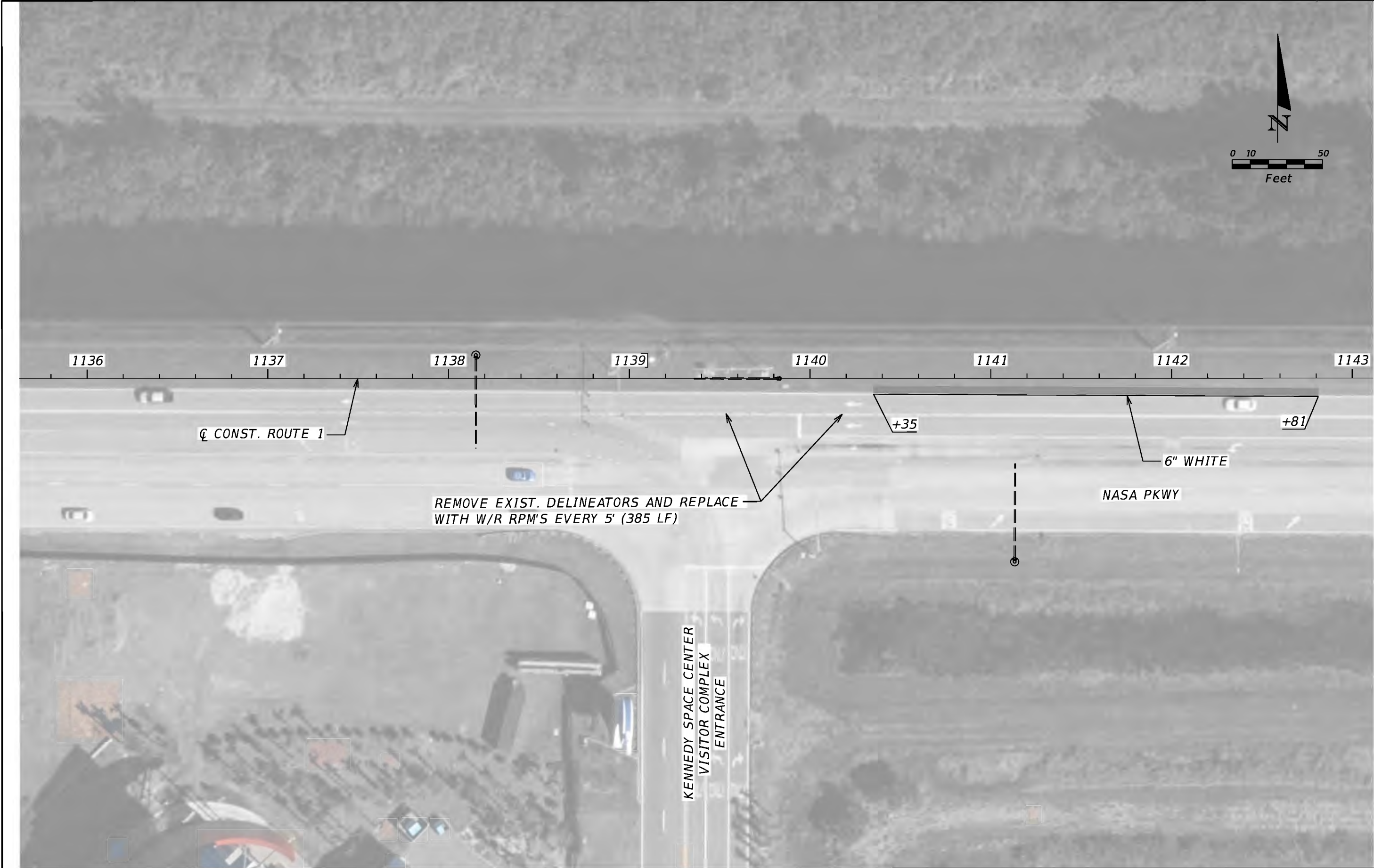
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (1)	SHEET NO. S-2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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MATCHLINE - STA. 1096+20



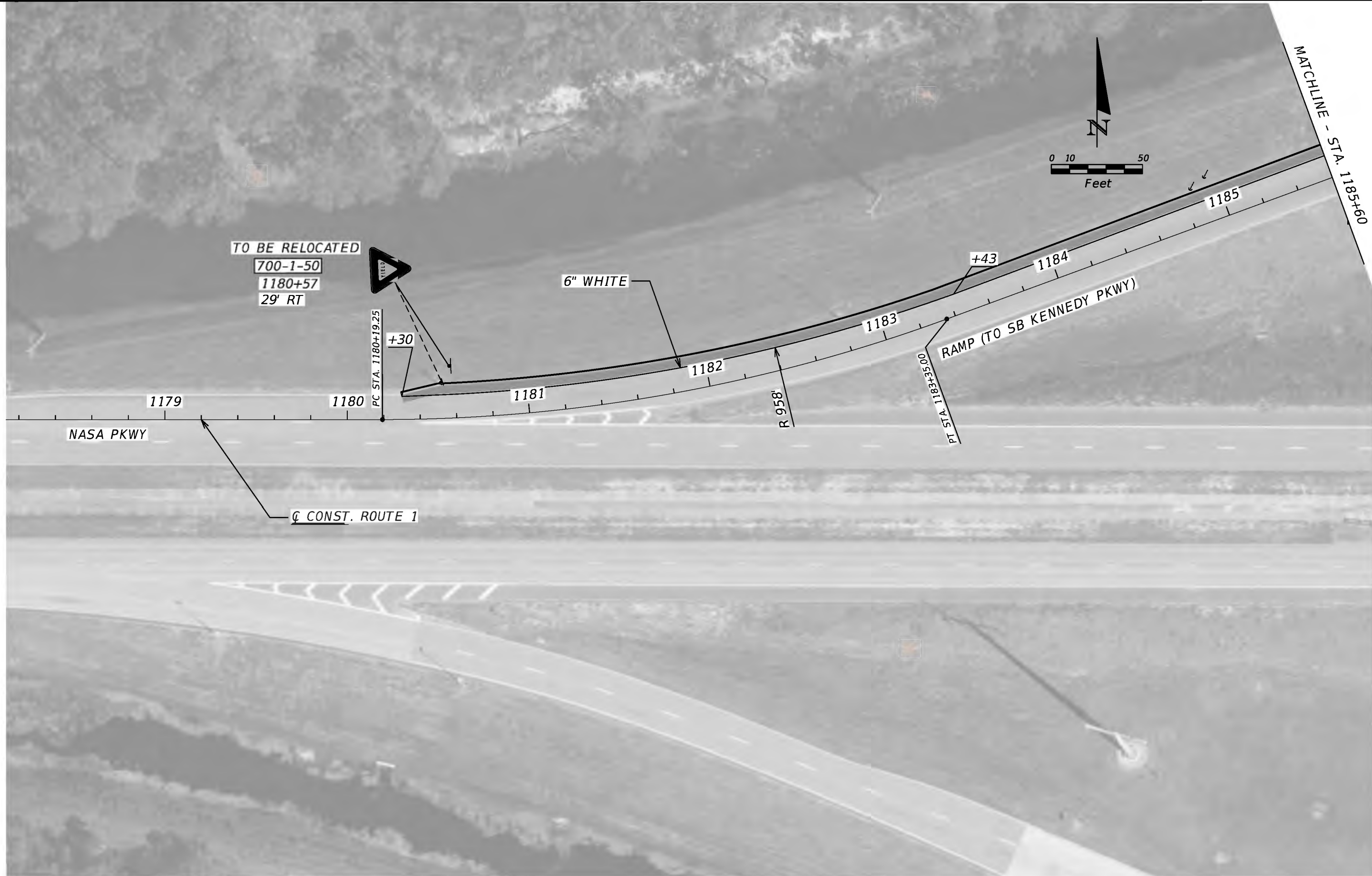
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (2)		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01			S-3



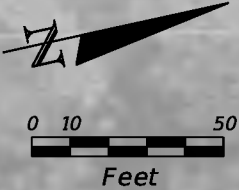
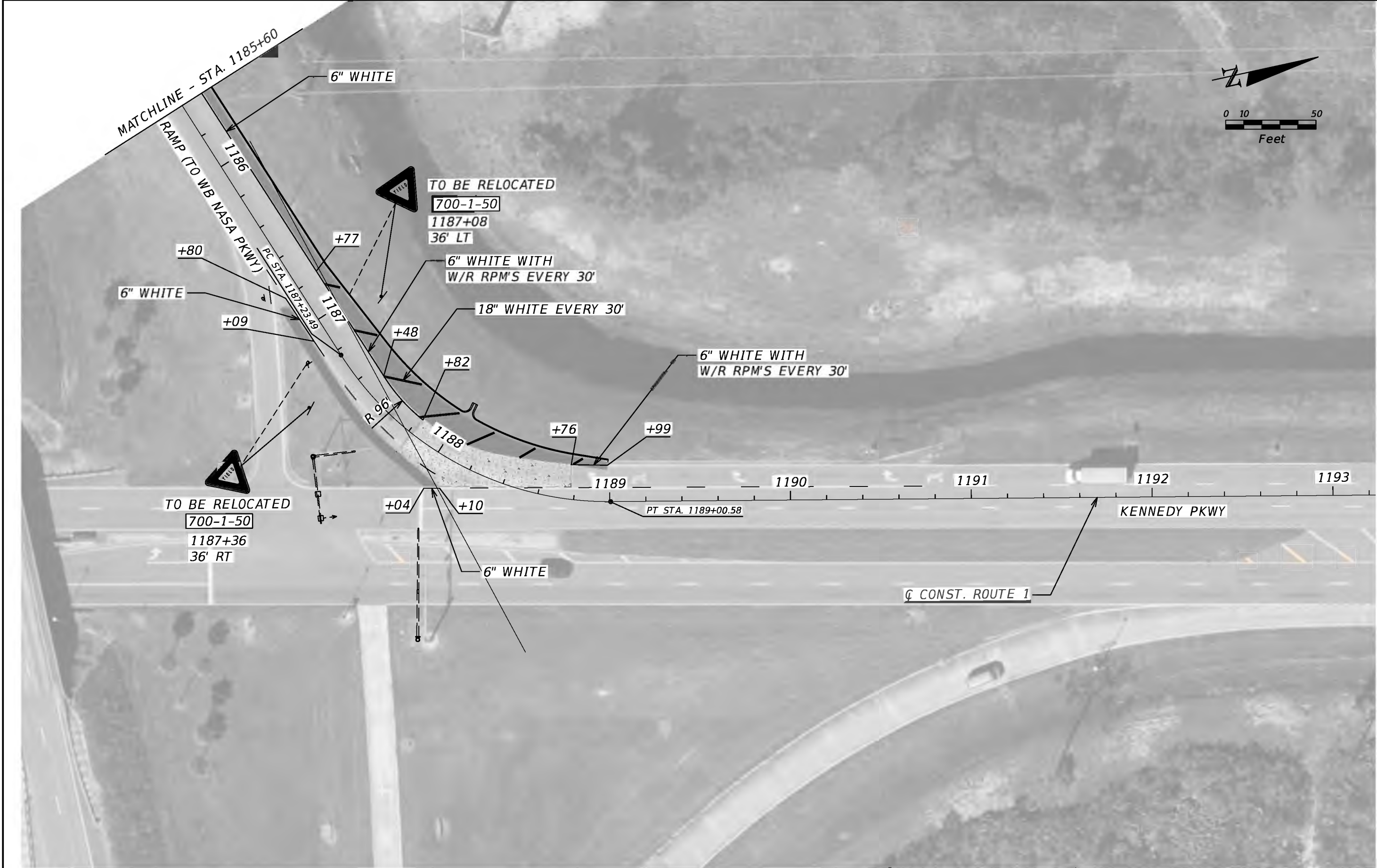
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		S-4



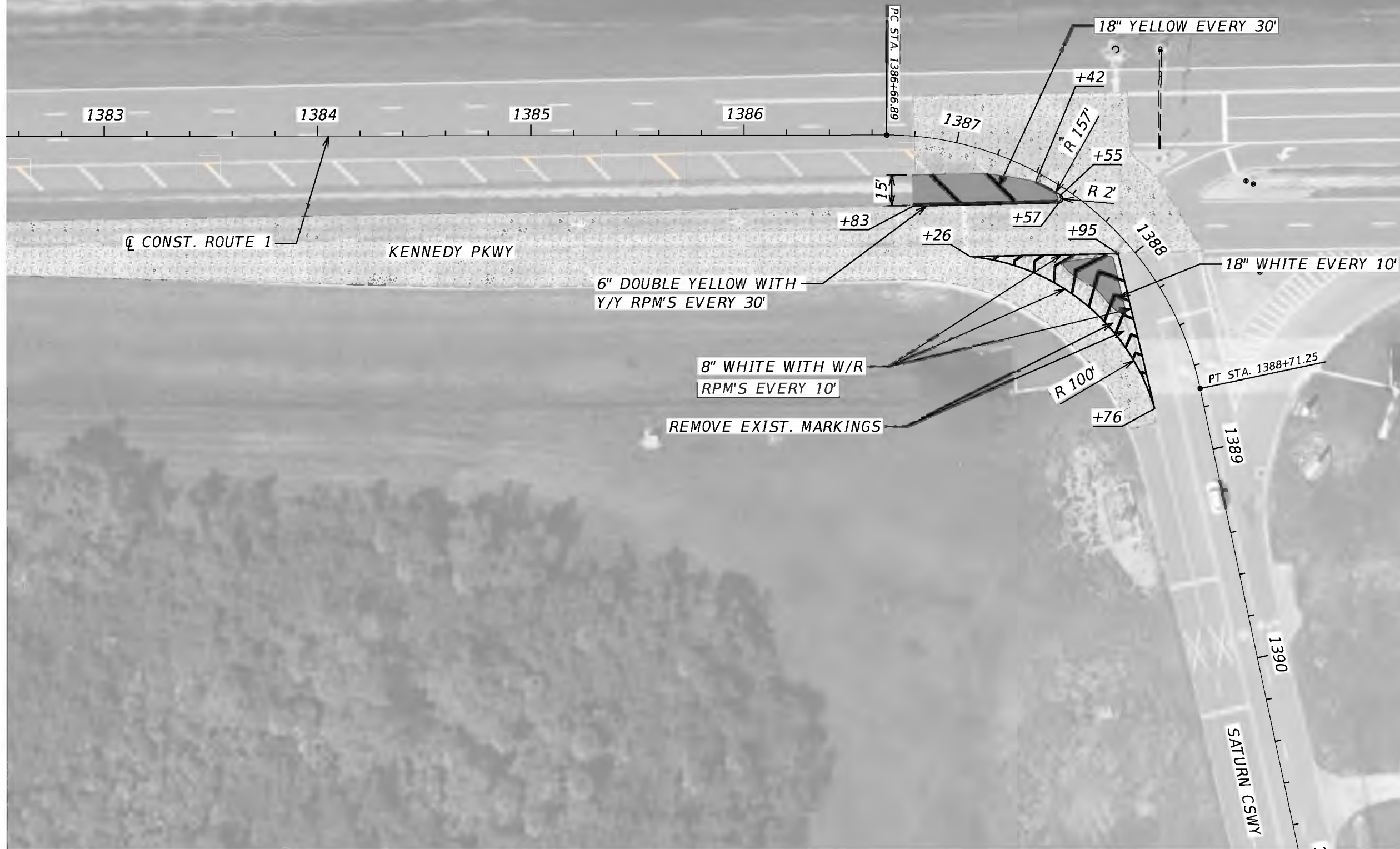
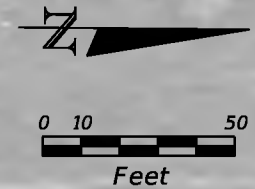
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-5
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		



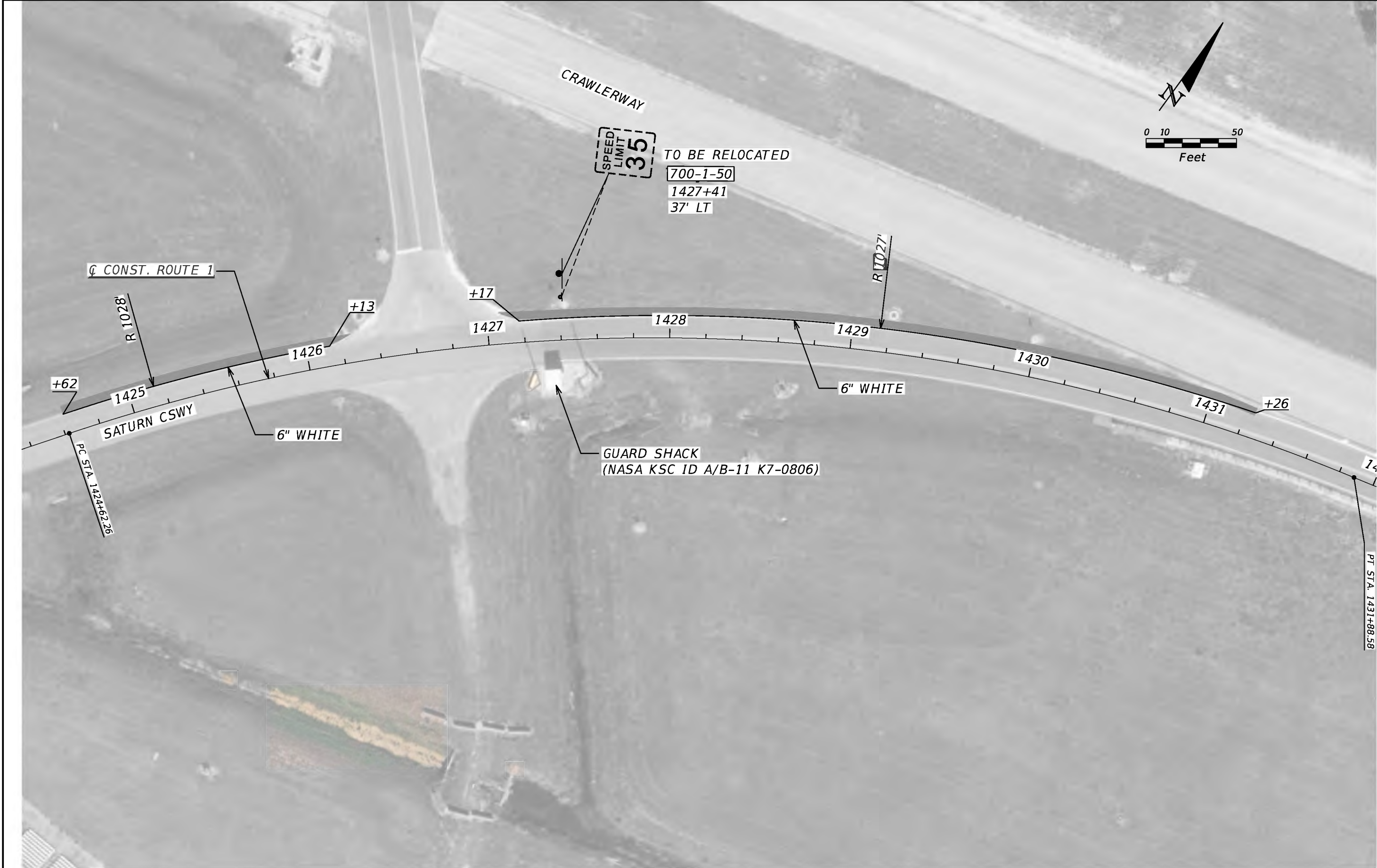
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01			



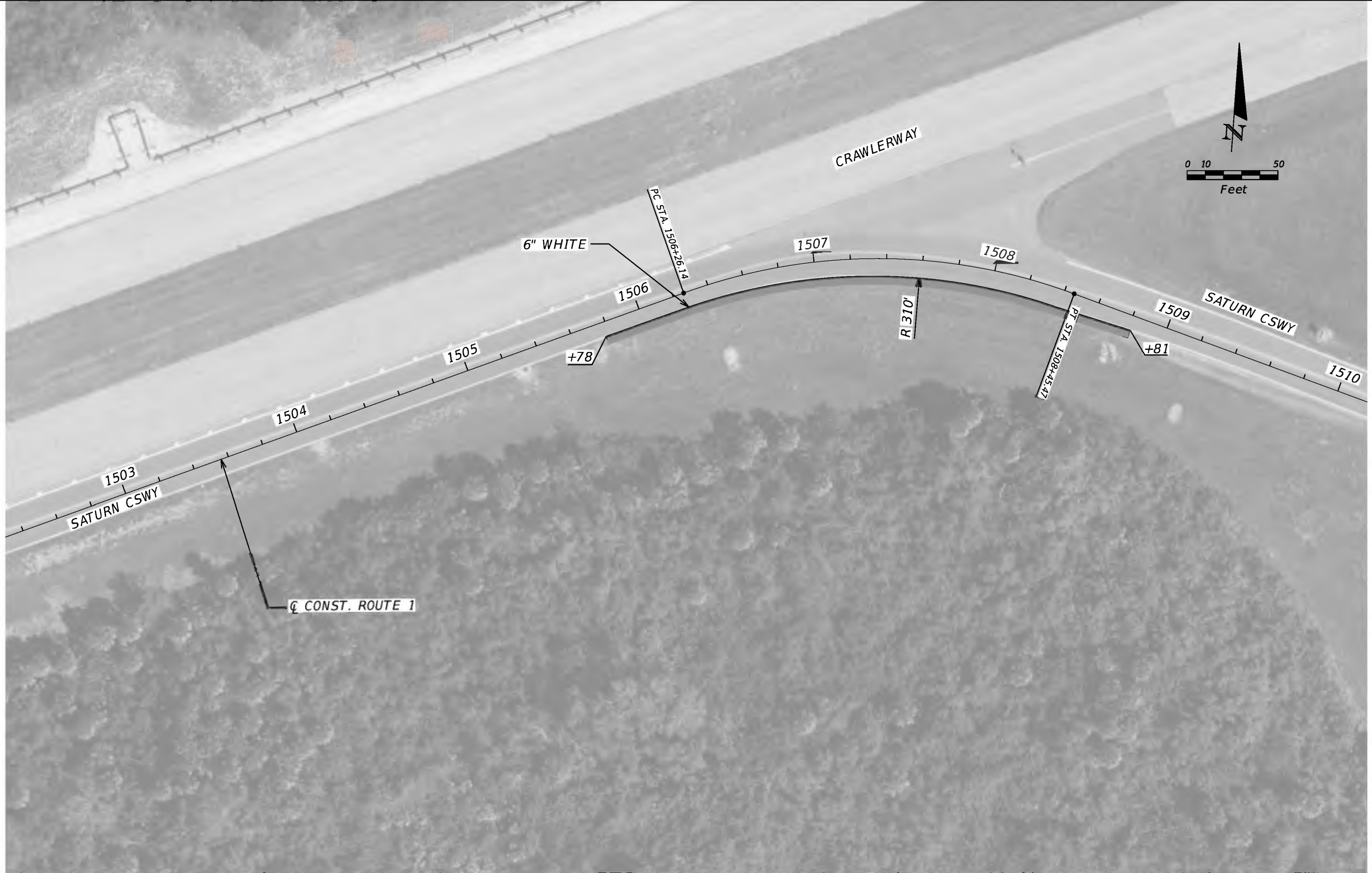
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01			



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
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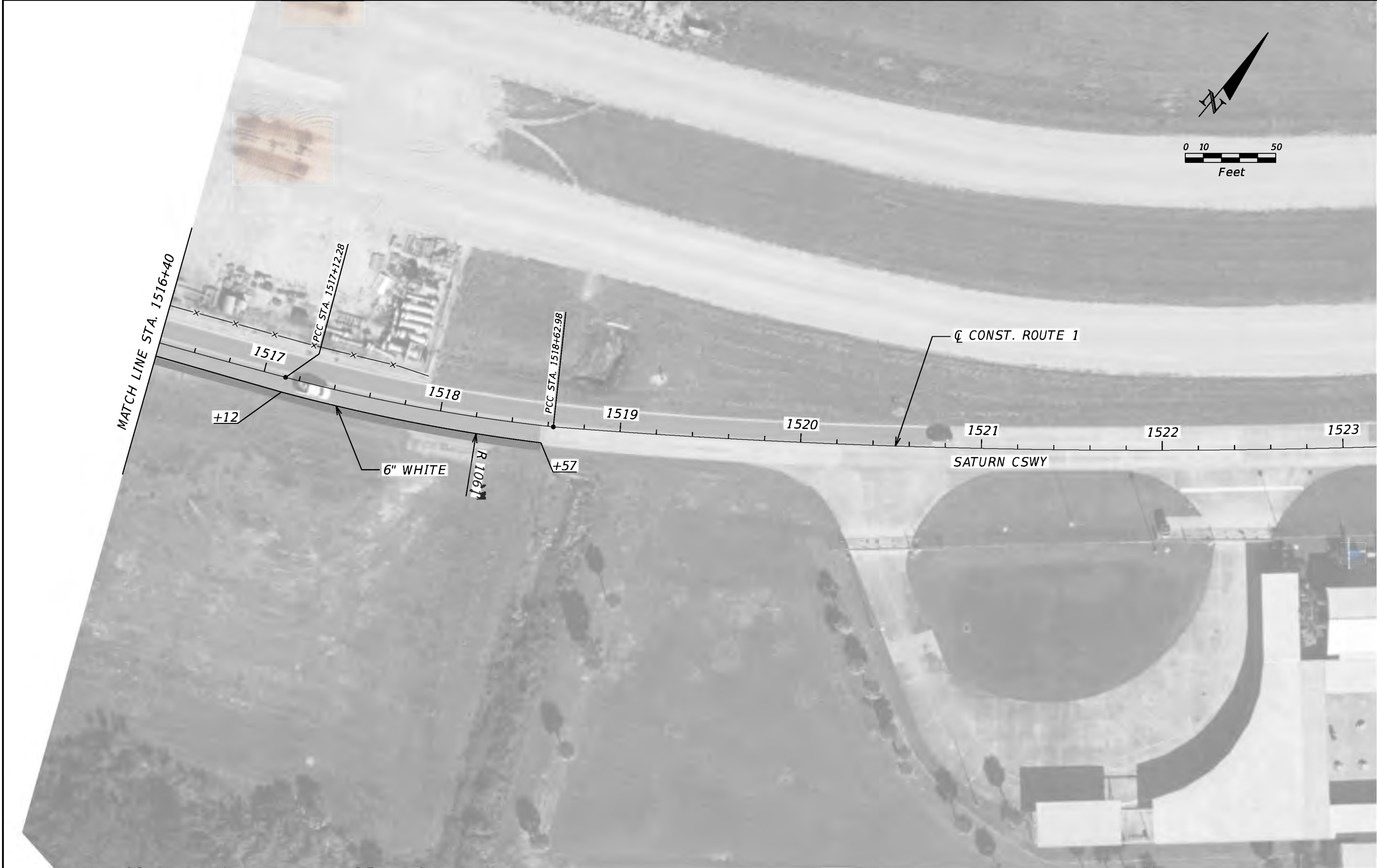
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		



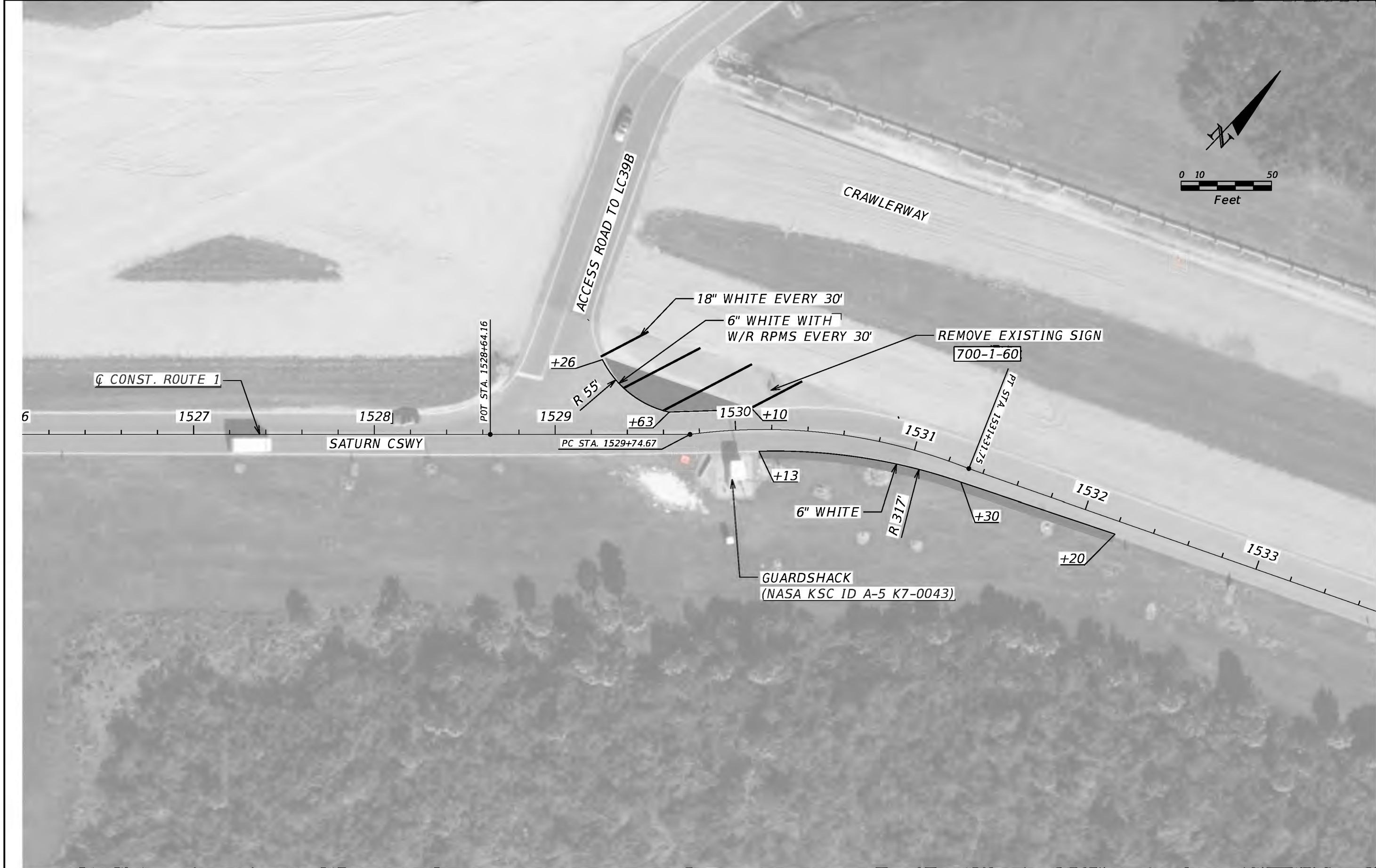
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		S-10



REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (10)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
3/24/20	1 ADDENDUM 1- SHEET REISSUED				ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						BREVARD	439053-1-54-01		S-11



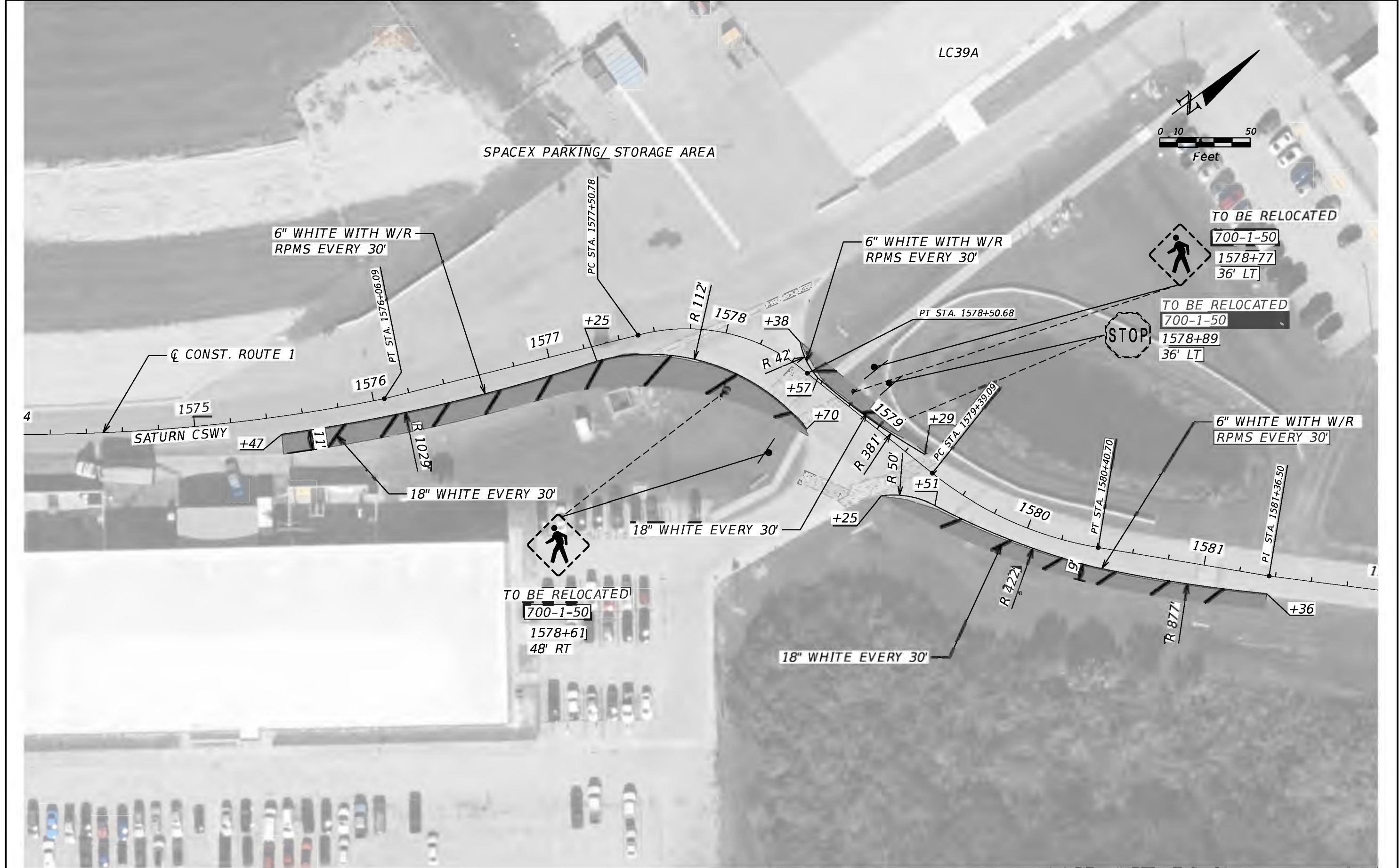
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (12)		SHEET NO. S-13
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
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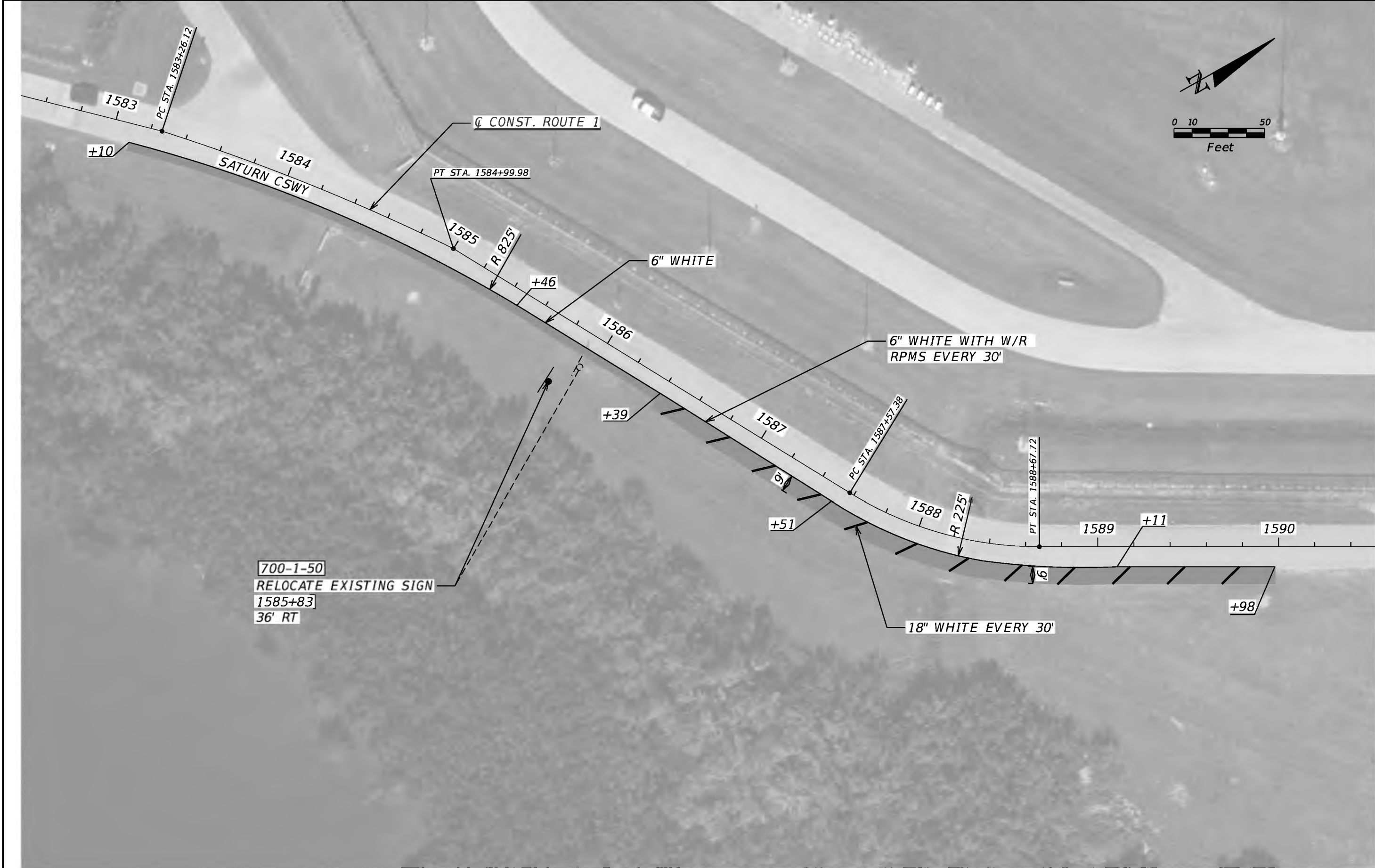


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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-14
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

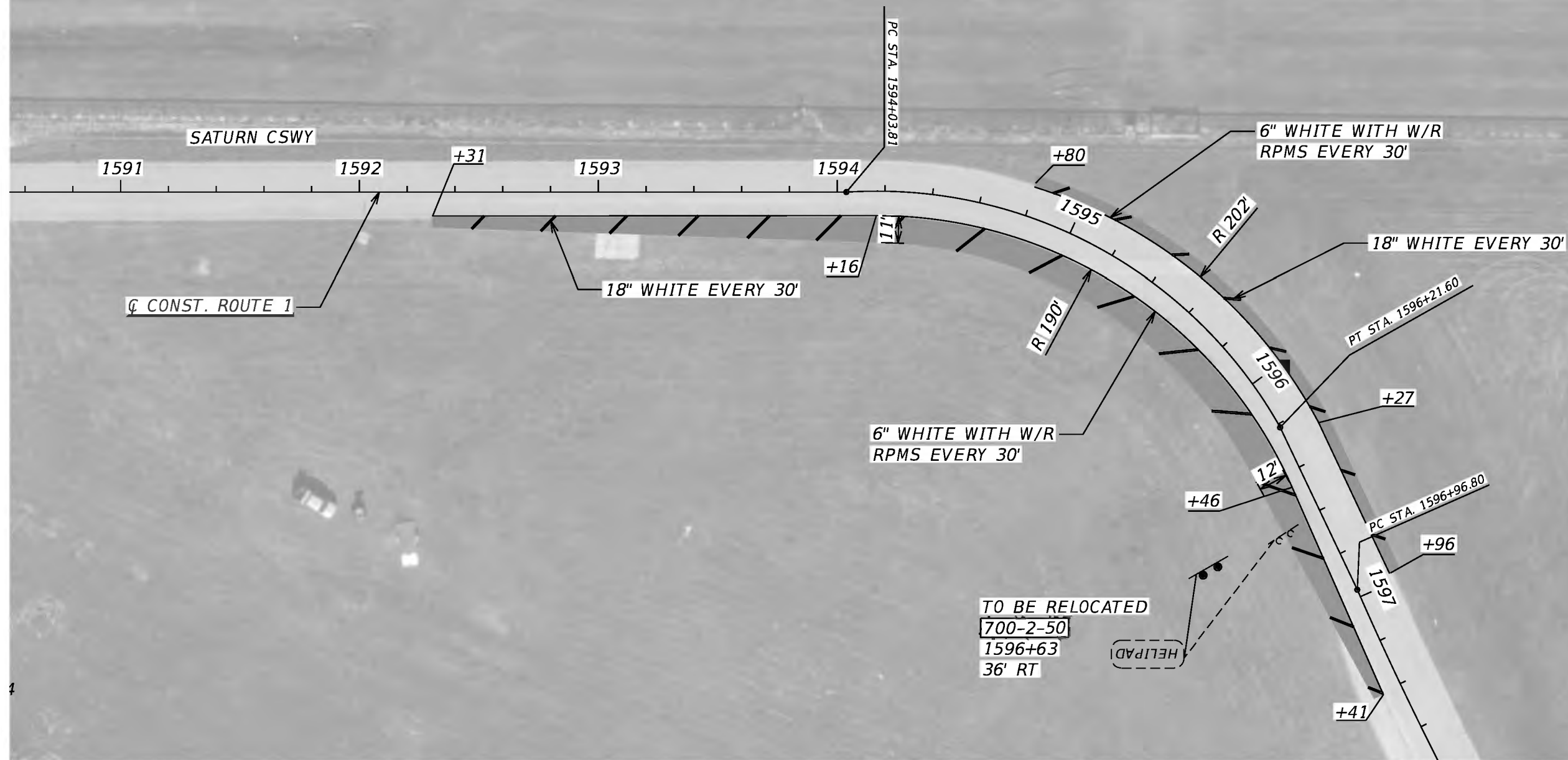
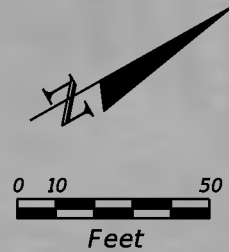


REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (14)	SHEET NO. S-15
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

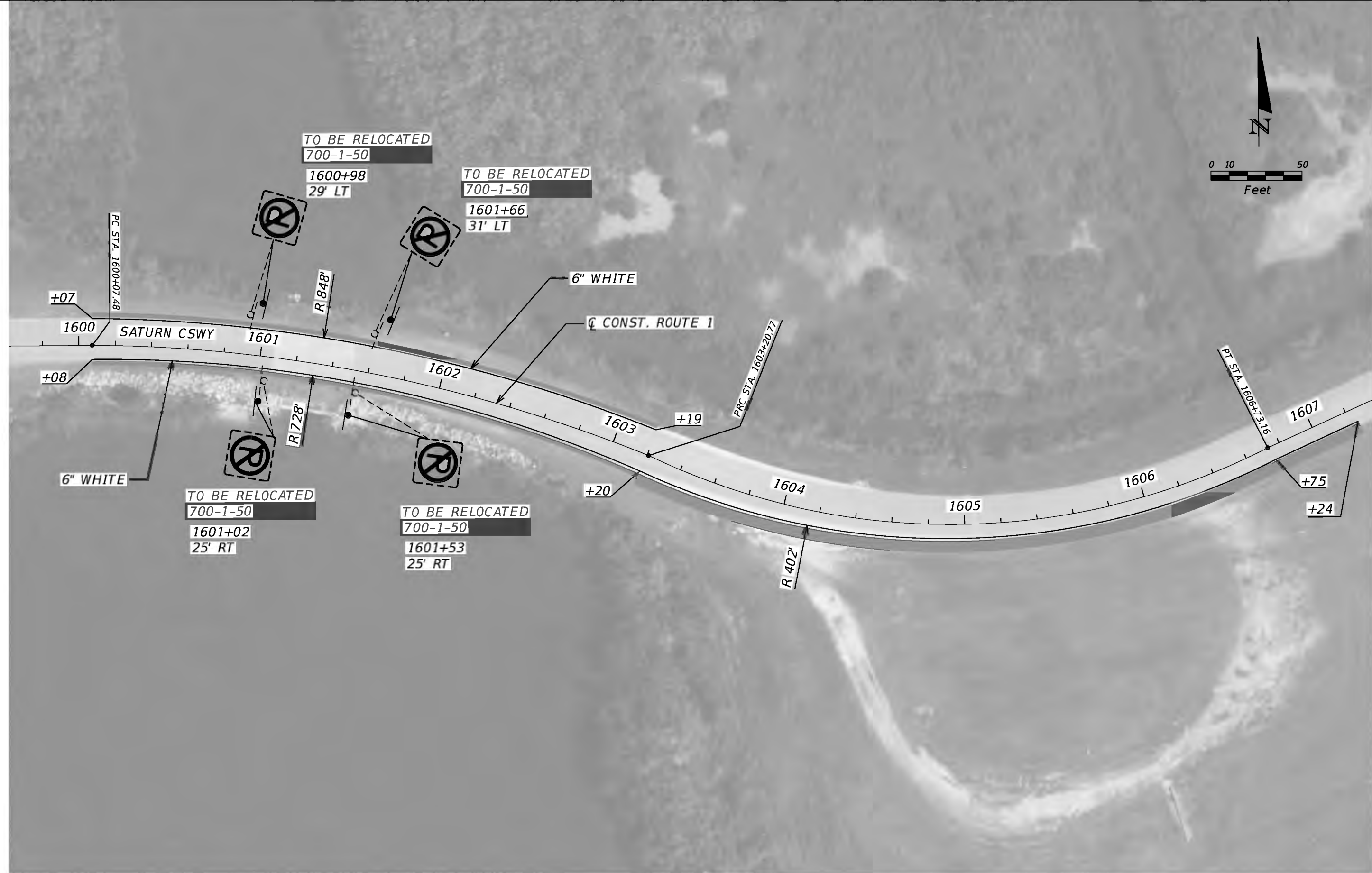
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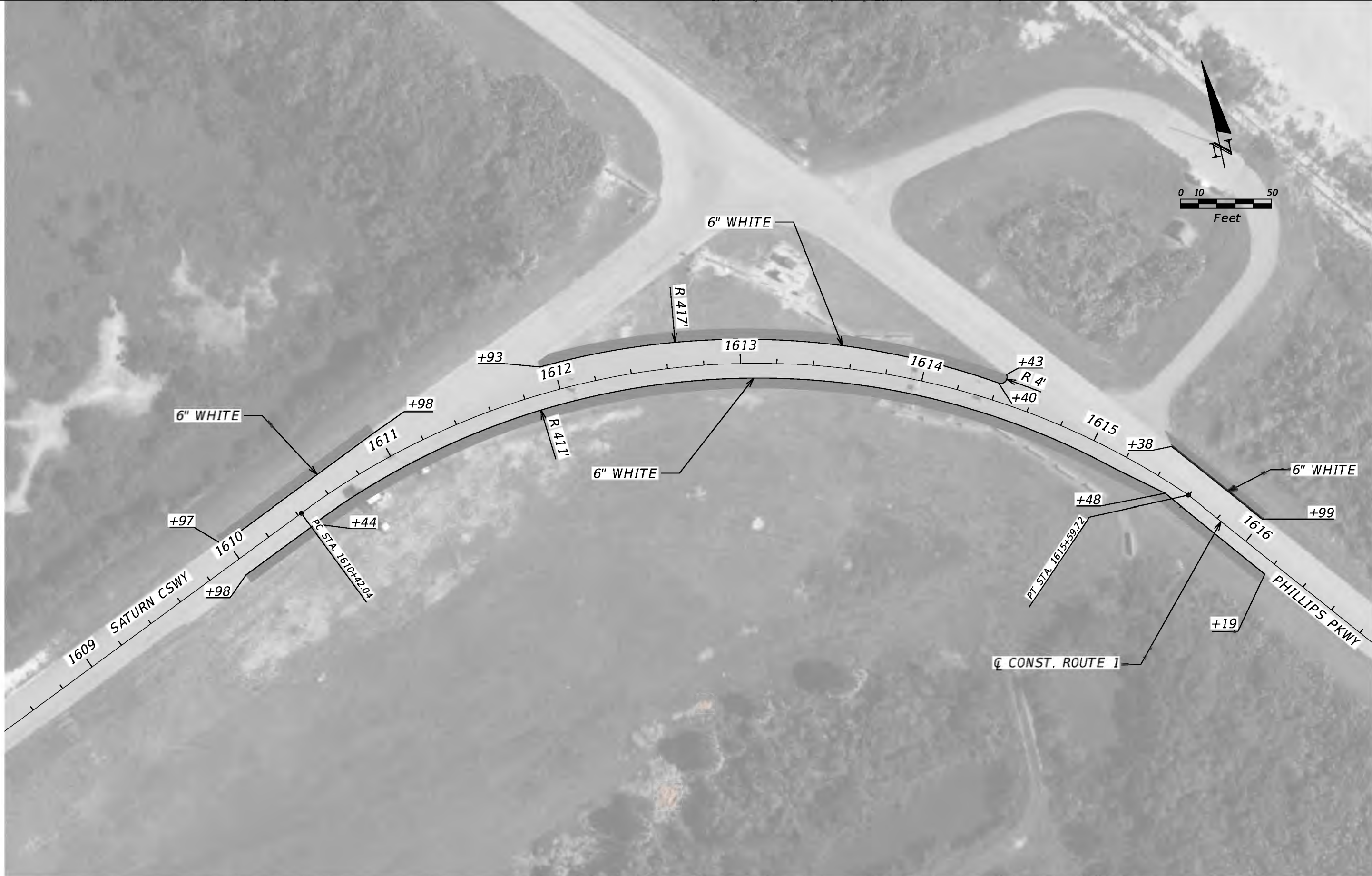
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (15)	SHEET NO. S-16
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		



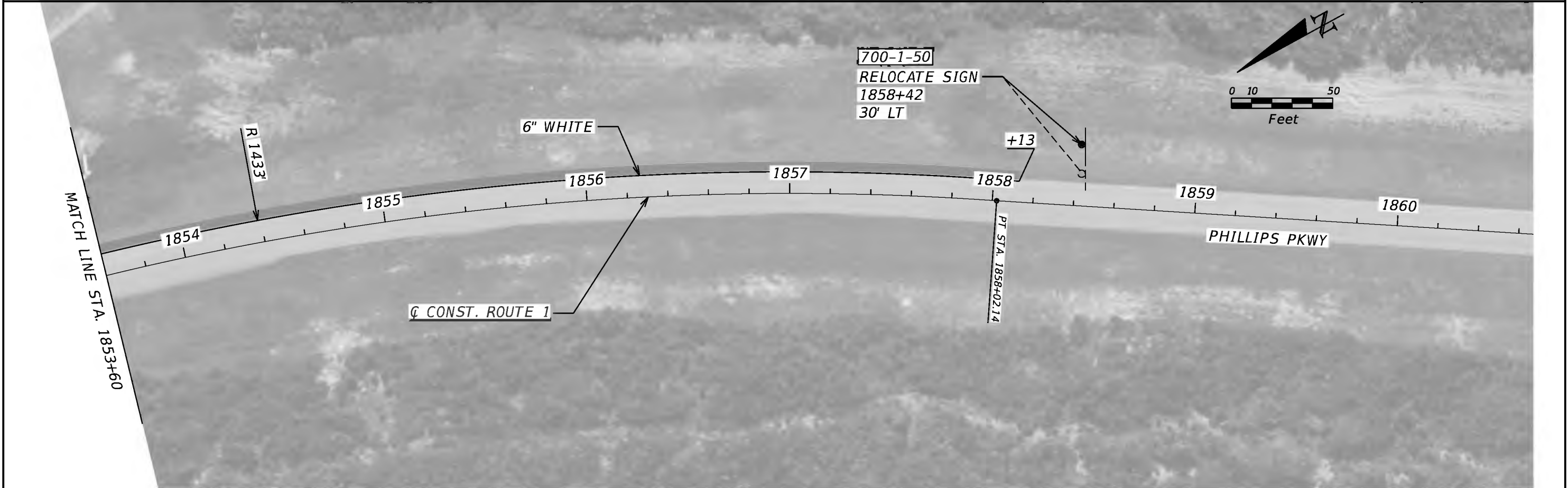
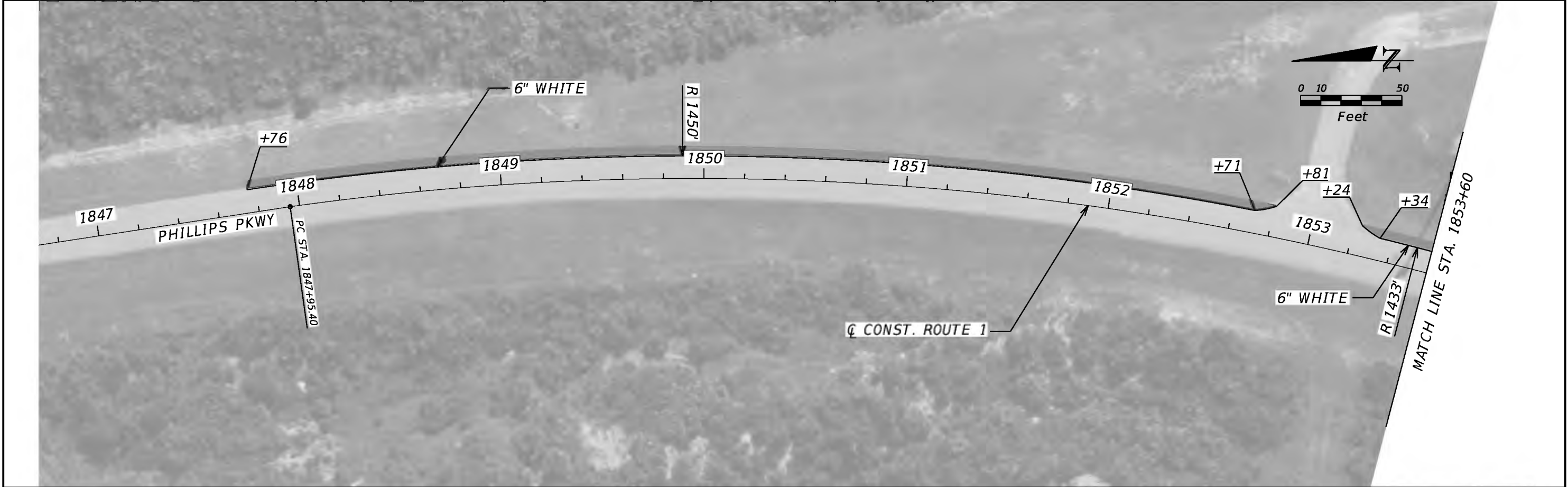
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (16)	SHEET NO. S-17
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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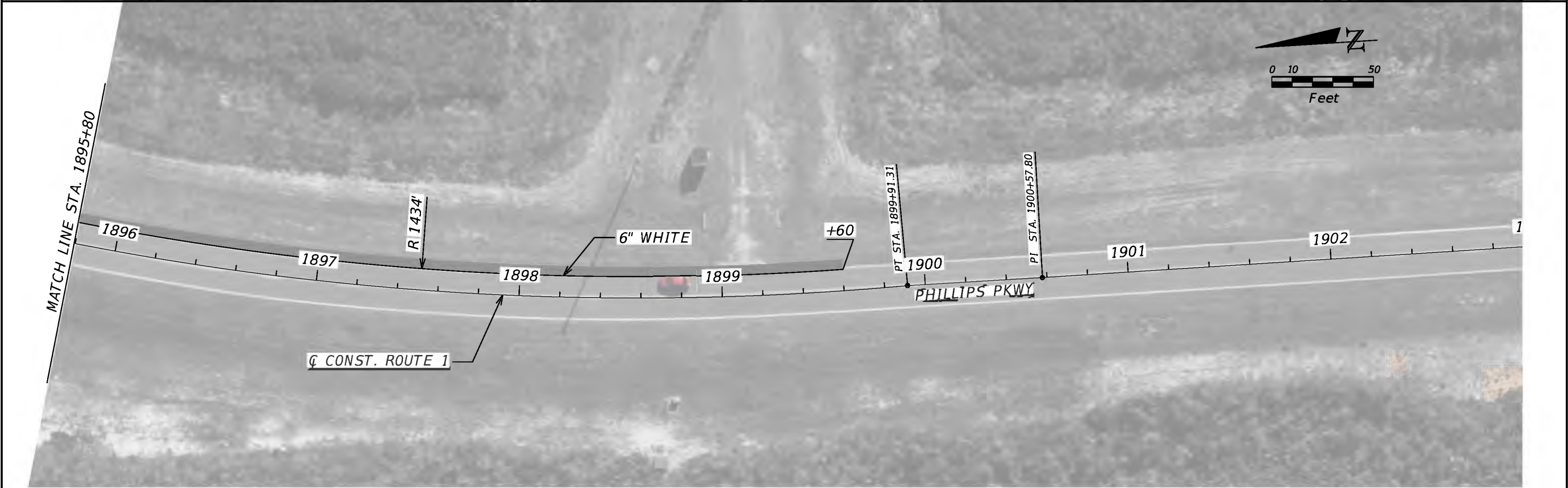
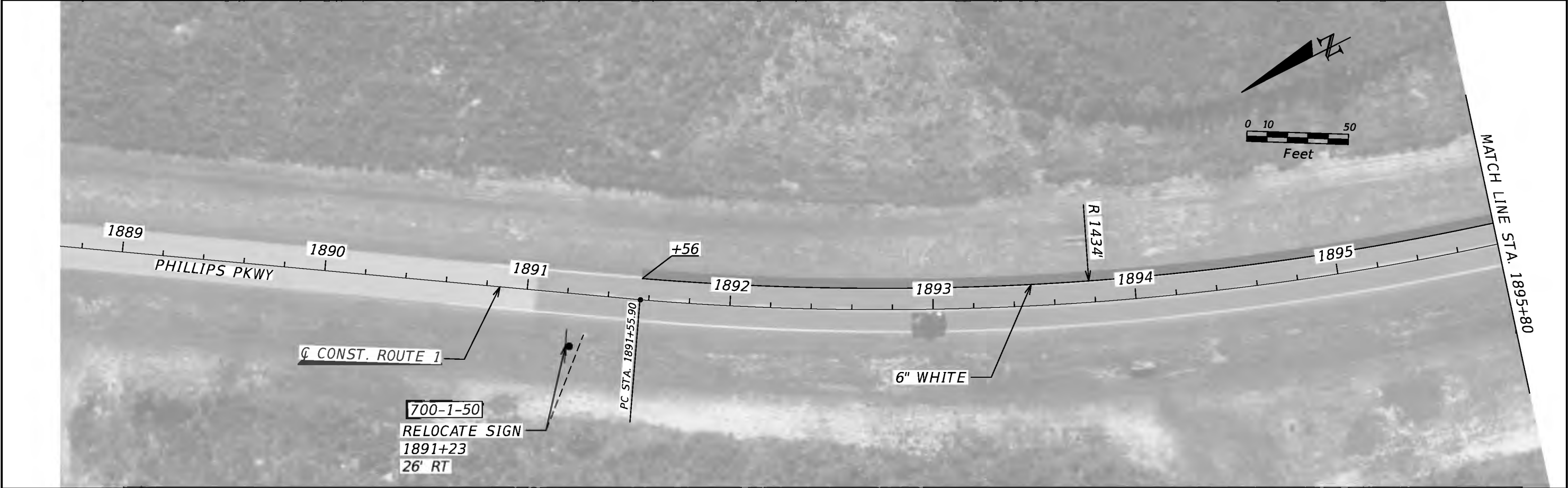
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (17)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFP INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (18)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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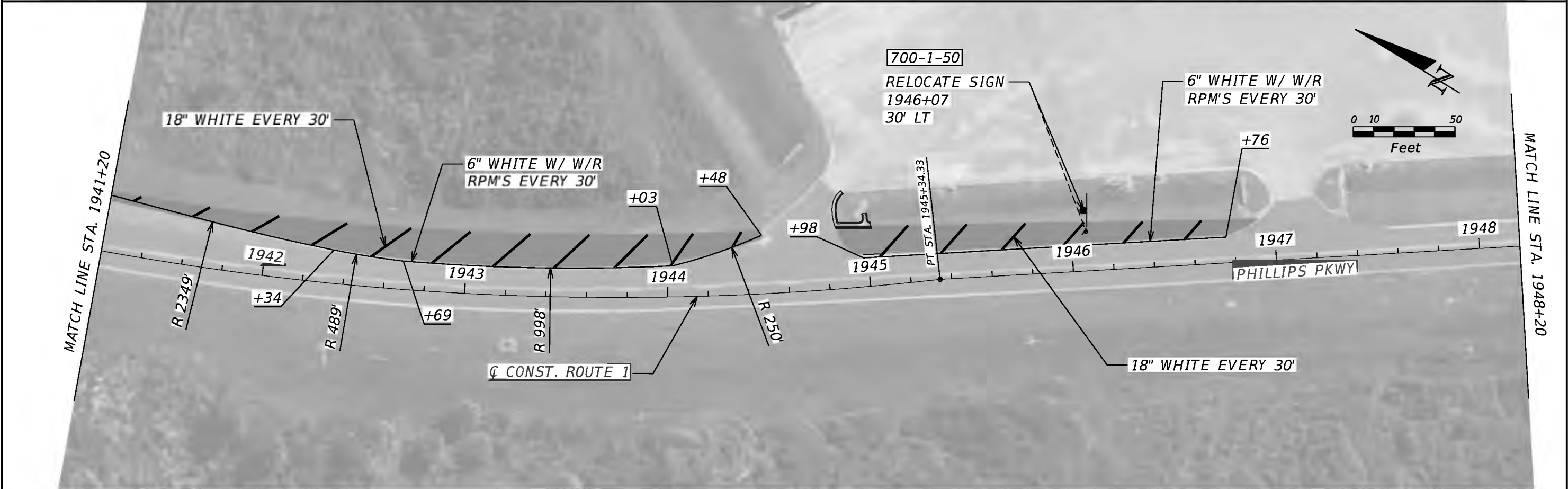
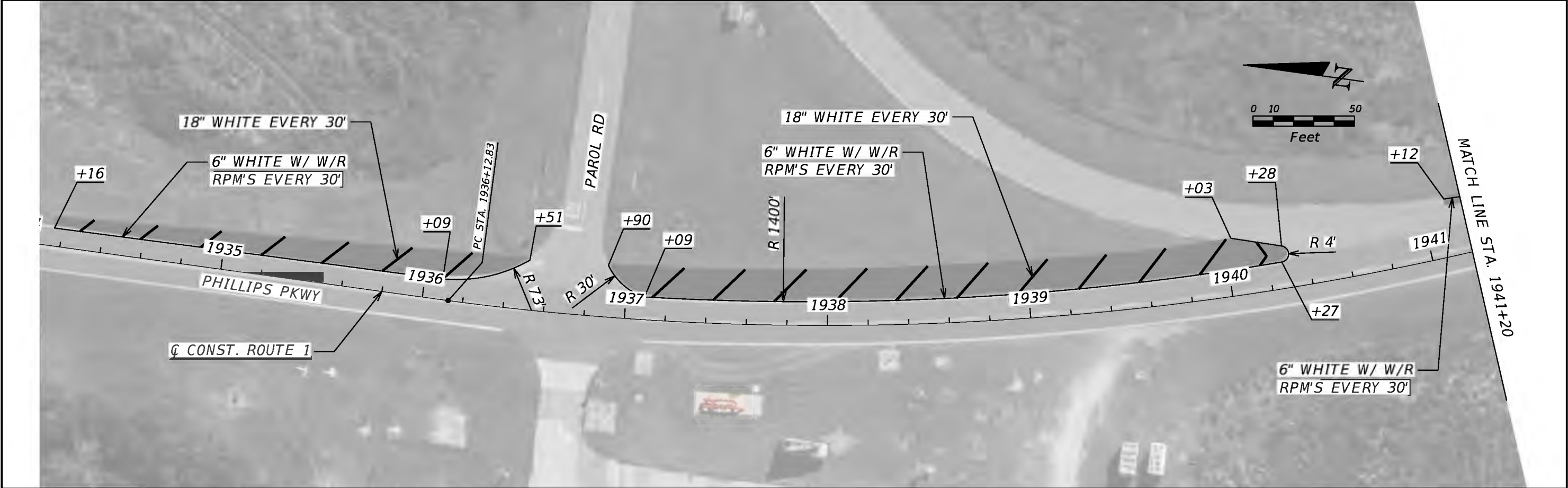


REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (19)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION						
3/24/20	1 ADDENDUM 1- SHEET REISSUED				ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						BREVARD	439053-1-54-01		S-20



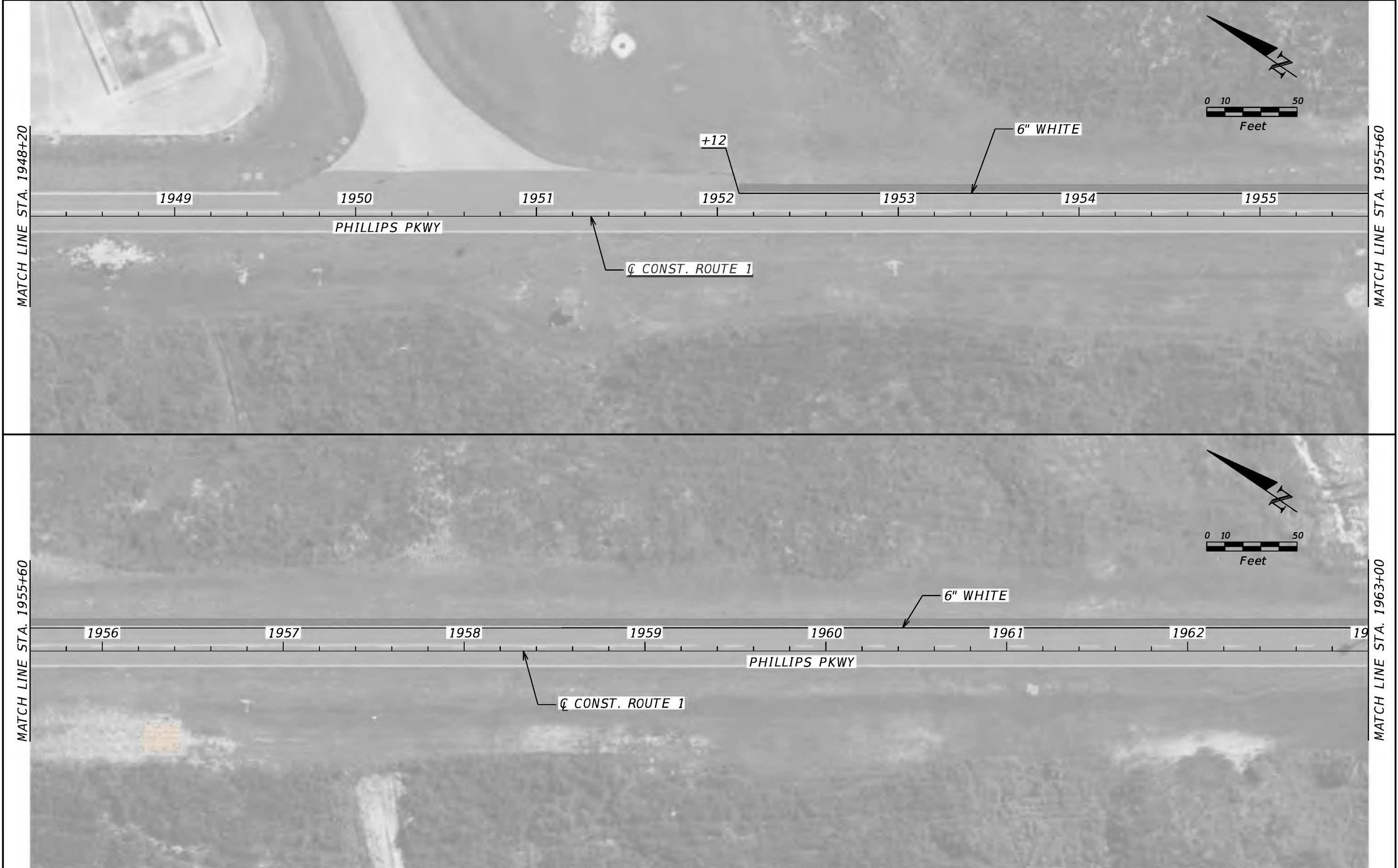
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFP INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (20)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-21
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

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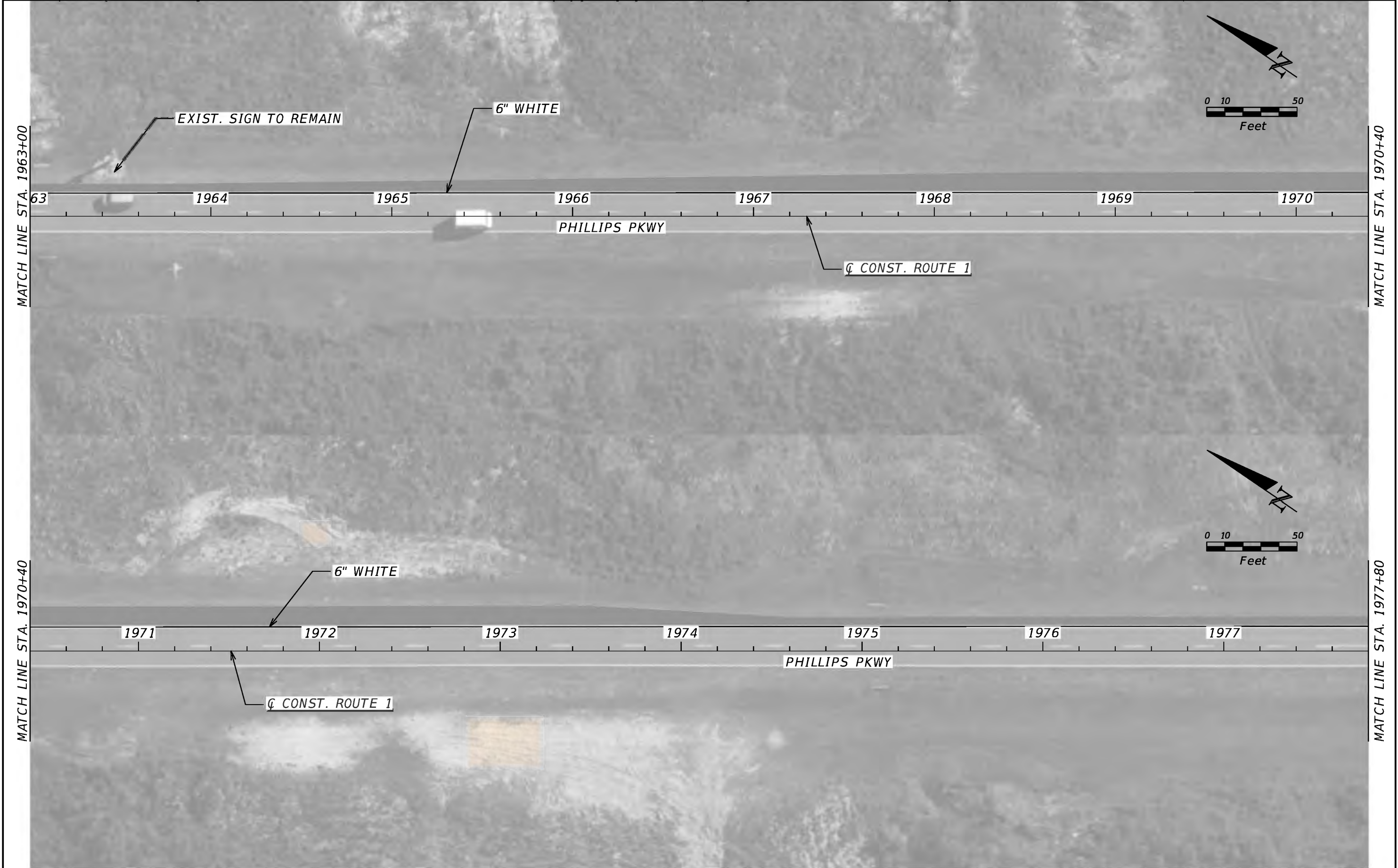


REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (21)	SHEET NO. S-22
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

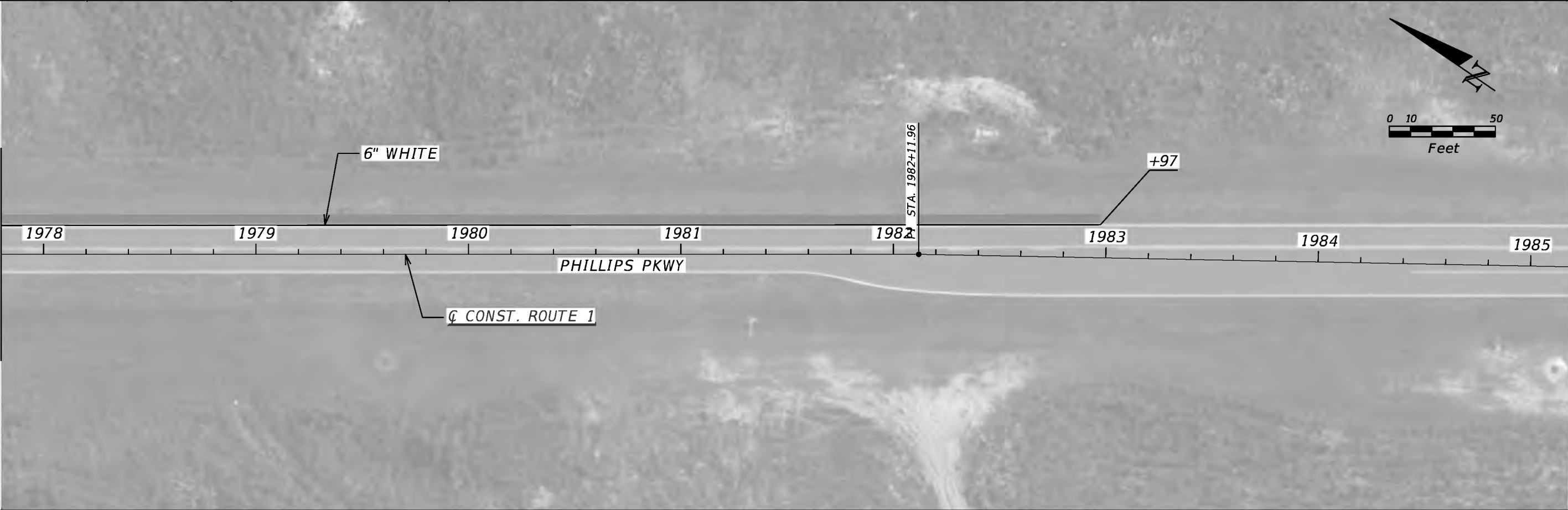


REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFP INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (22)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-23
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

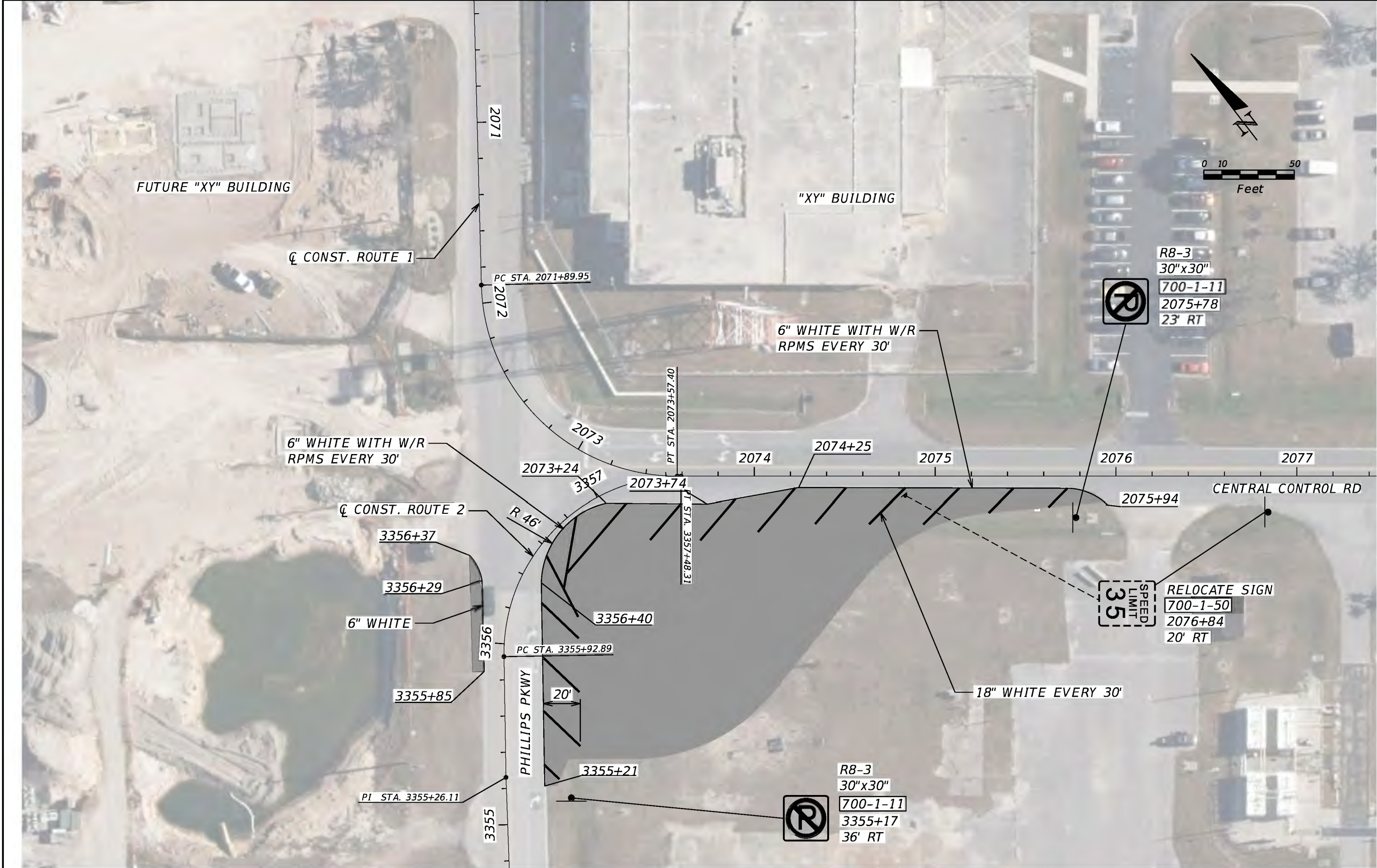


REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFP INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (23)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		S-24
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

MATCH LINE STA. 1977+80



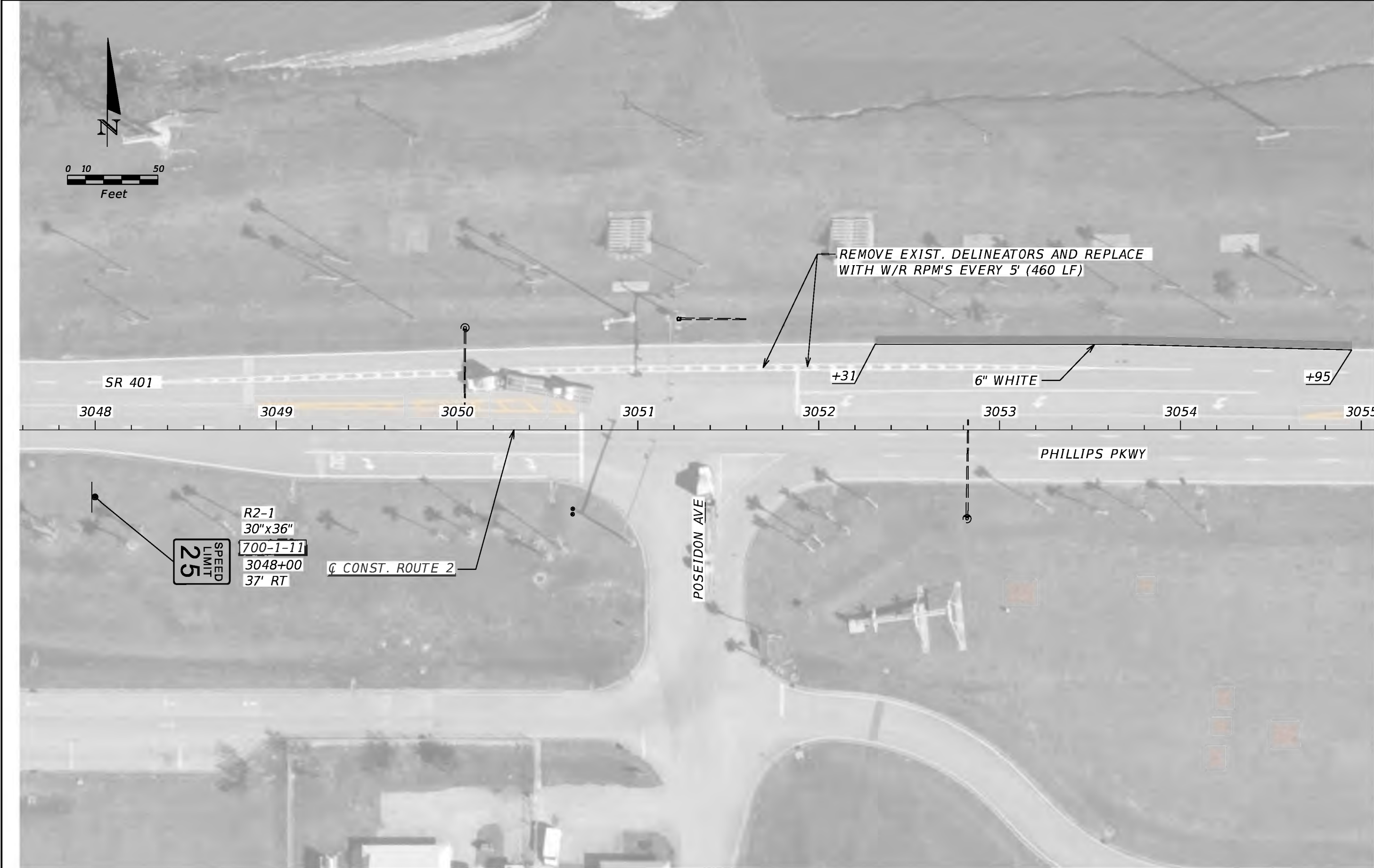
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTFP INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (24)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		S-25



REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (25)	SHEET NO. S-26
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

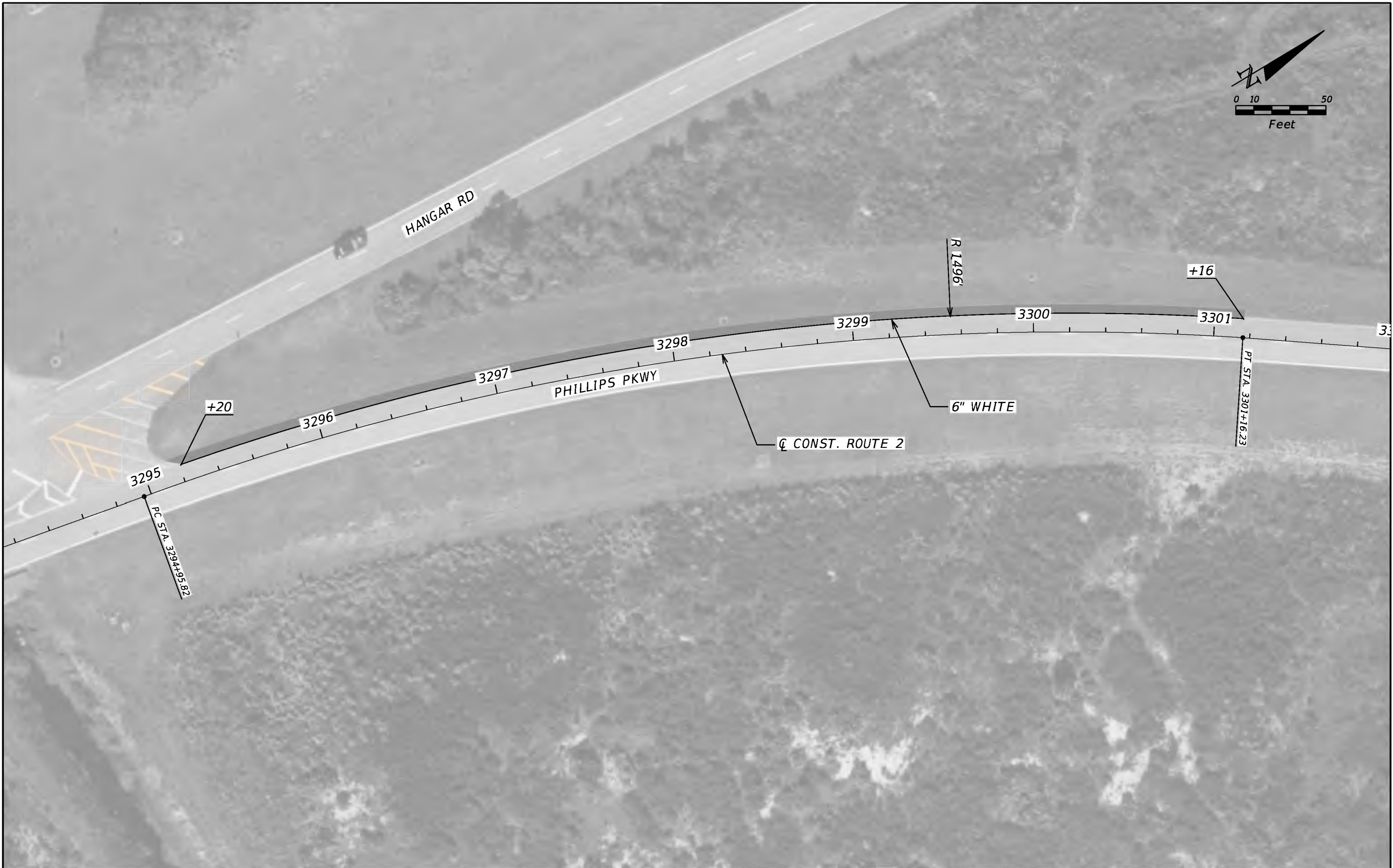


REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (26)		SHEET NO. S-27
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01			



REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (27)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		S-28

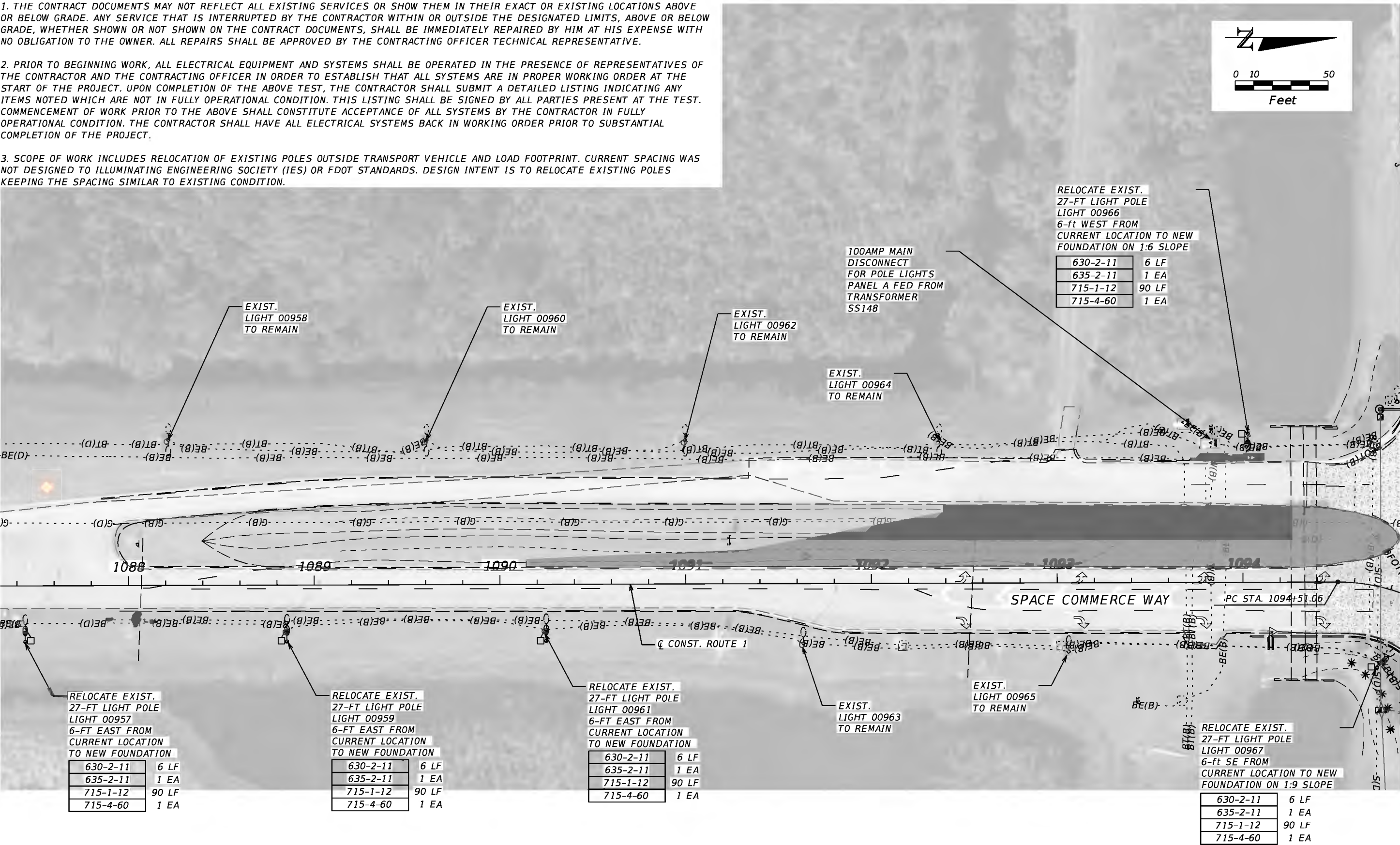
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



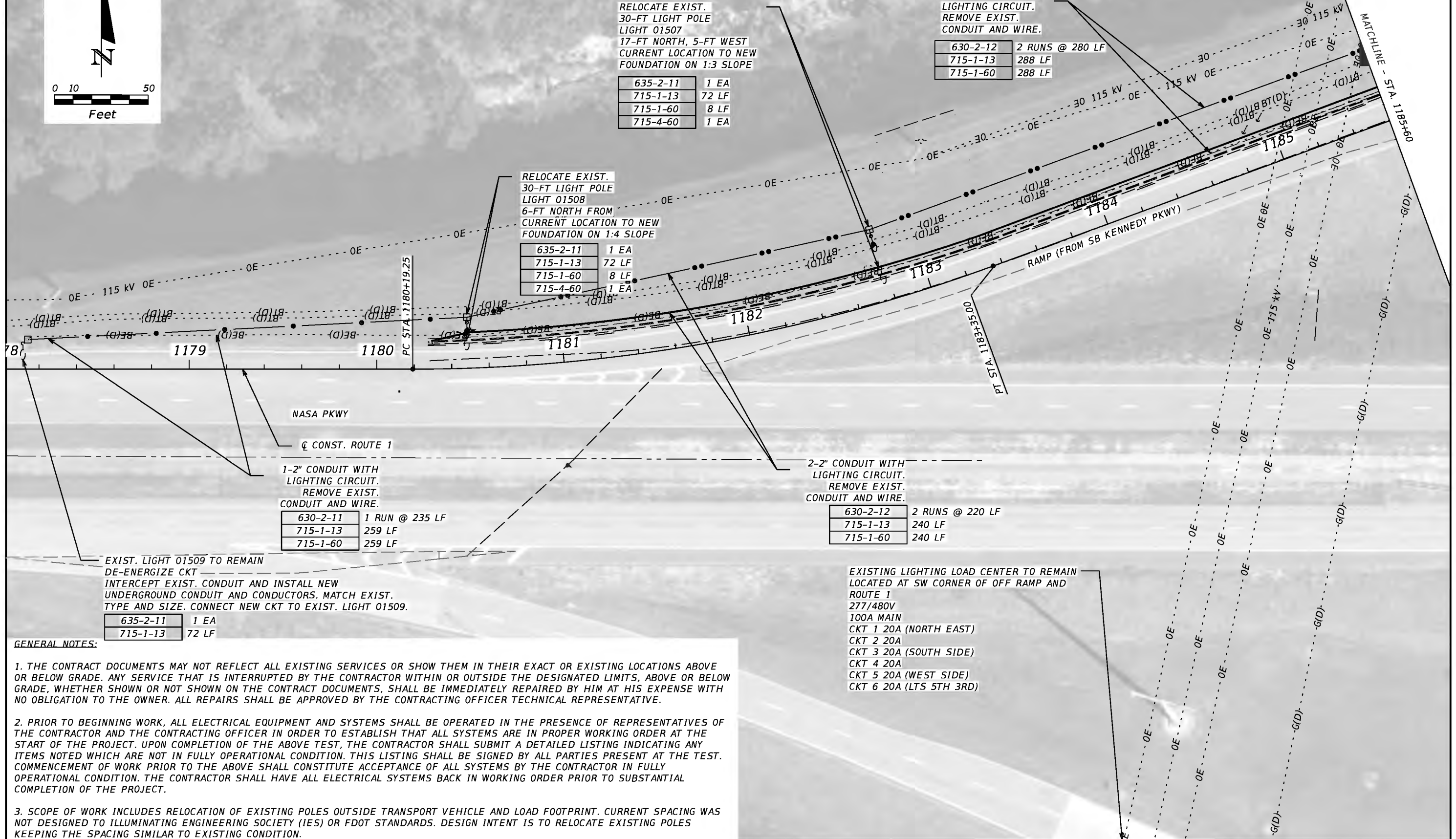
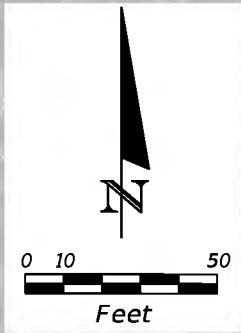
REVISIONS				PATRICK B. NEVAH, P.E. P.E. LICENSE NUMBER 72369 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SIGNING AND PAVEMENT MARKINGS (28)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		S-29

GENERAL NOTES:

1. THE CONTRACT DOCUMENTS MAY NOT REFLECT ALL EXISTING SERVICES OR SHOW THEM IN THEIR EXACT OR EXISTING LOCATIONS ABOVE OR BELOW GRADE. ANY SERVICE THAT IS INTERRUPTED BY THE CONTRACTOR WITHIN OR OUTSIDE THE DESIGNATED LIMITS, ABOVE OR BELOW GRADE, WHETHER SHOWN OR NOT SHOWN ON THE CONTRACT DOCUMENTS, SHALL BE IMMEDIATELY REPAIRED BY HIM AT HIS EXPENSE WITH NO OBLIGATION TO THE OWNER. ALL REPAIRS SHALL BE APPROVED BY THE CONTRACTING OFFICER TECHNICAL REPRESENTATIVE.
2. PRIOR TO BEGINNING WORK, ALL ELECTRICAL EQUIPMENT AND SYSTEMS SHALL BE OPERATED IN THE PRESENCE OF REPRESENTATIVES OF THE CONTRACTOR AND THE CONTRACTING OFFICER IN ORDER TO ESTABLISH THAT ALL SYSTEMS ARE IN PROPER WORKING ORDER AT THE START OF THE PROJECT. UPON COMPLETION OF THE ABOVE TEST, THE CONTRACTOR SHALL SUBMIT A DETAILED LISTING INDICATING ANY ITEMS NOTED WHICH ARE NOT IN FULLY OPERATIONAL CONDITION. THIS LISTING SHALL BE SIGNED BY ALL PARTIES PRESENT AT THE TEST. COMMENCEMENT OF WORK PRIOR TO THE ABOVE SHALL CONSTITUTE ACCEPTANCE OF ALL SYSTEMS BY THE CONTRACTOR IN FULLY OPERATIONAL CONDITION. THE CONTRACTOR SHALL HAVE ALL ELECTRICAL SYSTEMS BACK IN WORKING ORDER PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.
3. SCOPE OF WORK INCLUDES RELOCATION OF EXISTING POLES OUTSIDE TRANSPORT VEHICLE AND LOAD FOOTPRINT. CURRENT SPACING WAS NOT DESIGNED TO ILLUMINATING ENGINEERING SOCIETY (IES) OR FDOT STANDARDS. DESIGN INTENT IS TO RELOCATE EXISTING POLES KEEPING THE SPACING SIMILAR TO EXISTING CONDITION.



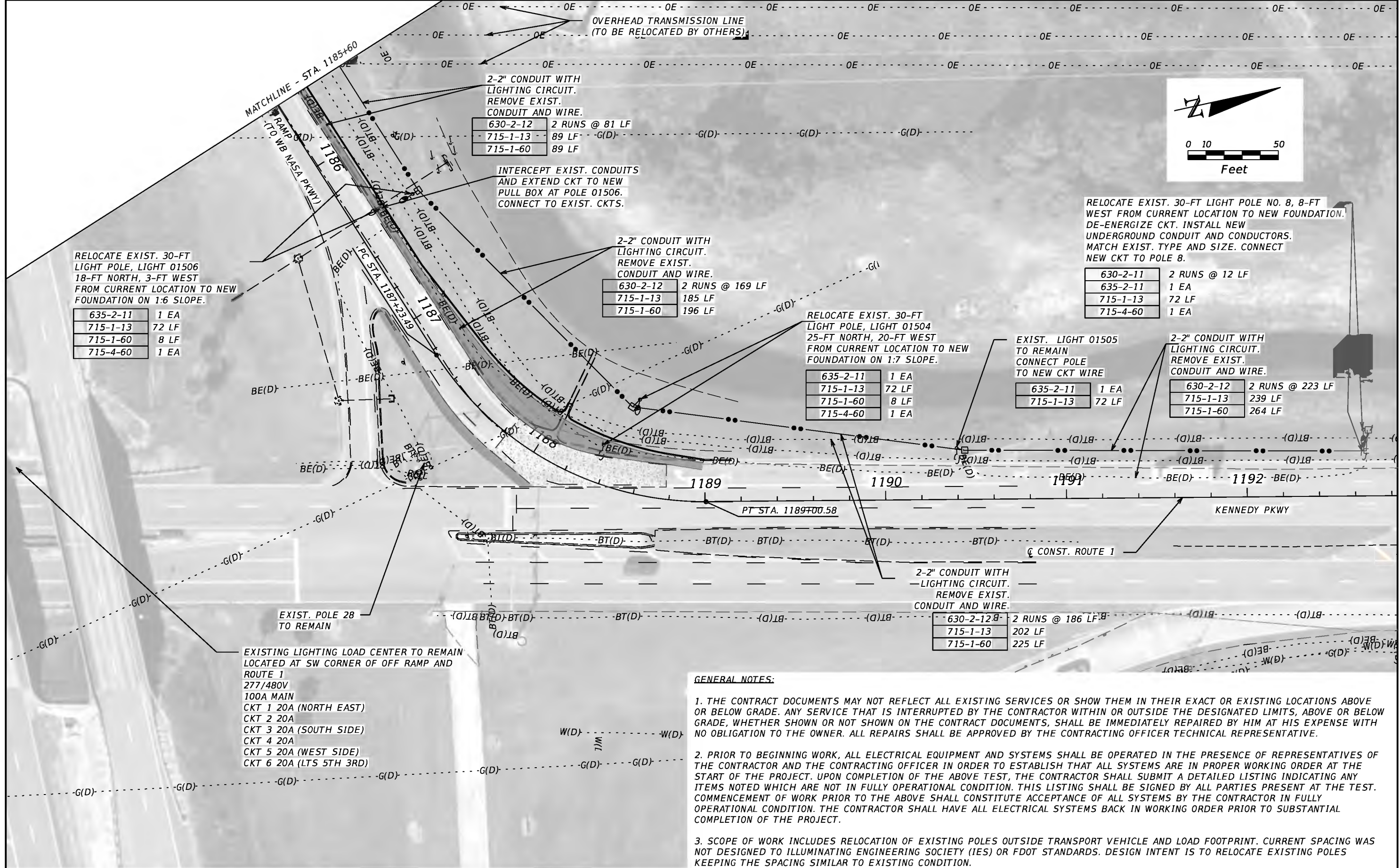
REVISIONS				ALEXIS MOUSADI, P.E. P.E. LICENSE NUMBER 50764 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			LIGHTING PLAN (1)	SHEET NO. L-1
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		



GENERAL NOTES:

1. THE CONTRACT DOCUMENTS MAY NOT REFLECT ALL EXISTING SERVICES OR SHOW THEM IN THEIR EXACT OR EXISTING LOCATIONS ABOVE OR BELOW GRADE. ANY SERVICE THAT IS INTERRUPTED BY THE CONTRACTOR WITHIN OR OUTSIDE THE DESIGNATED LIMITS, ABOVE OR BELOW GRADE, WHETHER SHOWN OR NOT SHOWN ON THE CONTRACT DOCUMENTS, SHALL BE IMMEDIATELY REPAIRED BY HIM AT HIS EXPENSE WITH NO OBLIGATION TO THE OWNER. ALL REPAIRS SHALL BE APPROVED BY THE CONTRACTING OFFICER TECHNICAL REPRESENTATIVE.
2. PRIOR TO BEGINNING WORK, ALL ELECTRICAL EQUIPMENT AND SYSTEMS SHALL BE OPERATED IN THE PRESENCE OF REPRESENTATIVES OF THE CONTRACTOR AND THE CONTRACTING OFFICER IN ORDER TO ESTABLISH THAT ALL SYSTEMS ARE IN PROPER WORKING ORDER AT THE START OF THE PROJECT. UPON COMPLETION OF THE ABOVE TEST, THE CONTRACTOR SHALL SUBMIT A DETAILED LISTING INDICATING ANY ITEMS NOTED WHICH ARE NOT IN FULLY OPERATIONAL CONDITION. THIS LISTING SHALL BE SIGNED BY ALL PARTIES PRESENT AT THE TEST. COMMENCEMENT OF WORK PRIOR TO THE ABOVE SHALL CONSTITUTE ACCEPTANCE OF ALL SYSTEMS BY THE CONTRACTOR IN FULLY OPERATIONAL CONDITION. THE CONTRACTOR SHALL HAVE ALL ELECTRICAL SYSTEMS BACK IN WORKING ORDER PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.
3. SCOPE OF WORK INCLUDES RELOCATION OF EXISTING POLES OUTSIDE TRANSPORT VEHICLE AND LOAD FOOTPRINT. CURRENT SPACING WAS NOT DESIGNED TO ILLUMINATING ENGINEERING SOCIETY (IES) OR FDOT STANDARDS. DESIGN INTENT IS TO RELOCATE EXISTING POLES KEEPING THE SPACING SIMILAR TO EXISTING CONDITION.

REVISIONS				ALEXIS MOUSADI, P.E. P.E. LICENSE NUMBER 50764 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SHEET NO. L-2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01	



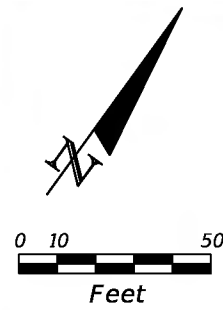
REVISIONS				ALEXIS MOUSADI, P.E. P.E. LICENSE NUMBER 50764 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			SHEET NO. L-3
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LEGEND:



PROPOSED 212W LED LUMINAIRE ATTACHED TO A PROPOSED DOT ALUMINUM POLE PER INDEX 715-002. DESIGNED FOR TYPE IV DISTRIBUTION AT 20' MOUNTING HEIGHT WITH 6' ARM. VISIONAIRE LIGHTING BOW LX BLX-II 8 T4A 256LC 5 TS USED AS BASIS OF DESIGN. SYMBOL INCLUDES FRANGIBLE BASE, CONCRETE FOUNDATION, AND GROUNDING. SYMBOL ALSO INCLUDES POLE CABLE DISTRIBUTION SYSTEM AND PULL BOX (BOTH PAID FOR SEPARATELY).



DE-ENERGIZE CKTS. INSTALL NEW UNDERGROUND CONDUIT AND CONDUCTORS. REMOVE EXIST. WOOD POLES AND LIGHTS. INSTALL NEW ALUMINUM POLES 2-FT FROM BACK SIDE OF BUILDING AND 5-FT FROM CORNERS AS SHOWN ON THE PLANS.

630-2-11	1 RUN @ 35 LF
635-2-11	2 EA
715-1-12	253 LF
715-4-17	2 EA
715-4-70	2 EA

GUARD SHACK
LOCATION
K7-0806 A/B-11

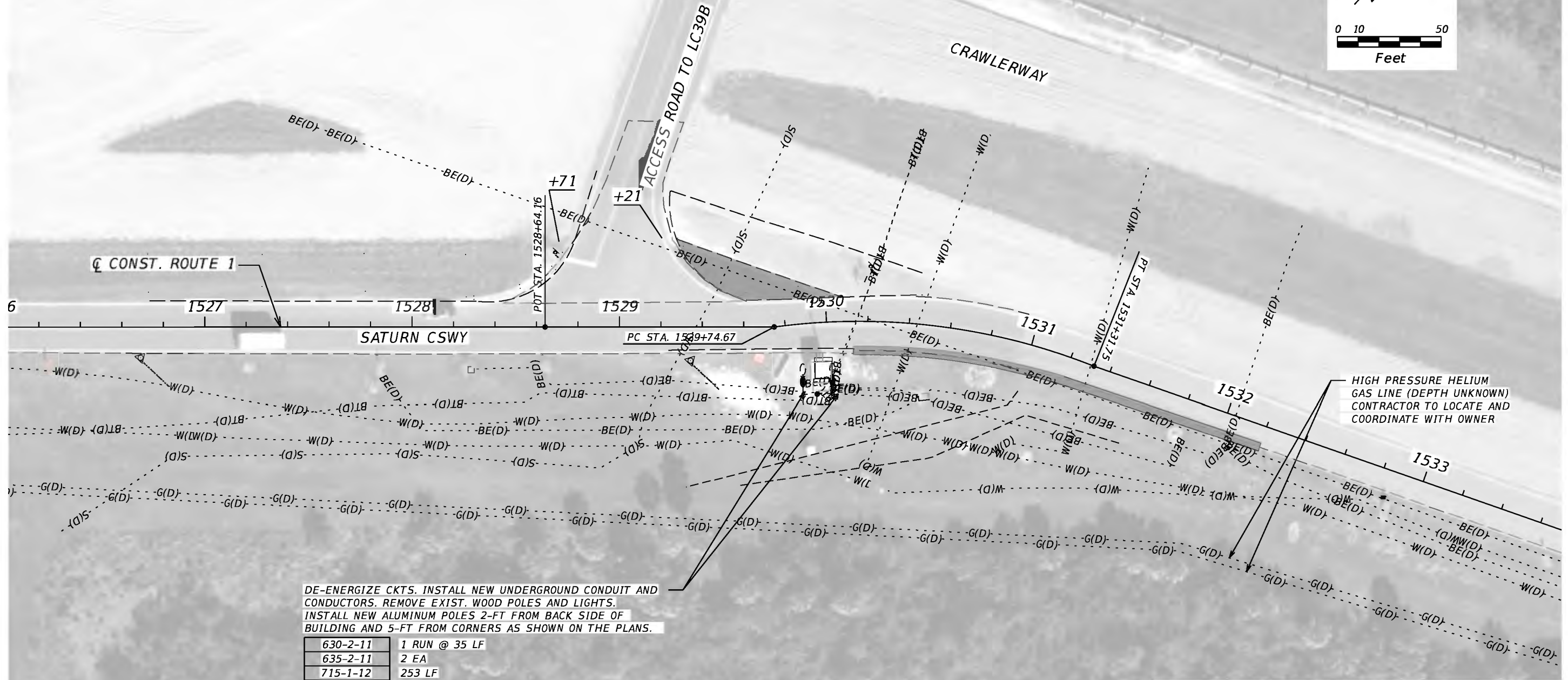
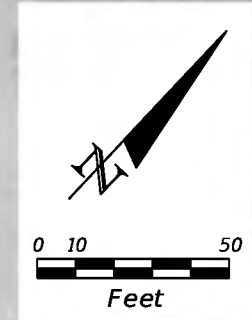
GENERAL NOTES:

1. GUARD SHACK LIGHTING CRITERIA PER IESNA G-1-03 GUIDELINE FOR SECURITY LIGHTING FOR PEOPLE, PROPERTY AND PUBLIC SPACES.
2. AVERAGE INITIAL INTENSITY 10 H.F.C.
3. UNIFORMITY RATIO AVG/MIN 3:1 OR LESS
4. VERTICAL INITIAL INTENSITY 2.5 V.F.C.
5. WIND SPEED (BREVARD COUNTY) 160 MPH

REVISIONS				ALEXIS MOUSADI, P.E. P.E. LICENSE NUMBER 50764 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBEIL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			LIGHTING PLAN (4)	SHEET NO. L-4
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

LEGEND:

PROPOSED 212W LED LUMINAIRE ATTACHED TO A PROPOSED DOT ALUMINUM POLE PER INDEX 715-002. DESIGNED FOR TYPE IV DISTRIBUTION AT 20' MOUNTING HEIGHT WITH 6' ARM. VISIONAIRE LIGHTING BOW LX BLX-II 8 T4A 256LC 5 TS USED AS BASIS OF DESIGN. SYMBOL INCLUDES FRANGIBLE BASE, CONCRETE FOUNDATION, AND GROUNDING. SYMBOL ALSO INCLUDES POLE CABLE DISTRIBUTION SYSTEM AND PULL BOX (BOTH PAID FOR SEPARATELY).



DE-ENERGIZE CKTS. INSTALL NEW UNDERGROUND CONDUIT AND CONDUCTORS. REMOVE EXIST. WOOD POLES AND LIGHTS. INSTALL NEW ALUMINUM POLES 2-FT FROM BACK SIDE OF BUILDING AND 5-FT FROM CORNERS AS SHOWN ON THE PLANS.

630-2-11	1 RUN @ 35 LF
635-2-11	2 EA
715-1-12	253 LF
715-4-17	2 EA
715-4-70	2 EA

GUARD SHACK
LOCATION
K7-0043 A-5

HIGH PRESSURE HELIUM
GAS LINE (DEPTH UNKNOWN)
CONTRACTOR TO LOCATE AND
COORDINATE WITH OWNER

GENERAL NOTES:

1. GUARD SHACK LIGHTING CRITERIA PER IESNA G-1-03 GUIDELINE FOR SECURITY LIGHTING FOR PEOPLE, PROPERTY AND PUBLIC SPACES.
2. AVERAGE INITIAL INTENSITY 10 H.F.C.
3. UNIFORMITY RATIO AVG/MIN 3:1 OR LESS
4. VERTICAL INITIAL INTENSITY 2.5 V.F.C.
5. WIND SPEED (BREVARD COUNTY) 160 MPH

REVISIONS				ALEXIS MOUSADI, P.E. P.E. LICENSE NUMBER 50764 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPEIL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			LIGHTING PLAN (5)	SHEET NO. L-5
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		

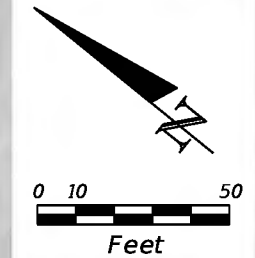
LEGEND:



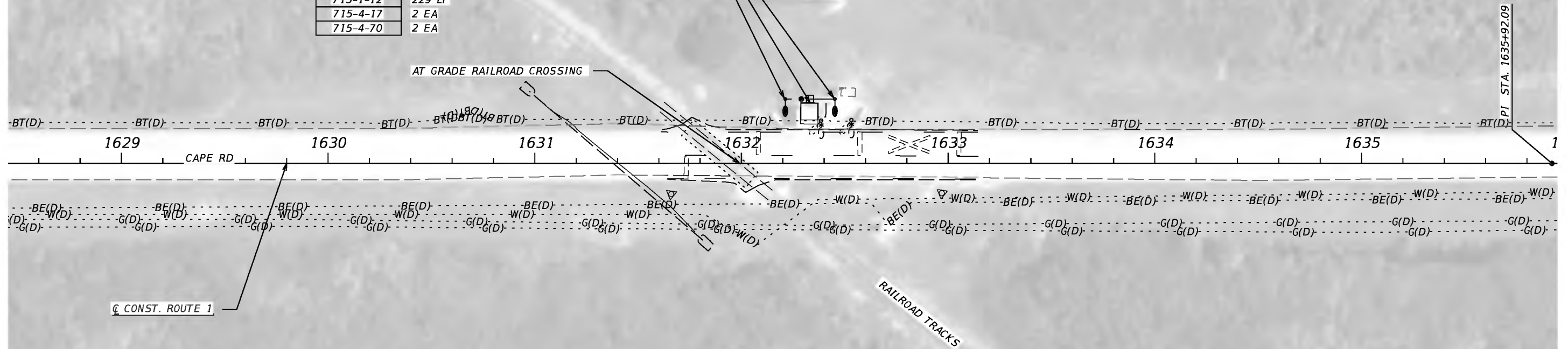
PROPOSED 212W LED LUMINAIRE ATTACHED TO A PROPOSED DOT ALUMINUM POLE PER INDEX 715-002. DESIGNED FOR TYPE IV DISTRIBUTION AT 20' MOUNTING HEIGHT WITH 6' ARM. VISIONAIRE LIGHTING BOW LX BLX-II 8 T4A 256LC 5 TS USED AS BASIS OF DESIGN. SYMBOL INCLUDES FRANGIBLE BASE, CONCRETE FOUNDATION, AND GROUNDING. SYMBOL ALSO INCLUDES POLE CABLE DISTRIBUTION SYSTEM AND PULL BOX (BOTH PAID FOR SEPARATELY).

DE-ENERGIZE CKTS. REPLACE BUILDING MAIN DISCONNECT SWITCH. INSTALL NEW UNDERGROUND CONDUIT AND CONDUCTORS. REMOVE EX WOOD POLES AND LIGHTS. INSTALL NEW ALUMINUM POLES 2-FT FROM BACK SIDE OF BUILDING AND 5-FT FROM CORNERS AS SHOWN ON THE PLANS.

630-2-11	1 RUN @ 30 LF
635-2-11	3 EA
639-3-12	1 EA
715-1-12	229 LF
715-4-17	2 EA
715-4-70	2 EA



AT GRADE RAILROAD CROSSING

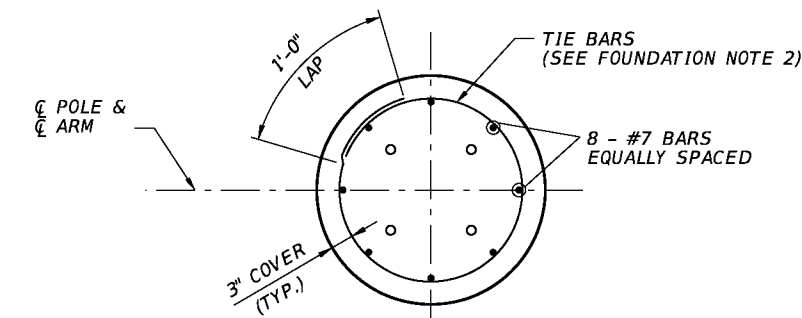


GUARD SHACK
LOCATION
A-3 J8-2075

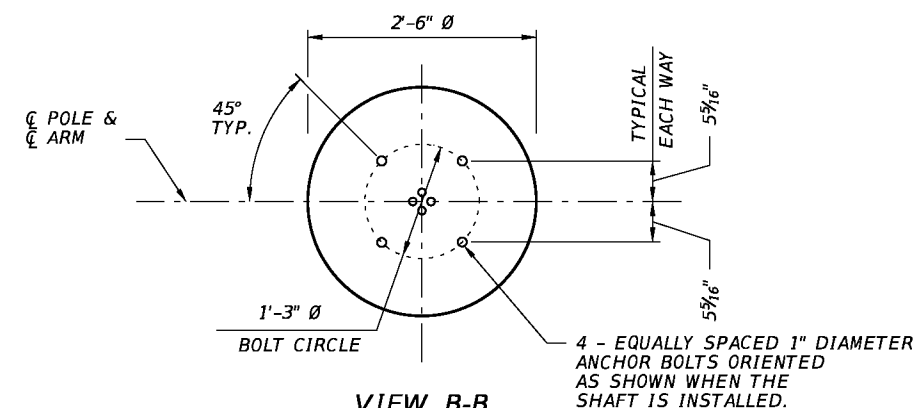
GENERAL NOTES:

1. GUARD SHACK LIGHTING CRITERIA PER IESNA G-1-03 GUIDELINE FOR SECURITY LIGHTING FOR PEOPLE, PROPERTY AND PUBLIC SPACES.
2. AVERAGE INITIAL INTENSITY 10 H.F.C.
3. UNIFORMITY RATIO AVG/MIN 3:1 OR LESS
4. VERTICAL INITIAL INTENSITY 2.5 V.F.C.
5. WIND SPEED (BREVARD COUNTY) 160 MPH

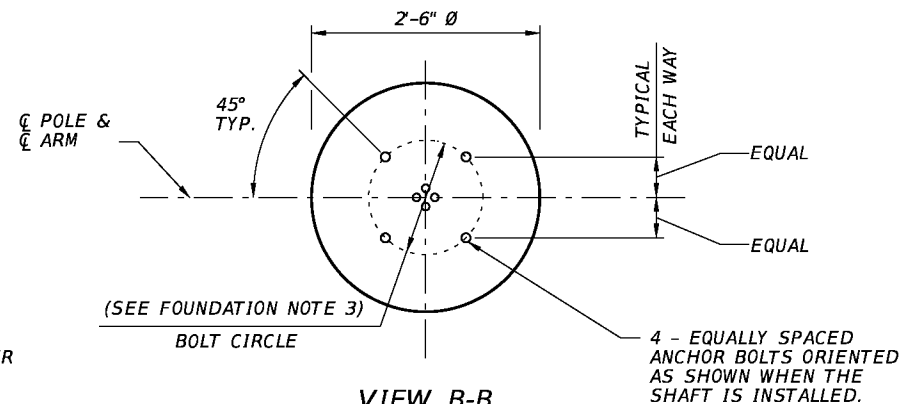
REVISIONS				ALEXIS MOUSADI, P.E. P.E. LICENSE NUMBER 50764 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBEIL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTPF INFRASTRUCTURE IMPROVEMENTS			LIGHTING PLAN (6)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01		L-6



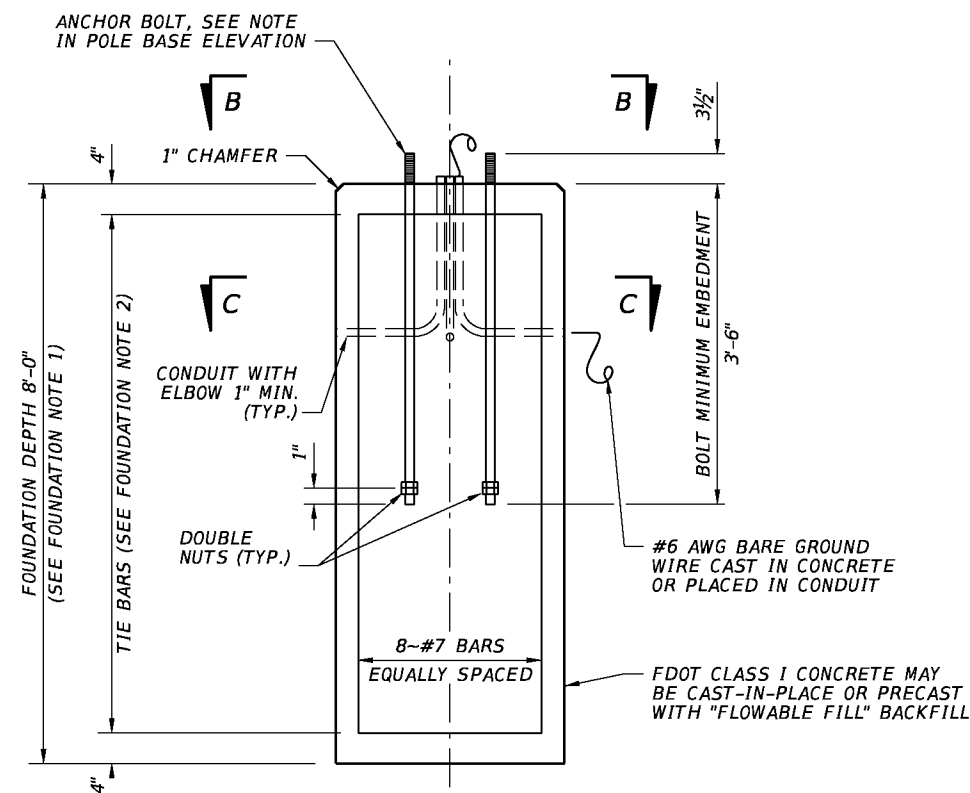
SECTION C-C
NTS



VIEW B-B
NTS (FOR NEW POLES ONLY)



VIEW B-B
NTS (FOR RELOCATED POLES ONLY)



FOUNDATION
NTS

FOUNDATION NOTES:

1. DEPTHS SHOWN ARE FOR SLOPES EQUAL TO OR FLATTER THAN 1:4. FOR SLOPES STEEPER THAN 1:4 AND EQUAL TO OR FLATTER THAN 1:2 ADD 2'-6" TO FOUNDATION DEPTHS SHOWN.
2. FOUNDATION TIE BARS: #4 TIE BARS @ 12" CENTERS (MAX.) OR D10 (OR W10) SPIRAL @ 6" PITCH, 3 FLAT TURNS TOP AND 1 FLAT TURN BOTTOM.
3. FOR RELOCATED POLES, DO NOT REUSE THE EXISTING ANCHOR BOLTS. THE NEW ANCHOR BOLTS SHALL BE THE SAME DIAMETER AS THE EXISTING ANCHOR BOLTS. CONTRACTOR TO MAKE A TEMPLATE OF THE EXISTING ANCHOR BOLT LAYOUT AND USE THAT LAYOUT TO SET THE NEW ANCHOR BOLT CIRCLE FOR THE RELOCATED POLE. CREATE AN INDIVIDUAL TEMPLATE FOR EACH POLE. THE ANCHOR BOLT CIRCLE SHALL BE CENTERED ON THE NEW FOUNDATION.

GENERAL NOTES:

1. MATERIALS:
 - A. ANCHOR BOLTS, NUTS, AND WASHERS:
 - a. ANCHOR BOLTS: ASTM F1554 GRADE 55. ALSO MEETING THE REQUIREMENTS OF SUPPLEMENT S1.
 - b. NUTS: ASTM A563 GRADE A HEAVY-HEX
 - c. PLATE WASHER: ASTM A36
 - B. CONCRETE: CLASS 1
 - C. REINFORCING STEEL: SPECIFICATION 415
2. GALVANIZED COATING:
 - A. ALL BOLTS, NUTS, AND WASHERS PER ASTM F2329.
3. SHOP DRAWINGS:
 - A. SUBMIT SHOP DRAWINGS FOR EACH FOUNDATION. INCLUDE THE CONTRACTOR'S VERIFICATION OF THE ANCHOR BOLT CIRCLE FOR BOTH THE RELOCATED AND NEW POLES.
4. CONSTRUCTION:
 - A. FOUNDATION: SPECIFICATION 455, EXCEPT PAYMENT FOR THE FOUNDATION IS INCLUDED IN THE COST OF THE POLE.
 - B. INSTALL POLES VERTICALLY.

REVISIONS				GEORGE R. PAPADOPOULOS, P.E. P.E. LICENSE NUMBER 55843 AECOM TECHNICAL SERVICES, INC. 7650 W. COURTNEY CAMPBELL CSWY TAMPA, FLORIDA 33607	SPACE FLORIDA EDTF INFRASTRUCTURE IMPROVEMENTS			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
3/24/20	1 ADDENDUM 1- SHEET REISSUED					BREVARD	439053-1-54-01	L-7