

December 11, 2015
BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
Addendum No. 3/IFB Y15-777-CH

PINE HILLS TRAIL (ALHAMBRA DRIVE TO SILVER STAR ROAD)
FPID #428047-1-58-01 FAN #8886-571-A

REVISED Bid Opening Date: January 14, 2016 at 2:00 P.M.

A. The Bid Opening Date has changed as follows:

~~Delete: Bid Opening Date: Postponed Indefinitely.~~

Replace with: **Bid Opening Date: January 14, 2016 at 2:00 P.M.**

B. Note the **REVISION** to the Part D, Schedule of Prices as follows:

~~Delete:~~ The Schedule of Prices issued in the Invitation for Bids, Pages ~~D-4~~
~~through D-8 in its entirety.~~

**Replace with: The Revised Schedule of Prices, REVISED Page D-1 through
REVISED Page D-8 in Addendum #3.**

**FAILURE TO SUBMIT THE REVISED SCHEDULE OF PRICES ATTACHED
WITH THIS ADDENDUM WITH YOUR SEALED BID SHALL RESULT IN YOUR
BID BEING DEEMED NON-RESPONSIVE.**

C. Note the **ADDITION** to Volume II, FDOT Supplemental LAP Agreement Requirement as follows:

Section 7-25 On-The-Job Training Requirements attached in Addendum #3 has been added to the Invitation for Bids.

D. Note the **REVISION** to Volume II, Part G, Special Provisions #11, #16, and #22 as follows:

11. **SITE CONTAMINATION:** The site is within a designated Brownfield. The COUNTY has performed a Site Specific Quality Assurance Project Plan in accordance with the requirements of EPA Region 4 Brownfields Program. The results of the report can be found in the Phase II Environmental Site Assessment Pine Hills Trail Sections 1 through 4 report dated October 2013, from ECT, Inc.,

which can be accessed via the Public Works FTP site. The CONTRACTOR shall review the results of the report. This information is made available to the CONTRACTOR for informational purposes only. The COUNTY makes no representation or guarantee that the information in the Report is accurate, complete, or that it identifies all locations of potential contamination within the project limits. Prior to submitting their bid, each prospective CONTRACTOR has the opportunity to perform his/her own study to determine the extent, if any, of contamination or contaminated sites occur within the PROJECT boundaries. It is the intent of this paragraph to provide each prospective CONTRACTOR with an opportunity to investigate the PROJECT in order to base his/her bid on means and methods of construction.

If the CONTRACTOR discovers contamination within the project, **the CONTRACTOR is responsible for removing and disposing the contamination and any applicable permit to be included under pay item 120-9 Excavation, Embankment and Grading LS.** No additional compensation will be provided in the event the CONTRACTOR is required to modify his means and methods or construction schedule in order to comply with requirements of any regulatory agency with regard to any contamination, which may be encountered within or in the proximity to the project limits during construction. The CONTRACTOR may be granted non-compensable days to the extent, the critical path of the project is impacted by temporary work stoppages that may be required to address the presence of contamination.

16. ENVIRONMENTAL CONCERNS: FEDERALLY OR STATE DESIGNATED LISTED SPECIES:

The Florida Fish and Wildlife Conservation Commission maintains the state list of animals designated as Federally-designated Endangered or Threatened, State-designated Threatened, or State designated Species of Special Concern, in accordance with Rules 68A-27.003 and 68A-27.005. No additional compensation will be provided in the event the CONTRACTOR is required to **obtain a new permit, or** modify his means and methods or construction schedule in order to comply with the requirements of any regulatory agency with regard to any Federally or State listed species which may be encountered within or in proximity to the project limits during construction. The CONTRACTOR may be granted non-compensable days to the extent the critical path of the project is impacted by temporary work stoppages that may be required to address the presence of endangered species as mentioned above. The following species are known to be present:

1. The CONTRACTOR is informed that limited suitable upland habitat has been identified adjacent to the Pine Hills Trail Project for the gopher tortoise (*Gopherus polyphemus*), a species listed as a Species of Special Concern by the Florida Fish and Wildlife Conservation Commission. Although the likelihood of occurrence of this species within the proposed project limits is low, contractor

shall conduct a population census in accordance with Florida Fish and Wildlife Conservation Commission (FFWCC) guidelines prior to construction activities. No special compensation will be made to the CONTRACTOR to defray cost of any of the work or delays for complying with the requirements of FFWCC, but such costs shall be considered as having been included in the price stipulated for work to be done under this contract.

2. The CONTRACTOR is informed that a number of regionally common, but state and/or federally listed birds may utilize areas within the project limits.

22. REPORTS:

The following Documents are being provided for informational purposes only and can be accessed at the following website:

ftp://ftp.ocfl.net/divisions/Public_Works/pub/Engineering/Pine%20Hills%20Reports/

1. Right of Way ID Map.
2. Phase II Environmental Site Assessment Pine Hills Trail Sections 1 through 4 (Replaced).
3. Final Report Geophysical Investigation Pine Hills.
4. Soil Testing Results.
5. Subsurface Soil Exploration and Geotechnical Engineering Evaluation
6. Surface Water and Groundwater Sampling Activities Lake Lawn Regional Stormwater Facility at Barnett Park Canal Widening Project
7. Lake Woodsmere ERP info
8. Pine Hills ABCA FINAL 1-22-2014 (1)
9. Supplemental PHASE II Pine Hills Trail 05-09-2014
10. Phase II ESA Addendum 11-24-2015

E. Note the **REVISION** to Volume II, Part H, Technical Provision TP 120 as follows:

~~Delete: Technical Provision TP 120—Excavation and Embankment issued in the Invitation for Bids.~~

Replace with: **Revised Technical Provision TP 120 – Excavation and Embankment issued in Addendum #3.**

F. Note the **REVISION** to Part H, Technical Provision TP 334 as follows:

Delete: ~~Technical Provision TP 334 – Superpave Asphaltic Concrete Paving issued in the Invitation for Bids.~~

Replace with: **Revised Technical Provision TP 334 – Superpave Asphaltic Concrete Paving issued in Addendum #3.**

G. Note the **REVISION** to Part H, Technical Provision TP 337 as follows:

Delete: ~~Technical Provision TP 337 – Superpave Asphaltic Concrete Friction Courses in the Invitation for Bids.~~

Replace with: **Revised Technical Provision TP 337 – Superpave Asphaltic Concrete Friction Courses issued in Addendum #3.**

H. Note the **REVISION** to the Construction Plans Sheets as follow:

Delete: ~~Construction Plans Sheet 1, 8, 38, 44, 48, 57, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 172, 187, 191, and B-7 in the Invitation for Bids.~~

Replace with: **Construction Plans Sheet 1, 8, 38, 44, 48, 57, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 172, 187, 191, and B-7 dated 10/20/15 attached in Addendum #3.**

I. The following are responses to requests for information received:

1. **Question:** Can the below “Project Element (past experience)” be performed by a subcontractor? Please clarify. Construction of a traffic signal with Florida Department of Transportation’s standard mast arm and signal interconnect.

Response: Yes, the construction of a traffic signal with Florida Department of Transportation’s standard mast arm and signal interconnect can be completed by a subcontractor.

2. **Question:** Can all the similar project elements been performed by the Bidder as a Prime or Subcontractor or just element 4 can be performed by a Prime or Subcontractor?

Response: Element one is the only element that has to be completed by the Prime Contractor. All other elements can be completed by the prime or a subcontractor.

3. **Question:** Are we to include the drop curb for concrete driveways with bid item #350-4-1 Reinforced Concrete Pavement, 6"? If not, please provide bid item.
- Response:** No, drop curb is not included in 350-4-1. Drop curb is to be included in the quantities for parent curb type, type F curb and gutter. Quantities for drop curbs are included in pay item - 520-1-10 revised and included in addendum.
4. **Question:** Will the 6" Concrete Handicap Ramps be paid for under bid item #350-4-1 Reinforced Concrete Pavement, 6" or under bid item #522-1 Concrete Sidewalk, 4" Thick?
- Response:** All ramps shall be constructed of 6" reinforced concrete and included in the pay item 350-4-1, 'Reinforced Concrete Pavement, 6"', per the note on the Typical sections.
5. **Question:** What is the thickness of the existing pavement and base on Silver Star Rd to be replaced under bid item #338-1, Pavement Restoration (FDOT Index 307).
- Response:** The contractor shall determine the existing condition using his own investigation methods and match for type and thickness per the note on Sheet 49.
6. **Question:** No bid item provided for Fire Hydrant Assembly Relocation, please specify where to price or provide bid item.
- Response:** Relocation will be completed by OUC. Contractor is responsible to coordinate with each utility per Special Provision 4 Utility Coordination.
7. **Question:** No bid item provided for Junction Box Adjustment, please specify where to price or provide bid item.
- Response:** Relocation will be completed by OUC. Contractor is responsible to coordinate with each utility per Special Provision 4 Utility Coordination.
8. **Question:** Please specify what type of material classification is considered "Select Soil Fill" per note on plans at Station 429+00 to 444+00 (for replacement of pavement and base).
- Response:** Select soil shall be as defined in FDOT Index 505.

9. **Question:** Confirm limits of subsoil excavation to be up to 444+20 per plan sheet 57 which ends into Ferrand Drive, however earthwork cross-sections limits of excavation ends at station 443+00.
- Response:** Subsoil excavation beneath Ferrand Drive is shown in error. The limit of subsoil excavation shall be from station 441+60 to 443+97 as shown on the revised construction plans. Please note that regular excavation and embankment quantities have been revised to LS. Subsoil excavation remains CY unit item.
10. **Question:** Please provide specification or manufacturer for "Water resistant paint" to be used on flume and bridge painting.
- Response:** Acceptable paints shall only be those listed in the FDOT APL Specification 400, 'Applied Finish Coatings' and match existing colors.
11. **Question:** What type of material will the owner plan to purchase directly, IE. Soil Cement, Asphalt Material, Storm Precast, RCP, Stabilized Subgrade, etc.?
- Response:** The County is not going to purchase any material directly.
12. **Question:** Please confirm earthwork excavation and embankment quantities, per cross sections volume shown in plans should be a total of 13,707 CY of Excavation and 8449 CY of Embankment. These quantities do not match bid form.
- Response:** The corrected earthwork quantities are shown on sheet 172. Please note that regular excavation and embankment quantities have been revised to LS.
13. **Question:** Are there any known septic tanks, drain fields, and/or wells to be demoed within construction limits?
- Response:** There are none known in the construction limits. If any are encountered, the contractor shall be responsible for activities as described in the Special and Technical Provisions. Payment will be included in the contract lump sum payment for Item 110-1-1, 'Clearing and Grubbing'.
14. **Question:** What permits will the contractor be responsible for, for the construction of Silver Star Road?
- Response:** No separate permit will be required for MOT on Silver Star. Traffic control must comply with FDOT Standard Index No. 600 series as indicated on Plan Sht. 202. If contractor deviates from the Index a signed and sealed Alternative Traffic Control Plan must be submitted to the Department for review and acceptance (At Silver Star).

15. **Question:** Will the County be responsible for the Geotechnical Densities or is this to be supplied by contractor?

Response: Supplemental Conditions Article 16 describes the testing responsibilities of the contractor and of the county.

16. **Question:** Per Special Provisions G-23 first paragraph, requires contractor to conduct a population census with FFWCC for gopher tortoise. Should the survey uncover tortoises to be within project limits, will the County reimburse the contractor for any additional expense related to the findings (i.e. Permit Fees and Relocation)?

Response: Orange County design team will conduct T&E survey prior to construction starting and will relocate any encountered gopher tortoises. Should any T&E Species be found at a later date, it will be the contractor's responsibility to address issue(s). The County will not reimburse the Contractor for any additional expense. Per the Special Provisions: "No additional compensation will be provided in the event the CONTRACTOR is required to obtain a new permit, or modify his means and methods or construction schedule in order to comply with the requirements of any regulatory agency with regard to any Federally or State listed species which may be encountered within or in proximity to the project limits during construction."

17. **Question:** Based on our recent site visit, it was observed that at the beginning of the project there were various piles of construction debris/trash that are within construction limits. It was also observed that the county was in the process of some kind of cleanup activities. Will the County cleanup the trash prior to contractor mobilizing or is the contractor to include haul off of any debris disposal? If it is the contractor's responsibility, then please specify the limits and scope of cleanup as it was observed that some piles were very fresh and others were dated. Also, will the county be responsible for notifying the individual homeowners to remove their personal property out of the construction limits? Who is responsible for the debris if the personal property is not removed (i.e., broken down vehicles, spare parts, used appliances, trailers, etc.?)

Response: The contractor is responsible for all clearing and grubbing of the project limits and for any notifications to homeowners regarding personal property within the construction limits. Included in the Pay item 110-1-1 Clearing and Grubbing is any removal of construction debris/trash, regardless of age, and removal of items within project limits that are believed to be abandoned because any owner could not be found or would not remove them in a timely manner. Please review Special Provisions for additional detail. This is not inclusive of all responsibilities of the contractor per the plans and specifications. Refer to those documents for all requirements.

18. **Question:** Please specify where will Bid Item #400-4-8 Concrete Class IV Bulkhead, Includes steel be applied to? We did not find any call outs on plans where this would apply.
- Response:** This will be applied at the top of the steel sheet piling. Applicable design, details, and callouts are provided on Sheets B-6 and B-7.
19. **Question:** Please provide location of where the Sheet Piling Steel (permanent) be installed, unable to locate in plans.
- Response:** This will be installed near Silver Star Road, approximately Sta. 294+00 to 294+40, as shown on Sheets B-6 and B-7.
20. **Question:** Will the Owner allow optional base material for the soil cement base? Specifically, will 11" of limerock base be an acceptable option to the 9" soil cement? (Per FDOT Design Standard Index No. 514, these two bases are equivalent.)
- Response:** The owner will not allow substitution of the soil cement base.
21. **Question:** The plans indicate where there are existing structures constructed outside of the residential property lines and in the right-of-way. The plans direct the Contractor to "coordinate" the removal. Is it the responsibility of the home owner, Orange County, or the Contractor to remove these structures? We interpret the home owner is to remove. Please clarify the intent.
- Response:** It is the responsibility of the contractor to ensure any structures are removed as shown in the plans. The contractor is directed to coordinate the removal with the owner to provide sufficient opportunity for the owner to remove personal effects and perform demolition himself, if desired. If home owner elects not to remove, it will be the responsibility of the contractor to remove structure within Orange County Right-of-Way and paid under Pay Item 110-1-1 Clearing and Grubbing.
22. **Question:** Is the Contractor to bid removing the existing trash within the right-of-way? Or will that be handled as a change order once the project is awarded?
- Response:** Please refer to response to question number 17.
23. **Question:** Will the overhead power lines be de-energized for the installation of the permanent sheet piling?
- Response:** The installation of the permanent sheet piling shall be performed per the contractor's means and methods. If the contractor determines that de-energizing is necessary, he shall accommodate for this in his schedule and at his own cost.

24. **Question:** We interpret that the County will perform all the density testing, base/stab testing, concrete cylinders and breaks, etc. Please confirm this is correct?

Response: Supplemental Conditions Article 16 describes the testing responsibilities of the contractor and of the county.

25. **Question:** Based on all the reports provided, we assume the subsoil excavation quantity is for muck and no contaminated or hazardous soils are included in the provided bid quantity. Therefore, no special disposal of contaminated/hazardous soils is to be included in our proposal. Please confirm.

Response: The subsoil excavation quantity is for the muck and plastic materials per TP 120. Disposal of contaminated/hazardous soils if encounter within the project limits, is the responsibility of the Contractor. Per Special Provision 11: “If the CONTRACTOR discovers contamination within the project, the CONTRACTOR is responsible for removing and disposing the contamination, and any applicable permit to be included under pay item 120-9 Excavation, Embankment and Grading LS. No additional compensation will be provided in the event the CONTRACTOR is required to modify his means and methods or construction schedule in order to comply with requirements of any regulatory agency with regard to any contamination, which may be encountered within or in the proximity to the project limits during construction.”

26. **Question:** Have all permits been acquired for this project? If not, what permits (besides dewatering) are anticipated? Will Orange County waive costs for any County permits or are we to include in our proposal?

Response: No, the contractor is responsible to obtain permits for maintenance of traffic from Orange County, and any additional permit required per the contract documents. Orange County will not waive costs for Orange County permits. Orange County MOT permit cost is \$128.00.

27. **Question:** The Special Provisions state the Contractor is to include cost for removal and disposal of septic tanks, drain fields and potable wells in the Clearing & Grubbing pay item. Have these elements been identified on the plans for removal?

Response: There are none known in the construction limits. If any are encountered, the contractor will be responsible for activities as described in the Special and Technical Provisions, and per FDOT Specification 110. Payment will be included in the contract lump sum payment for Item 110-1-1, ‘Clearing and Grubbing’.

28. **Question:** The Special Provisions (see page G-23) mention suitable gopher tortoise habit and that the Contractor is to include costs for complying with requirements of FFWCC. Does this mean gopher tortoise relocation? Is a count available? Will an allowance be provided?

Response: Please see response to question number 16.

29. **Question:** Special Provision for Inspector's Office addresses computer hardware. No quantity is given. It appears to only be one computer that is to be supplied. Please confirm.

Response: One computer is to be supplied.

30. **Question:** Sheet no. 172 illustrates subsoil excavation. Both cross sections state "end subsoil excavation". Should the subsoil excavation in this area start at 442+00 and end at 443+00?

Response: The note that reads "END SUBSOIL EXCAVATION STA. 441+60.00" should read "BEGIN SUBSOIL EXCAVATION STA. 441+60.00".

31. **Question:** Can the water main and force main shown on sheet no. 200 be relocated to avoid damage while excavating 12.5' of subsoil material in the same area as the utilities?

Response: The contractor may relocate these utilities or protect them in place per his own means and methods. Relocation, if elected, will need to be approved by the utility owner, Orange County Public Works, and the applicable permitting authorities. The cost of design relocation and permitting will be the responsibility of the Contractor.

32. **Question:** Can you please clarify the bottom elevation of the 8" concrete cladding reinforced with galv. wire mesh shown on B-7?

Response: The bottom of the reinforced concrete cladding shall extend to two feet below the existing pond bottom elevation. Note has been added to Sheet B-7.

33. **Question:** Can you please provide the bottom of pond elevation for the existing pond where the sheet pile wall is to be installed at +/- station 294+05?

Response: Pond bottom elevations have not been confirmed; however, recent modifications to this pond indicated a finished bottom elevation of 55'. These plans are attached for bidder review.

34. **Question:** Can you please provide any and all information available regarding the existing pond located in the south east corner of Golf Club Parkway and Silver Star Road? Helpful information could include pond outfall information, any outfall controls that could possibly be utilized to control the pond elevation to facilitate construction, etc.

Response: The pond outfall is a force main fed by the Woodsmere Stormwater Pumping Station that proceeds east along Silver Star Road as shown in the attached document in Addendum #3, "Woodsmere Stormwater Pumping Station Pump Station Outfall System". Further information about the pond can be found in the attached plans in Addendum #3.

35. **Question:** Can you please provide utility relocation schedules for the utilities that need to be adjusted by others?

Response: Contractor is responsible to coordinate with each utility per Special Provision 4 Utility Coordination. Utility Relocation Schedules are not typically provided on Orange County Projects.

36. **Question:** Will the County pump down the pond at Silver Star Road (to approximate elevation 63.00, or lower) for the successful bidder so the work in the pond can be accomplished in the dry?

Response: All work required for construction as shown in the plans shall be the responsibility of the Contractor unless otherwise noted. Orange County does not intend to pump the pond beyond its established pumps off elevation (at elev. 67.07' NAVD).

Please be advised that should the Contractor choose to dewater the pond, the nearest positive discharge point is a stormwater gravity outfall system located approximately one half-mile east of the project, in Silver Star Road (just east of Kingsland Avenue). This stormwater gravity outfall system is operated and maintained by Orange County. It is separate and distinct from the storm sewer collection system operated and maintained by FDOT along Silver Star Road. Please see attached figure no. 5 (Woodsmere Stormwater Pumping Station Outfall System) attached in Addendum #3. There should not be any delay claim from the contractor during the normal County pumping operation.

37. **Question:** The Summary of Items on Sheet G-102 indicates a Trail Rules sign, pet waste stations, and 4" concrete pad. The Landscape specification doesn't address these items, only the planting materials. Are these items to be included in our proposal? Where do we include the costs?

Response: The trail rules sign, the pet waste stations, the concrete pad, and all other items shown in Landscape Plans are included in pay item 580-1, Landscape Complete. Adherence to project and FDOT specifications shall be required for these items.

38. **Question:** The concrete cladding wall shown on Sheet B-7 calls for galvanized wire mesh (Section A-A) and #4 rebar (Section B-B) for the reinforcing. Which type of reinforcing are we to use?

Response: The concrete cladding requires #4 Bars at 12” spacing each way as shown in Section B-B on Sheet B-7 or an equivalent welded wire mesh meeting the requirements of FDOT Standard Specification Section 931.

39. **Question:** Sheet L-505 provides a detail for tree protection. The landscape plan sheets don't indicate where the tree protection is to be installed. The Specifications lead one to believe the tree protection is to be indicated in the plans. Please provide where we are to install the tree protection.

Response: Sheets L-101 and L-102 provide a site amenities sheet layout plan with existing trees identified. All identified trees that are not indicated to be removed are required to be protected per the Tree Protection Detail on Sheet L-505. The cost for this work shall be included in pay item 580-1 Landscape Complete.

40. **Question:** Are there working hour restrictions for the work on Silver Star Road and Pine Hills Road?

Response: TP 102 requires the contractor to submit a signed and sealed Maintenance of Traffic Plan for the approval of Orange County. If approved the contractor may perform lane closures on these roads between the hours of 10PM and 6AM. On Silver Star Road, Traffic control must comply with FDOT Standard Index No. 600 series as indicated on Plan Sht. 202. If contractor deviates from the Index, a signed and sealed Alternative Traffic Control Plan must be submitted to the Department for review and acceptance.

J. Note the **REVISION** to Part C, Paragraph 26 titled **REFERENCES** as follows:

Bidder shall supply (with form) a list of three similar projects successfully completed **by the Bidder, as the Prime Contractor or as a Subcontractor** within the last eight (8) years. **Element One must be successfully completed by the Prime Contractor.** **The Contractor may also use their subcontractor to demonstrate experience for Elements Two through Six. However, the subcontractor must be listed on Attachment C-2 of Part D, PRIME CONTRACTOR/SUBCONTRACTOR/SUPPLIER INFORMATION and the project shall be submitted on Attachment E of the IFB to include all required information.**

K. Note the REVISION to ATTACHMENT E, REFERENCES as follows:

Delete: ~~ATTACHMENT E REFERENCES~~ issued in the Invitation for Bids.

Replace with: **REVISED ATTACHMENT E, REFERENCES included in Addendum #3.**

L. All other terms and conditions of the IFB remain the same.

M. **The Proposer shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of the proposal.**

Receipt acknowledged by:

Authorized Signature

Date Signed

Title

Name of Firm

OFFICIAL BID FORM

FOR

PINE HILLS TRAIL (ALHAMBRA DRIVE TO SILVER STAR ROAD)
FPID #428047-1-58-01 FAN #8886-571-A

Mail or Hand Deliver

ORIGINAL BID FORM AND THREE (3) COMPLETE COPIES

BY 2:00 PM - ~~October 15, 2015~~ January 14, 2016

To:

BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
INTERNAL OPERATIONS CENTRE II
PROCUREMENT DIVISION
400 E. SOUTH STREET – 2nd FLOOR
ORLANDO, FLORIDA 32801

Bid Opening:

~~October 15, 2015, - 2:00 PM~~
January 14, 2016, – 2:00 PM

INTERNAL OPERATIONS CENTRE II
PROCUREMENT DIVISION CONFERENCE ROOM, 2nd FLOOR
ORLANDO, FLORIDA

COMPANY NAME

COMPLETE MAILING ADDRESS

CITY, COUNTY, STATE, ZIP CODE

TELEPHONE NUMBER FAX NUMBER

CONTACT PERSON E-MAIL ADDRESS

TIN#: _____

NOTE: COMPANY NAME MUST MATCH LEGAL NAME ASSIGNED TO TIN
NUMBER. CURRENT W9 MUST BE SUBMITTED WITH BID/PROPOSAL

PART D

**To the Board of County Commissioners
Orange County, Florida**

The Undersigned, hereinafter called "Bidder", having visited the site of the proposed project and familiarized himself with the local conditions, nature and extent of the work, and having examined carefully the Contract Form, General Conditions, Supplementary Conditions, Plans and Specifications and other Contract Documents, with the Bond requirements herein, proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of: **PINE HILLS TRAIL (ALHAMBRA DRIVE TO SILVER STAR ROAD) FPID #428047-1-58-01 FAN #8886-571-A** in full accordance with the drawings and specifications prepared in accordance with the Contract Documents and, if awarded the Contract, to complete the said work within the time limits specified for the following ESTIMATED TOTAL BASE BID.

It is understood that this is a unit price Contract and the resultant Contract will contain estimated quantities, unit prices, extended totals and that the Estimated Total Base Bid is the sum of all pay item totals from the schedule of prices, REVISED Page D-3 through REVISED D-8.

The Contract resulting from this solicitation is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item). No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

ESTIMATED TOTAL BASE BID:

_____ DOLLARS
(In Words)

\$ _____

In the event the Contract is awarded to this Bidder, he/she will enter into a formal written agreement with the County in accordance with the accepted bid within ten (10) calendar days after said Contract is submitted to him/her and will furnish to the County a Contract Payment and Performance Bond with good and sufficient sureties, satisfactory to the County, in the amount of 100% of the accepted bid. The Bidder further agrees that in the event of the Bidder's default or breach of any of the agreements of this proposal, the said bid deposit shall be forfeited as liquidated damages.

Failure of the Bidder to provide pricing for all unit priced items and/or the Base Bid and ALL requested additive/deductive bid items, or alternate bids shall be cause for rejection of the bid as non-responsive.

**Y15-777-CH; REVISED SCHEDULE OF PRICES FOR
PINE HILLS TRAIL (ALHAMBRA DRIVE TO SILVER STAR ROAD)
FPID #428047-1-58-01 FAN #8886-571-A**

No	Item	Description	Unit	Est. Qty	Unit Price	Total Price
1	101-1	MOBILIZATION	LS	1		
2	102-1	MAINTENANCE OF TRAFFIC	LS	1		
3	104-14	PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1		
4	110-1-1	CLEARING & GRUBBING	LS	1		
5	120-1	REGULAR EXCAVATION	CY	9,829		
6 5	120-4	SUBSOIL EXCAVATION (UNSUITABLE MATERIAL)	CY	3,269 4,902		
7 6	120-6 120-9	EMBANKMENT EXCAVATION, EMBANKMENT, & GRADING	CY LS	8,824 1		
8 7	121-70	FLOWABLE FILL	CY	60		
9 8	160-4	TYPE B STABILIZATION (MIN. LBR 40) (12")	SY	25,676		
10 9	270-9	SOIL CEMENT BASE (PLANT MIX) (PRIMED) (300 PSI) (9")	SY	15,572		
11 10	327-70-1	MILLING EXISTING ASPHALT PAVEMENT (1" AVG. DEPTH)	SY	102		
12 11	327-70-6	MILLING EXISTING ASPHALT PAVEMENT (1 1/2" AVG. DEPTH)	SY	10,011		
12	334-1-12-1	SUPERPAVE ASPHALTIC CONC. (SP-9.5) (TRAF. LEVEL B) (INCL. TACK COAT) (1")	SY	102		
13	334-1-12-334-1-12-2	SUPERPAVE ASPHALTIC CONC. (SP-9.5) (TRAF. LEVEL B) (INCL. TACK COAT) (3")	TN SY	2,457 15,003		
14	337-7-42	ASPHALTIC CONC. FRICTION COURSE (TRAF. LEVEL C) (FC-12.5) (PG 76-22) (1.5")	TN SY	803 10,011		
15	338-1	PAVEMENT RESTORATION (FDOT INDEX 307)	SY	24		

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No	Item	Description	Unit	Est. Qty	Unit Price	Total Price
16	350-4-1	REINFORCED CONCRETE PAVEMENT, 6"	SY	5,025 4,843		
17	350-4-5	REINFORCED CONCRETE PAVEMENT, 8"	SY	589		
18	400-0-11	CONCRETE CLASS NS, GRAVITY WALL, INCLUDES STEEL	CY	80		
19	400-4-8	CONCRETE CLASS IV, BULKHEAD, INCLUDES STEEL	CY	7		
20	400-4-11	CONCRETE CLASS IV, RETAINING WALLS, INCLUDES STEEL	CY	234		
21	425-1-521	INLETS, DT BOT, TYPE C, <10'	EA	10		
22	425-2-91	MANHOLES, J-8, <10'	EA	2		
23	425-5	MANHOLE, ADJUST	EA	4		
24	425-5-1	MANHOLE, ADJUST, UTILITIES	EA	13 14		
25	430-982-123	MITERED END SECTION, STEEL REINF. CONC. , ROUND, 15" CD	EA	2		
26	430-982-125	MITERED END SECTION, STEEL REINF. CONC. , ROUND, 18" CD	EA	3		
27	430-982-138	MITERED END SECTION, STEEL REINF. CONC. , ROUND, 36" CD	EA	1		
28	430-982-145	MITERED END SECTION, STEEL REINF. CONC. , ROUND, 72" CD	EA	1		
29	430-984-125	MITERED END SECTION, STEEL REINF. CONC. , ROUND, 18" SD	EA	1		
30	430-984-640	MITERED END SECTION, STEEL REINF. CONC., ELLIP., 34"X53" SD (42" EQ.)	EA	3		
31	430-94-1	DESILTING EXISTING PIPE (0"-24")	LF	1,645		
32	430-94-2	DESILTING EXISTING PIPE (25"-36")	LF	785		

**Y15-777-CH; REVISED SCHEDULE OF PRICES FOR
PINE HILLS TRAIL (ALHAMBRA DRIVE TO SILVER STAR ROAD)
FPID #428047-1-58-01 FAN #8886-571-A**

No	Item	Description	Unit	Est. Qty	Unit Price	Total Price
33	430-94-3	DESILTING EXISTING PIPE (37"-48")	LF	252		
34	430-94-4	DESILTING EXISTING PIPE (49"-60")	LF	14		
35	430-94-5	DESILTING EXISTING PIPE (>61")	LF	76		
36	430-174-115	PIPE CULV, STEEL REINF. CONC. PIPE, ROUND, 15"	LF	56		
37	430-174-118	PIPE CULV, STEEL REINF. CONC. PIPE, ROUND, 18"	LF	718		
38	430-174-136	PIPE CULV, STEEL REINF. CONC. PIPE, ROUND, 36"	LF	33		
39	430-174-172	PIPE CULV, STEEL REINF. CONC. PIPE, ROUND, 72"	LF	38		
40	430-174-242	PIPE CULV, STEEL REINF. CONC. PIPE, ELLIP., 34"X53" (42" EQ.)	LF	444		
41	455-133-3	SHEET PILING STEEL, F&I, PERMANENT	SF	1,463		
42	515-2-211	PEDESTRIAN/ BICYCLE RAILING, STEEL, 42", PICKET RAIL (FDOT INDEX 852)	LF	190		
43	515-2-221	PEDESTRIAN/ BICYCLE RAILING, STEEL, 54", PICKET RAIL (FDOT INDEX 852)	LF	740		
44	519-78	BOLLARDS	EA	17		
45	520-1-10	CONCRETE CURB (TYPE F)	LF	254 <u>1,013</u>		
46	520-2-4	CONCRETE CURB (TYPE D)	LF	1,418		
47	520-2-5	CONCRETE RIBBON CURB (1')	LF	20,333		
48	520-3	CONCRETE VALLEY GUTTER	LF	76		
49	520-5-41	TRAFFIC SEPARATOR CONCRETE, TYPE IV, 4' WIDE	LF	118		

**Y15-777-CH; REVISED SCHEDULE OF PRICES FOR
PINE HILLS TRAIL (ALHAMBRA DRIVE TO SILVER STAR ROAD)
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No	Item	Description	Unit	Est. Qty	Unit Price	Total Price
50	522-1	CONCRETE SIDEWALK, 4" THICK	SY	1,112		
51	530-3-4	RIPRAP, RUBBLE, DITCH LINING	TN	21		
52	550-10212	FENCE, TYPE B, 4', VINYL COATING	LF	2,465		
53	550-10220	FENCE, TYPE B, 6', STANDARD	LF	875		
54	550-10325	FENCE, TYPE R, 6', VERTICAL	LF	397		
55	550-10999	FENCE, SPECIAL	LF	2,457		
56	550-60-223	FENCE GATE, TYPE B, DOUBLE, 12.1 - 18.0' OPENING	EA	17		
57	550-60-224	FENCE GATE, TYPE B, DOUBLE, 18.1 - 20.0' OPENING	EA	2		
58	550-60-226	FENCE GATE, TYPE B, DOUBLE, 24.1 - 30.0' OPENING	EA	2		
59	563-4	ANTI-GRAFFITI COATING, NON-SACRIFICIAL	SF	967		
60	570-1-2	PERFORMANCE TURF (SOD) (BAHIA)	SY	42,000		
61	580-1	LANDSCAPE COMPLETE	LS	1		
62	603-1A	SIGNALIZATION AT PINE HILLS ROAD (MAST ARM)	LS	1		
63	603-2A	SIGNALIZATION AT SILVER STAR ROAD (MAST ARM)	LS	1		
64	700-20-11	SINGLE POST SIGN, F&I, <12SF	EA	75		
65	700-20-50	SINGLE POST SIGN, RELOCATE	EA	3		
66	700-20-60	SINGLE POST SIGN, REMOVE	EA	12		

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No	Item	Description	Unit	Est. Qty	Unit Price	Total Price
67	700-3101	SIGN PANEL, F&I, GROUND MOUNT, <12SF	EA	28		
68	706-3	RETROREFLECTIVE PAVEMENT MARKERS	EA	87		
69	0710-11290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF	165		
70	0711-14122	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 8"	LF	94		
71	0711-14123	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 12"	LF	1,540		
72	0711-14124	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 18"	LF	7		
73	0711-14125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24"	LF	1,521		
74	0711-14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	4		
75	0711-14170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	12		
76	0711-14180	THERMOPLASTIC, PREFORMED, WHITE YIELD LINE	LF	14		
77	0711-16111	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 6"	NM	0.619		
78	0711-16131	THERMOPLASTIC, PREFORMED, WHITE, SKIP, 6" (10/30)	GM	0.168		
79	0711-16211	THERMOPLASTIC, PREFORMED, YELLOW, SOLID, 6"	NM	0.930		
80	0711-16231	THERMOPLASTIC, PREFORMED, YELLOW, SKIP, 6" (10/30)	GM	0.299		
81	0711-17	THERMOPLASTIC, REMOVE	SF	284		
82	900-1	AS-BUILT PLANS	LS	1		
83	900-2	INDEMNIFICATION	LS	1	\$100.00	\$100.00

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 FPID #428047-1-58-01 FAN #8886-571-A**

No	Item	Description	Unit	Est. Qty	Unit Price	Total Price
84	900-3	GROUNDWATER TREATMENT AND DISPOSAL	DAY	150		
<p>TOTAL ESTIMATED BASE BID:</p> <p>\$ _____ (Reference Numbers 1 through 84)</p>						

(Note 1) - ANY AMOUNT OF MOBILIZATION IN EXCESS OF 10% OF ROADWAY BID ITEMS 2 THROUGH 84 WILL BE PAID UPON COMPLETION OF ALL WORK IN ACCORDANCE WITH TECHNICAL PROVISION 101.

(Note 2) - ALL STORM DRAIN PIPES SHALL BE STEEL REINFORCED CONCRETE PIPES.

7-25 On-The-Job Training Requirements.

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeymen in the type(s) of trade or job classification(s) involved in the work. In the event the Contractor subcontracts a portion of the contract work, he/she shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Section. The Contractor shall apply the requirements of this Section to such subcontract.

The number of trainees will be estimated on the number of calendar days of the contract, the dollar value, and the scope of work to be performed. The trainee goal will be finalized at a Post-Preconstruction Trainee Evaluation Meeting and the goal will be distributed among the work classifications based on the following criteria:

1) Determine the number of trainees on Federal Aid Contract:

(a) No trainees will be required for contracts with a Contract Time allowance of less than 225 calendar days.

(b) If the Contract Time allowance is 225 calendar days or more, the number of trainees shall be established in accordance with the following chart:

Estimated Contract Amount	Trainees Required
\$1,000,000 or less	0
Over \$1,000,000 to \$4,000,000	2
Over \$4,000,000 to \$6,000,000	3
Over \$6,000,000 to \$12,000,000	5
Over \$12,000,000 to \$18,000,000	7
Over \$18,000,000 to \$24,000,000	9
Over \$24,000,000 to \$31,000,000	12
Over \$31,000,000 to \$37,000,000	13
Over \$37,000,000 to \$43,000,000	14
Over \$43,000,000 to \$49,000,000	15
Over \$49,000,000 to \$55,000,000	16
Over \$55,000,000 to \$62,000,000	17
Over \$62,000,000 to \$68,000,000	18
Over \$68,000,000 to \$74,000,000	19
Over \$74,000,000 to \$81,000,000	20
Over \$81,000,000 to \$87,000,000	21
Over \$87,000,000 to \$93,000,000	22
Over \$93,000,000 to \$99,000,000	23
Over \$99,000,000 to \$105,000,000	24
Over \$105,000,000 to \$112,000,000	25
Over \$112,000,000 to \$118,000,000	26
Over \$118,000,000 to \$124,000,000	27
Over \$124,000,000 to \$130,000,000	28
Over \$130,000,000 to *	
*One additional trainee per \$6,000,000 of estimated Construction Contract amount over \$130,000,000	

Further, if the Contractor or subcontractor requests to utilize banked trainees as discussed later in this Section, a Banking Certificate will be validated at this meeting allowing credit to the Contractor for previously banked trainees. Banked credits of prime Contractors working as Subcontractors may be accepted for credit. The Contractor's Project Manager, the Construction Project Engineer and the Department's District Contract Compliance Manager will attend this meeting. Within ten days after the Post-Preconstruction Training Evaluation Meeting, the Contractor shall submit to the Department for approval an On-The-Job Training Schedule indicating the number of trainees to be trained in each selected classification and the portion of the Contract Time during which training of each trainee is to take place. This schedule may be subject to change if the following occur:

1. When a start date on the approved On-The-Job Training Schedule has been missed by 14 or more days;
2. When there is a change(s) in previously approved classifications;
3. When replacement trainees are added due to voluntary or involuntary termination

The revised schedule will be resubmitted to and approved by the Department's District Contract Compliance Manager.

The following criteria will be used in determining whether or not the Contractor has complied with this Section as it relates to the number of trainees to be trained:

1. Full credit will be allowed for each trainee that is both enrolled and satisfactorily completes training on this Contract. Credit for trainees, over the established number for this Contract, will be carried in a "bank" for the Contractor and credit will be allowed for those surplus trainees in subsequent, applicable projects. A "banked" trainee is described as an employee who has been trained on a project, over and above the established goal, and for which the Contractor desires to preserve credit for utilization on a subsequent project.

2. Full credit will be allowed for each trainee that has been previously enrolled in the Department's approved training program on another contract and continues training in the same job classification for a significant period and completes his/her training on this Contract.

3. Full credit will be allowed for each trainee who, due to the amount of work available in his/her classification, is given the greatest practical amount of training on the contract regardless of whether or not the trainee completes training.

4. Full credit will be allowed for any training position indicated in the approved On-The-Job Training Schedule, if the Contractor can demonstrate that he/she has made his/her a good faith effort to provide training in that classification.

5. No credit will be allowed for a trainee whose employment by the Contractor is involuntarily terminated unless the Contractor can clearly demonstrate good cause for this action.

The Contractor shall, as far as is practical, comply with the time frames established in the approved On-The-Job Training Schedule. When this proves to be impractical, a revised schedule shall be submitted and approved as provided above.

Training and upgrading of minorities, women and economically disadvantaged persons toward journeyman status is a primary objective of this Section. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. If a non-minority male is enrolled into On-The-Job Training, the On-The-Job Training Notification of Personnel Action Form notifying the District Contract Compliance Manager of such action shall be accompanied by a disadvantaged certification or a justification for such action acceptable to the Department's District Contract Compliance Manager. The Contractor will be

given an opportunity and will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Section. This training is not intended, and shall not be used, to discriminate against any applicant for training, whether a minority, woman or disadvantaged person.

No employee shall be employed as a trainee in any classification in which he/she has successfully completed a training course leading to journeyman status, has been employed as a journeyman, or has had extensive experience in the classification being considered for training. The Contractor shall satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established at the Post-Preconstruction Trainee Evaluation Meeting and approved by the Department. Graduation to journeyman status will be based upon satisfactory completion of a Proficiency Demonstration set up at the completion of training and established for the specific training classification, completion of the minimum hours in a training classification range, and the employer's satisfaction that the trainee does meet journeyman status in the classification of training. Upon reaching journeyman status, the following documentation must be forwarded to the District Contract Compliance Office:

Trainee Enrollment and Personnel Action Form

Proficiency Demonstration Verification Form indicating completion of each standard established for the classification signed by representatives of both the Contractor and the Department.

The Department and the Contractor shall establish a program that is tied to the scope of the work in the project and the length of operations providing it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classifications concerned, by at least, the minimum hours prescribed for a training classification. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal Aid highway construction contract. Approval or acceptance of a training schedule shall be obtained from the Department prior to commencing work on the classifications covered by the program.

A voluntary On-The-Job Training Program is available to a Contractor which has been awarded a state funded project. Through this program, the Contractor will have the option to train employees on state funded projects for "banked credit" as discussed previously in this provision, to be utilized on subsequent Federal Aid Projects where training is required. Those Contractors availing themselves of this opportunity to train personnel on state funded projects and bank trainee hours for credit shall comply with all training criteria set forth in this Section for Federal Aid Projects; voluntary banking may be denied by the Department if staff is not available to monitor compliance with the training criteria.

It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial type positions. Training is permissible in positions such as office engineers, estimators, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the District Contract Compliance Office. Some

offsite training is permissible as long as the training is an integral part of an approved training program and does not compromise a significant part of the overall training.

When approved in advance by the District Contract Compliance Manager, credit will be given for training of persons in excess of the number specified herein under the current contract or a Contractor will be allowed to bank trainees who have successfully completed a training program and may apply those trainees to a training requirement in subsequent project(s) upon approval of the Department's District Contract Compliance Manager. This credit will be given even though the Contractor may receive training program funds from other sources, provided such other source do not specifically prohibit the Contractor from receiving other form of compensation. Credit for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal Aid Project; contributes to the cost of the training, provides the instruction to the trainee and pays the trainee's wages during the offsite training period.

No credit shall be given to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman for a period ample enough to allow the employee time to gain experience in the training classification or failure to continue training the employee time to gain experience in the training classifications is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Section.

The Contractor shall compensate the trainee at no less than the laborer rate established in the Contract at the onset of training. This compensation rate will be increased to the journeyman's wage for that classification upon graduation from the training program.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed. The Contractor shall enroll a trainee in one training classification at a time to completion before the trainee can be enrolled in another classification on the same project.

The Contractor shall maintain records to document the actual hours each trainee is engaged in training on work being performed as a part of this Contract.

The Contractor shall submit to the District Contract Compliance Manager a copy of an On-The-Job Training Notification of Personnel Action form no later than seven days after the effective date of the action when the following occurs: a trainee is transferred on the project, transferred from the project to continue training on another contract, completes training, is upgraded to journeyman status or voluntary terminates or is involuntary terminated from the project.

The Contractor shall furnish to the District Contract Compliance Manager a copy of a Monthly Time Report for each trainee. The Monthly Time Report for each month shall be submitted no later than the tenth day of the subsequent month. The Monthly Time Report shall indicate the phases and sub-phases of the number of hours devoted to each.

Highway or Bridge Carpenter Helper, Mechanic Helper, Rodman/Chainman, Timekeeper, trainees will not be approved for the On-The-Job Training Program.

Painters, Electricians, and Mechanics are identified as crafts under-utilized by minorities. All training classifications except Laborers are identified as under-utilized by women.

Priority selection should also include those crafts under-utilized and/or void of minorities and/or women by that particular company's workforce.

If the Contractor does not select a training classification that has been targeted as an under-utilized craft, and those classifications can be used for the selection of training for this

project, the On-The-Job Training Schedule will not be approved unless written justification for exceptions is attached.

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EXCAVATION and EMBANKMENT

All excavation and embankment work shall conform to the requirements of the FDOT LAP Specification Section 120, "Earthwork and Related Operations for LAP (Off-system)", provided below, except as directed by the Engineer.

SECTION 120
EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM)

120-1 Description.

120-1.1 General: Perform earthwork and related operations based on the type of work specified in the Contract and the Earthwork Categories as defined below. Meet the applicable requirements for materials, equipment and construction as specified.

Earthwork and related operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes.

120-1.2 Earthwork Categories: Performance of Earthwork Operations will fall into one of the following Earthwork Categories:

120-1.2.1 Earthwork Category 1: Includes the earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities.

120-1.2.2 Earthwork Category 2: Includes the earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement.

120-1.2.3 Earthwork Category 3: Includes the earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement.

120-2 Classes of Excavation.

120-2.1 Excavation of Unsuitable Material: Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.

120-2.2 Lateral Ditch Excavation: Lateral ditch excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way. Dress lateral ditches to the grade and cross-section shown in the plans.

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120-2.3 Channel Excavation: Channel excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the plans.

120-2.4 Excavation for Structures and Pipe: Excavation for structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

120-3 Excavation Requirements.

120-3.1 Excavation and Replacement of Unsuitable Materials: Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of plus or minus 0.2 foot in depth and plus or minus 6 inches (each side) in width.

120-3.2 Lateral Ditch Excavation: Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the plans.

120-3.3 Channel Excavation: Excavate and dispose of all materials from the limits of the channel as shown in the plans. Excavate for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

120-3.4 Excavation for Structures and Pipe.

120-3.4.1 Requirements for all Excavation: Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.

120-3.4.2 Earth Excavation:

120-3.4.2.1 Foundation Material other than the Rock: When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.

120-3.4.2.2 Foundation Piles: Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all

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loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

120-3.4.2.3 Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.

120-3.4.3 Rock Excavation: Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.

120-3.4.4 Pipe Trench Excavation: Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified as suitable backfill material in 120-8.3.2.2 to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

120-4 Disposal of Surplus and Unsuitable Material.

120-4.1 Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the plans or, if the plans do not indicate the method of disposal, take ownership of the materials and dispose of them outside the right-of-way.

120-4.2 Disposal of Muck on Side Slopes: As an exception to the provisions of 120-4.1, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The Engineer will determine the limits adjacent to channels within which such materials may be disposed.

120-4.3 Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

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120-4.4 Disposal Areas: Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

Provide areas for disposal of removed paving materials out of sight of the project and at least 300 feet from the nearest roadway right-of-way line of any road. If the materials are buried, disregard the 300 foot limitation.

120-5 Materials for Embankment.

120-5.1 General Requirements for Embankment Materials: Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.

Construct the embankment using maximum particle sizes as follows:

In top 12 inches: 3 1/2 inches (in any dimension).

12 to 24 inches: 6 inches (in any dimension).

In the depth below 24 inches: not to exceed 12 inches (in any dimension)

or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-7.2.

When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.

120-5.2 Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.

120-5.3 Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until so ordered by the Engineer, and then only use material from approved borrow pits.

120-5.3.1 Haul Routes for Borrow Pits: Provide and maintain, at no expense to the Agency, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.

Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

120-5.3.2 Borrow Material for Shoulder Build-up: When so indicated in the

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plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

120-5.4 Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

120-6 Embankment Construction.

120-6.1 General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.

120-6.2 Dry Fill Method:

120-6.2.1 General: Construct embankments to meet compaction requirements in 120-7 and in accordance with the acceptance program requirements in 120-9. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-6.2.1.1 For A-3 and A-2-4 Materials with up to 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.

120-6.2.1.2 For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

120-6.2.1.3 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with 120-7.2.4.

120-6.2.2 Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions of 120-7.2.4 and 120-7.2.6.

120-6.2.3 Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or

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cut into steps the surface of the original ground on which the embankment is to be placed.

120-6.2.4 Placing Outside Standard Minimum Slope: Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.

120-6.3 Hydraulic Method:

120-6.3.1 Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is re-handled, or moved and placed in its final position by any other method, as specified in 120-7.2. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.

120-6.3.2 Excess Material: Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.

120-6.3.3 Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same depth of channel as existed before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

120-7 Compaction Requirements.

120-7.1 Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.

120-7.2 Compaction of Embankments:

120-7.2.1 Earthwork Category 1 and 2 Density Requirements: The Engineer will accept a minimum density of 95% of the maximum density as determined by AASHTO T-99 Method C for all earthwork items requiring densities.

120-7.2.2 Earthwork Category 3 Density Requirements: The Engineer will accept a minimum of 100% of the maximum density as determined by AASHTO T-99 Method C for all densities required under category 3.

Except for embankments constructed by the hydraulic method as specified in 120-6.3, and for the material placed outside the standard minimum slope as specified in 120-6.2.4, and for other areas

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specifically excluded herein, compact each layer of the material used in the formation of embankments to the required density stated above. Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.

120-7.2.3 Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided in 120-6.2.2), compact the top 6 inches (compacted thickness) of such layer to the density as specified in 120-9.5.

120-7.2.4 Compaction Where Plastic Material Has Been Removed: Where unsuitable material is removed and the remaining surface is of the A-4, A-5, A-6, or A-7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepsfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.

120-7.2.5 Compaction of Material To Be Used In Base, Pavement, or Stabilized Areas: Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.

120-7.2.6 Compaction of Grassed Shoulder Areas: For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.

120-7.2.7 Compaction of Grassed Embankment Areas: For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.

120-7.3 Compaction of Subgrade: If the plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in 120-9.5. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.

Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.

Maintain the required density until the base or pavement is placed on the subgrade.

120-8 Backfilling Around Structures and Pipe.

120-8.1 Requirements for all Structures:

120-8-1.1 General: Backfill around structures and pipe in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

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129-8.1.2 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps, wellpoints and header pipe and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, perforated pipe drains, sumps and siphons.

120-8.1.3 Backfill Materials: Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.

Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.

120-8.1.4 Use of A-7 Material: In the backfilling of trenches, A-7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A-7 material.

120-8.1.5 Time of Placing Backfill: Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28-day compressive strength occurs.

120-8.1.6 Placement and Compaction: When the backfill material is deposited in water, compact per 120-8.2.5 and 120-8.3.4. Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. The Engineer may approve placing material in thicker lifts of no more than 12 inches compacted thickness above the soil envelope if a test section demonstrates the required density can be achieved. Approval will be based on five passing density tests over the test section consisting of a lift of backfill from structure to structure. The Engineer will identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. The Engineer reserves the right to terminate the Contractor's use of thick lift construction and have him revert to the 6 inch compacted lifts whenever it is determined that satisfactory results are not being obtained.

120-8.2 Additional Requirements for Structures Other than Pipe:

120-8.2.1 Density: Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before the Engineer verifies layer and density requirements. Meet the requirements of the density Acceptance Criteria.

120-8.2.2 Box Culverts: For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.

120-8.2.3 Other Limited Areas: Compact in other limited areas using

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mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in². Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

120-8.2.4 Culverts and Piers: Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.

120-8.2.5 Compaction Under Wet Conditions: Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A-3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.

120-8.3 Additional Requirements for Pipe 15 Inches Inside Diameter or Greater: 120-

8.3.1 General: Trenches for pipe may have up to four zones that must be backfilled.

Lowest Zone: The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.

Bedding Zone: The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.

Cover Zone: The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.

Top Zone: The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.

120-8.3.2 Material:

120-8.3.2.1 Lowest Zone: Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.

120-8.3.2.2 Soil Envelope: In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A-1, A-2, or A-3. Material classified as A-4 may be used if the pipe is concrete pipe.

120-8.3.2.3 Top Zone: Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.

120-8.3.3 Compaction:

120-8.3.3.1 Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.

120-8.3.3.2 Bedding Zone: If the trench was not undercut below the

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bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.

If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).

120-8.3.3.3 Cover Zone: Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.

120-8.3.3.4 Top Zone: Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.

120-8.3.4 Backfill Under Wet Conditions: Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.

Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A-3. Place and compact the material using timbers or hand tampers until the backfill reaches an elevation such that it's moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.

120-9 Acceptance Program.

120-9.1 Density over 105%: When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, the Engineer will perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, the Engineer will test an additional sample for acceptance in accordance with AASHTO T 99, Method C.

120-9.2 Maximum Density Determination: The Engineer will determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in 120-9.3.

120-9.3 Density Testing Requirements: Compliance with the requirements of 120-9.5 will be determined in accordance FM 1-T 238. The in-place moisture content will be determined for each density in accordance with FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven).

120-9.4 Soil Classification: The Engineer will perform soil classification tests in accordance with AASHTO T-88, and classify soils in accordance with AASHTO M-145

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(Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes) in order to determine compliance with embankment utilization requirements.

120-9.5 Acceptance Criteria: The Engineer will accept a minimum density in accordance with 120-7.2 with the following exceptions:

- 1) embankment constructed by the hydraulic method as specified in 120-6.3;
- 2) material placed outside the standard minimum slope as specified in 120-6.2.4;
- 3) other areas specifically excluded herein.

120-9.6 Frequency: The Engineer will conduct sampling and testing at a minimum frequency listed in the table below.

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

120-10 Maintenance and Protection of Work.

While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.

Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the plans, until final acceptance of the project.

120-11 Construction.

120-11.1 Construction Tolerances: Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:

1. Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
2. Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.
3. Shape the bottom of ditches so that the ditch impounds no water.
4. When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the plans.

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120-11.2 Operations Adjacent to Pavement: Carefully dress areas adjacent to pavement areas to avoid damage to such pavement. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.

When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

120-12 Method of Measurement.

120-12.1 Excavation of Unsuitable Material: Excavation of unsuitable material will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation of unsuitable material, ~~lateral ditch excavation, channel excavation, and excavation for structures and pipe.~~ Payment will not be made for excavation or embankment beyond the limits shown in the plans or authorized by the Engineer.

~~120-12.2 Excavation, Embankment and Grading:~~ Shall be measured as contract unit price of lump sum ~~Measurement will be made on a loose volume basis, as measured in trucks or other hauling equipment at the point of dumping on the road. Payment will not be made for embankment beyond the limits shown in the plans or authorized by the Engineer.~~

120-13 Basis of Payment.

120-13.1 General: Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; and maintaining and protecting the complete earthwork.

120-13.2 Subsoil Excavation (Unsuitable Material): The total quantity of all unsuitable material excavation, disposal and replacement specified under this Section will be paid for at the Contract unit price for Subsoil Excavation. Payment shall also include the provision, placement, shaping, and compaction of suitable backfill material to replace the removed unsuitable material up to the original grade line or to the bottom of the proposed roadway base material, whichever is lower. No payment will be made for the excavation of any materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

~~120-13.3 Embankment:~~ The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment. ~~No payment will be made for materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials placed outside the lines and~~

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grades given by the Engineer.

120-13.3 Excavation, Embankment and Grading: The total quantity of excavation and embankment specified in this Section and performed for any purpose other than the removal of unsuitable materials and replacement as shown in plans will be paid for at the Contract lump sum price for Excavation, Embankment, and Grading. No additional payment shall be made in the event that measured earthwork quantities exceed those shown in plans.

Payment shall be made under:

120-1	REGULAR EXCAVATION	CY
120-4	SUBSOIL EXCAVATION (UNSUITABLE MATERIAL)	CY
120-6	EMBANKMENT	CY
120-9	EXCAVATION, EMBANKMENT, AND GRADING	LS

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REVISED TP 334 – Superpave Asphaltic Concrete Pavement

SUPERPAVE ASPHALTIC CONCRETE PAVING

All asphaltic concrete paving work shall conform to the requirements of the FDOT LAP Specification Section 334, "Hot Mix Asphalt for LAP (Off-system)", provided below, except as directed by the Engineer.

**SECTION 334
HOT MIX ASPHALT FOR LAP (OFF-SYSTEM)**

334-1 Description.

334-1.1 General: Construct a Hot Mix Asphalt (HMA) pavement based on the type of work specified in the Contract and the Asphalt Work Categories as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use a HMA mix that meets the requirements of this specification

334-1.2 Asphalt Work Mix Categories: Construction of Hot Mix Asphalt Pavement will fall into one of the following work categories:

334-1.2.1 Asphalt Work Category 1: Includes the construction of bike paths and miscellaneous asphalt.

334-1.2.2 Asphalt Work Category 2: Includes the construction of new HMA turn lanes, paved shoulders and other non-mainline pavement locations.

334-1.2.3 Asphalt Work Category 3: Includes the construction of new mainline HMA pavement lanes, milling and resurfacing.

334-1.3 Mix Types: Use the appropriate HMA mix as shown in Table 334-1.

Table 334-1 HMA Mix Types			
Asphalt Work Category	Mix Types	Traffic Level	ESALs (millions)
1	Type SP-9.5 ⁽¹⁾	A	<0.3
2	Structural Mixes: Types SP-9.5 or SP-12.5 ⁽¹⁾ Friction Mixes: Types FC-9.5 or FC-12.5 ⁽¹⁾	B	0.3 to <3
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C	≥3

(1) Equivalent mixes may be approved as determined by the Engineer. For example, Marshall S-III mixture type is equivalent to Superpave SP-9.5, Marshall S-I is equivalent to Superpave SP-12.5, and Marshall FC-3 is equivalent to Superpave FC-9.5.

A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost (i.e. Traffic Level B may be substituted for

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Traffic Level A, etc.). Traffic levels are as defined in Section 334 of the Department's Standard Specifications for Road and Bridge Construction.

334-1.4 Gradation Classification: HMA mixes are classified as either coarse or fine, depending on the overall gradation of the mixture. Coarse and fine mixes are defined in 334-3.2.2. Use only fine mixes.

The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5, FC-9.5	9.5 mm
Type SP-12.5, FC-12.5	12.5 mm

334-1.5 Thickness: The total pavement thickness of the HMA pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

$$\text{Spread rate (lbs/yd}^2\text{)} = t \times G_{mm} \times 43.3$$

where: t = Thickness (in.) (Plan thickness or individual layer thickness)
 G_{mm} = Maximum specific gravity from the mix design

For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

334-1.5.1 Layer Thicknesses: Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for HMA mixtures are as follows:

Type SP-9.5, FC-9.5	3/4 – 1-1/2 inches
Type SP-12.5, FC-12.5	1 1/2 – 2-1/2 inches

334-1.5.2 Additional Requirements: The following requirements also apply to HMA mixtures:

1. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.
2. For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness may be increased by 1/2 inch, unless called for differently in the Contract Documents.

334-1.6 Weight of Mixture: The weight of the mixture shall be determined as provided in 320-3.2 of the Florida Department of Transportation (FDOT) specifications.

334-2 Materials.

334-2.1 Superpave Asphalt Binder: Unless specified elsewhere in the Contract or in 334-2.3.3, use a PG 67-22 asphalt binder from the FDOT's Qualified Products List (QPL). If the

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Contract calls for an alternative binder, meet the requirements of FDOT Specifications Section 336 or 916, as appropriate.

334-2.2 Aggregate: Use aggregate capable of producing a quality pavement.

For Type FC mixes, use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

1. Up to 40% fine aggregate from other sources; or,
2. A combination of up to 20% RAP and the remaining fine aggregate

from other sources.

A list of aggregates approved for use in friction courses may be available on the FDOT's State Materials Office website. The URL for obtaining this information, if available, is: <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

334-2.3 Reclaimed Asphalt Pavement (RAP) Material:

334-2.3.1 General requirements: RAP may be used as a component of the asphalt mixture, if approved by the Engineer. Usage of RAP is subject to the following requirements:

1. Limit the amount of RAP material used in the mix to a maximum of 50% by weight of total aggregate.
2. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.
3. Provide RAP material having a minimum average asphalt content of 4.0% by weight of total mix. The Engineer may sample the stockpile to verify that this requirement is met.
4. Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

334-2.3.2 Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific gravity (G_{sb}) of the RAP material based on a representative sampling of the material.

334-2.3.3 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade based on Table 334-2. Maintain the viscosity of the recycled mixture within the range of 5,000 to 15,000 poises.

Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
< 20	PG 67-22

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Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
20 – 29	PG 64-22
≥ 30	Recycling Agent

334-3 Composition of Mixture.

334-3.1 General: Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

334-3.2 Mix Design:

334-3.2.1 General: Design the asphalt mixture in accordance with AASHTO R 35-09, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer’s conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. As an exception to these requirements, use a currently approved FDOT Mix Design.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

334-3.2.2 Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M 323-07, Table 3. Aggregates from various sources may be combined.

334-3.2.2.1 Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-07, Table-3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-07, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes.

334-3.2.3 Gyrotory Compaction: Compact the design mixture in accordance with AASHTO T312-09. Use the number of gyrations as defined in AASHTO R35-09, Table 1.

334-3.2.4 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-07, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-07, Table 6.

334-3.2.5 Moisture Susceptibility: Test 4 inch specimens in accordance with FM 1-T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT’s Qualified Products List or hydrated lime in order to meet these criteria.

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In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified Products List. Add 0.5% liquid anti-stripping agent by weight of binder.

334-3.2.6 Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations (N_{design}).
2. The source and description of the materials to be used.
3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source (if required).
4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.
5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.
6. The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component.
7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.
8. A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.
9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.
10. The name of the mix designer.
11. The ignition oven calibration factor.

334-4 Process Control.

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway to control the process.

334-5 General Construction Requirements.

334-5.1 Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

334-5.2 Limitations of Laying Operations:

334-5.2.1 General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and is dry.

334-5.2.2 Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40°F for layers greater than 1 inch (100 lb per square yard) in thickness and at least 45°F for layers 1 inch (100 lb per square yard) or less in

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thickness (this includes leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb per square yard or less is 50°F.

334-5.3 Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of plus or minus 30°F from the target temperature as shown on the mix design. Reject all loads outside of this range.

334-5.4 Transportation of the Mixture: Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times.

334-5.5 Preparation of Surfaces Prior to Paving:

334-5.5.1 Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

334-5.5.2 Patching and Leveling Courses: As shown in the plans, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

334-5.5.3 Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

334-5.5.4 Tack Coat: Use a rate of application as defined in Table 334-3. Control the rate of application to be within plus or minus 0.01 gal. per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine the rate of application as needed to control the operation. When using RA-550, multiply the target rate of application by 0.6.

Table 334-3 Tack Coat Application Rates		
Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd ²)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.02 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08
Open Graded Friction Course	Newly Constructed Asphalt Layers	0.05
	Milled Surface	0.07

334-5.6 Paving:

334-5.6.1 Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than plus or minus 1.5 inches from the stringline.

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334-5.6.2 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-5.3, the Contractor may then place the mixture caught in transit.

334-5.6.3 Checking Depth of Layer: Check the depth of each layer at frequent intervals to ensure a uniform spread rate that will meet the requirements of the Contract.

334-5.6.4 Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

334-5.6.5 Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.

334-5.6.6 Thickness Control: Ensure the spread rate is within 10% of the target spread rate, as indicated in the Contract. When calculating the spread rate, use, at a minimum, an average of five truckloads of mix. When the average spread rate is beyond plus or minus 10% of the target spread rate, monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain an average spread rate within plus or minus 10% of the target spread rate for two consecutive days, the Engineer may elect to stop the construction operation at any time until the issue is resolved.

When the average spread rate for the total structural or friction course pavement thickness exceeds the target spread rate by ± 50 lbs per sy for layers ≥ 2.5 inches or exceeds the target spread rate by ± 25 lbs per sy for layers < 2.5 inches, address the unacceptable pavement in accordance with 334-5.10.4, unless an alternative approach is agreed upon by the Engineer.

334-5.7 Leveling Courses:

334-5.7.1 Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface as shown in the plans.

334-5.7.2 Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

334-5.7.3 Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 pounds per square yard or more than 75 pounds per square yard. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

334-5.8 Compaction: For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

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When density testing for acceptance is required, select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

When density testing for acceptance is not required, use a rolling pattern approved by the Engineer.

Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

334-5.9 Joints.

334-5.9.1 Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge. These requirements are waived for transverse joints at the beginning and end of the project and at the beginning and end of bridge structures, if the deficiencies are caused by factors beyond the control of the Contractor such as no milling requirement, as determined by the Engineer. When smoothness requirements are waived, construct a reasonably smooth transitional joint.

334-5.9.2 Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheel paths. The Engineer may waive these requirements where offsetting is not feasible due to the sequence of construction.

334-5.10 Surface Requirements: Construct a smooth pavement with good surface texture and the proper cross slope.

334-5.10.1 Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-5.10.4.

334-5.10.2 Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.

334-5.10.3 Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509.

334-5.10.3.1 Straightedge Testing:

334-5.10.3.1.1 Acceptance Testing: Using a rolling straightedge, test the final (top) layer of the pavement. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.

334-5.10.3.1.2 Final (Top) Pavement Layer: At the completion of all paving operations, straightedge the final (top) layer either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with 334-5.10.4, unless waived by the Engineer. Retest all corrected areas.

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334-5.10.3.1.3 Straightedge Exceptions: Straightedge testing will not be required in the following areas: shoulders, intersections, tapers, crossovers, sidewalks, bicycle/shared use paths, parking lots and similar areas, or in the following areas when they are less than 250 feet in length: turn lanes, acceleration/deceleration lanes and side streets. In the event the Engineer identifies a surface irregularity in the above areas that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch in accordance with 334-5.10.4.

334-5.10.4 Correcting Unacceptable Pavement: Correct deficiencies in the pavement layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane, at no additional cost.

334-6 Acceptance of the Mixture.

334-6.1 General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

1. Asphalt Work Category 1 – Certification by the Contractor as defined in 334-6.2.
2. Asphalt Work Category 2 – Certification and process control testing by the Contractor as defined in 334-6.3
3. Asphalt Work Category 3 – Process control testing by the Contractor and acceptance testing by the Engineer as defined in 334-6.4.

334-6.2 Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications. The Engineer may run independent tests to determine the acceptability of the material.

334-6.3 Certification and Process Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications, along with supporting test data documenting all process control testing as described in 334-6.3.1. If required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the process control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material. .

334-6.3.1 Process Control Sampling and Testing Requirements: Perform process control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1-T 168. Test the mixture at the plant for gradation (P-8 and P-200) and asphalt binder content (P_b). Measure the roadway density with 6 inch diameter roadway cores at a minimum frequency of once per 1,500 feet of pavement with a minimum of three cores per day.

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Determine the asphalt binder content of the mixture in accordance with FM 5-563. Determine the gradation of the recovered aggregate in accordance with FM 1-T 030. Determine the roadway density in accordance with FM 1-T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design G_{mm} is no longer representative of the asphalt mixture being produced, then a new G_{mm} value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in 334-6.4.1. Assure that the asphalt binder content, gradation and density test results meet the criteria in Table 334-4.

Table 334-4 Process Control and Acceptance Values	
Characteristic	Tolerance
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00
Roadway Density (daily average)	Minimum 91.5% of G _{mm}
Roadway Density (any single core)	Minimum 88.0 % of G _{mm}

334-6.4 Process Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform process control testing as described in 334-6.3.1. In addition, the Engineer will accept the mixture at the plant with respect to gradation (P₈ and P₂₀₀) and asphalt binder content (P_b). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in 334-6.3.1. The Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 334-4. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

334-6.4.1 Acceptance Testing Exceptions: When the total quantity of any mix type in the project is less than 500 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, any asphalt layer placed on subgrade (regardless of type), miscellaneous asphalt pavement, bike/shared use paths, crossovers, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lb per square yard. Density testing for acceptance will not be performed on asphalt courses placed on bridge decks or approach slabs. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet continuous in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, or ramps. Density testing for acceptance will not be performed in

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intersections. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-7 Method of Measurement.

For the work specified under this Section, the quantity to be paid for will be the ~~weight of the mixture, in tons~~ square yards of pavement placed.

The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified in 334-5.5.4. There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix.

334-8 Basis of Payment.

334-8.1 General: Price and payment will be full compensation for all the work specified under this Section.

Payment shall be made under:

334-1-12	SUPERPAVE ASPHALTIC CONC. (SP-9.5) (TRAF. LEVEL B) (INCL. TACK COAT) (3")	TN
<u>334-1-12-1</u>	<u>SUPERPAVE ASPHALTIC CONC. (SP-9.5) (TRAF. LEVEL B) (INCL. TACK COAT) (1")</u>	<u>SY</u>
<u>334-1-12-2</u>	<u>SUPERPAVE ASPHALTIC CONC. (SP-9.5) (TRAF. LEVEL B) (INCL. TACK COAT) (3")</u>	<u>SY</u>

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SUPERPAVE ASPHALTIC CONCRETE FRICTION COURSES

All asphaltic concrete friction course shall conform to the requirements of the FDOT LAP Specification Section 334, “Hot Mix Asphalt for LAP (Off-system)”, provided below, except as directed by the Engineer.

**SECTION 334
 HOT MIX ASPHALT FOR LAP (OFF-SYSTEM)**

334-1 Description.

334-1.1 General: Construct a Hot Mix Asphalt (HMA) pavement based on the type of work specified in the Contract and the Asphalt Work Categories as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use a HMA mix that meets the requirements of this specification

334-1.2 Asphalt Work Mix Categories: Construction of Hot Mix Asphalt Pavement will fall into one of the following work categories:

334-1.2.1 Asphalt Work Category 1: Includes the construction of bike paths and miscellaneous asphalt.

334-1.2.2 Asphalt Work Category 2: Includes the construction of new HMA turn lanes, paved shoulders and other non-mainline pavement locations.

334-1.2.3 Asphalt Work Category 3: Includes the construction of new mainline HMA pavement lanes, milling and resurfacing.

334-1.3 Mix Types: Use the appropriate HMA mix as shown in Table 334-1.

Table 334-1 HMA Mix Types			
Asphalt Work Category	Mix Types	Traffic Level	ESALs (millions)
1	Type SP-9.5 ⁽¹⁾	A	<0.3
2	Structural Mixes: Types SP-9.5 or SP-12.5 ⁽¹⁾ Friction Mixes: Types FC-9.5 or FC-12.5 ⁽¹⁾	B	0.3 to <3
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C	≥3

(1) Equivalent mixes may be approved as determined by the Engineer. For example, Marshall S-III mixture type is equivalent to Superpave SP-9.5, Marshall S-I is equivalent to Superpave SP-12.5, and Marshall FC-3 is equivalent to Superpave FC-9.5.

A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost (i.e. Traffic Level B may be substituted for

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Traffic Level A, etc.). Traffic levels are as defined in Section 334 of the Department's Standard Specifications for Road and Bridge Construction.

334-1.4 Gradation Classification: HMA mixes are classified as either coarse or fine, depending on the overall gradation of the mixture. Coarse and fine mixes are defined in 334-3.2.2. Use only fine mixes.

The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5, FC-9.5	9.5 mm
Type SP-12.5, FC-12.5	12.5 mm

334-1.5 Thickness: The total pavement thickness of the HMA pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

$$\text{Spread rate (lbs/yd}^2\text{)} = t \times G_{\text{mm}} \times 43.3$$

where: t = Thickness (in.) (Plan thickness or individual layer thickness)
 G_{mm} = Maximum specific gravity from the mix design

For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

334-1.5.1 Layer Thicknesses: Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for HMA mixtures are as follows:

Type SP-9.5, FC-9.5	3/4 – 1-1/2 inches
Type SP-12.5, FC-12.5	1 1/2 – 2-1/2 inches

334-1.5.2 Additional Requirements: The following requirements also apply to HMA mixtures:

1. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.

2. For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness may be increased by 1/2 inch, unless called for differently in the Contract Documents.

334-1.6 Weight of Mixture: The weight of the mixture shall be determined as provided in 320-3.2 of the Florida Department of Transportation (FDOT) specifications.

334-2 Materials.

334-2.1 Superpave Asphalt Binder: Unless specified elsewhere in the Contract or in 334-2.3.3, use a PG 67-22 asphalt binder from the FDOT's Qualified Products List (QPL). If the

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Contract calls for an alternative binder, meet the requirements of FDOT Specifications Section 336 or 916, as appropriate.

334-2.2 Aggregate: Use aggregate capable of producing a quality pavement.

For Type FC mixes, use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

1. Up to 40% fine aggregate from other sources; or,
2. A combination of up to 20% RAP and the remaining fine aggregate

from other sources.

A list of aggregates approved for use in friction courses may be available on the FDOT's State Materials Office website. The URL for obtaining this information, if available, is: <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

334-2.3 Reclaimed Asphalt Pavement (RAP) Material:

334-2.3.1 General requirements: RAP may be used as a component of the asphalt mixture, if approved by the Engineer. Usage of RAP is subject to the following requirements:

1. Limit the amount of RAP material used in the mix to a maximum of 50% by weight of total aggregate.
2. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.
3. Provide RAP material having a minimum average asphalt content of 4.0% by weight of total mix. The Engineer may sample the stockpile to verify that this requirement is met.
4. Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

334-2.3.2 Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific gravity (G_{sb}) of the RAP material based on a representative sampling of the material.

334-2.3.3 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade based on Table 334-2. Maintain the viscosity of the recycled mixture within the range of 5,000 to 15,000 poises.

Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
< 20	PG 67-22

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Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
20 – 29	PG 64-22
≥ 30	Recycling Agent

334-3 Composition of Mixture.

334-3.1 General: Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

334-3.2 Mix Design:

334-3.2.1 General: Design the asphalt mixture in accordance with AASHTO R 35-09, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer’s conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. As an exception to these requirements, use a currently approved FDOT Mix Design.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

334-3.2.2 Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M 323-07, Table 3. Aggregates from various sources may be combined.

334-3.2.2.1 Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-07, Table-3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-07, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes.

334-3.2.3 Gyrotory Compaction: Compact the design mixture in accordance with AASHTO T312-09. Use the number of gyrations as defined in AASHTO R35-09, Table 1.

334-3.2.4 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-07, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-07, Table 6.

334-3.2.5 Moisture Susceptibility: Test 4 inch specimens in accordance with FM 1-T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT’s Qualified Products List or hydrated lime in order to meet these criteria.

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In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified Products List. Add 0.5% liquid anti-stripping agent by weight of binder.

334-3.2.6 Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations (N_{design}).
2. The source and description of the materials to be used.
3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source (if required).
4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.
5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.
6. The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component.
7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.
8. A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.
9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.
10. The name of the mix designer.
11. The ignition oven calibration factor.

334-4 Process Control.

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway to control the process.

334-5 General Construction Requirements.

334-5.1 Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

334-5.2 Limitations of Laying Operations:

334-5.2.1 General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and is dry.

334-5.2.2 Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40°F for layers greater than 1 inch (100 lb per square yard) in thickness and at least 45°F for layers 1 inch (100 lb per square yard) or less in

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thickness (this includes leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb per square yard or less is 50°F.

334-5.3 Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of plus or minus 30°F from the target temperature as shown on the mix design. Reject all loads outside of this range.

334-5.4 Transportation of the Mixture: Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times.

334-5.5 Preparation of Surfaces Prior to Paving:

334-5.5.1 Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

334-5.5.2 Patching and Leveling Courses: As shown in the plans, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

334-5.5.3 Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

334-5.5.4 Tack Coat: Use a rate of application as defined in Table 334-3. Control the rate of application to be within plus or minus 0.01 gal. per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine the rate of application as needed to control the operation. When using RA-550, multiply the target rate of application by 0.6.

Table 334-3
Tack Coat Application Rates

Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd ²)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.02 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08
Open Graded Friction Course	Newly Constructed Asphalt Layers	0.05
	Milled Surface	0.07

334-5.6 Paving:

334-5.6.1 Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than plus or minus 1.5 inches from the stringline.

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334-5.6.2 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-5.3, the Contractor may then place the mixture caught in transit.

334-5.6.3 Checking Depth of Layer: Check the depth of each layer at frequent intervals to ensure a uniform spread rate that will meet the requirements of the Contract.

334-5.6.4 Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

334-5.6.5 Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.

334-5.6.6 Thickness Control: Ensure the spread rate is within 10% of the target spread rate, as indicated in the Contract. When calculating the spread rate, use, at a minimum, an average of five truckloads of mix. When the average spread rate is beyond plus or minus 10% of the target spread rate, monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain an average spread rate within plus or minus 10% of the target spread rate for two consecutive days, the Engineer may elect to stop the construction operation at any time until the issue is resolved.

When the average spread rate for the total structural or friction course pavement thickness exceeds the target spread rate by ± 50 lbs per sy for layers ≥ 2.5 inches or exceeds the target spread rate by ± 25 lbs per sy for layers < 2.5 inches, address the unacceptable pavement in accordance with 334-5.10.4, unless an alternative approach is agreed upon by the Engineer.

334-5.7 Leveling Courses:

334-5.7.1 Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface as shown in the plans.

334-5.7.2 Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

334-5.7.3 Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 pounds per square yard or more than 75 pounds per square yard. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

334-5.8 Compaction: For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

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When density testing for acceptance is required, select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

When density testing for acceptance is not required, use a rolling pattern approved by the Engineer.

Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

334-5.9 Joints.

334-5.9.1 Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge. These requirements are waived for transverse joints at the beginning and end of the project and at the beginning and end of bridge structures, if the deficiencies are caused by factors beyond the control of the Contractor such as no milling requirement, as determined by the Engineer. When smoothness requirements are waived, construct a reasonably smooth transitional joint.

334-5.9.2 Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheel paths. The Engineer may waive these requirements where offsetting is not feasible due to the sequence of construction.

334-5.10 Surface Requirements: Construct a smooth pavement with good surface texture and the proper cross slope.

334-5.10.1 Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-5.10.4.

334-5.10.2 Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.

334-5.10.3 Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509.

334-5.10.3.1 Straightedge Testing:

334-5.10.3.1.1 Acceptance Testing: Using a rolling straightedge, test the final (top) layer of the pavement. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.

334-5.10.3.1.2 Final (Top) Pavement Layer: At the completion of all paving operations, straightedge the final (top) layer either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with 334-5.10.4, unless waived by the Engineer. Retest all corrected areas.

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334-5.10.3.1.3 Straightedge Exceptions: Straightedge testing will not be required in the following areas: shoulders, intersections, tapers, crossovers, sidewalks, bicycle/shared use paths, parking lots and similar areas, or in the following areas when they are less than 250 feet in length: turn lanes, acceleration/deceleration lanes and side streets. In the event the Engineer identifies a surface irregularity in the above areas that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch in accordance with 334-5.10.4.

334-5.10.4 Correcting Unacceptable Pavement: Correct deficiencies in the pavement layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane, at no additional cost.

334-6 Acceptance of the Mixture.

334-6.1 General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

1. Asphalt Work Category 1 – Certification by the Contractor as defined in 334-6.2.
2. Asphalt Work Category 2 – Certification and process control testing by the Contractor as defined in 334-6.3
3. Asphalt Work Category 3 – Process control testing by the Contractor and acceptance testing by the Engineer as defined in 334-6.4.

334-6.2 Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications. The Engineer may run independent tests to determine the acceptability of the material.

334-6.3 Certification and Process Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications, along with supporting test data documenting all process control testing as described in 334-6.3.1. If required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the process control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material. .

334-6.3.1 Process Control Sampling and Testing Requirements: Perform process control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1-T 168. Test the mixture at the plant for gradation (P-8 and P-200) and asphalt binder content (P_b). Measure the roadway density with 6 inch diameter roadway cores at a minimum frequency of once per 1,500 feet of pavement with a minimum of three cores per day.

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Determine the asphalt binder content of the mixture in accordance with FM 5-563. Determine the gradation of the recovered aggregate in accordance with FM 1-T 030. Determine the roadway density in accordance with FM 1-T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design G_{mm} is no longer representative of the asphalt mixture being produced, then a new G_{mm} value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in 334-6.4.1. Assure that the asphalt binder content, gradation and density test results meet the criteria in Table 334-4.

Table 334-4 Process Control and Acceptance Values	
Characteristic	Tolerance
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00
Roadway Density (daily average)	Minimum 91.5% of G _{mm}
Roadway Density (any single core)	Minimum 88.0 % of G _{mm}

334-6.4 Process Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform process control testing as described in 334-6.3.1. In addition, the Engineer will accept the mixture at the plant with respect to gradation (P₈ and P₂₀₀) and asphalt binder content (P_b). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in 334-6.3.1. The Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 334-4. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

334-6.4.1 Acceptance Testing Exceptions: When the total quantity of any mix type in the project is less than 500 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, any asphalt layer placed on subgrade (regardless of type), miscellaneous asphalt pavement, bike/shared use paths, crossovers, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lb per square yard. Density testing for acceptance will not be performed on asphalt courses placed on bridge decks or approach slabs. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet continuous in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, or ramps. Density testing for acceptance will not be performed in

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intersections. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-7 Method of Measurement.

For the work specified under this Section, the quantity to be paid for will be ~~the weight of the mixture, in tons~~ square yards of pavement placed.

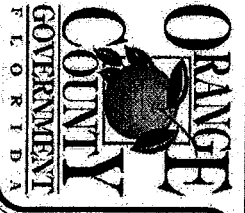
The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent and the tack coat application as specified in 334-5.5.4. There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix.

334-8 Basis of Payment.

334-8.1 General: Price and payment will be full compensation for all the work specified under this Section.

Payment shall be made under:

337-7-43	ASPHALTIC CONC. FRICTION COURSE (TRAF. LEVEL C) (FC-12.5) (PG 76-22) (1.5")	<u>TN-SY</u>
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CONSTRUCTION PLANS FOR

PINE HILLS TRAIL

(FROM ALHAMBRA DRIVE TO SILVER STAR ROAD)

CONTRACT NO.: Y13-914
FINAL DESIGN

DISTRICT NO.: 6

ORANGE COUNTY, FLORIDA

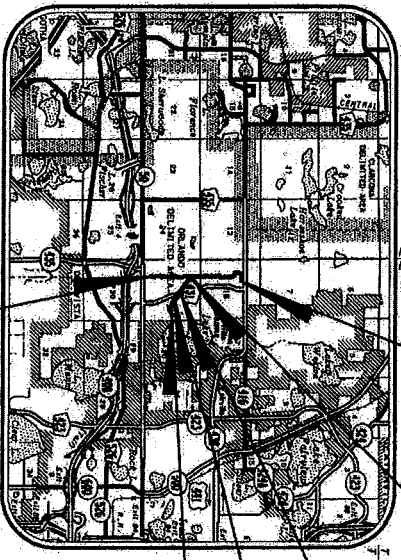
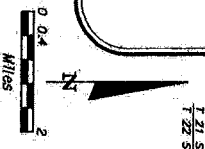
FPN 428047-1-58-01 / FAN 8886-571-A

REVISIONS:
A. ROADWAY SHEETS & 34, 44, 45,
52, 153-162, 172, 187, 191
STRUCTURES SHEETS B-7
(10-20-19)

SOURCE OF BENCHMARK DATUM

B.M. 1 (1672301)
N. 53097.968
STA. 29+45.26 43.93 RT
FID. 3 ALUM. DISC.
B.M. 2 (51358030)
N. 5097.99844
STA. 29+45.88 45.88 LT
FID. 3 ALUM. DISC.
B.M. 3 (51358031)
N. 5097.99844
STA. 29+45.88 45.88 LT
FID. 3 ALUM. DISC.
SEE PROJECT LAYOUT SHEETS FOR
ADDITIONAL B.M. INFORMATION

PROJECT LENGTH:	FEET	MILES
ROADWAY:	14,982.68	2.838
EXIST. BRIDGES:	31.24	0.006
TOTAL LENGTH:	15,013.92	2.844



END CONST.
STA. 299+20.00
ECONST1

BEGIN CONST.
STA. 400+06.00
ECONST2

END PROJECT
STA. 607+44.23
ECONST3

BEGIN CONST.
STA. 600+14.04
ECONST3

END CONST.
STA. 443+97.73
ECONST2

BEGIN PROJECT
STA. 200+08.00
ECONST1

NOTE

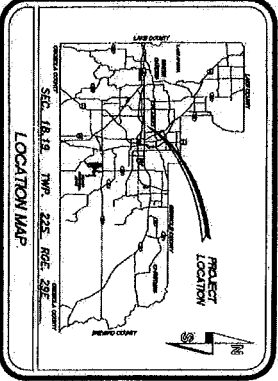
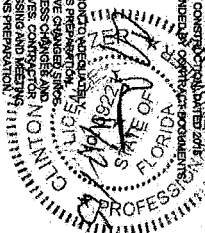
PLANS WERE PREPARED ACCORDING TO AVAILABLE INFORMATION ON RECORD MAPS AND ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PLANS PREPARATION. THE CONTRACTOR SHALL VERIFY ALL ADDRESS CONDITIONS AND NEEDS WITH THE PROPERTY OWNER OR THEIR REPRESENTATIVES. CONTRACTOR SHALL WORK WITH THE COUNTY'S REPRESENTATIVE IN ADDRESSING AND MEETING NEEDS AND CONDITIONS THAT MAY HAVE CHANGED SINCE PLANS PREPARATION.

CERTIFICATION TO PLANS

I HEREBY CERTIFY THAT THE DESIGN FOR THIS PROJECT AND THE ATTACHED CONSTRUCTION PLANS COMPLY WITH THE REQUIREMENTS OF SECTION 38.06 OF THE FLORIDA STATUTES AND ARE IN SUBSTANTIAL CONFORMANCE WITH THE STANDARDS CONTAINED IN THE EDITION OF THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS IN EFFECTION THIS DATE AS ADOPTED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION PURSUANT TO SUBSECTION 38.06(4)(f) OF THE FLORIDA STATUTES.

DATE: JAN 16, 2025 ENGINEER: ERIC W. PATZER, P.E. 06-8892

TERESA JACOBS, COUNTY MAYOR
BOARD OF COUNTY COMMISSIONERS
S. SCOTT BOYD DISTRICT 1
BRYAN NELSON DISTRICT 2
PETE CLARKE DISTRICT 3
JENNIFER THOMPSON DISTRICT 4
TED B. EDWARDS DISTRICT 5
VICTORIA SIPPIN DISTRICT 6
MARK MASSARO, P.E. PUBLIC WORKS DIRECTOR



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SHEET	DESCRIPTION
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16-23	STANDARD OF EROSION CONTROL QUANTITIES
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B-8 - B-10	LANDSCAPING PLANS
C-1 - C-8	LANDSCAPING PLANS

UTILITIES ENCOUNTERED

UTILITY OWNER	TELEPHONE NUMBER
BEHRENDT POWER NETWORKS, LLC	407-533-5505
FLORIDA POWER & LIGHT COMPANY	888-707-6744
FLORIDA WATER MANAGEMENT SERVICES, INC.	720-888-2851
FLORIDA TELECOMUNICATIONS LLC	720-888-2851
FLORIDA STATE UTILITIES	720-418-2105
FLORIDA STATE UTILITIES	407-544-8756
FLORIDA STATE UTILITIES	352-437-7920
FLORIDA STATE UTILITIES	352-437-7920
FLORIDA STATE UTILITIES	352-437-7920
FLORIDA STATE UTILITIES	352-437-7920

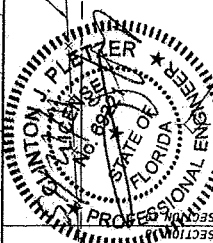
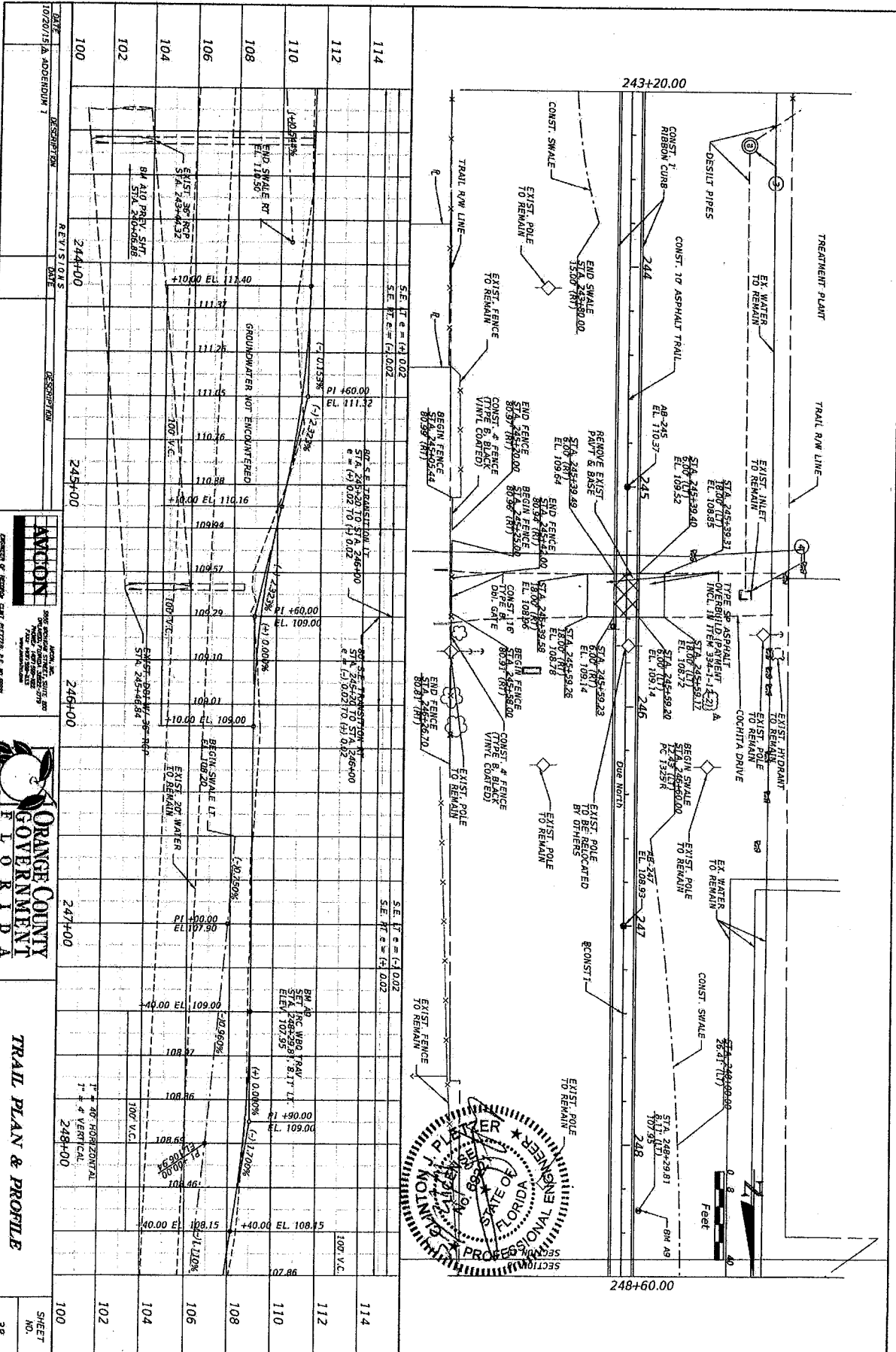
PREPARED BY: AMPCON

NO.	DATE	BY
1	10/20/25	CP

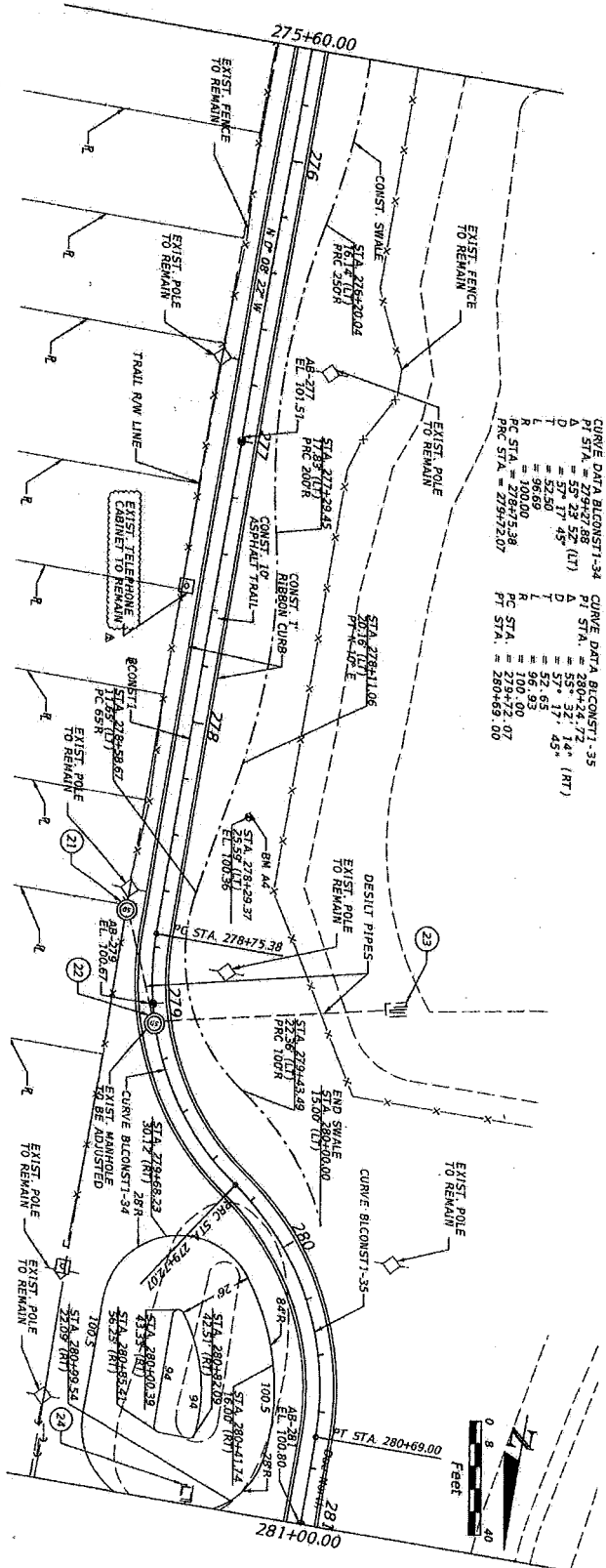
DATE	BY
10/20/25	CP

DATE: 10/20/25
BY: CP

SHEET 1 OF 202



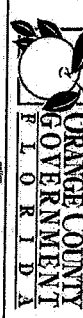
TRAIL PLAN & PROFILE



CURVE DATA B/C ONST-34
 PI STA. = 279+47.89
 Δ = 55° 23' 52" (LT)
 D = 57' 17" 45"
 L = 36.69
 R STA. = 278+53.8
 PC STA. = 278+12.07
 PT STA. = 279+47.89

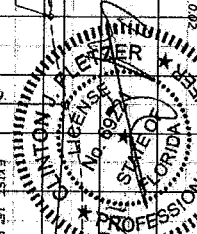
CURVE DATA B/C ONST-35
 PI STA. = 279+72.07
 Δ = 55° 33' 14" (RT)
 D = 57' 17" 45"
 L = 36.69
 R STA. = 280+49.9
 PC STA. = 279+72.07
 PT STA. = 280+49.9

STATION	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
106	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
104	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
102	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
100	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
98	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
96	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
94	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			
92	SE 1/4 = (-) 0.02 SE 1/4 = (+) 0.02			

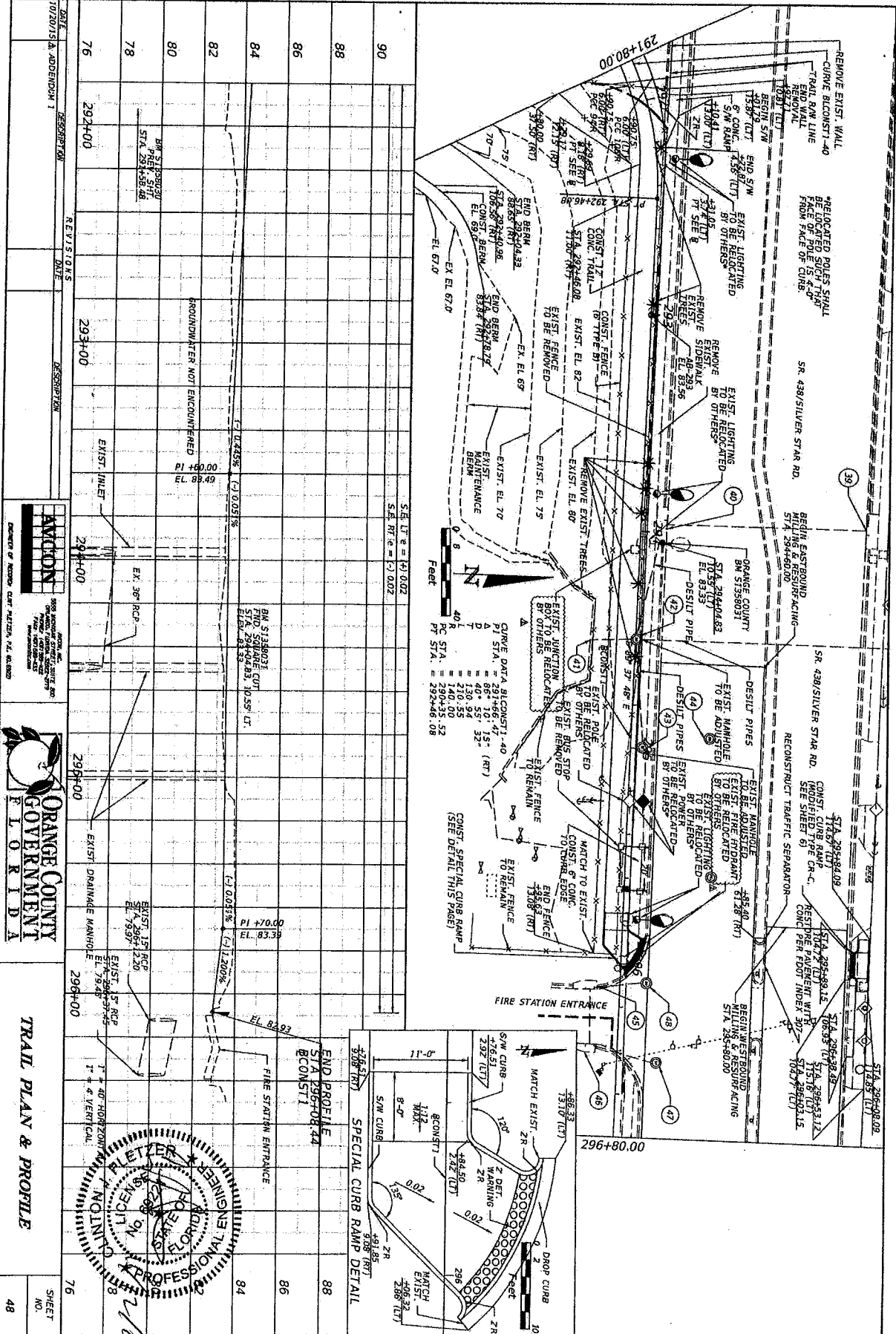


TRAIL PLAN & PROFILE

SHEET NO. 44

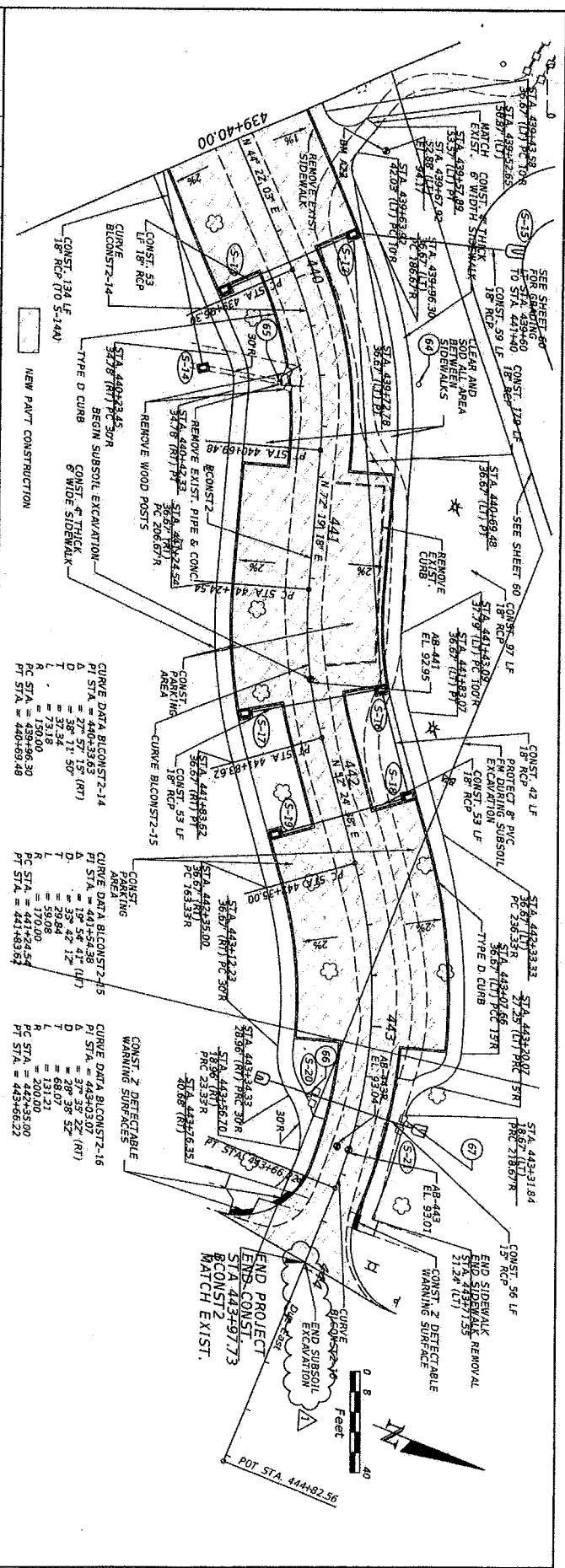


DATE: 10/20/18
 10/20/18 A. ADERHOUK 1
 REVISIONS: 276+00, 277+00, 278+00, 279+00, 280+00, 281+00 92



STATION	DESCRIPTION	DATE	REVISIONS
291+80.00	RELOCATED POLES SHALL BE LOCATED SUCH THAT FROM FACE OF CURB		
292+00	REMOVE EXIST. WALL		
293+00	REMOVE EXIST. WALL		
294+00	REMOVE EXIST. WALL		
295+00	REMOVE EXIST. WALL		
296+00	REMOVE EXIST. WALL		

ORANGE COUNTY GOVERNMENT
 FLORIDA
 TRAIL PLAN & PROFILE
 SHEET NO. 48



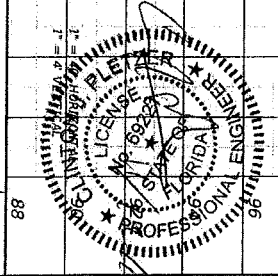
STATION	ELEVATION	DESCRIPTION
88	EL. 88.12	18' RCP
90	EL. 93.52	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL
92	EL. 93.62	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL
94	EL. 93.72	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL
96	EL. 93.82	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL
98	EL. 93.92	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL
100	EL. 94.02	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL
102	EL. 94.12	ESTIMATED SEASONAL HIGH GROUND WATER LEVEL

DATE: 10/20/15
 REVISIONS:
 1. 10/20/15 A. MODIFIED I

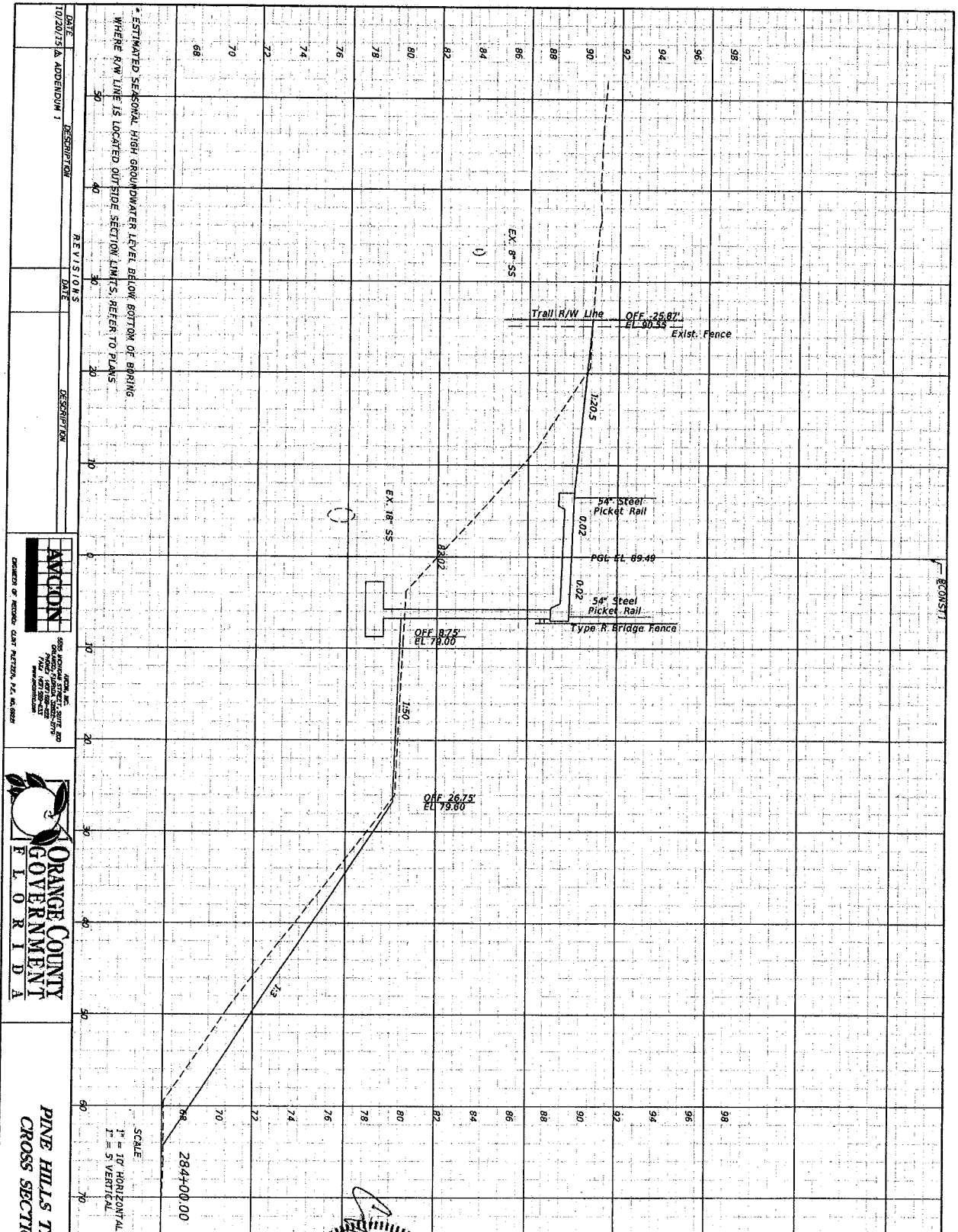


TRAIL PLAN & PROFILE

SHEET NO. 57

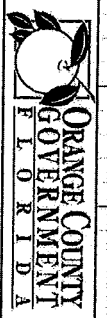
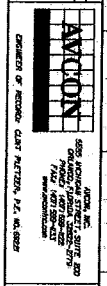


10/20/15 A. MODIFIED I



* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL BELOW BOTTOM OF BORING WHERE R/W LINE IS LOCATED OUTSIDE SECTION LIMITS. REFER TO PLANS.

DATE	DESCRIPTION	DATE	DESCRIPTION
10/20/15	A ADDENDUM 1		



PINE HILLS TRAIL CROSS SECTIONS

DATE: 10/20/15
 DRAWN BY: [Name]
 CHECKED BY: [Name]

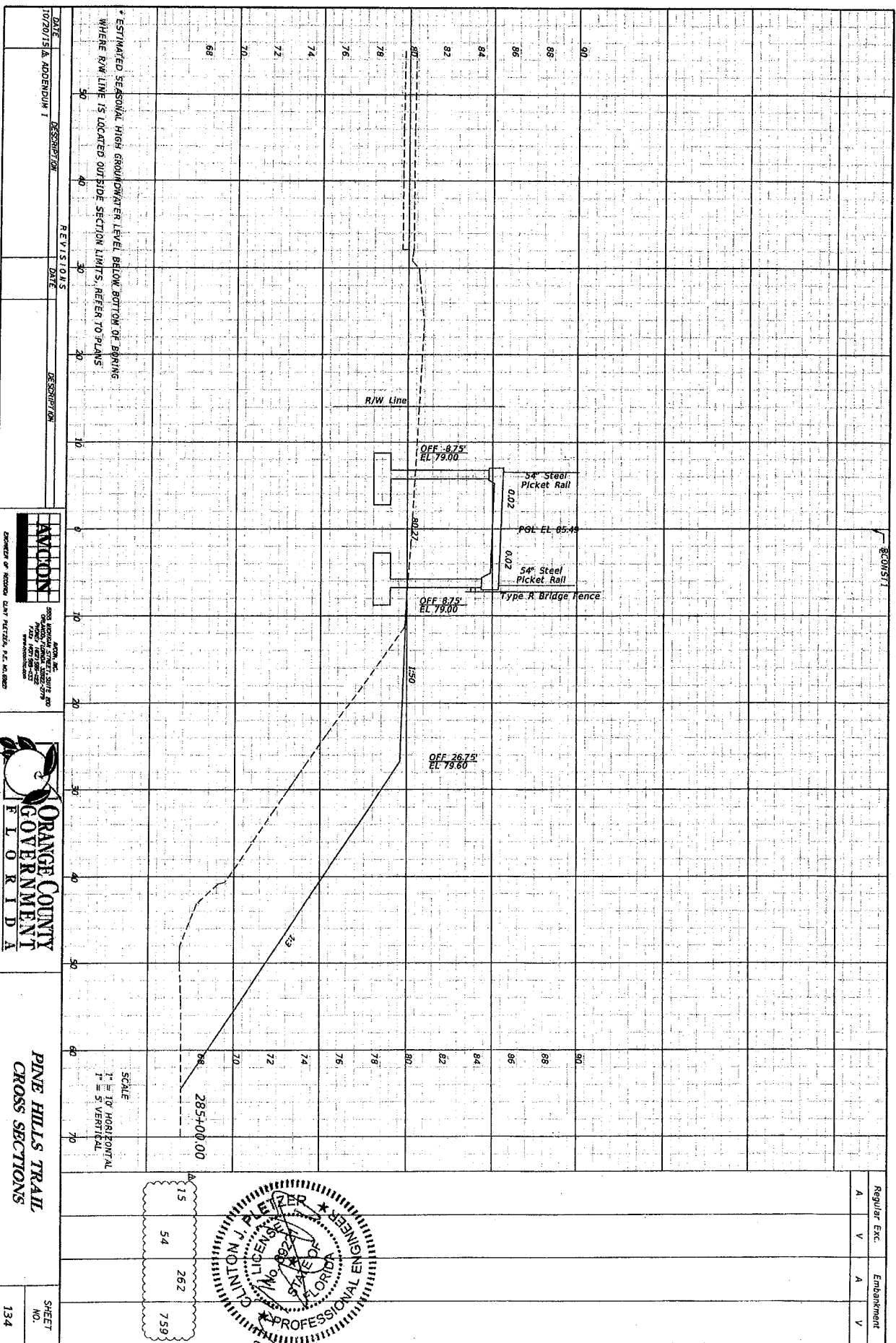
SCALE
 1" = 10' HORIZONTAL
 1" = 5' VERTICAL

14	48	148	509
----	----	-----	-----



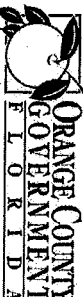
Regular Exc.	Embankment
A	V
V	A
A	V

SHEET NO. 133



* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL, BELOW BOTTOM OF BRASSING WHERE R/W LINE IS LOCATED OUTSIDE SECTION LIMITS, REFER TO PLANS

DATE	DESCRIPTION	DATE	DESCRIPTION
10/20/15	ADDENDUM 1		

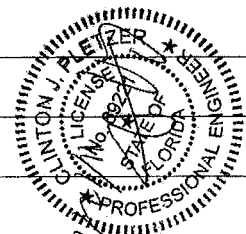


**PINE HILLS TRAIL
CROSS SECTIONS**

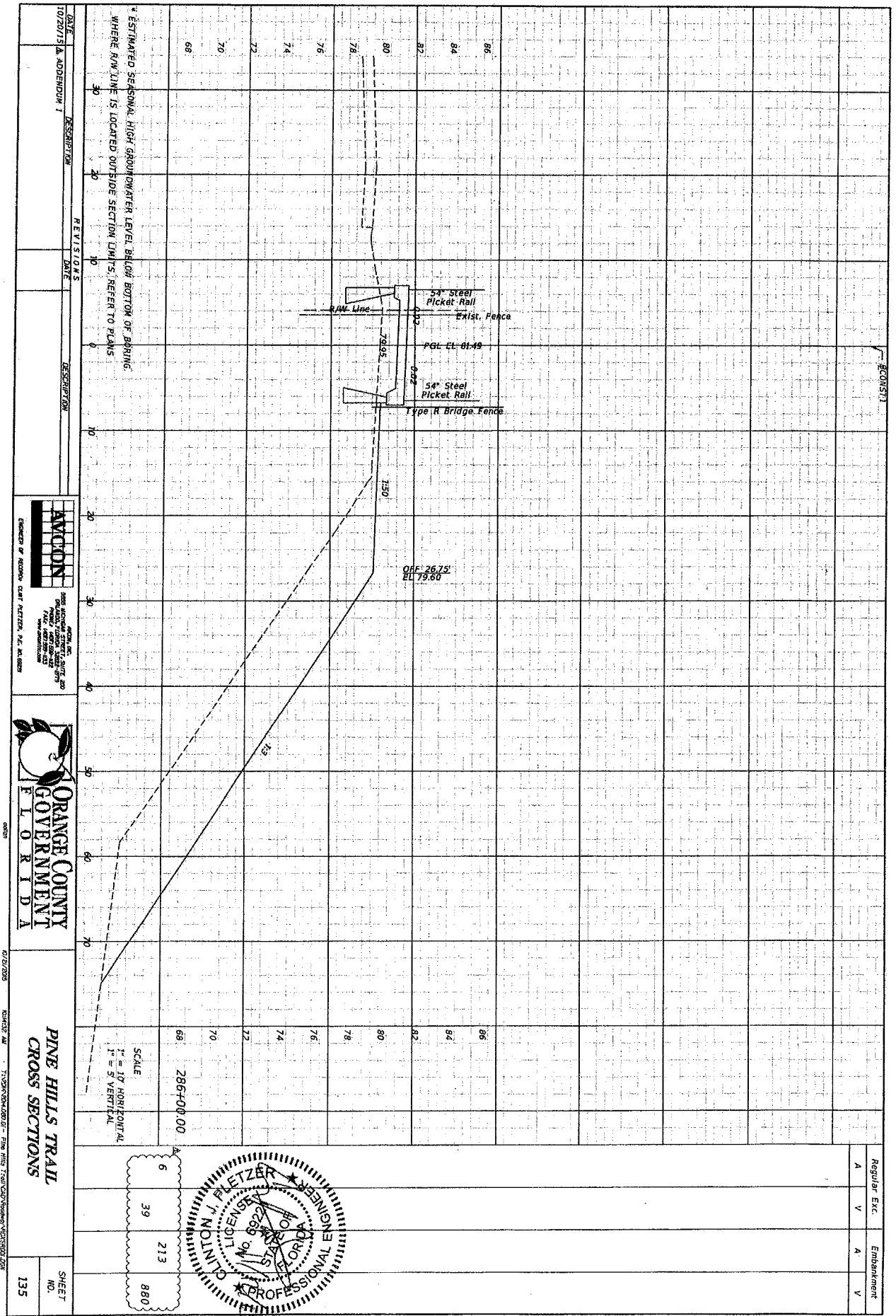
SHEET NO. 134

SCALE
1" = 10' HORIZONTAL
1" = 5' VERTICAL

15
54
262
759



DATE: 10/20/25 DRAWN BY: [Name] CHECKED BY: [Name] PROJECT: PINE HILLS TRAIL CROSS SECTIONS



* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL BELOW BOTTOM OF BEARING.
 WHERE RAW LINE IS LOCATED OUTSIDE SECTION LIMITS, REFER TO PLANS.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	A. ADDENDUM 1			

AMCON
 CONSULTING ENGINEERS
 1000 N. UNIVERSITY AVENUE, SUITE 200
 ORANGE, FLORIDA 32817
 (407) 881-1111
 www.amcon.com

ORANGE COUNTY GOVERNMENT
 FLORIDA

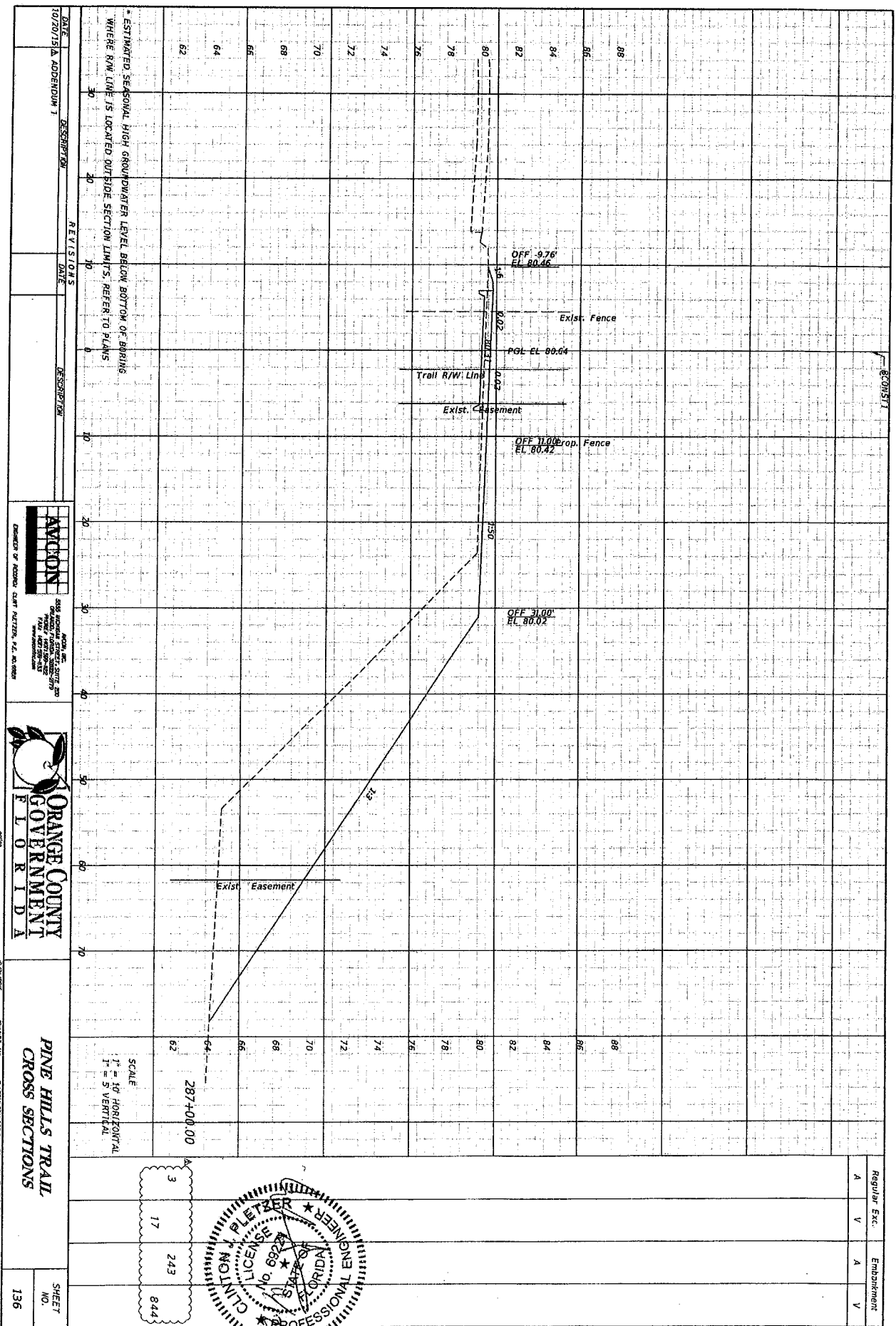
PINE HILLS TRAIL CROSS SECTIONS

SCALE
 1" = 10' HORIZONTAL
 1" = 5' VERTICAL

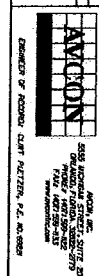
Professional Engineer Seal for **CLINTON J. FLETZER**, License No. 12689, State of Florida.

SHEET NO. 135

Regular Exc.	Embankment
A	A
V	V

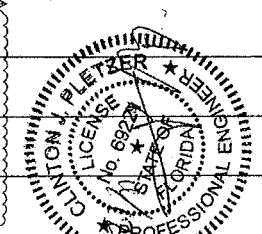


DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	ADDENDUM 1			

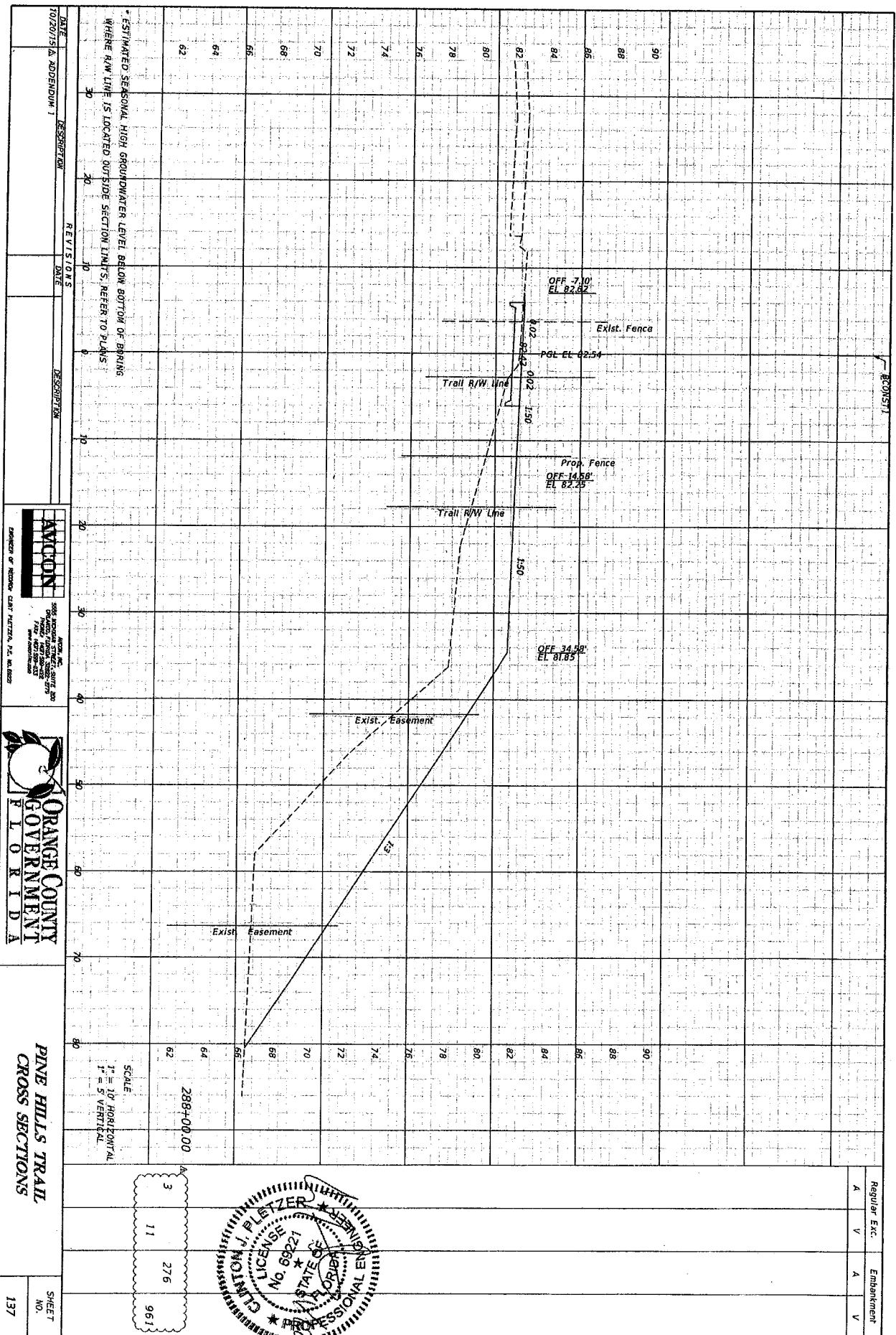


2/23/05
 004253 44
 1:250' (250:1) - PINE HILLS TRAIL CROSS SECTIONS
PINE HILLS TRAIL CROSS SECTIONS
 SHEET NO. 136

Regular	Exc.	Endowment
A	V	A
		V

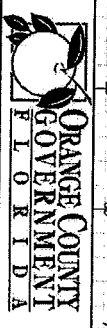
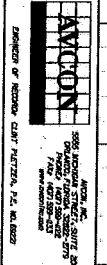


3	17	243	844
---	----	-----	-----



* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL, BELOW BOTTOM OF BORING WHERE R/W LINE IS LOCATED OUTSIDE SECTION LIMITS, REFER TO PLANS.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	ADDENDUM 1			

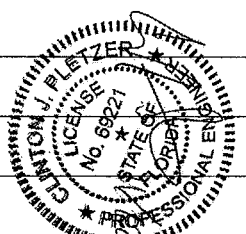


PINE HILLS TRAIL CROSS SECTIONS

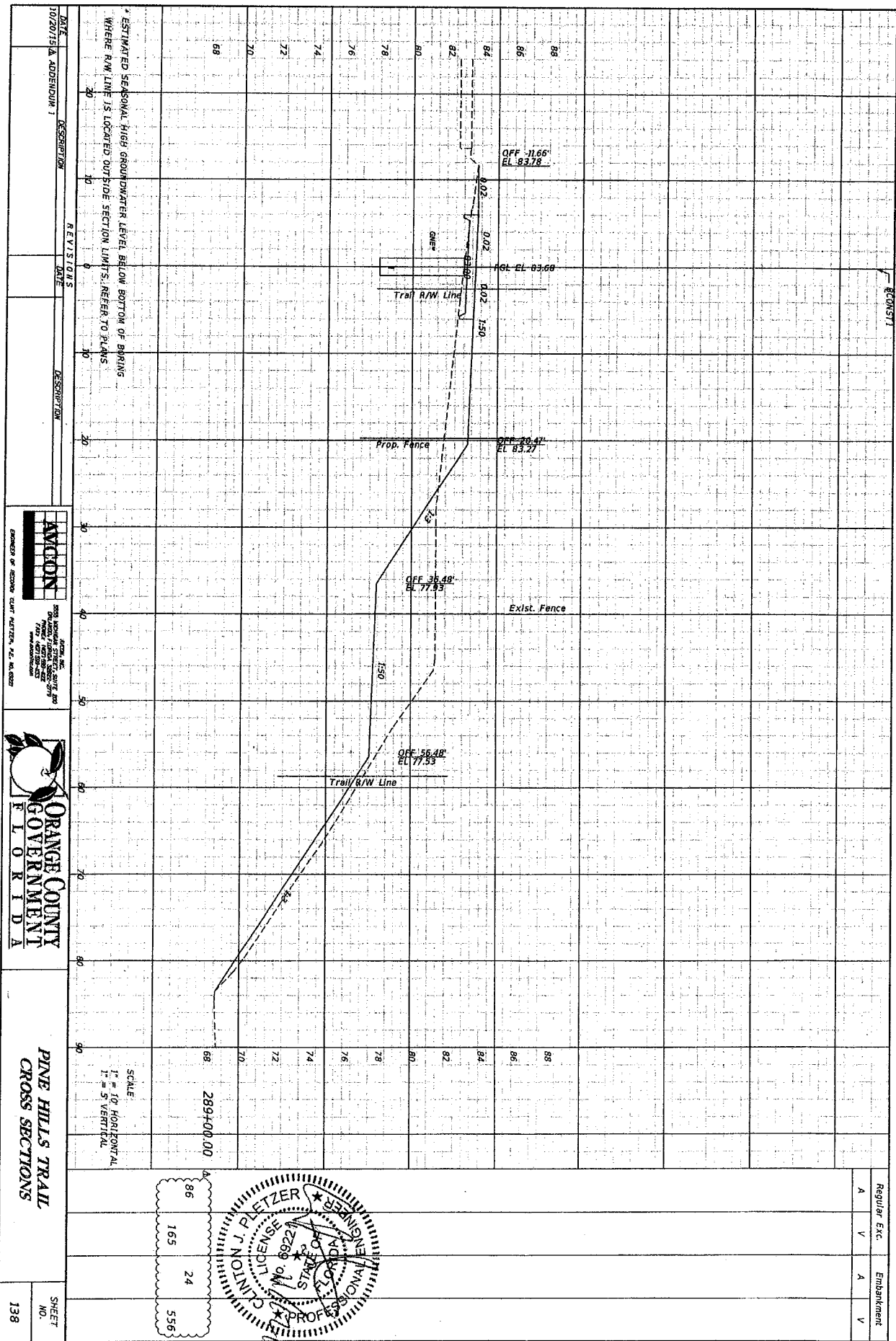
SHEET NO. 137

SCALE
1" = 10' HORIZONTAL
1" = 5' VERTICAL

3	11	276	961
---	----	-----	-----



Regular Exc.	Embankment
A	A
V	V



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	A. ADDENDUM 1			

MAPCON
 PROFESSIONAL ENGINEERING AND SURVEYING
 1700 N. UNIVERSITY BLVD., SUITE 200
 ORLANDO, FL 32810
 PHONE: 407.226.1111
 FAX: 407.226.1112
 LICENSE NO. 12222

ORANGE COUNTY GOVERNMENT
 FLORIDA

PINE HILLS TRAIL CROSS SECTIONS

SHEET NO. 138

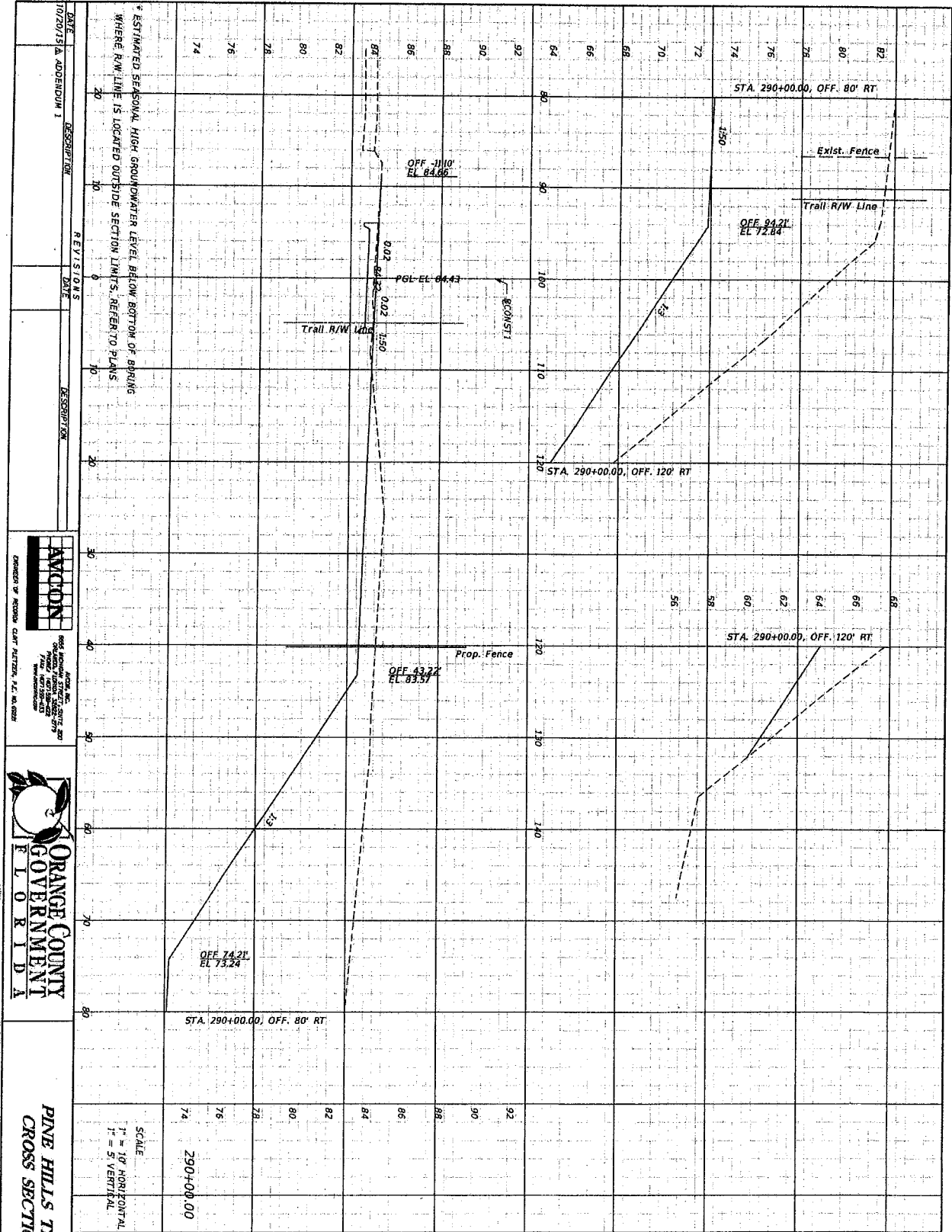
CLINTON J. PLETZER
 PROFESSIONAL ENGINEER
 LICENSE NO. 2268
 STATE OF FLORIDA

86	165	24	556
----	-----	----	-----

SCALE:
 1" = 10' HORIZONTAL
 1" = 5' VERTICAL

* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL BELOW BOTTOM OF BIRNIS WHERE R/W LINE IS LOCATED OUTSIDE SECTION LIMITS; REFER TO PLANS.

02/02/2015 10:43 AM 1:30PM/2014/08/25 - Pine Hills Trail Cross Sections - 2015/08/25



* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL BELOW BOTTOM OF SPRING WHERE R/W LINE IS LOCATED OUTSIDE SECTION LIMITS. REFER TO PLANS

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	A. ADDENDUM 1			

AMCON
 9966 N. UNIVERSITY BLVD. SUITE 200
 ORANGE, CALIFORNIA 92667
 TEL: 714.952.2525
 WWW.AMCON.COM

ENGINEER & ARCHITECT CHARL FLETZER, P.E., No. 6282

ORANGE COUNTY GOVERNMENT
 FLORIDA

PINE HILLS TRAIL CROSS SECTIONS

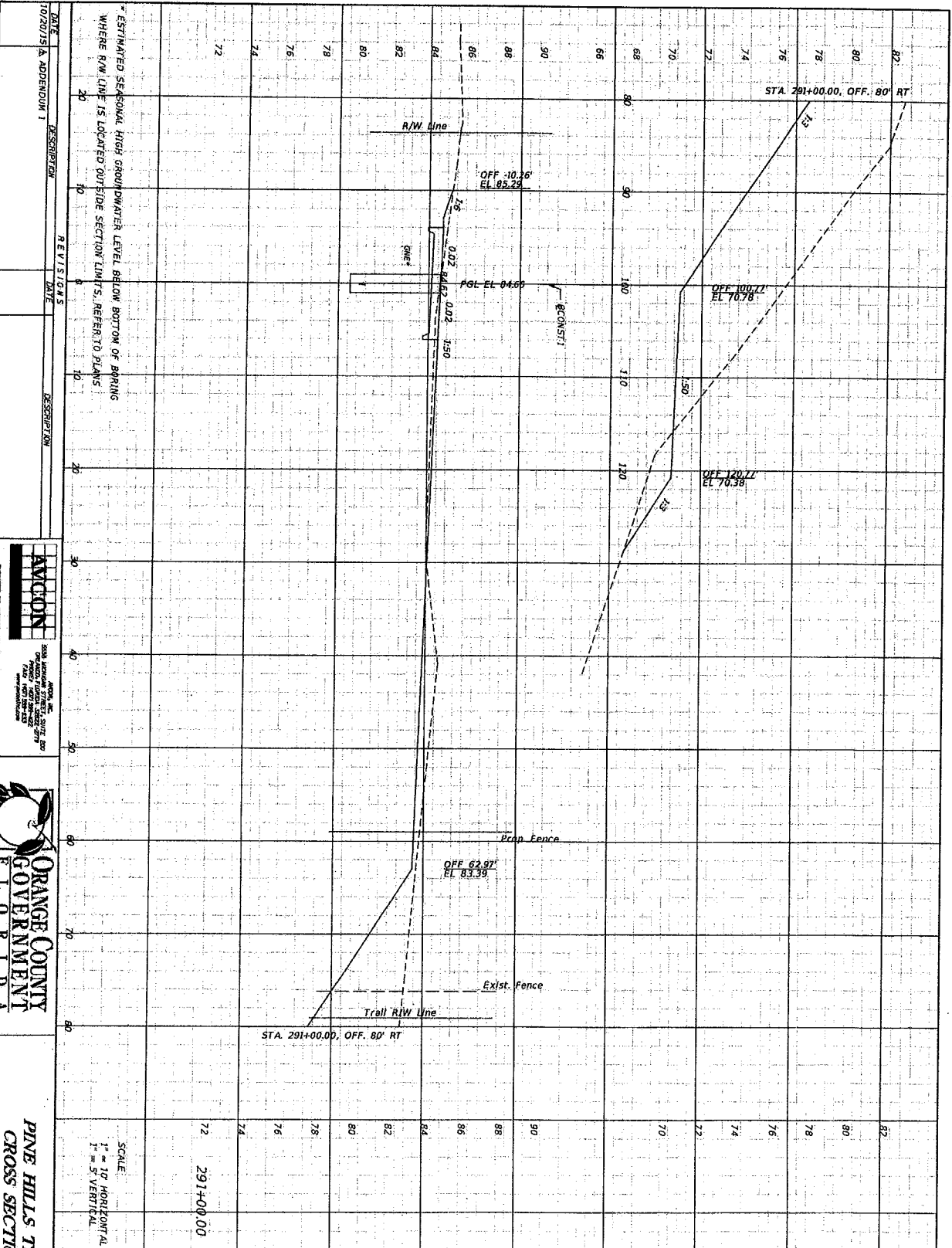
SCALE
 1" = 10' HORIZONTAL
 1" = 5' VERTICAL

SHEET NO. 139

Regular	Exc.	Embankment
A	V	A
		V



5



* ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL BELOW BOTTOM OF BRINKS WHERE R/W LINE IS LOCATED OUTSIDE SECTION LIMITS, REFER TO PLANS.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	A. ADDENDUM 1			

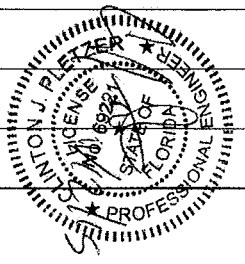
AVCON
 8000 W. UNIVERSITY BLVD., SUITE 200
 TAMPA, FL 33613
 PHONE: 813.973.1111
 FAX: 813.973.1112
 WWW.AVCON.COM

ORANGE COUNTY GOVERNMENT
 FLORIDA

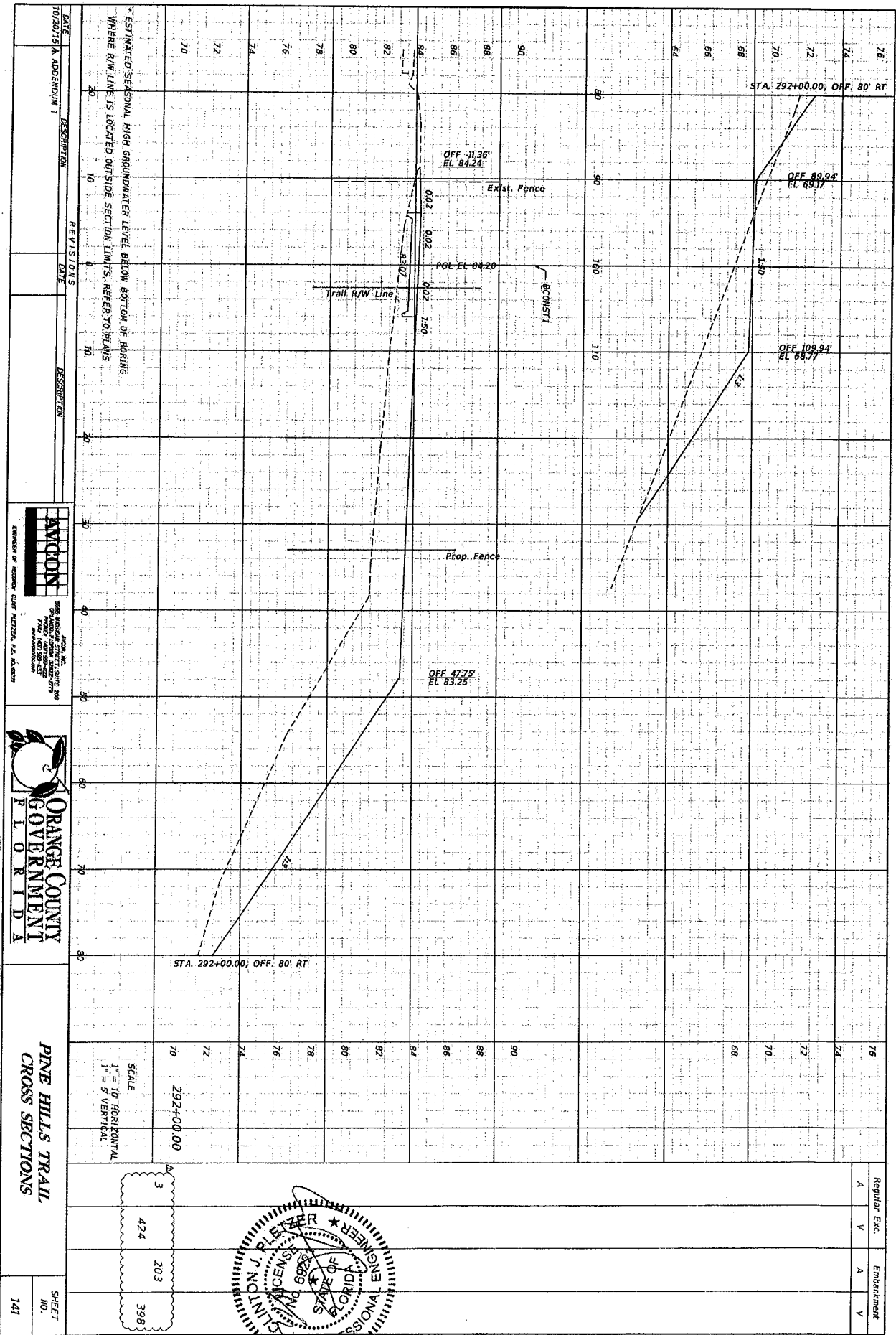
PINE HILLS TRAIL CROSS SECTIONS

SCALE
 1" = 10' HORIZONTAL
 1" = 5' VERTICAL

226	1520	12	22
-----	------	----	----



Regular Exc.	Embankment
A	V
V	A
V	V



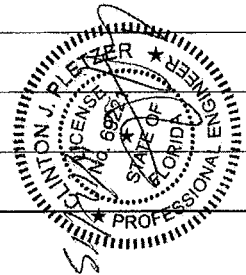
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/19	ADD ROW 1			

AMON
 555 W. WILSON ST. SUITE 200
 TAMPA, FL 33606
 TEL: 813-281-1111
 FAX: 813-281-1112
 www.amon.com



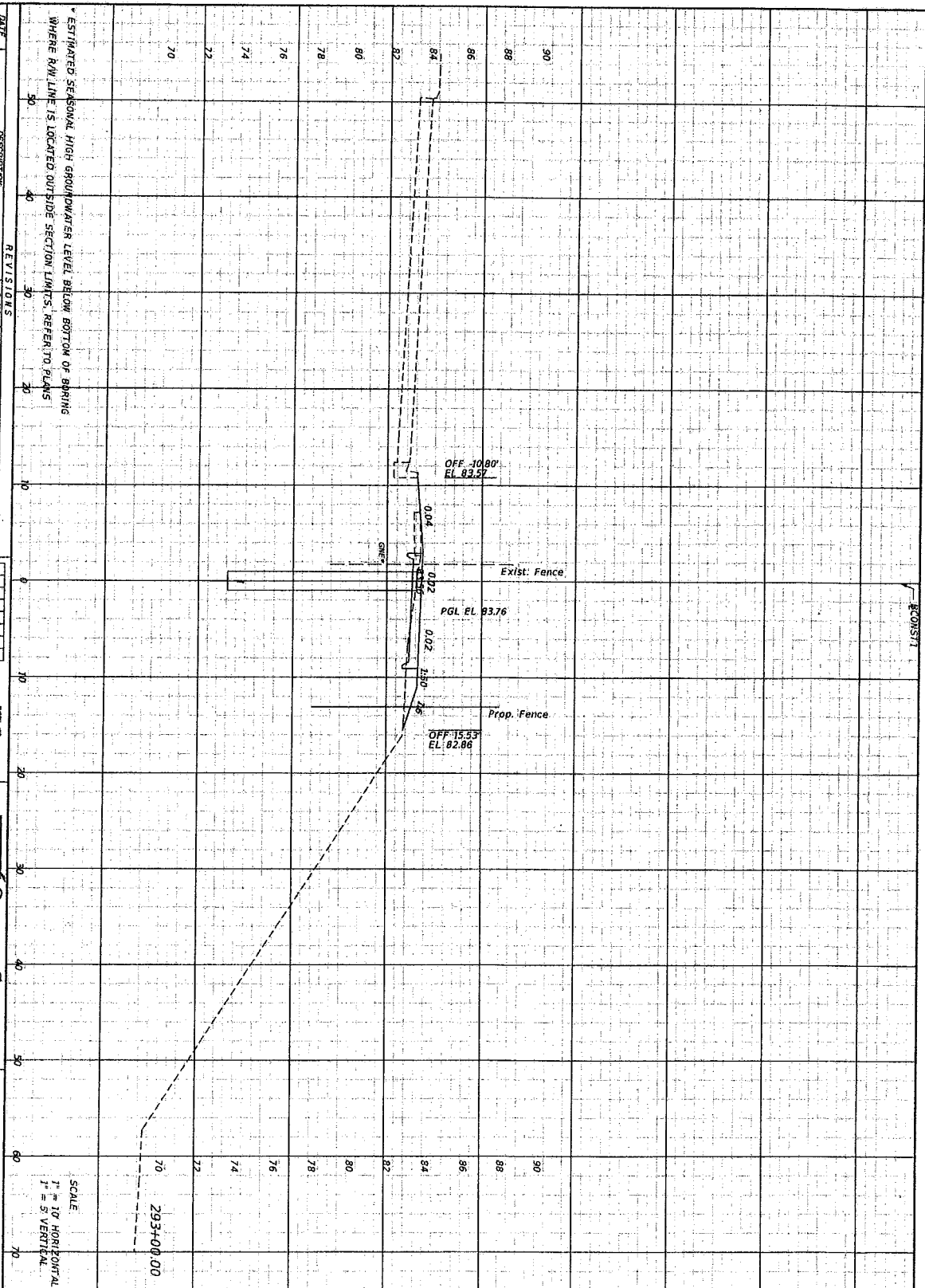
PINE HILLS TRAIL CROSS SECTIONS
 SHEET NO. 141

Regular Exc.	Embankment				
		A	V	A	V
76					
74					
72					
70					
68					
90					
88					
86					
84					
82					
80					
78					
76					
74					
72					
70					



3	424	203	398
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2022/2025 2014/25 75-301-034-038(0) - PINE HILLS TRAIL CROSS SECTIONS SHEET 141

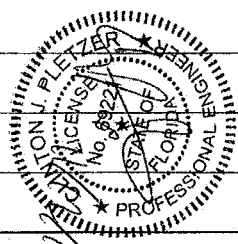


DATE	DESCRIPTION	DATE	DESCRIPTION
10/20/15	ADDENDUM 1		

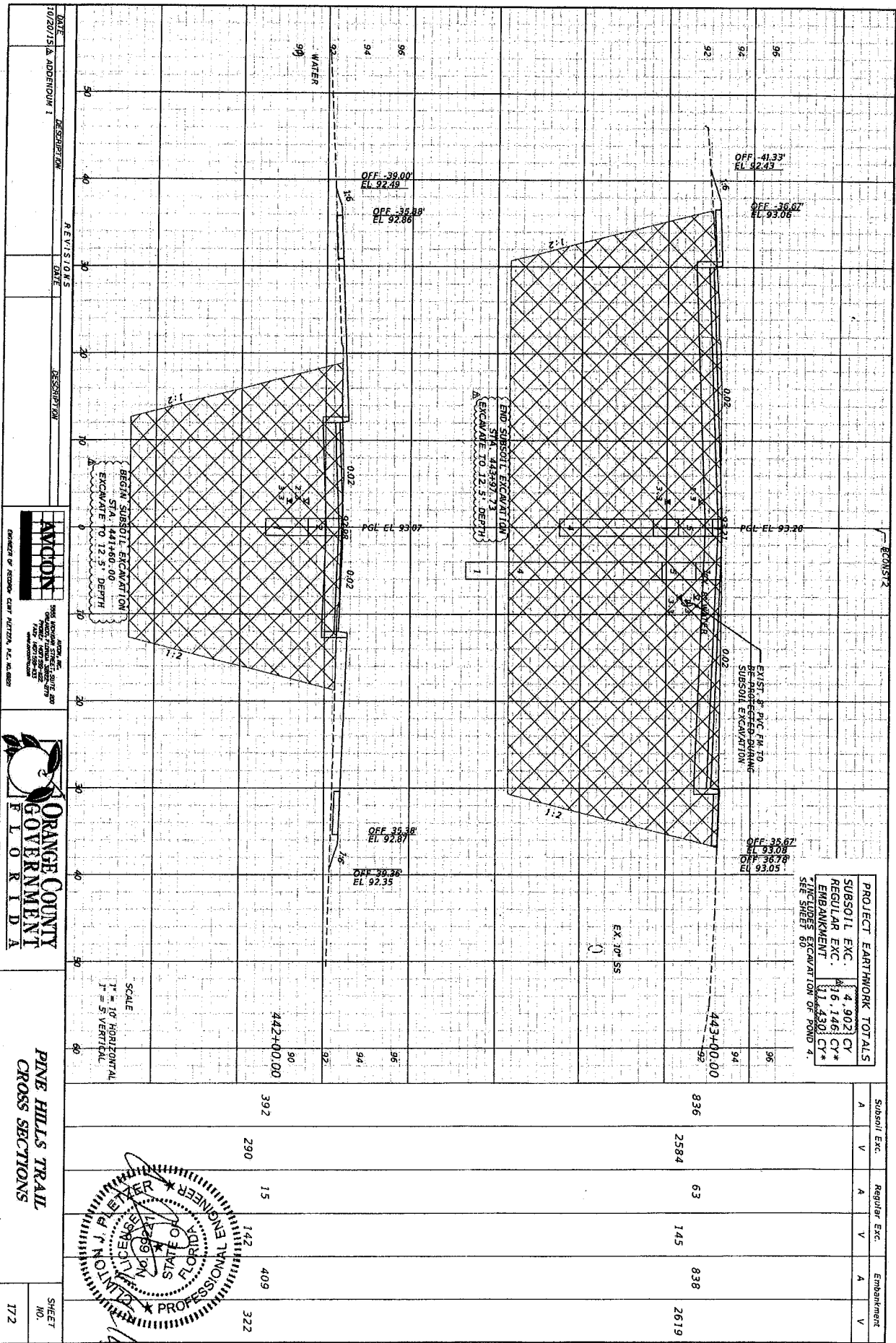


PINE HILLS TRAIL
 CROSS SECTIONS
 SHEET NO. 142

Regular Exc.	Embankment
A	A
V	V



115



PROJECT EARTHWORK TOTALS

SUBSOIL EXC.	4,902 CY
REGULAR EXC.	16,146 CY*
EMBANKMENT	11,430 CY*

* INCLUDES EXCAVATION OF POND 4.
SEE SHEET 60

Station	Subsoil Exc.	Regular Exc.	Embankment
0+00	392	290	322
0+10	442+00.00	15	409
0+20	392	142	322
0+30	392	15	409
0+40	392	290	322
0+50	442+00.00	15	409

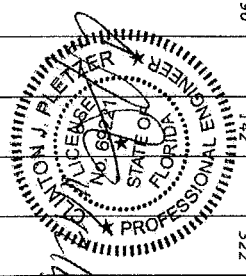
DATE: 10/20/15
 10/20/15 ADDENDUM 1
 REVISIONS
 DESCRIPTION
 SCALE
 SHEET NO. 172

AMCON
 SOIL REMEDIATION, INC.
 1000 W. STATE ST. SUITE 200
 TAMPA, FL 33606
 (813) 288-1111
 WWW.AMCONINC.COM

FLORIDA GOVERNMENT
 F L O R I D A

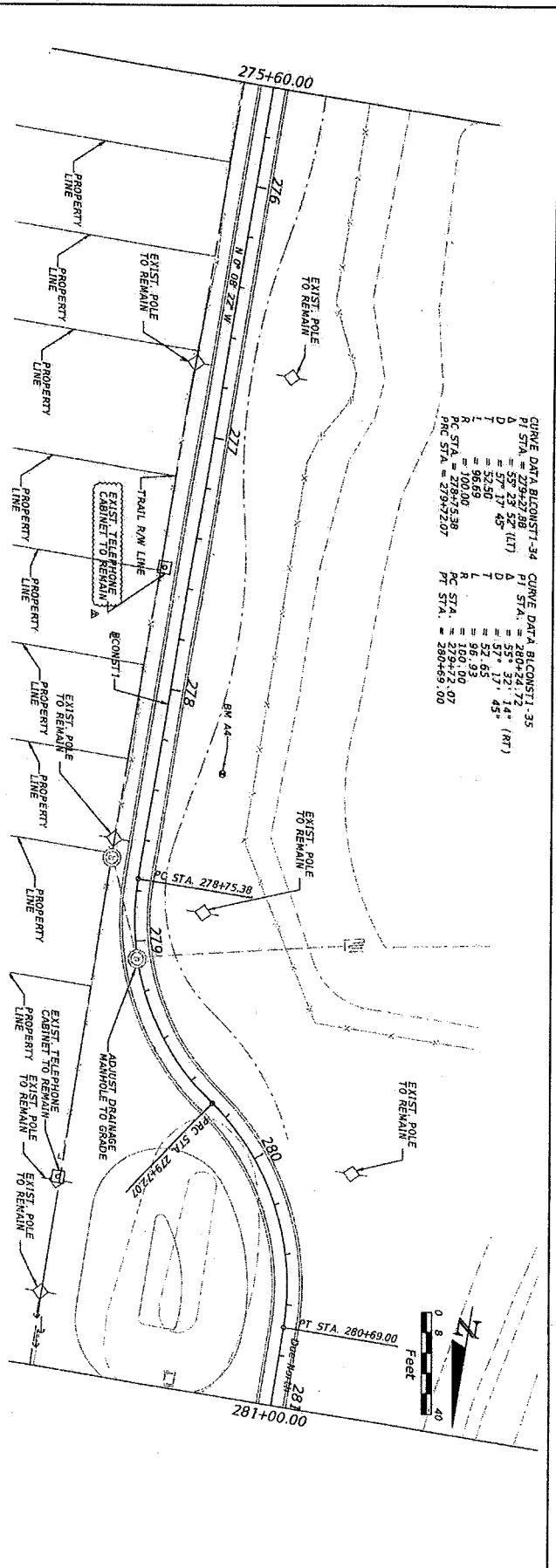
PINE HILLS TRAIL CROSS SECTIONS

DATE: 10/20/2015
 PROJECT: 15-0000000-000 - PINE HILLS TRAIL CROSS SECTIONS
 SHEET NO. 172



CURVE DATA B/C=CONST-34
 P STA = 275+29.88
 D = 57.17
 T = 52.50
 L = 96.69
 PC STA = 275+29.88
 PTA STA = 275+29.88

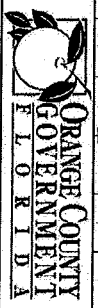
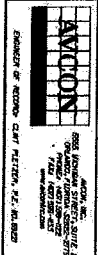
CURVE DATA B/C=CONST-35
 P STA = 280+24.72
 D = 55.32
 T = 52.14
 L = 96.93
 PC STA = 279+72.07
 PTA STA = 280+69.00



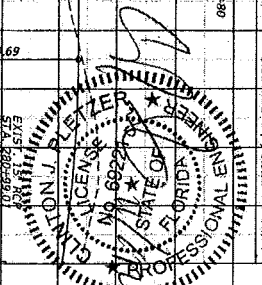
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/13	ADDendum 1			

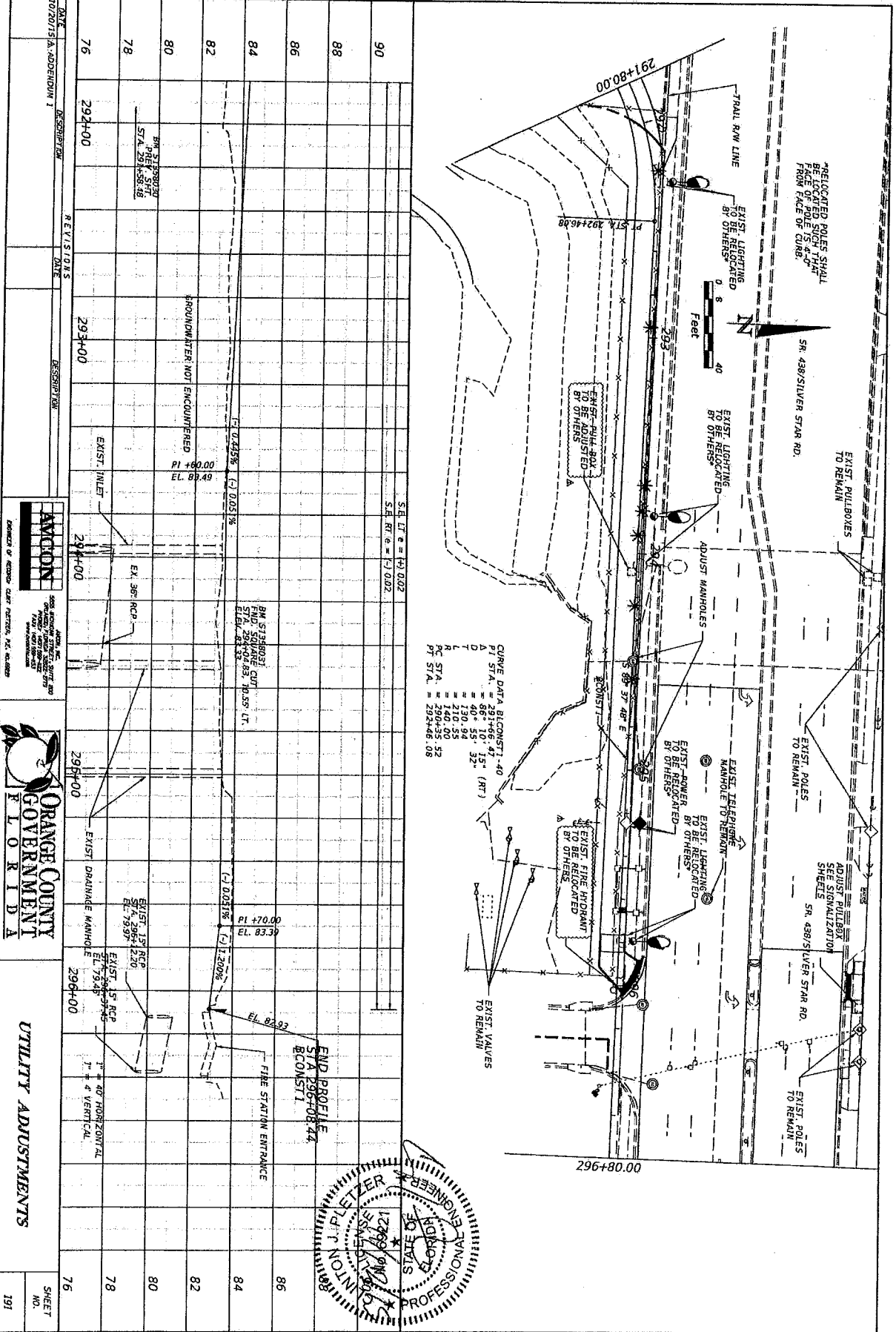
LINE	STATION	REVISIONS	DATE	DESCRIPTION
92	276+00		277+00	
94			278+00	
96			279+00	
98			280+00	
100			281+00.92	
102				
104				
106				

LINE	STATION	REVISIONS	DATE	DESCRIPTION
92	276+00		277+00	
94			278+00	
96			279+00	
98			280+00	
100			281+00.92	
102				
104				
106				



UTILITY ADJUSTMENTS
 SHEET NO. 187





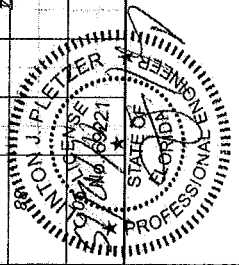
STATION	DESCRIPTION	DATE	REVISIONS
76	293+00		EXIST. INLET
78	294+00		EXIST. 1.5" RCP
80	294+00		EXIST. 1.5" RCP
82	294+00		EXIST. 1.5" RCP
84	294+00		EXIST. 1.5" RCP
86	294+00		EXIST. 1.5" RCP
88	294+00		EXIST. 1.5" RCP
90	294+00		EXIST. 1.5" RCP

AMCON
 CONSULTING ENGINEERS
 1000 N. UNIVERSITY AVENUE
 SUITE 100
 ORANGE, FLORIDA 32668
 PHONE: (407) 266-1111
 FAX: (407) 266-1112
 WWW.AMCONENGINEERS.COM



UTILITY ADJUSTMENTS

SHEET NO. 191



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
10/20/15	ADDENDUM 1			

AMCON
 200 N. UNIVERSITY AVENUE, SUITE 200
 ORANGE, CA 92668
 (714) 962-1234
 FAX (714) 962-1235
 www.amcon.com

ORANGE COUNTY GOVERNMENT
 F L O R I D A

WALL PLAN & ELEVATION
 SHEET NO. B-7

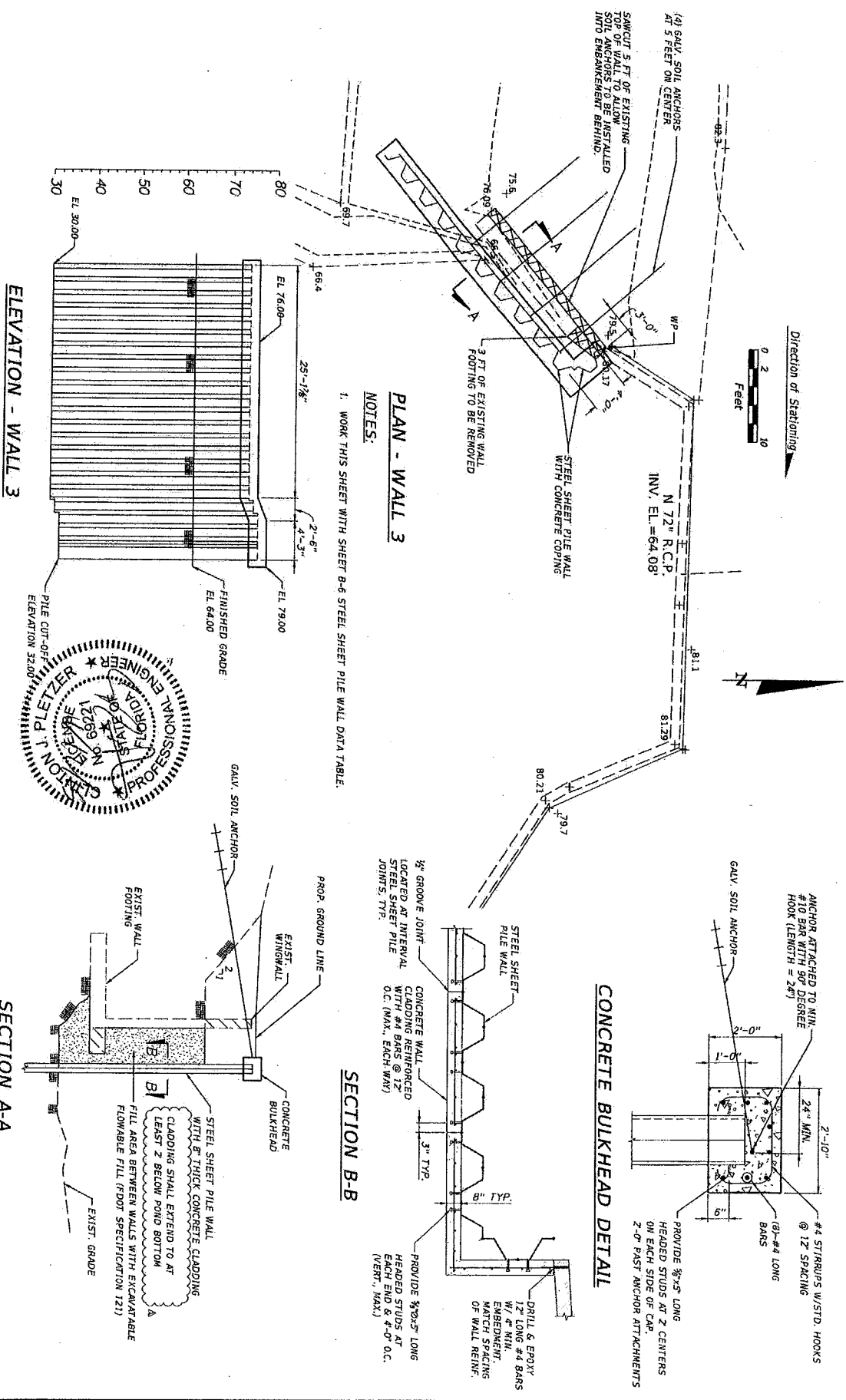
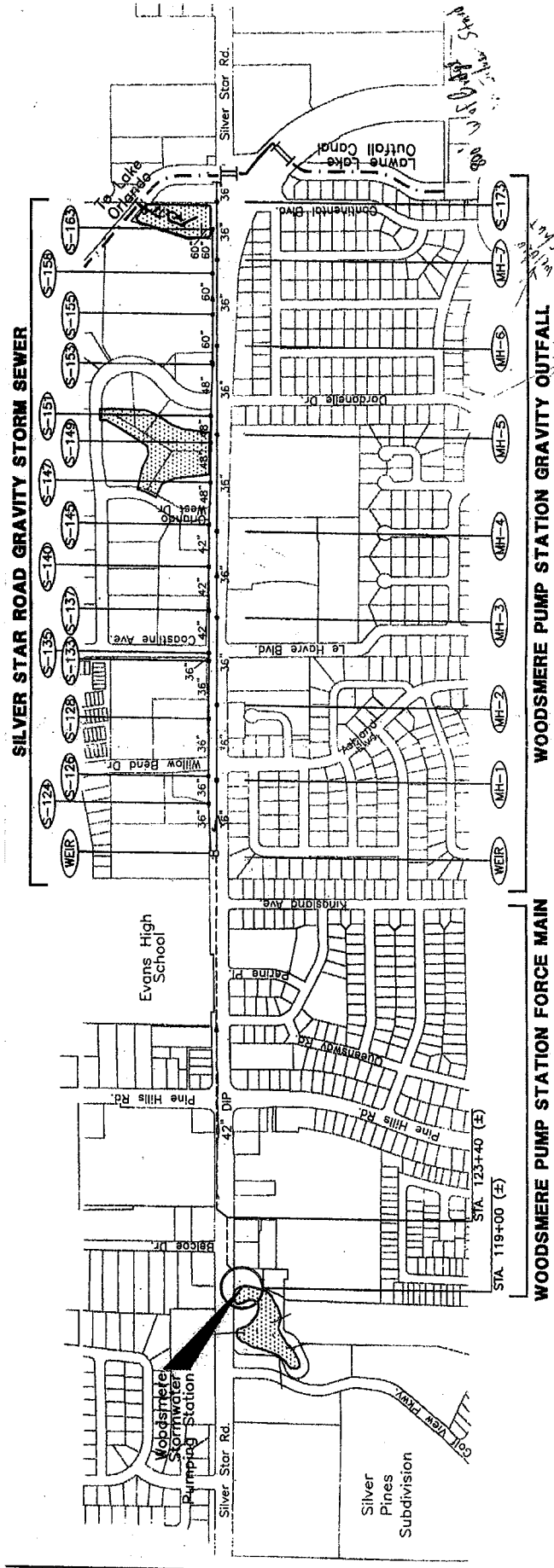
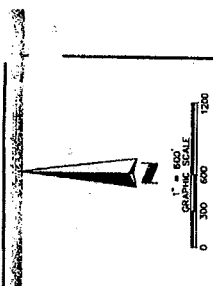


FIGURE NO. 5
WOODSMERE STORMWATER PUMPING STATION
PUMP STATION OUTFALL SYSTEM



REFERENCES: Bidder shall supply (with form) a list of three similar projects successfully completed by the Bidder, as the Prime Contractor or as a Subcontractor within the last eight (8) years. **Element One must be successfully completed by the Prime Contractor.** The Contractor may also use their subcontractor to demonstrate experience for Elements Two through Six. However, the subcontractor must be listed on Attachment C-2 of Part D, PRIME CONTRACTOR/SUBCONTRACTOR/SUPPLIER INFORMATION and the project shall be submitted on Attachment E of the IFB to include all required information.

Similar Projects

“Similar projects” for the purpose of this Invitation for Bid has been defined as: a road project which the construction has been successfully completed within the last eight (8) years immediately preceding the submittal date for sealed bids in response to this Invitation for Bids and shall contain the following elements:

Project Elements

1. Construction of a (1 or more lanes) urban roadway or bike trail having a minimum length of 0.50 miles and a roadway construction cost, which excludes any utility work, equal to or greater than three million dollars (\$3,000,000). For purposes of this Invitation for Bid, “urban” is defined as projects which traverse an urbanized area which may have multiple intersecting streets and connecting driveways. Construction of a Limited Access projects with an interchange is not allowed. Resurfacing, Restoration and Rehabilitation (RRR) projects shall not be considered to be similar projects.
2. Preparation of roadway as-built.
3. Construction of roadway stormwater conveyance system (must include at least 500 feet of 18” or larger pipe installation).
4. Construction of a traffic signal with Florida Department of Transportation’s standard mast arm and signal interconnect.
5. Coordination with utility companies.
6. Construction of sidewalk.

NOTE: One of the three similar projects shall contain element #4.

Failure to provide this information may be cause for rejection of the bid.

In addition to the above similar project elements, all Bidders are required to be currently pre-qualified with the Florida Department of Transportation (FDOT) in at least one of the following major classes of work required for this project. The documentation required to be submitted with the sealed Bids shall include qualifying documentation from FDOT for the work types shown below:

The major classes of work are as follows:

- FENCING
- FLEXIBLE PAVING
- GRADING
- GRASSING, SEEDING AND SODDING
- HOT PLANT MIXED-BITUM COURSES
- PORTLAND CEMENT
- PAVEMENT MARKING

Florida Law (Chapter 337.14 F.S.) And Rules of the State of Florida, Department of Transportation, (Chapter 14-22, F.A.C.) require contractors to be prequalified with the Department in order to bid for the performance of road, bridge, or public transportation construction contracts greater than \$250,000.00.

Failure to submit proof of the FDOT pre-qualification for the major classes of work listed in Paragraph 26 shall render the Bid non-responsive.

The contact person listed as a reference shall be someone who has personal knowledge of the Bidder's performance during the referenced project. Contact persons must have been informed that they are being used as a reference and that the County will be calling or emailing them.

1. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____

Contract Number and Amount # _____ \$ _____

Change Orders \$ _____

Final Contract \$ _____

Completed on Schedule? Yes ___ No ___ Date: _____

Project Description _____

2. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____

Contract Number and Amount # _____ \$ _____

Change Orders \$ _____

Final Contract \$ _____

Completed on Schedule? Yes ___ No ___ Date: _____

Project Description _____

3. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____

Contract Number and Amount # _____ \$ _____

Change Orders \$ _____

Final Contract \$ _____

Completed on Schedule? Yes ___ No ___ Date: _____

Project Description _____

4. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____

Contract Number and Amount # _____ \$ _____

Change Orders \$ _____

Final Contract \$ _____

Completed on Schedule? Yes ___ No ___ Date: _____

Project Description _____

5. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____

Contract Number and Amount # _____ \$ _____

Change Orders \$ _____

Final Contract \$ _____

Completed on Schedule? Yes ___ No ___ Date: _____

Project Description _____

6. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____

Contract Number and Amount # _____ \$ _____

Change Orders \$ _____

Final Contract \$ _____

Completed on Schedule? Yes ___ No ___ Date: _____

Project Description _____
