TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
JOINT ENVIRONMENTAL RESOURCE PERMIT APPLICATION

Prepared for:

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Siting Coordination Office
3900 Commonwealth Boulevard, Rd M.S. 48
Tallahassee, Florida 32399-3000

Prepared by:

P.O. Box 111
Tampa, Florida 33601

AND

Environmental Consulting & Technology, Inc.
1408 North Westshore Boulevard, Suite 115
Tampa, Florida 33607
Telephone: (813)289-9338
Fax: (813) 289-9388
www.ectinc.com

110909-0100-1200
JUNE 2012

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1
1.1 PROJECT OBJECTIVE 1-2
1.2 WETLAND IMPACT AVOIDANCE/MINIMIZATION 1-3

2.0 COMPLETED APPLICATION FORM 2-1

3.0 SITE/CORRIDOR INFORMATION 3-1
3.1 PROJECT LOCATION AND DESC.R.IPTION 3-1
3.2 JURISDICTIONAL WETLANDS AND SURFACE WATERS 3-19

4.0 CONSTRUCTION PLANS, SCHEDULE AND TECHNIQUES 4-1
4.1 ADMINISTRATIVE 4-2
4.2 CLEARING AND GRADING 4-2
4.3 DRAINAGE 4-3
4.4 WETLANDS/SURFACE WATERS 4-3
4.5 TRENCHING 4-5
4.6 JACK AND BORE DRILLING 4-6
4.7 HORIZONTAL DIRECTIONAL DRILLING 4-7
4.8 BENTONITE EMERGENCY SPILL PLAN 4-8
4.9 FRAC-OUT CONTINGENCY PLAN 4-9
4.10 CONSTRUCTION SCHEDULE 4-11

5.0 OPERATION AND MAINTENANCE 5-1
5.1 DRAINAGE FACILITIES 5-1
5.2 TEMPORARY EROSION CONTROL FACILITIES 5-1
5.3 MAINTENANCE ACCESS 5-1
5.4 ONGOING MAINTENANCE 5-1

6.0 ACTIVITIES PROPOSED IN SURFACE WATERS AND FLOODPLAINS 6-1
6.1 SURFACE WATERS 6-1
6.2 FLOODPLAINS 6-2

7.0 MITIGATION PLAN 7-1

8.0 ARCHAEOLOGICAL AND CULTURAL RESOURCES 8-1

9.0 SUMMARY 9-1

APPENDICES
APPENDIX A – FINAL ORDER MODIFYING CONDITIONS OF CERTIFICATION
APPENDIX B – ADJACENT PROPERTY OWNERSHIP MAP
APPENDIX C – GROUND PHOTOGRAPHS
APPENDIX D – COMPLETED USACE WETLAND JURISDICTIONAL DETERMINATION FORMS
APPENDIX E – COMPLETED UMAM FORMS
APPENDIX F – C.R.A.S REPORT AND FDHR/SHPO RESPONSE

LIST OF FIGURES

FIGURE 1.	LOCATION MAP
FIGURE 2.	USGS TOPOGRAPHIC QUADRANGLE MAP
FIGURE 3.	SOILS MAP
FIGURE 4.	FLOODPLAIN MAP
FIGURE 5.	NATIONAL WETLANDS INVENTORY MAP
FIGURE 6	MITIGATION BANK SERVICE AREA
SHEET 1 OF 221	FLUCFCS CODE
SHEET 2 OF 221	DRAWING INDEX I
SHEET 3 OF 221	DRAWING INDEX AND TABLE
SHEETS 4-13 OF 221	MAP INDEX I-X
SHEETS 14-221 OF 221	PLAN AND PROFILE VIEWS
FIGURE 7	DETAIL SHEET I
FIGURE 8	DETAIL SHEET II
FIGURE 9	DETAIL SHEET III
FIGURE 10	DETAIL SHEET IV

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

Tampa Electric Company (TEC) certified the Polk Power Station (PPS) in 1994 through the Florida Electrical Power Plant Siting Act (PPSA), Case No. PA92-32. The future expansion of PPS requires additional cooling water. TEC has a unique partnership with the Southwest Florida Water Management District (SWFWMD) and the City of Lakeland, the Regional Reclaimed Water Partnership Initiative. The purpose of the partnership is to maximize water resource by using an under-utilized water source to its maximum benefit. Secondary treated wastewater (reclaimed water) from the City of Lakeland (the City) Wetland Treatment System (WTS) can be used by TEC to reduce groundwater withdrawals from the Southern Water Use Caution Area (SWUCA) and help reduce nutrient loading to the Alafia River.

To accept the reclaimed water from the City, TEC will need to construct a pump station and intake structure at the WTS, which will be connected to an underground 15-mile long, 30- to 36-inch in diameter pipeline from the WTS, located north of State Road (S.R.) 60 and east of Mulberry, to the TEC PPS site.

Since a pipeline to convey this water source to the PPS was not certified as part of the original PPS site certification or the recent modification approved in 2009, TEC is required to apply for a modification of their Site Certification Application (SCA) under Florida Department of Environmental Protection (FDEP) siting rules (Section 62-17.211, Florida Administrative Code [F.A.C.]). On April 8, 2011, TEC submitted an application to the FDEP in Tallahassee for a modification to the SCA for the proposed construction and operation of the reclaimed water pipeline at the PPS in Polk County, Florida. On October 31, 2011, TEC received approval from the FDEP for the requested SCA modification (i.e., DEP Case No. PA92-32M; OGC Case No. 11-0604).

TEC will construct a pump station and intake structure at the WTS that will occupy an approximately 150- by 60-feet (ft) area. A small parking area will accompany the pump house site and the pump house will be fenced and locked. The entire pump station facility will occupy under an acre and result in approximately 6,000 square feet of impervious

surface. An Environmental Resource Permit (ERP) application has already been submitted to the FDEP by the City and TEC for the construction of the pump station and intake structure facility.

This ERP application is being submitted to the FDEP and U.S. Army Corps of Engineers (USACE) for the construction and operation of the proposed reclaimed water pipeline. Even though a state permit is not required, this ERP application is being submitted in order to:

1) Comply with the Conditions of Certification of the recent SCA modification (see Appendix A);
2) Receive confirmation of certification that the proposed surface water impacts will not violate State 401 Surface Water Quality standards;
3) Request authorization to use sovereign submerged lands; and
4) Provide the USACE a federal dredge and fill permit application in order to receive a permit for impacts to waters of the United States.

The start of construction of the pipeline is scheduled for January 1, 2013. It is anticipated that the pipeline can be constructed and operational within 12 months.

TEC contracted with Environmental Consulting & Technology, Inc. (ECT) and AECOM to provide environmental consulting and surveying and design engineering services for the project, respectively. ECT is the designated Consultant for the project.

1.1 PROJECT OBJECTIVE

The objective for submittal of this Joint Federal/State ERP Application package is to describe and obtain approvals for the project's crossing/filling of wetlands and surface waters. In addition to a completed permit application (Section 2.0), the package contains supplemental data that will serve as additional detail in response to information requested in the Joint Federal/State ERP Application form (Sections 3.0 to 8.0). The placement of the proposed project was carefully considered in order to avoid/minimize potential impacts to wetlands and surface waters.

1.2 WETLAND IMPACT AVOIDANCE/MINIMIZATION

The 50-ft wide construction corridor was chosen by TEC after evaluation of a much wider corridor in the *Polk Power Station Water Pipeline Request for SCA Modification-Chapter 9.0* (April 2011). The corridor selection process for the proposed pipeline was straightforward in that the PPS lies almost due south of Lakeland's wetland treatment areas. TEC desires to use existing TEC or other utility rights-of-way, as well as road rights-of-way wherever possible. S.R. 37 borders the west side of the PPS site and is a logical linear facility along which to install the pipeline. TEC also has electric transmission line easements along S.R. 37 for a portion of the distance north of the PPS site.

A regional screening map was developed to identify siting constraints and opportunities within the area between the two end points. Siting opportunities, such as other linear facilities, represent where favorable siting conditions are located. Constraints are potential obstacles or hindrances to siting such a facility and may include such things as residences, airports, parks, preserves, endangered species locations, or large wetlands. While not necessarily considered a fatal flaw to siting a pipeline, siting constraints represent potential engineering, economic, or permitting issues.

The study area is dominated by existing or former phosphate-mined lands. Therefore, large ponds or active mining would preclude placement of the pipeline. S.R. 37 provides a major siting opportunity from the PPS north to the city limits of Mulberry, which is the only incorporated municipality in the study area. TEC's consultants, along with environmental, engineering, and real estate staff, reviewed various siting options. It was evident that the best corridor would be along S.R. 37 from PPS to the south end of Mulberry. To avoid numerous developments and road crossings in downtown Mulberry, the corridor diverts eastward toward Lakeland's wetland treatment areas. This section of the corridor allows for the opportunity to follow along the existing CSX Railroad corridor.

To provide TEC with flexibility in selecting a permanent right-of-way, the study corridor was made much wider than the eventual right-of-way required. The corridor varied from 400 to 1,775 ft in width. TEC had the flexibility to move the right-of-way within the corridor to avoid or minimize impacts to any identified constraints. TEC is not proposing any alternate corridors to its proposed corridor. The proposed study corridor has allowed TEC the width and flexibility to avoid and minimize wetland impacts from the project to the extent practicable. TEC selected the 50-ft wide construction corridor from within the wider study corridor to minimize wetland impacts as well as other considerations. TEC will be using a directional bore to avoid the North Prong of the Alafia River. In addition, TEC will not be installing permanent access roads which will also lessen the potential for fill impacts. Finally, after construction the permanent right-of-way will be 25 ft in width (i.e., 12.5 ft on both sides of the project construction corridor centerline). For all of the above reasons, the selected location and design features of this project incorporates an appropriate level of consideration for avoidance and minimization of environmental impacts.

Thus, due to the above-referenced design criteria and the implementation of Best Management Practices (BMPs) before, during and after construction (e.g., use of hay bales/silt screens along the edges of surface waters), the proposed project activities have avoided or minimized impacts to wetlands and surface water features to the greatest extent practicable. Based upon the above-referenced project designs and conditions, TEC has adequately demonstrated avoidance and minimization of wetland impacts. TEC can provide a copy of the *Polk Power Station Water Pipeline Request for SCA Modification-Chapter 9.0* (April 2011), upon request.

2.0 COMPLETED APPLICATION FORM

SECTION A

FOR AGENCY USE ONLY	
ACOE Application #	DEP/WMD Application #
Date Application Received	Date Application Received
Proposed Project Lat.	Fee Received $
Proposed Project Long.	Fee Receipt #

PART 1:
Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters? ☒ yes ☐ no
Is this application being filed by or on behalf of a government entity or drainage district? ☐yes ☒no

PART 2:
A. Type of Environmental Resource Permit Requested (check at least one). **Requesting an FDEP compliance verification with the Conditions of Certification of the SCA modification (see Appendix A).**
See Attachment 2 for thresholds and descriptions.

- ☐ Noticed General - include information requested in Section B.
- ☐ Standard General (Single Family Dwelling) - include information requested in Sections C and D.
- ☐ Standard General (all other Standard General projects) - include information requested in Sections C and E.
- ☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
- ☐ Individual (all other Individual projects) - include information requested in Sections C and E.
- ☐ Conceptual - include information requested in Sections C and E.
- ☐ Mitigation Bank Permit (construction) - include information requested in Sections C and F. (If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
- ☐ Mitigation Bank (conceptual) - include information requested in Sections C and F.

B. Type of activity for which you are applying (check at least one)

- ☒ Construction or operation of a new system, other than a solid waste facility, including dredging or filling in, on or over wetlands and other surface waters.
- ☐ Construction, expansion or modification of a solid waste facility.
- ☐ Alteration or operation of an existing system which was not previously permitted by a WMD or DEP.
- ☐ Modification of a system previously permitted by a WMD or DEP.

Provide previous permit numbers:_____

- ☐ Alteration of a system
- ☐ Abandonment of a system
- ☐ Removal of a system
- ☐ Extension of permit duration
- ☐ Construction of additional phases of a system

C. Are you requesting authorization to use Sovereign Submerged Lands?
☒yes ☐no
(See Section G and Attachment 5 for more information before answering this question.)

D. For activities in, on, or over wetlands or other surface waters, check type of federal dredge and fill permit requested:
☒Individual ☐Programmatic General ☐General
☐Nationwide ☐Not Applicable

E. Are you claiming to qualify for an exemption? ☐yes ☒no
If yes, provide rule number if known. _____

PART 3: **A. OWNER(S) OF LAND**	**B. ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)**
Name **Mr. David Lukcic**	Name
Title and Company **Manager of Environmental Projects** **Tampa Electric Company**	Title and Company
Address **P.O. Box 111**	Address
City, State, Zip **Tampa, Florida 33601**	City, State, Zip
Telephone and Fax **Phone: (813) 228-1095 Fax: (813) 228-1308**	Telephone and Fax
C. AGENT AUTHORIZED TO SECURE PERMIT	**D. CONSULTANT (IF DIFFERENT FROM AGENT)**
Name	Name **Mr. Anthony N. Arcuri**
Title and Company	Title and Company **Department Manager of Ecology and Permitting** **Environmental Consulting & Technology, Inc. (ECT)**
Address	Address **1408 North Westshore Boulevard, Suite 115**
City, State, Zip	City, State, Zip **Tampa, Florida 33607**
Telephone and Fax	Telephone and Fax **Phone: (813) 289-9338 Fax: (813) 289-9388**

PART 4: (Please provide metric equivalent for federally funded projects):

A. Name of Project, including phase if applicable**: Polk Power Station Reclaimed Water Pipeline Project**

B. Is this application for part of a multi-phase project?
☐yes ☒no

C. Total applicant-owned area contiguous to the project?
2,837 ac.; **1,148** ha.

D. Total area served by the system**: 96..8** ac.; **39.17** ha**.**

E. Impervious area for which a permit is sought**: 0** ac.; **0** ha. (FDEP)
0 ac.; **0** ha. (USACE**)**

F. Volume of water that the system is capable of impounding:
0 ac. ft.; **0** cu. m.

G. What is the total area of work in, on, or over wetlands or other surface waters?
7.033 ac.; **2.846** ha.; **306,357.48** sq. ft.; **28,461.54** sq. m. (FDEP)
7.033 ac.; **2.846** ha. ; **306,357.48** sq. ft.; **28,46154**.sq. m. (USACE)

H. Total volume of material to be dredged: **0** cu., yd; **0** cu. m.

I. Number of new boat slips proposed: **0** wet slips; **0** dry slips

PART 5:

Project location (use additional sheets if needed):
County(ies**) Polk**

Section(s) **1, 12, 13, 14, 23, 26, & 35**	Township **30 South**	Range **23 East**
Section(s) **6 & 7**	Township **30 South**	Range **24 East**
Section(s) **2, 11, 14, 22, 23, 27, & 34**	Township **31 South**	Range **23 East**
Section(s) **3**	Township **32 South**	Range **23 East**

Land Grant name, if applicable: N/A

Tax Parcel Identification Number: **see Appendix B**

Street Address Road or other location: **State Road 37, County 630, County Road 640, and State Road 60**

City, Zip Code, if applicable: **Mulberry, Pine Dale, and Bradley Junction**

PART 6: Describe in general terms the proposed project, system, or activity.

Tampa Electric Company (TEC) certified the Polk Power Station (PPS) in 1994 through the Florida Electrical Power Plant Siting Act (PPSA), Case No. PA92-32. The future expansion of PPS requires additional cooling water. TEC has a unique partnership with the Southwest Florida Water Management District (SWFWMD) and the City of Lakeland, the Regional Reclaimed Water Partnership Initiative. The purpose of the partnership is to maximize water resource by using an under-utilized water source to its maximum benefit. Secondary treated wastewater (reclaimed water) from the City of Lakeland (the City) Wetland Treatment System (WTS) can be used by TEC to reduce groundwater withdrawals from the Southern Water Use Caution Area (SWUCA) and help reduce nutrient loading to the Alafia River.

To accept the reclaimed water from the City, TEC will need to construct a pump station and intake structure at the WTS, which will be connected to an underground 15-mile long, 30- to 36-inch in diameter pipeline from the WTS, located north of State Road (S.R.) 60 and east of Mulberry, to the TEC PPS site.

Since a pipeline to convey this water source to the PPS was not certified as part of the original PPS site certification or the recent modification approved in 2009, TEC is required to apply for a modification of their Site Certification Application (SCA) under Florida Department of Environmental Protection (FDEP) siting rules (Section 62-17.211, Florida Administrative Code [F.A.C.]). On April 8, 2011, TEC submitted an application to the FDEP in Tallahassee for a modification to the SCA for the proposed construction and operation of the reclaimed water pipeline at the PPS in Polk County, Florida. On October 31, 2011, TEC received approval from the FDEP for the requested SCA modification (i.e., DEP Case No. PA92-32M; OGC Case No. 11-0604).

TEC will construct a pump station and intake structure at the WTS that will occupy an approximately 150- by 60-feet (ft) area. A small parking area will accompany the pump house site and the pump house will be fenced and locked. The entire pump station facility will occupy under an acre and result in approximately 6,000 square feet of impervious surface. An Environmental Resource Permit (ERP) application has already been submitted to the FDEP by the City and TEC for the construction of the pump station and intake structure facility.

This ERP application is being submitted to the FDEP and U.S. Army Corps of Engineers (USACE) for the construction and operation of the proposed reclaimed water pipeline. Even though a state permit is not required, this ERP application is being submitted in order to:

1) **Comply with the Conditions of Certification of the recent SCA modification (see Appendix A);**
2) **Receive confirmation of certification that the proposed surface water impacts will not violate State 401 Surface Water Quality standards;**
3) **Request authorization to use sovereign submerged lands; and**
4) **Provide the USACE a federal dredge and fill permit application in order to receive a permit for impacts to waters of the United States.**

The start of construction of the pipeline is scheduled for January 1, 2013. It is anticipated that the pipeline can be constructed and operational within 12 months.

PART 7:

A. If there have been any pre-application meetings, including onsite meetings, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives**. On February 1, 2012, David Lukcic with TEC and Larry Curtin with Holland & Knight discussed the project on a conference call with Cindy Mulkey and Ann Seiler with FDEP. On February 15, 2012, Adriano "Nate" Alcoz and David Lukcic with TEC and Tony Arcuri with ECT met with Mindy Hogan with USACE at a pre-application meeting.**

B. Please identify by number any MSSW/Wetland Resource/ERP/ACOE Permits pending, issued or denied for projects at the location, and any related enforcement actions. **N/A**

Agency	Date	No.\Type of Application	Action Taken
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

C. Note: The following information is required for projects proposed to occur in, on or over wetlands that need a federal dredge and fill permit or an authorization to use state owned submerged lands. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding application) and/or (for proprietary authorizations) is located within a 500 ft. radius of the applicant's land. Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. 2.

See Appendix B.

3. 4.

5. 6.

7. 8.

PART 8:

A. By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relive me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of the applicant, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Mr. David Lukcic
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent — Date: 6/5/12
Manager of Environmental Projects, Tampa Electric Company
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

B. I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirements which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant	Signature of Applicant	Date

(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

C. I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

Mr. David Lukcic		
Typed/Printed Name of Applicant	Signature of Applicant	Date: 6/5/12

Manager of Environmental Projects, Tampa Electric Company
(Corporate Title if applicable)

SECTION C

Environmental Resource Permit Notice of Receipt of Application

Note: this form does not need to be submitted for noticed general permits.
This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. Please submit all information on 8 1/2" x 11" paper.

Project Name	**Polk Power Station Reclaimed Water Pipeline Project**
County	**Polk**
Owner	**Tampa Electric Company**
Applicant:	**Same**
Applicant's Address:	**P.O. Box 111, Tampa, Florida 33601**

1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it. **See Figures 1 and 2**.

2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve: **The pipeline will cross underneath the South and North Prongs of the Alafia River. There are no Outstanding Florida Waters or Aquatic Preserves in the immediate area.**

3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works. **See Sheets 1 through 221.**

4. Briefly describe the proposed project (such as "construct dock with boat shelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"): **Tampa Electric Company proposes to install a 15-mile long reclaimed water pipeline from the City of Lakeland Wetland Treatment System in Mulberry, Florida to the Polk Power Station in southwestern Polk County, Florida.**

5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be filled, excavated, or otherwise disturbed or impacted by the proposed activity:

7.033 ac. excavated/filled;

2.816 ac. cleared/maintained (included within excavated/filled acreage)

6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary): **The majority of jurisdictional areas to be disturbed through trenching will be mitigated by being restored to natural grade. Only impacts to reclaimed or remnant shrubby/forested wetlands located on the PPS, along the FDOT right-of-way and the Mosaic Mulberry Mine were provided additional mitigation. To mitigate for the 2.816 acres of clearing/maintenance in these shrubby/forested wetlands TEC will purchase 0.18 mitigation credits from the Peace River Mitigation Bank.**

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:

Note to Notice recipient: The information in this notice has been submitted by the applicant, and has not been verified by the agency. It may be incorrect, incomplete or may be subject to change.

SECTION E

INFORMATION REQUESTED FOR STANDARD GENERAL, INDIVIDUAL AND CONCEPTUAL ENVIRONMENTAL RESOURCE PERMIT APPLICATIONS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

Please provide the information requested below if the proposed project requires either a standard general, individual, or conceptual approval environmental resource permit and is not related to an individual, single family dwelling unit, duplex or quadruplex. The information listed below represents the level of information that is usually required to evaluate an application. The level of information required for a specific project will vary depending on the nature and location of the site and the activity proposed. Conceptual approvals generally do not require the same level of detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date. If an item does not apply to your project, proceed to the next item. Please submit all information that is required by the Department on either 8 1/2 in. X 11 in. paper or 11 in. X 17 in. paper. Larger drawings may be submitted to supplement but not replace these smaller drawings.

I. Site Information

A. Provide a map(s) of the project area and vicinity delineating USDA/SCS soil types. **See Figure 3**.

B. Provide recent aerials, legible for photo interpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial. **See Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45 through 55, 57 through 84, 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221.**

C. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each onsite wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations. **Since TEC will be completely avoiding any potential impacts to the two named surface water systems (i.e., the South and North Prongs of the Alafia River) occurring within project limits, seasonal high water/normal pool elevations were not identified for this project**.

D. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations.
The soil types shown on Figure 3 (Sheets 1 through 5) are reported by the Natural Resource Conservation Service to have the following high water table depths in relation to the land surface:

Soil Map Code	Soil Type	Depth in Feet
2	Apopka fine sand, 0 to 5 percent slopes	>6.0
7	Pomona fine sand	0-1.0
8	Hydraquents, clayey	+2-0
11	Arents-Water complex	-
12	Neilhurst sand, 1 to 5 percent slopes	>6.0
13	Samsula muck	+2-0
14	Sparr sand, 0 to 5 percent slopes	1.5-3.5
17	Smyrna and myakka fine sands	0-1.0
23	Ona fine sand	0-1.0
25	Placid and myakka find sands, depressional	+2-0
31	Adamsville fine sand	2.0-3.5
39	Arents, clayey substratum	-

Soil Map Code	Soil Type	Depth in Feet
57	Haplaquents, clayey	+1-0
64	Neilhurst –Urban land complex, 1 to 5 percent slopes	>6.0
68	Arents, 0 to 5 percent slopes	-
80	Chobee find sandy loam, frequently flooded	0-1.0
86	Felda fine sand, depressional	+2-0
99	Water	-

II. Environmental Considerations

A. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service. **On November 28, 29, and 30 and December 1, 5, 7, 8, 14, 15 and 16, 2011 and March 8, 2012, wildlife surveys were conducted along the proposed pipeline corridor by two ecologists with ECT. The American alligator, a state-listed species of special concern, was observed on the PPS and along S.R. 37, but is anticipated to be potentially present in the deeper water ditches and mine ponds throughout the project corridor. This project should not significantly impact any of the alligators in the proposed pipeline corridor, as alligators generally inhabit inundated lakes, creeks, and waterways, and these areas are likely to be avoided during any pipeline construction. During the surveys, several species of wading birds, including both species of special concern and endangered species, were observed in the project corridor. No wading bird nests were noted on the proposed pipeline corridor, and any pipeline construction should not impact the ability of wading birds to forage in the surrounding landscape. Furthermore, the corridor is surrounded by sufficient land of similar quality so that during construction of the pipeline wading bird populations should not be deprived of land on which to forage. The disturbance of the soil during construction may also aid wading birds in foraging by bringing subterranean insects to the surface which provides them with easy prey. Eagles were spotted flying over the PPS and at the City of Lakeland Wetlands Treatment System property. A nest site has been recorded as occurring approximately 580-ft east of the proposed project corridor (i.e., PO 151). However, the project corridor is located on the west side of S.R. 37, while the nest site is situated on the east side of the highway. The presence of the eagle's nest could not be verified from ground surveys along the FDOT right-of-way and no eagles were spotted in this locale. Since there is a physical buffer between the bald eagle's nest and the proposed project activities and existing activities of a more permanent and ongoing nature occur closer to the nest site than the proposed project activities (e.g., agricultural operations, home, road, etc.), site work occurring between 330 and 660 feet from the nest site will be performed outside the nesting season (i.e., May 16 to September 30), unless the Bald Eagle Monitoring Guidelines (USFWS, 2007) are followed. Regardless of when the site construction is anticipated to take place, this project should not adversely affect any eagles occurring in the vicinity of the proposed pipeline corridor. The Southeastern American kestrel is listed in the State of Florida as threatened. It should be noted that while several American kestrels were observed, at the time of year in which the wildlife survey was conducted there is no reasonable means to determine if the sited kestrels were of the *paulus* subspecies, and that there is a high probability that the kestrels sighted are migrants that do not belong to the threatened subspecies. This project should not significantly impact any of the Southeastern American kestrels in the proposed pipeline corridor. No Southeastern American kestrel nests were noted on the proposed pipeline corridor. Furthermore, the corridor is surrounded by sufficient land of similar quality so that during construction of the pipeline Southeastern American kestrel populations should not be deprived of land on which to forage. Finally, brown pelicans were seen in Cell 7 of the reclaimed system on the City of Lakeland Wetlands Treatment System property. The brown pelican is listed as a species of special concern by the State of Florida. This project should not significantly impact any of the brown pelicans in the proposed pipeline corridor. No brown pelican nests were observed on the proposed pipeline corridor, and the construction of the pipeline should not impact the ability of brown pelicans to forage. Furthermore, it may be worth noting that, despite repeated sightings of brown pelicans, the proposed pipeline corridor is significantly removed from the accepted range of the brown pelican (e.g., not listed as occurring in Polk County by FNAI). In addition, no migratory bird nests, including ospreys or burrows of any listed animals such as gopher tortoises, State listed as threatened, or American burrowing owls, State listed as SSC, were seen within the project corridor. Finally, although FNAI (2010) has records of the Eastern indigo snake documented in the study area, this State and federally listed threatened species was not observed or expected to occur along the project corridor. Thus, no adverse effects to threatened or endangered species are anticipated from the proposed action. See Section 3.0.**

B. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in onsite wetlands and other surface waters that will be preserved or will remain undisturbed. **See Sections 4.0 to 6.0.**

C. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs. **TEC is proposing to purchase credits from a permitted mitigation bank to ameliorate wetland impacts associated with the project.**

D. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number. **See Section 3.0.**

E. Impact Summary Tables:

1. For all projects, complete Tables 1, 2 and 3 as applicable. **Completed**

2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4. **N/A**

3. For shoreline stabilization projects, provide the information requested in Table 5. **N/A**

III. Plans

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

A. Project area boundary and total land area, including distances and orientation from roads or other land marks; **See Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45 through 55, 57 through 84, 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221**.

B. Existing land use and land cover (acreage and percentages), and onsite natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS)(Level 3) for projects proposed in the South Florida Water Management District, the St. Johns River Water Management District, and the Suwannee River Water Management District and use the National Wetlands Inventory (NWI) for projects proposed in the Southwest Florida Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits. **The land uses/covers were identified using Level II and III of the Florida Land Use, Cover and Forms Classification System (FLUCFCS), except where modified (FDOT, 1999). The acreages and percentages of the existing 39 land use and cover types within or immediately adjacent to the project limits are provided below:**

FLUCFCS CODE AND DESCRIPTION	ACREAGE	PERCENTAGE
110-Residential, low density	**0.08**	**0.08**
120-Residential, medium density	**0.21**	**0.22**
140-Commercial and Services	**0.01**	**0.01**
141-Retail Sales and Services	**0**	**0**
147-Mixed Commercial and Services	**0**	**0**
150-Industrial	**0**	**0**
155-Other Light Industrial	**0.46**	**0.48**
159-Industrial Under Construction	**0**	**0**

FLUCFCS CODE AND DESCRIPTION	ACREAGE	PERCENTAGE
165-Reclaimed Land	10.21	10.55
171-Educational Facilities	1.97	2.03
174-Medical Health Care	0.19	0.20
186-Community Recreational Facilities	0.01	0.01
211-Improved Pasture	0	0
212-Unimproved Pasture	0	0
213-Woodland Pastures	0.11	0.11
221-Citrus Groves	0	0
310-Herbaceous	0	0
329-OtherShrubs and Brush	9.59	9.91
419-Other Pines	0.31	0.32
422-Brazilian Pepper	0	0
425-Temperate Hardwood	4.58	4.73
427-Live Oak	0.94	0.97
434-Hardwood-Conifer Mixed	2.86	2.95
442-Hardwood Plantations	0	0
511-Natural Streams	0	0
513-Man-made Ditches	4.37	4.51
532-Reservoirs larger than 100 acres, but less than 500 acres	0.02	0.02
533-Reservoirs larger than 10 acres, but less than 100 acres	0	0
534-Reservoirs less than 10 acres	0.05	0.05
617-Mixed Wetland Hardwoods	2.98	3.08
618-Willow and Elderberry	0	0
641-Freshwater Marshes	0.35	0.36
643-Wet Prairies	0.03	0.03
647-Shrub Swamps	0.78	0.81
812-Railroads	0.26	0.27
814-Roads and Highways	49.62	51.26
830-Utilities	0	0
831-Electric Power Utilities	0.32	0.33
834-Sewage Treatment	6.50	6.71
TOTALS	96.81	100.00

The land use/cover types with zero acreage/percentage occur just outside of project limits.
The FLUCFCS types are described in Section 3.0, listed on Sheet 1, and mapped on Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45 through 55, 57 through 84, 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221. The National Wetlands Inventory mapping for the project corridor is depicted on Figure 5 (Sheets 1 through 5).

C. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems water ward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel. **See Figure 2 and Sheets 15, 29, 36, 38, 44, 56, 85, 87, 89, 95, 105, 106, 108, 110, 112, 114, 116, 131, 145, 147, 149, 154, 157, 159, 161, 164, 182, 184, 186, 188, 190, 197, 199, and 208.**

D. If the project is in the known flood plain of a stream or other water course, identify the following: 1) the flood plain boundary and approximate flooding elevations; and 2) the 100-year flood elevation and floodplain boundary of any lake, stream or other watercourse located on or adjacent to the site; **The 100-year flood boundaries are depicted on Figure 4 (Sheets 1 through 5). Base flood elevations have not been determined for the flood zones. No impacts to the 100-year floodplain are anticipated as a result of the proposed actions.**

E. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination; **See Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45 through 55, 57 through 84, 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221. None of the wetlands or other surface waters was delineated by a binding jurisdictional determination.**

F. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used in III (B) above. **Since the pipeline will be installed underground, the existing land uses and covers are proposed to remain.**

G. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands; **See Section 3.0 and Table 1.**

H. Proposed buffer zones; **N/A**

I. Pre- and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters; **N/A.**

J. Location of all water management areas with details of size, side slopes, and designed water depths; **N/A.**

K. Location and details of all water control structures, control elevations, any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure); **N/A.**

L. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings; **N/A.**

M. Location, size, and design capacity of the internal water management facilities; **N/A.**

N. Rights-of-way and easements for the system, including all onsite and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any; **N/A.**

O. Receiving waters or surface water management systems into which runoff from the developed site will be discharged; **N/A.**

P. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions; **N/A.**

Q. Location, grading, design water levels, and planting details of all mitigation areas; **N/A**

R. Site grading details, including perimeter site grading; **N/A.**

S. Disposal site for any excavated material, including temporary and permanent disposal sites; **N/A**

T. Dewatering plan details; **Information will be submitted to FDEP for a permit prior to any dewatering activities.**

U. For marina facilities, locations of any sewage pump out facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations; **N/A**

V. Location and description of any nearby existing offsite features which might be affected by the proposed construction or development such as stormwater management ponds, buildings or other structures, wetlands or other surface waters. **N/A**

W. For phased projects, provide a master development plan. **N/A**

IV. Construction Schedule and Techniques

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information should specifically include the following:

A. Method for installing any pilings or seawall slabs; **N/A**

B. Schedule of implementation of temporary or permanent erosion and turbidity control measures; **See Section 6.0**

C. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of material to be excavated; **N/A.**

D. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill material to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment) and whether the rocks will be underlain with filter cloth; **See Sections 4.0 to 6.0.**

E. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place (Note: a consumptive use or water use permit may by required); **Dewatering will potentially be required at jack and bore pit locations and during trenching in flooded areas. Information will be submitted to FDEP for a permit prior to any dewatering activities.**

F. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge; **Equipment and materials will be transported to the project corridor mostly from S.R. 37. On inland crossings, the equipment and materials will be transported along a series of interior unpaved access roads.**

G. Demolition plan for any existing structures to be removed **N/A**; and

H. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed. **TEC is the party responsible.**

V. Drainage Information

A. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows**: N/A.**

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin; **N/A.**

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table draw down; **No water table draw downs are anticipated.**

3. Receiving water elevations (normal, wet season, design storm); **N/A**

4. Design storms used including rainfall depth, duration, frequency, and distribution; **N/A.**

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s); **N/A.**

6. Stage-storage computations for any area such as a reservoir, close basin, detention area, or channel, used in storage routing; **N/A**

7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction; **N/A**

8. Flood routings through onsite conveyance and storage areas; **N/A.**

9. Water surface profiles in the primary drainage system for each required design storm event(s); **N/A.**

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s); **N/A.**

11. Tail water history and justification (time and elevation); **N/A.**
and

12. Pump specifications and operating curves for range of possible operating conditions (if used in system view). **N/A**

B. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions; **N/A**

C. Provide the acreage, and percentages of the total project, of the following:

1. Impervious surfaces, excluding wetlands; **0 acres or 0 percent (small acreage/percentage of existing impervious surface)**

2. Pervious surfaces (green areas, not including wetlands); **92.67 acres or 95.72 percent**

3. Lakes, canals, retention areas, other open water areas; **4.44 acres or 4.59 percent** and

4. Wetlands **4.14 acres or 4.28 percent**.

D. Provide an engineering analysis of floodplain storage and conveyance (if applicable), including:

1. Hydraulic calculations for all proposed traversing works; **N/A.**

2. Backwater water surface profiles showing upstream impact of traversing works; **N/A**

3. Location and volume of encroachment within regulated floodplain(s); **N/A** and

4. Plan for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations. **N/A**

E. Provide an analysis of the water quality treatment system including: **N/A**

1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis; and

2. Construction plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria.

F. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection**. N/A**

VI. Operation and Maintenance and Legal Documentation

A. Describe the overall maintenance and operation schedule for the proposed system. **N/A**

B. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different than the permittee, a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long-term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity, or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit. **TEC is the entity responsible for operating and maintaining the system in perpetuity.**

C. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system. **N/A**

D. Provide indication of how water and wastewater service will be supplied. Letters of commitment from off-site suppliers must be included. **N/A**

E. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled by the applicant. **See Appendix B.**

VII. Water Use N/A

A. Will the surface water system be used for water supply, including landscape irrigation, or recreation.

B. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number.

C. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted.

D. Indicate how any existing wells located within the project site will be utilized or abandoned.

TABLE 1
Project Impact Summary (FDEP/USACE)

WL & SW ID*	WL & SW TYPE	WL & SW SIZE (ac.) ONSITE	WL & SW AC.R.ES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		PERMANENT IMPACTS TO WL & SW		MITIGATION ID **
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
PP1	513	0.014	0	0.014	F	N/A	N/A	Restored onsite
PP2	513/643	0.024	0	0.024	F	N/A	N/A	Restored onsite
PP3	643	0	0	N/A	N/A	N/A	N/A	N/A
PP4	647	0.060	0	0.060	F	0.060	C	PRMB
R1	513	0.027	0	0.027	F	N/A	N/A	Restored onsite
R2	513	0.002	0	0.002	F	N/A	N/A	Restored onsite
R3	513	0	0	N/A	N/A	N/A	N/A	N/A
R4	513	0.087	0	0.087	F	N/A	N/A	Restored onsite
R5	513	0.070	0	0.070	F	N/A	N/A	Restored onsite
R6	513	0.104	0	0.104	F	N/A	N/A	Restored onsite
R7	513	0	0	N/A	N/A	N/A	N/A	N/A
R8	647	0.152	0	0.152	F	0.152	C	PRMB
R9	647	0.197	0	0.197	F	0.197	C	PRMB
R10	513	0.010	0	0.010	F	N/A	N/A	Restored onsite
R11	513	0.006	0	0.006	F	N/A	N/A	Restored onsite
R12	647	0.109	0.109	N/A	N/A	N/A	N/A	N/A
R13	513	0.025	0	0.025	F	N/A	N/A	Restored onsite
R14	513	0.094	0	0.094	F	N/A	N/A	Restored onsite

WL & SW ID*	WL & SW TYPE	WL & SW SIZE (ac.) ONSITE	WL & SW AC.R.ES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		PERMANENT IMPACTS TO WL & SW		MITIGATION ID **
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
R15	513	0.159	0	0.159	F	N/A	N/A	Restored onsite
R16	513	0.041	0	0.041	F	N/A	N/A	Restored onsite
R17	513	0.128	0	0.128	F	N/A	N/A	Restored onsite
R18	513	0.057	0	0.057	F	N/A	N/A	Restored onsite
R19	513	0.039	0	0.039	F	N/A	N/A	Restored onsite
R20	513	0.001	0	0.001	F	N/A	N/A	Restored onsite
R21	513	0.026	0	0.026	F	N/A	N/A	Restored onsite
R22	513	0.029	0	0.029	F	N/A	N/A	Restored onsite
R23	513	0.013	0	0.013	F	N/A	N/A	Restored onsite
R24	513	0.002	0	0.002	F	N/A	N/A	Restored onsite
R25	513	0.006	0	0.006	F	N/A	N/A	Restored onsite
R26	513	0.072	0	0.072	F	N/A	N/A	Restored onsite
R27	513	0.091	0	0.091	F	N/A	N/A	Restored onsite
R28	513	0.051	0	0.051	F	N/A	N/A	Restored onsite
R29	513	0.117	0	0.117	F	N/A	N/A	Restored onsite
R30	513	0.743	0	0.743	F	N/A	N/A	Restored onsite
R31	513	0.057	0	0.057	F	N/A	N/A	Restored onsite
R32	513	0.017	0	0.017	F	N/A	N/A	Restored onsite
R33	513	0.016	0	0.016	F	N/A	N/A	Restored onsite

WL & SW ID*	WL & SW TYPE	WL & SW SIZE (ac.) ONSITE	WL & SW AC.R.ES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		PERMANENT IMPACTS TO WL & SW		MITIGATION ID **
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
R34	513	0.011	0	0.011	F	N/A	N/A	Restored onsite
R35	617	0.206	0	0.206	F	0.206	C	PRMB
R36	513	0.007	0	0.007	F	N/A	N/A	Restored onsite
R37	513	0.023	0	0.023	F	N/A	N/A	Restored onsite
R38	513	0.481	0	0.481	F	N/A	N/A	Restored onsite
R39	513	0.147	0	0.147	F	N/A	N/A	Restored onsite
R40	513	0.129	0	0.129	F	N/A	N/A	Restored onsite
R41	513	0.055	0	0.055	F	N/A	N/A	Restored onsite
R42	513	0.036	0	0.036	F	N/A	N/A	Restored onsite
R43	513	0.027	0	0.027	F	N/A	N/A	Restored onsite
W1	617	1.848	0	1.848	F	1.848	C	PRMB
W2	647	0	0	N/A	N/A	N/A	N/A	N/A
W3	647	0.102	0	0.102	F	0.102	C	PRMB
M1	617/641	1.425	1.425	N/A	N/A	N/A	N/A	N/A
M2	513	0.025	0	0.025	F	N/A	N/A	Restored onsite
M3	513	0.712	0	0.712	F	N/A	N/A	Restored onsite
M4	532/647	0.125	0	0.125	F	0.125	C	PRMB
M5	532/647	0.076	0	0.076	F	0.076	C	PRMB
M6	534	0.017	0	0.017	F	N/A	N/A	Restored onsite

WL & SW ID*	WL & SW TYPE	WL & SW SIZE (ac.) ONSITE	WL & SW AC.R.ES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		PERMANENT IMPACTS TO WL & SW		MITIGATION ID **
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
M7	534/647	0.034	0	0.034	F	0.034	C	PRMB
M8	532/647	0.016	0	0.016	F	0.016	C	PRMB
S1	513	0.005	0	0.005	F	N/A	N/A	Restored onsite
S2	513	0.175	0	0.175	F	N/A	N/A	Restored onsite
S3	513	0.062	0	0.062	F	N/A	N/A	Restored onsite
S4	513	0.004	0	0.004	F	N/A	N/A	Restored onsite
S5	513	0.015	0	0.015	F	N/A	N/A	Restored onsite
S6	513	0.023	0	0.023	F	N/A	N/A	Restored onsite
S7	513	0.065	0	0.065	F	N/A	N/A	Restored onsite
L1	513	0.041	0	0.041	F	N/A	N/A	Restored onsite
L2	643	0.029	0	0.029	F	N/A	N/A	Restored onsite
TOTALS		8.567	1.534	7.033		2.816		

WL = Wetland; **SW** = Surface water; ID = Identification number, letter, etc.
Wetland Type: Use an established wetland classification system and, in the comments section below, indicate which classification system is being used.
Impact Code (Type): D = dredge; F = fill; H = change hydrology; S = shading; C = clearing; O = other. Indicate the final impact if more than one impact type is proposed in a given area. For example, show F only for an area that will first be de-mucked and then backfilled.

Note: Multiple entries per cell are not allowed, except in the "Mitigation ID" column. Any given acreage of wetland should be listed in one row only, such that the total of all rows equals the project total for a given category (column). For example, if Wetland No. 1 includes multiple wetland types and multiple impact codes are proposed in each type, then each proposed impact in each wetland type should be shown on a separate row, while the size of each wetland type found in Wetland No. 1 should be listed in only one row.

Comments: ** All impacts to man-made upland cut ditches, storm water and reclaimed mine ponds, graded slopes, and reclaimed/remnant wetlands will be mitigated by restoration onsite; long-term clearing/maintenance impacts to shrubby and forested wetlands will be provided additional mitigation through the purchase of mitigation credits from the Peace River Mitigation Bank (PRMB) (see Table 3). Since the jurisdictional area impacted will be the same area restored at each affected locale, the information provided in Table 1 is considered adequate and therefore, Table 2 was not completed. Wetlands PP3, R3, R7, and W2 did not occur within the project limits, but are present in proximity outside of the project limits.

TABLE 2
ONSITE MITIGATION SUMMARY N/A-SEE COMMENTS

MITIGATION ID	C.R.EATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE
PROJECT TOTALS:												

CODES (multiple entries per cell not allowed): Target Type or Type = target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

COMMENTS: Since the jurisdictional area impacted will be the same area restored at each affected locale, the information provided in Table 1 is considered adequate and therefore, Table 2 was not completed.

TABLE 3
OFF-SITE MITIGATION SUMMARY

MITIGATION ID*	C.R.EATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER-MITIGATION BANK**	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE
PP4											0.06/0.004	647
R8											0.152/0.005	647
R9											0.197/0.006	647
R35											0.206/0.014	617
W1											1.848/0.129	617
W3											0.102/0.003	647
M4											0.125/0.009	647
M5											0.076/0.005	647
M7											0.034/0.001	647
M8											0.016/0.001	647
PROJECT TOTALS:											2.816/0.177	

CODES (multiple entries per cell not allowed):
Target Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation
* FLUCFCS categories 617-Mixed Wetland Hardwoods and 647-Shrub Swamps;
** Credits will be purchased from the Peace River Mitigation Bank to ameliorate wetland impacts; "Area" column contains the acreages of wetland impact followed by the equivalent number of mitigation credits to be to be purchased/debited.

TABLE 4
DOCKING FACILITY SUMMARY N/A

Type of Structure*	Type of Work**	Number of Identical Docks	Length (feet)	Width (feet)	Height (feet)	Total square feet over water	Number of slips

	TOTALS:	Existing	Proposed
*Dock, Pier, Finger Pier, or other structure (please specify what type)	Number of Slips		
**New, Replaced, Existing (unaltered), Removed, or Altered/Modified	Square Feet over the water		

Use of Structure:

Will the docking facility provide:

Live-aboard Slips? If yes, Number:
Fueling Facilities: If yes, Number
Sewage Pump-out Facilities? If yes, Number:
Other Supplies or Services Required for Boating (excluding refreshments, bait and tackle)
☐ Yes ☐ No

Type of Materials for Decking and Pilings (i.e., CCA, pressure treated wood, plastic, or concrete)

Pilings
Decking
Proposed Dock-Plank Spacing (if applicable)

Proposed Size (length and draft), Type, and Number of Boats Expected to Use or Proposed to be Mooring at the facility)

TABLE 5: SHORELINE STABILIZATION N/A
IF YOU ARE CONSTRUCTING A SHORELINE STABILIZATION PROJECT, PLEASE PROVIDE THE FOLLOWING:

Type of Stabilization Being Done	Length (in feet) of New	Length (in feet) of Replaced	Length (in feet) of Repaired	Length (in feet) of Removed	Slope: H: V:	Width of the Toe (in feet)
Vertical Seawall						
Seawall plus Rip-Rap						
Rip-Rap						
Rip-Rap plus Vegetation						
Other Type of Stabilization Being Done:						

Size of the Rip Rap:

Type of Rip Rap:

COMMENTS:

SECTION 3.0

PROJECT SITE INFORMATION

3.0 SITE/CORRIDOR INFORMATION

3.1 PROJECT LOCATION AND DESCRIPTION

As previously described, TEC proposes install an underground 15-mile long, 30 to 36-inches in diameter pipeline to pump reclaimed water from the City of Lakeland Wetland Treatment System, located north of S.R. 60 and east of Mulberry, to the TEC Polk Power Station site (i.e. Township 30 South, Range 23 East, Sections 1, 12, 13, 14, 23, 26, and 35; Township 30 South, Range 24 East, Sections 6 and 7; Township 31 South, Range 23 East, Sections 2, 11, 14, 22, 23, 27, and 34; and Township 32 South, Range 23 East, Section 3 in Polk County, Florida). The proposed corridor begins at the City of Lakeland's wastewater treatment wetland system (i.e., Cell 7) east of Mulberry, just north of S.R. 60, in Polk County and follows along property boundaries heading south and west until crossing onto Mulberry Senior High School property. After crossing onto the Mulberry Senior High School property, the proposed corridor follows along the eastern property boundary heading south until crossing S.R. 60. The corridor crosses S.R. 60 east of downtown Mulberry and generally follows along the western property boundary on Mosaic Mulberry Mine property heading west-southwest until crossing the North Prong Alafia River. After crossing the North Prong of the Alafia River, the corridor follows along the western boundary of DSE, Inc. property to the south until Cozart Road. At Cozart Road, the corridor heads west to S.R. 37. It straddles S.R. 37 south through Bradley Junction, to ultimately turn east into the PPS site. Descriptions of listed species and land uses/cover types occurring along the project corridor area are provided below.

3.1.1 LISTED SPECIES

An area including the study corridor and 1,500-ft beyond either edge of the corridor was evaluated for the potential presence of listed plant or wildlife species by TEC in the *Polk Power Station Water Pipeline Request for SCA Modification-Chapter 9.0* (April 2011). Listed species include those with a designation of endangered, threatened, species of special concern, or commercially exploited that are regulated by the U.S. Fish and Wildlife Service (USFWS), Florida Department of Agriculture and Consumer Services (FDACS), or Florida Fish and Wildlife Conservation Commission (FFWCC).

Listed species included in the evaluation of the study corridor was based on their known or expected occurrence in the study area as residents, migrants, or transients determined on previous identifications in Polk County and the presence of suitable habitat. The probability of occurrence of these species was based on known locations for such species, recent and historical reports of occurrence in the scientific literature and the presence of suitable habitat as shown on land use and land cover maps, NWI maps, and recent aerial photographs. The Florida Natural Areas Inventory (FNAI)'s database (2010) was also used to identify known occurrences of such species. Additionally, the FFWCC website was searched for known bald eagle (*Haliaeetus leucocephalus*) nests and wading bird rookeries for the Sections of land on which the proposed pipeline is to be located, as well as all adjacent Sections.

Plant Species

Fifteen plant species listed as endangered and four species listed as threatened by USFWS are known to occur in Polk County; 44 plant species are listed as endangered and 28 as threatened by the state of Florida (Wunderlin and Hansen, 2008). Based on the results of an FNAI search of element occurrences, no state or federally regulated plant species are known to occur within the study corridor. Due to the habitat specificity of most listed species known to occur in Polk County (e.g., restricted to sand pine scrub or other scrub habitats) and the disturbed condition of virtually all of the habitats crossed by the study corridor, no federally listed species, eight state-listed as endangered, and seven state-listed as threatened plant species are considered to have a reasonable likelihood for occurrence within the area of the study corridor. In addition, seven species listed as commercially exploited by FDACS have the potential to occur within the study corridor. Given the known range of these species and presence of potential habitat, there was a possibility that some or all of these species could occur within or near the study corridor.

After the narrower 50- to 100-ft wide construction corridor was identified within the wider study corridor, surveys for listed plant species were conducted in the field during the wetland jurisdictional delineations. However, after searches of the project corridor by botanists, no listed plant species were found.

Wildlife Species

Plant communities identified in the corridor that serve as the principal wildlife habitat types include uplands such as pine woods, mixed hardwood forests, live oak forests, hardwood-conifer mixed woods, woodland pastures, and wetlands such as freshwater marshes, mixed hardwood and shrub swamps, willow swamps, man-made and natural drainages, and mine ponds. Habitats such as improved and unimproved pasture, citrus groves, other agricultural operations, transportation rights-of-way, reclaimed mined lands (open grassy or shrubby fields), and landscaped residential and commercial development are of relatively lower value to wildlife due to the limited diversity of niches, which is reflected in the lower wildlife species diversities in such habitats.

Developed residential areas offer little habitat value to native vegetation and wildlife. Such areas occur primarily near Bradley Junction and Mulberry. In contrast, the undeveloped habitats in and along the study corridor include a variety of upland and wetland communities representing a wide range of habitat values for specific plant and wildlife species. Areas of potentially high habitat value within the project corridor area include the forested swamp areas and marsh communities found along the North Prong Alafia River and South Prong Alafia River.

The status and potential for occurrence of species recommended for study (i.e., species listed as endangered, threatened, or of special concern) in the study area were determined by a habitat analysis, literature survey, agency data, and ground surveys. A total of 28 vertebrate species, including eight reptiles and amphibians, 17 birds, and three mammals, was identified as species occurring or possibly occurring in the study area. The FNAI data depicted the recorded occurrence of the following regulated species in proximity to the study corridor.

Bald Eagle—The bald eagle is not a state or federally listed species, but is protected under the Bald and Golden Eagle Protection Act and also the Migratory Bird Treaty Act (MBTA). A buffer of 660 ft is required around an active bald eagle nest for specific construction activities. Bald eagles utilize forested areas for roosting and nesting habitat

and forage in shallow freshwater water or saltwater habitats. The eagle is making a comeback in population numbers in the United States, and, in Florida, eagle nests are becoming more common. Two active bald eagles' nests occur within 0.5 mile of the study corridor:

- PO 071—This nest occurs approximately 0.5-mile east of the study corridor and south of C.R. 640 (Pinecrest Road). The nest was last reported active in 2010.
- PO 151—This nest occurs south of Bradley Junction and approximately 300-ft east of the study corridor. It was last reported active in 2010.

No other active eagle nests are known to occur in the corridor or within 0.5 mile of the study corridor.

Wood Stork (*Mycteria americana*)—The wood stork is an endangered species according to both USFWS and FFWCC. This large bird prefers nesting in cypress swamps. Two known historical nesting colonies (FFWCC Colony numbers 616039 and 616114) are found near the study corridor. Both colonies are located a little over 0.5-mile north of the study corridor near Mulberry (USFWS, 2010b). Individuals of the species almost certainly would be found foraging in marshes, ditches, and phosphate ponds along the study corridor.

Wading Bird Colonies—Little blue heron (*Egretta caerulea*), snowy egret (Egretta thula), tricolored heron (*Egretta tricolor*) and white ibis (*Eudocimus albus*) are wading bird species that are all state-listed as Species of Special Concern (SSC). FFWCC (1999), USFWS (2010a), and FNAI (2010) do list known locations of several wading bird colonies in the study area, in addition to the two wood stork colonies discussed previously. While none are recorded as occurring within the study corridor, three are shown to occur within 0.5 mile of the study corridor:

- Colony 616313—Located east of the corridor and south of the North Prong Alafia River.
- Colony 616101—Located west of the corridor just south of Bradley Junction.
- Colony 616311—Located east of the corridor and just north of C.R. 630.

Since these nests were last reported active in 1999 by FFWCC, it is unknown if they are currently active, but historical colonies can be reformed from year to year. TEC can provide a copy of the *Polk Power Station Water Pipeline Request for SCA Modification-Chapter 9.0* (April 2011), upon request. However, a copy of the map of threatened and endangered species records for the area of the study corridor is provided in Appendix A for ease of review.

After the narrower 50- to 100-ft wide construction corridor was identified within the wider study corridor, during the wetland delineations two wildlife ecologists with ECT conducted wildlife surveys of the project corridor in the field to determine the presence or absence of listed animal species. The project corridor area was found to support a high diversity of wildlife habitats. A description of these habitats is provided in Section 3.1.2.

Starting at the most southern terminus, predominately cleared and maintained upland and wetland reclaimed mine land occurs on the TEC PPS. The TEC PPS had the following species present: American alligator (*Alligator mississippiensis*), great egret, double-crested cormorant, Eastern meadowlark, killdeer, loggerhead shrike, mourning dove, common ground-dove, tree swallow, American kestrel (*Falco sparverius*), bald eagle, Northern harrier, osprey (*Pandion haliaetus*), black vulture, turkey vulture, and feral pig.

Proceeding to the north, managed highway right-of-way, agricultural lands, remnant and planted upland forests, forested wetlands, shrub swamp, man-made lakes, and the South Prong of the Alafia River comprises a significant portion of the habitats along S.R. 37 within the proposed pipeline corridor. Species observed within these habitats include killifish, Southern leopard frog, squirrel tree frog, Eastern garter snake, brown anole, chicken turtle, American alligator, anhinga, white ibis, glossy ibis, little blue heron, great blue heron, great egret, cattle egret, snowy egret, lesser yellowlegs, double-crested cormorant, common moorhen, gray catbird, blue jay, northern cardinal, Eastern phoebe, common ground-dove, palm warbler, prairie warbler, blue-gray gnatcatcher, tufted titmouse, tree swallow, common grackle, boat-tailed grackle, red-winged blackbird,

American crow, white-eyed vireo, mourning dove, rock dove, Northern mockingbird, pied-billed grebe, Northern harrier, red-shouldered hawk, sharp-shinned hawk, osprey, black vulture, turkey vulture, Eastern gray squirrel, Eastern cottontail, common raccoon, Virginia opossum, nine-banded armadillo, feral pig, and white-tailed deer.

From the east to north shift from S.R. 37 at Cozart Road, the pipeline corridor crosses reclaimed grassy and shrubby fields and the North Prong of the Alafia River. From the northern edge of the North Prong to S.R. 60, the pipeline crosses the Mosaic Mulberry Phosphate property, which is also reclaimed phosphate mining land. The following species were noted to occur along the accessible portions of this stretch of pipeline corridor: great egret, least bittern, double-crested cormorant, blue-gray gnatcatcher, boat-tailed grackle, Carolina chickadee, common grackle, gray catbird, Eastern phoebe, Northern cardinal, palm warbler, red-winged blackbird, tufted titmouse, yellow-rumped warbler, Northern harrier, and black vulture.

From S.R. 60 north, the proposed pipeline corridor passes through Mulberry Senior High School property, specifically through the school's agricultural unit. The following species were noted to be present along this area: double-crested cormorant, black vulture, blue-gray gnatcatcher, blue jay, boat-tailed grackle, common grackle, dark-eyed junco, mourning dove, Northern cardinal, Northern mockingbird, red-bellied woodpecker, Eastern gray squirrel, feral pig, and common raccoon.

Finally, the northern end of the proposed pipeline corridor passes through the City of Lakeland Wetlands Treatment System property, which occurs on reclaimed phosphate mining land, including reclaimed wetlands being used to treat waste water. Species noted to be present along this area included: wood stork, great egret, brown pelican (*Pelecanus occidentalis*), double-crested cormorant, yellow-throated warbler, blue-gray gnatcatcher, killdeer, laughing gull, mourning dove, pine warbler, red-winged blackbird, tree swallow, bald eagle, Northern harrier, red-shouldered hawk, Merlin, osprey, black vulture, turkey vulture, wild turkey, common raccoon, and feral pig.

During the wildlife surveys, several listed species were observed. The American alligator, a state-listed species of special concern, was observed on the PPS and along S.R. 37, but is anticipated to be potentially present in the deeper water ditches and mine ponds throughout the project corridor. This project should not significantly impact any of the alligators in the proposed pipeline corridor, as alligators generally inhabit inundated lakes, creeks, and waterways, and these areas are likely to be avoided during any pipeline construction.

Wading birds such as little blue heron, snowy egret, and white ibis are all state-listed SSC that were observed foraging in the ditches and along the shallow edges of wetlands and ponds along S.R. 37. Wood storks, a federal and state endangered wading bird species, were also seen in the discharge canal and edges of the reclaimed wetland/pond system on the City of Lakeland Wetlands Treatment System property. Although nesting colonies of wading birds are recorded as potentially occurring within 0.5 mile of the project corridor, this project should not significantly impact any of the wading birds either found within or nesting in the vicinity of the proposed pipeline corridor. No wading bird nests were noted on the proposed pipeline corridor, and any pipeline construction should not impact the ability of wading birds to forage in the surrounding landscape. Furthermore, the corridor is surrounded by sufficient land of similar quality so that during construction of the pipeline wading bird populations should not be deprived of land on which to forage. The disturbance of the soil during construction may also aid wading birds in foraging by bringing subterranean insects to the surface which provides them with easy prey. Wood stork nesting colonies have been recorded as occurring just over 0.5-mile from the project corridor. However, based upon the guidelines provided in the USFWS September 2008 wood stork effects determination key in review of USACE permit applications, the proposed project should receive a “not likely to adversely affect” (NLAA) determination for wood stork populations (i.e., the project is located over 2,500-ft from any nesting colonies and the construction of the underground pipeline should not significantly affect the amount of suitable foraging habitat in the Core Foraging Area of nearby colonies since TEC will be conducting onsite restoration and providing additional mitigation of any permanent impacts to forested wetland habitat). A NLAA determination would fulfill

the requirements of Section 7 of the Endangered Species Act for the USFWS and the FFWCC should concur with the finding and no additional correspondence should be necessary.

Eagles were spotted flying over the PPS and at the City of Lakeland Wetlands Treatment System property. A nest site has been recorded as occurring approximately 580-ft east of the proposed project corridor (i.e., PO 151). However, the project corridor is located on the west side of S.R. 37, while the nest site is situated on the east side of the highway. The presence of the eagles' nest could not be verified from ground surveys along the FDOT right-of-way and no eagles were spotted in this locale. Since there is a physical buffer between the bald eagles' nest and the proposed project activities and existing activities of a more permanent and ongoing nature occur closer to the nest site than the proposed project activities (e.g., agricultural operations, home, road, etc.), site work occurring between 330 and 660-ft from the nest site will be performed outside the nesting season (i.e., May 16 to September 30), unless the Bald Eagle Monitoring Guidelines (USFWS, 2007) are followed. Regardless of when the site construction is anticipated to take place, this project should not adversely affect any eagles occurring in the vicinity of the proposed pipeline corridor.

The Southeastern American kestrel (*Falco sparverius paulus*) is listed in the State of Florida as threatened. It should be noted that while several American kestrels were observed, at the time of year in which the wildlife survey was conducted there is no reasonable means to determine if the sited kestrels were of the *paulus* subspecies, and that there is a high probability that the kestrels sighted are migrants that do not belong to the threatened subspecies. However, this project should not significantly impact any populations of Southeastern American kestrels potentially occurring in the proposed pipeline corridor. No Southeastern American kestrel nests were noted on the proposed pipeline corridor. Furthermore, the corridor is surrounded by sufficient land of similar quality so that during construction of the pipeline Southeastern American kestrel populations should not be deprived of land on which to forage.

Brown pelicans were seen in Cell 7 of the reclaimed system on the City of Lakeland Wetlands Treatment System property. The brown pelican is listed as a SSC by the State of Florida. This project should not significantly impact any of the brown pelicans in the proposed pipeline corridor. No brown pelican nests were noted on the proposed pipeline corridor, and the construction of the pipeline should not impact the ability of brown pelicans to forage. Furthermore, it may be worth noting that, despite repeated sightings of brown pelicans, the proposed pipeline corridor is significantly removed from the accepted range of the brown pelican (e.g., not listed as occurring in Polk County by FNAI).

Like the bald eagle, the nests of other avian species, such as the osprey are protected under the MBTA during the nesting season. No migratory bird nests were found along the project corridor. In addition, it should be noted that no burrows of any listed animals such as gopher tortoises (*Gopherus polyphemus*), state listed as threatened, or American burrowing owls (*Athene cunicularia floridana*), state listed as SSC, were seen within the project corridor. Finally, although FNAI (2010) has records of the Eastern indigo snake (*Drymarchon corais couperi*) documented in the study area, this state and federally listed threatened species was not observed or expected to occur along the project corridor. Even though it is considered highly unlikely that the Eastern indigo snake would occur within the area of the project corridor, TEC will implement protection measures for the Eastern indigo snake during project clearing and construction by following the guidelines provided in the *Standard Protection Measures for the Eastern Indigo Snake during Site Preparation and Project Construction*. Since TEC will be following the above-referenced prescribed guidelines for the protection of the Eastern indigo snake during project clearing and construction, the proposed project should receive a NLAA determination using the USFWS 2010 Eastern indigo snake programmatic effect determination key in review of USACE permit applications. A NLAA determination would fulfill the requirements of Section 7 of the Endangered Species Act for the USFWS and the FFWCC should concur with the finding and no additional correspondence should be necessary.

Thus, based upon the detailed analysis and surveys conducted, no adverse effects to

threatened or endangered plant or animal species are anticipated from the proposed action.

3.1.2 LAND COVER/USE TYPES

Land covers and uses were classified using Level II or Level III of the Florida Land Use, Cover and Forms Classification System (FLUCFCS), except as modified (FDOT, 1999). See Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45 through 55, 57 through 84, 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221 are the plan view drawings with land use/cover types depicted and an aerial photographic background provided. The acreages and percentages of the thirty-nine land cover/use types identified along the project corridor are provided in Section E, Part III B of Section 2.0 in this ERP application. Any equivalent wildlife habitat type designations for the FLUCFCS categories identified below such as the Florida Habitat Categories of the Comprehensive Wildlife Conservation Strategy (FFWCC, 2005) can be provided upon request.

110 - Residential, Low Density <Less than two dwelling units per acre>

This low density residential classification refers to private property generally situated in rural areas. These home sites are frequently on farms where the classification may include a surrounding cluster of out-buildings (sheds, detached garages, small barns, etc.) used by the residents.

120 - Residential, Medium Density <Two- five dwelling units per acre>

This land use code refers to private property with individual home sites situated on lots of one-fifth to one-half acre. This classification is generally associated with towns.

140 – Commercial and Services

Commercial areas are predominantly associated with the distribution of products and services. This category is composed of a large number of individual types of commercial land uses which often occur in complex mixtures.

141 – Retail Sales and Services

This is a business category used for any size business that provides goods or services to the general public. Included in the mapping for the project corridor are at least one or two retail businesses that are currently closed or have been abandoned.

147 – Mixed Commercial and Services

This category is used when there is a mixture of commercial areas at one location.

150 – Industrial

The industrial land use classification is used where manufacturing, assembly of processing materials, and products are accomplished.

155 – Other Light Industrial

Other light industrial is a classification generally used for businesses which are fabricating parts (e.g., plastics, stamping, tool and die, etc.) or are assembling relatively small parts (electronics, small appliances, etc.) into goods for the wholesale market. This classification may include small businesses doing machinery repair or welding.

159 – Industrial under Construction

A small area of the PPS was under temporary construction at the time of mapping (drilling well).

165 – Reclaimed Land

Reclaimed land in Florida are areas previously mined for phosphate which have been filled and graded to an approximate natural contour and which may or may not have been planted. For the purpose of mapping the project corridor, this land use type is reserved for open grassy fields that either do not have a readily apparent use other than green space within another land use category (e.g., maintained fields on PPS property, overgrown grassy areas on phosphate mine property, etc.) or occur within areas that do not appear to have a specific use (e.g., vacant open land along S.R. 37). These open fields are typically recruited with a vegetative cover of weedy, herbaceous species such as dogfennel (*Eupatorium capillifolium*), bahiagrass (*Paspalum notatum*), hairy indigo (*Indigofera hirsuta*), coffeeweed (*Senna obtusifolia*), rose natalgrass (*Melinis repens*), cogongrass

(*Imperata cylindrica*), beggarticks (*Bidens alba*), and caesarsweed (*Urena lobata*).

171 – Educational Facilities

This land use category was utilized for the open grassy fields and developed portions of the school grounds on the Mulberry High School property.

174 – Medical and Health Care

This category is reserved for facilities providing health care to the public. In this instance, a single institution is present which deals with long-term treatment and recovery.

186 – Community Recreational Facilities

Recreational facilities such as baseball fields are associated with this land use category**.**

211 – Improved Pasture

The improved pasture classification is used where the landowner or rancher actively maintains large expanses of forage grasses for cattle and/or horses. The grasses present are usually bahiagrass, but may also include bermudagrass (*Cynodon dactylon*), limpograss (*Hemarthria altissima*) or pangolagrass (*Digitaria eriantha*). Sometimes present in pastures are areas of invasive grasses particularly cogongrass, or small forbs. Often, there are scattered oaks or other trees to provide shade for the livestock.

212 – Unimproved Pasture

This category includes partially cleared land with stands of native trees and brush left intact. Live and laurel oaks (*Quercus virginiana and Q. laurifolia,* respectively) and cabbage palms (*Sabal palmetto*) are typical overstory trees; while wax myrtle (*Myrica cerifera*), groundsel tree (*Baccharis halimifolia*) and saw palmetto (*Serenoa repens*) are common shrub components. The open grassy areas support the same ground covers as in improved pastures.

213 – Woodland Pastures

Areas that have mature trees in the canopy such as live and laurel oaks and slash pines (*Pinus elliottii*) and an understory that has been cleared and maintained as pasture are woodland pastures**.**

221 – Citrus Groves

This agricultural category refers to specially contoured land which was planted and is actively maintained for the production of citrus fruit such as oranges, grapefruits and tangerines. It is readily evident on aerial photographs because of the uniformity of the rows and shapes of individual trees.

310 – Herbaceous

This land cover type is typically associated with treeless grasslands dominated by grasses, sedges, rushes, and other herbs. Only one area along S.R. 37 was found to be an open field dominated by bracken fern (*Pteridium aquilinum*). Because it was so distinctive, this was the only area identified as a FLUCFCS 310.

329 – Other Shrubs and Brush

For the purposes of mapping the project corridor, Other Shrubs and Brush is a category used for land covered with secondary, successive woody species. The land supports post-mining reclaimed soils, but instead of herbaceous cover, the land has recruited various shrubby plants. Typical species found in these areas are native groundsel tree and wax myrtle and invasive woody species such as Brazilian pepper (*Schinus terebinthifolia*) and chinaberrytree (*Melia azedarach*). Weedy grasses and vines are also frequently components of these areas.

400 Series – Upland Forests

Along most of the corridor length, the upland forests are the result of reforestation efforts by planting various native oaks and pines on post-mining reclaimed land.

419 – Other Pines

This classification is used where pines, usually slash pine, but also, some longleaf pine (*Pinus palustris*) was planted for restoration efforts. These pine forests may exist in pure stands, but more often, have recruited an understory of various oaks, shrubs, and vines. If there are no fires or other maintenance activities, these areas may succeed into 434 – Hardwood-Conifer Mixed forests. Recruitment of non-conifer species in these areas is

probably due to animal activities.

422 – Brazilian Pepper

Brazilian pepper is a woody exotic species found growing in disturbed locales from the Tampa Bay area southward in peninsular Florida. This invasive species outcompetes with the native flora for growth space and nutrients and can form monotypic associations.

425 – Temperate Hardwood

This category of upland forest is used for mixed associations of hardwood species generally live oak and laurel oak and may include planted or recruited sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), hickories (*Carya* spp.), cabbage palm, water oak (*Quercus nigra*), and a minor component of slash pine. Subcanopy trees/shrubs that may be present are wax myrtle, American beautyberry (*Callicarpa americana*), chinaberrytree, and Brazilian pepper. Herbaceous ground covers in these forests are often composed of remnant populations of cogongrass, bahiagrass, and/or rose natalgrass. As these forests develop, canopy closure should cause a further decline of grasses.

427 – Live Oak

Live oak trees are the dominant species or sole components present on the drier sites of the post-mining reclaimed land. These trees are relatively slow growing, but most have attained canopy size. Shade and leaf litter usually exclude herbaceous undergrowth, but vines like muscadine grape (*Vitis rotundifolia*) and saw greenbrier (*Smilax bona-nox*) are frequently present especially near the edges of the live oak habitat.

434 – Hardwood-Conifer Mixed

These upland forests are composed of mostly planted live oak, laurel oak, and slash pine. In several instances, though, many of the oaks are apparently trees that have recruited into the area and formed a subcanopy layer under a pine canopy. As with the other upland forest types, shrubs and vines have recruited into the area, probably as a result of animal activities.

These are hardwood forests generated by planting seedling stock. Eucalyptus is one species of exotic hardwood that is typically planted.

500 Series – Water

The most current FLUCFCS does not differentiate among the various types of linear water bodies (i.e., linear water bodies are classified as 510-Streams and Waterways). For the purposes of this project, natural and artificially created linear water bodies will be separately described and classified using a modified Level III FLUCFCS (i.e., FLUCFCS 511-Natural Streams and FLUCFCS 513-Upland Cut Ditches, respectively).

511 – Natural Streams

Natural streams are those surface water bodies that have carved bed and banks through mostly unrestricted flow. The project corridor crosses two natural drainage ways: the North and South Prongs of the Alafia River. However, very little open water is visible from aerial photography so much of the streams are typically mapped using another cover type that is more easily discernable. Alterations to these branches have occurred due to road and rail construction and mining activities, but natural sinuosity of the channels remains in most areas. Considerable invasive species cover is present in the streams—water hyacinth (*Eichhornia crassipes*), wild taro (*Colocasia esculenta*), water lettuce (*Pistia stratiotes*), and Peruvian primrosewillow (*Ludwigia peruviana)*.

513 – Upland-cut Ditches

Upland-cut ditches are linear channels created by man to carry surface water, usually rainfall, off of and away from areas of human activity—roads, parking lots, sports fields, etc. There is no differentiation between upland-cut ditches that merely serve as a conveyance for runoff and those that have some evidence of an ordinary high water mark and a sufficient hydroperiod to support a suite of marginal wetland species, i.e. flat sedges (*Cyperus* spp.), manyflower marshpennywort (*Hydrocotyle umbellata*), and torpedograss (*Panicum repens*). The majority of the upland-cut ditches along the project corridor are located along roadsides and routinely maintained by mowing and cleanout efforts.

532 – Reservoirs larger than 100 acres, but less than 500 acres

Artificial impoundments of water are present along the majority of the project corridor area. Most of these open water systems are remnant from past phosphate mining reclamation activities. Although the FLUCFCS 500 series refers to open water systems devoid of vegetation, these reservoirs can also support the growth of vegetation: 1) Along a narrow shallow water littoral shelf with shrubby and/or emergent wetland plants growing along the toe of slope of the side banks and, in most cases, and 2) In deeper water areas with emergent, floating-leaved and free floating aquatic plants present. The species and covers vary from year to year and depend upon the depth and duration of water levels as well as other environmental factors. Examples of some of the more typical aquatics growing in deeper waters include water hyacinth, water lettuce, manyflower marshpennywort, water spangles (*Salvinia rotundifolia*), duckweed (*Lemna sp*.), and Cuban bulrush (*Oxycaryum cubense*). Typically, areas that may support one or more of the previously referenced species may be classified as FLUCFCS 644-Emergent Aquatic Vegetation. However, for the ease of mapping, these vegetated areas were lumped into the reservoir classification type.

533 – Reservoirs larger than 10 acres, but less than 100 acres

This reservoir classification is similar to the type described above, except it is smaller.

534 – Reservoirs less than 10 acres, which are dominant features

Two small ponds that are part of a storm water management system occur along the proposed pipeline corridor on Mosaic property.

617 – Mixed Wetland Hardwoods

Mixed wetland hardwoods refer to those forested wetlands with a canopy composed of a number of broad-leafed tree species. These swamps are generally composed of sweetbay (*Magnolia virginiana*), swamp bay (*Persea palustris*), red maple, dahoon (*Ilex cassine*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), and coastalplain willow (*Salix caroliniana*). Shrubs present may be wax myrtles or the highly invasive plant, Peruvian primrosewillow. The herbaceous layer is generally composed of ferns—cinnamon fern and royal fern (*Osmunda cinnamomea* and *O. regalis,* respectively), chain ferns

(*Woodwardia areolata* and *W. virginica*), and swamp fern (*Blechnum serrulatum*). Present in the herbaceous layer are green arrow arum (*Peltandra virginica*), bromelike sedge (*Carex bromoides*) and *Sphagnum* mosses.

618 – Willow and Elderberry

In this wetland community type, coastalplain willow is typically the predominant species. Other species may include elderberry (*Sambucus nigra subsp. canadensis*), red maple, and Peruvian primrosewillow.

641 – Freshwater Marshes

A freshwater marsh exists at the crossing of the southern end of the Mulberry Phosphate property. The marsh appears to be hydrologically connected to the North Prong of the Alafia River and may, in fact, be the northern extent of the floodplain for that fork of the Alafia River. The site also appears to have been impacted by a clay spill that has left a thick artificial layer of clay sediment greater than six inches thick. Hydrologic indicators suggest that the marsh is seasonally inundated to a depth in excess of eight inches. The vegetative community of the marsh is dominated by dotted smartweed (*Polygonum punctatum)* and southern cattail (*Typha domingensis)*. While not dominant, alligatorweed (*Alternanthera philoxeroides),* an invasive exotic species, is also present in this marsh. The only shrub present in the marsh is coastalplain willow.

643 – Wet Prairies

Along the project corridor, the wet prairie designation is used for man-made, low-lying graded lands, which have recruited an herbaceous cover of torpedograss, manyflower marshpennywort, flatsedges, and other plant species with a facultative, facultative wet, or obligate wetland indicator status. These wetland areas were created through grading operations along slopes. The grading allowed the collection and retention of surface waters from direct rainfall and surface runoff for a sufficient period of time to support wetland plants. Most of these areas have some surface drainage (slope, ditch or culvert) that reduces water levels/wetland hydroperiods.

647 – Shrub Swamps

There is no FLUCFCS category for shrub swamp. Therefore, for the purposes of this mapping effort, a FLUCFCS Level III classification code of 647 was utilized. Shrub swamp is a designation for wetlands in which the dominant cover is composed of woody species that do not or seldom attain a diameter at breast height greater than four inches and seldom are of sufficient height to be classified as canopy. Typical species found in shrub swamps are wax myrtle, Peruvian primrosewillow, groundsel tree, St. John's-wort (*Hypericum fasciculatum*), and coastalplain willow. Additional species in these swamps are typically soft rush (*Juncus effusus subsp. solutus*), pickerelweed (*Pontederia cordata*), bulltongue arrowhead and duck potato (*Sagittaria lancifolia* and *S. latifolia,* respectively), and flatsedges. Often, the shrub swamps were marshes or other swamps in the past and disturbances allowed Peruvian primrosewillow to invade the area or these wetlands formed along the littoral shelf of reclaimed mine ponds.

812 – Railroads

The CSX railroad rights-of-way (tracks and maintained edges) were mapped using this FLUCFCS classification.

814 – Roads and Highways

This designation is used for all paved and unpaved roads used for vehicles. Mowed or otherwise maintained road rights-of-way are included within this mapping unit. The grassy maintained road rights-of-way are typically dominated by bahiagrass. Other associates growing with bahiagrass could include cogongrass, common ragweed (*Ambrosia artemisiifolia*), pangolagrass, Bermudagrass, gambian dayflower (*Commelina gambiae*), beggarticks, rose natalgrass, Zarzabacoa comun (*Desmodium incanum*), shortleaf spikesedge (*Kyllinga brevifolia*), and Virginia creeper (*Parthenocissus quinquefolia*).

830 – Utilities

Utilities usually include power generating facilities and water treatment plants as well as any related facilities. FLUCFCS 830 was used at two locations near the project corridor at existing above-ground natural gas pipeline metering and/or valve stations. Metering

stations are placed periodically along pipeline systems to allow pipeline companies a means of monitoring the flow of natural gas in the pipelines. Ground valves are used to control the flow of natural gas.

831 – Electric Power Facilities

The entire PPS property could be mapped as 831-Electric Power Facilities. Likewise, the electrical transmission line easements located along S.R. 37 could have been mapped as FLUCFCS 831, as well. However, in order to provide more land cover information, only areas on the PPS having above-ground structures were identified with this land use classification.

834 – Sewage Treatment

The proposed pipeline corridor crosses and connects to a pump station to be built on the City of Lakeland Wetlands Treatment System property. Although surface water features and wetlands are identified as 500 and 600 series FLUCFCS, respectively, on the property, the upland areas which are mostly grassy fields are classified as 834-Sewage Treatment. These fields are mostly dominated by bahiagrass. Other common associates include Bermudagrass, manyflower marshpennywort, manyspike flatsedge (*Cyperus polystachyos*), beggarticks, and sweet broom (*Scoparia dulcis*).

3.2 JURISDICTIONAL WETLANDS AND SURFACE WATERS

On November 28, 29, and 30 and December 1, 5, 7, 8, 14, 15 and 16, 2011 and March 8, 2012, ECT wetland ecologists conducted wetland/surface water jurisdictional determinations along the area of the proposed pipeline route. Wetlands and surface waters were delineated in the field using accepted, standard state and federal wetland delineation methodologies (e.g., the FDEP regulations, Section 62-301 and 62-340 and the Routine Onsite Determination Methods as described in the *USACE 1987 Wetlands Delineation Manual,* the most current regional supplements, and the most current vegetative index, respectively). Standard USACE Routine Wetland Delineation Forms were only completed for a few of the jurisdictional areas crossed by the pipeline corridor because jurisdictional boundaries occurred mostly along the edges of the tops of banks of adjacent berms to ditches and ponds. Pink surveyor's flags labeled with the words

"wetlands delineation" were tied onto stakes or existing vegetation at strategic locations along the identified jurisdictional boundaries. No natural wetlands were found along the pipeline corridor, except for the South and North Prongs of the Alafia River and these locations were highly altered. Each flag was labeled with a code to identify the wetland/surface water. Sixty-seven separate jurisdictional areas were delineated and coded in the following manner:

1) On PPS property (Wetlands PP1 through PP4),
2) Along S.R. 37 (Wetlands R1 through R43 and W1 through W3),
3) On Mosaic Mulberry Mine property (Wetlands M1 through M8),
4) On Mulberry High School property (Wetlands S1 through S7), and
5) On City of Lakeland WTS property Wetlands (L1 and L2).

After the wetland ecologist flagged the surface waters, a certified land surveyor surveyed each flag's location. The surveyed jurisdictional lines were overlaid on the project plans and are provided on 8 ½ by 11-inch drawings in this permit application (see Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45, 47 through 55, 57 through 66, 68 through 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221). Ground photographs of all of the jurisdictional areas associated with the project are also provided in Appendix C.

As stated previously, there are no natural wetlands located within the project area, except for named drainages, because the majority of the land is reclaimed from past phosphate mining activities. Most jurisdictional areas identified within the project area consist of man-made, upland cut drainage ditches. Although the term "wetland" is being used to identify the jurisdictional areas, very few of the jurisdictional areas appear to exhibit natural wetland conditions (i.e., all are highly altered/disturbed or artificial/man-made). Completed USACE-approved Jurisdictional Determination Forms have also been provided for representative USACE jurisdictional areas (see Appendix D). All of the jurisdictional areas identified are considered to be under the jurisdiction of FDEP and USACE.

Sixty-seven separate jurisdictional areas were identified along the project corridor. A description of these systems for each distinct area to be crossed by the pipeline proceeding from the southern to the northern ends is provided below.

3.2.1 TEC POLK POWER STATION PROPERTY

The pipeline's southern terminus is on TEC-owned land at the PPS. Four separate jurisdictional areas were identified along the project corridor on the PPS: Wetlands PP1 through PP4. Wetland PP1 is a roadside ditch. A portion of Wetland PP2 is also a ditch that drains the larger area of the wetland, a highly disturbed wet prairie area, into the drainage system onsite. The open ditches support the growth of Peruvian primrosewillow, Mexican primrosewillow (*Ludwigia octovalvis*), Bermudgrass, vasey grass (*Paspalum urvillei)*, and shortleaf spikesedge. Wetland PP3 is another highly disturbed wet prairie. The wet prairies can have wax myrtle, Brazilian pepper, groundsel tree, and/or Mexican primrosewillow in the shrub layer and torpedograss and shyleaf (*Aeschynomene americana*) in the ground layer. The ditch and wet prairie areas are maintained by mowing. Wetland PP4 is a shrub swamp that occurs along the shallow reaches of a larger open water system. The shrub swamp had an overstory of wax myrtle, coastalplain willow, and water oak with a shrub layer of coastalplain willow, Peruvian primrosewillow, and Brazilian pepper. The herb layer contained burrmarigold (*Bidens laevis*), hottentot fern (*Thelypteris interrupta*), and southern cattail. Wetland PP1 and the area of Wetland PP2 within the project corridor are man-made upland cut ditches; however, the remaining wetlands may be remnant or reclaimed systems.

3.2.2 RIGHT-OF-WAY ALONG STATE ROAD 37

There are 46 roadside jurisdictional areas that occur within the existing FDOT right-of-way along S.R. 37 from the PPS north to Cozart Road within the area of the project corridor. The FDOT maintains these jurisdictional areas within the highway right-of-way. However, the jurisdictional areas are in various stages of vegetation growth and plant species composition based upon the frequency of maintenance operations. The majority of these areas are man-made upland cut ditches (Wetlands R1 through R7, R10, R11, R13 through R34, and R36 through R43); however, a few areas are remnant or reclaimed shrub or hardwood swamp (Wetlands R8, R9, R12, R35, W1, W2, and W3). These

shrubby to forested wetlands all lie within the FDOT right-of-way and therefore are all subject to maintenance activities. The roadside ditches and swales can range from routinely mowed, grassy lawn-like areas to overgrown with shrubs and trees. Woody vegetation in the more overgrown ditches may include roundpod St John's-wort (*Hypericum cistifolium*), groundsel tree, coastalplain willow, wax myrtle. Peruvian primrosewillow, elderberry, Brazilian pepper, anglestem primrosewillow (*Ludwigia leptocarpa*), water oak, laurel oak, live oak, elm (*Ulmus americana*), and red maple. Grasses and herbs that typically occur at the ground/surface water stratum include Bermudagrass, knotroot foxtail (*Setaria parviflora*), bahiagrass, maidencane (*Panicum hemitomon*), broomsedge bluestem (*Andropogon virginicus*), torpedograss, cogongrass, paragrass (*Urochloa mutica*), sour paspalum (*Paspalum conjugatum*), smutgrass (*Sporobolus indicus*), St. Augustine grass (*Stenotaphrum secundatum*), vasey grass, pangolagrass, shortleaf spikesedge, Long's sedge (*Carex longii*), soft rush, southern cattail, chamber bitter (*Phyllanthus urinaria*), West Indian chickweed (*Drymaria cordata*), swamp smartweed (*Polygonum hydropiperoides*), dotted smartweed, herb-of-grace (*Bacopa monnieri*), Virginia buttonweed (*Diodia virginiana*), caesarsweed, beggarticks, jio (*Commelina benghalensis*), common dayflower (*Commelina diffusa*), water lettuce, manyflower marshpennywort, alligatorweed, marsh seedbox (*Ludwigia palustris*), yerba de jicotea (*Ludwigia erecta*), Mexican primrosewillow, Zarzabacoa comun, Carolina cranesbill (*Geranium carolinianum*), Florida pellitory (*Parietaria floridana*), and common ragweed. The most overgrown shrubby ditches along reclaimed forested wetlands had more defined subcanopy layers and contained groundsel tree, coastalplain willow, and Peruvian primrosewillow with an understory of dotted smartweed, torpedograss, soft rush, southern cattail, Mexican primrosewillow, paragrass, and yerba de jicotea. The shrubby to reclaimed or remnant forested wetlands had an overstory of coastalplain willow with red maple, sweetbay, dahoon, and elm. The understory contained coastalplain willow, Peruvian primrosewillow, anglestem primrosewillow, wax myrtle, groundsel tree, yerba de jicotea, Mexican primrosewillow, elm, and elderberry. The shallower reaches of the ground stratum contain southern cattail, burrmarigold, paragrass, lizard's tail (*Saururus cernuus*), false nettle (*Boehmeria cylindrica*), floating marshpennywort (*Hydrocotyle ranunculoides*), denseflower

knotweed (*Polygonum glabrum*), duck potato, hottentot fern, and Southern shield fern (*Thelypteris kunthii*). The deeper water areas contained water lettuce, southern cattail and Cuban bulrush. The South Prong of the Alafia River (i.e., Wetland R12) supported the growth of Peruvian primrosewillow and coastalplain willow as well as wild taro, burrmarigold, southern cattail, common cattail (*Typha latifolia*), duck potato, water hyacinth, and paragrass.

3.2.3 DSE INC. PROPERTY

From Cozart Road at the CSX railroad track to the south side of the North Prong of the Alafia River is the DSE, Inc. property. This private property was not surveyed on the ground. Until TEC can gain access to the property, the information being provided in this ERP application was acquired from using publically available sources and should be considered to be preliminary. Other than forested/shrubby wetlands along the floodplain of the south side of the North Prong of the Alafia River, it does not appear that any jurisdictional areas will be crossed by the reclaimed water pipeline on the DSE, Inc. property.

3.2.4 MOSAIC MULBERRY MINE PROPERTY

From the north side of the North Prong of the Alafia River to S.R. 60, TEC plans on crossing Mosaic property at the Mulberry Mine. Eight jurisdictional areas were identified on this property (i.e., Wetlands M1 through M8). Wetland M1 is a freshwater marsh located along the floodplain of the north side of the North Prong of the Alafia River; while Wetlands M2 through M8 are crossings of man-made upland cut ditches (i.e., Wetlands M2 and M3) or shallow water reaches of mine ponds (i.e., Wetlands M4 through M8). Wetland M1 had an herbaceous cover of dotted smartweed, southern cattail, alligatorweed, fragrant flatsedge (*Cyperus odoratus*), and duckweed. Coastalplain willow was patchy throughout. Wetlands M2 and M3 are man-made drainages vegetated by red maple and coastalplain willow in the overstory and dominated by Peruvian primrosewillow in the shrub layer. Other shrub layer components included wax myrtle, climbing aster (*Symphyotrichum carolinianum*), silverling (*Baccharis glomeruliflora*), red maple, coastalplain willow, and elm. The ground layer is dominated by the growth of

paragrass, cogongrass, common dayflower, and soft rush. Wetlands M4, M5, M7, and M8 are mine ponds. Wetland M6 is a small stormwater retention pond. The shallow edges of the open water mine ponds support the growth of coastalplain willow, laurel oak, cabbage palm, and wax myrtle in the overstory. The shrub layer contains wax myrtle, Peruvian primrosewillow, cabbage palm, Mexican primrosewillow, anglestem primrosewillow, elderberry, and climbing aster. The herbaceous layer can support paragrass, southern cattail, and manyflower marshpennywort.

3.2.5 MULBERRY SENIOR HIGH SCHOOL PROPERTY

From S.R. 60 to the southern boundary of the City of Lakeland Wetlands Treatment System property is the Mulberry Senior High School property. Seven man-made, upland cut ditches were identified along the project corridor on this property (i.e., Wetlands S1 through S7). These roadside ditches contained Peruviam primrosewillow, anglestem primrosewillow, and coastalplain willow in the shrub layer, where present. The herbaceous layer contained vasey grass, manyflower marshpennywort, creeping oxeye (*Sphagneticola trilobata*), soft rush, common dayflower, and manatee mudflower (*Micranthemum glomeratum*).

3.2.6 CITY OF LAKELAND WETLANDS TREATMENT SYSTEM PROPERTY

From the southwestern boundary of the City of Lakeland property to the proposed pump station site to be located partially within Cell 7 of the Wetlands Treatment System, only two jurisdictional areas were identified within or in proximity to the project corridor (i.e., Wetlands L1 and L2). Wetland L1 is the discharge canal for the wetlands treatment system. The shallow water reaches of Wetland L1 have a canopy layer with laurel oak, water oak, and Brazilian pepper. The shrub layer consists of coastalplain willow and Peruvian primrosewillow. The ground stratum mostly consists of paragrass. Wetland L2 is a highly disturbed wet prairie area that is routinely mowed and maintained. This jurisdictional area does not appear to be a reclaimed system. It looks like it was created from vehicular traffic and seepage along the earthen berm. It has occasional anglestem primrosewillow in an open shrub layer, but the dominant species in the ground layer are torpedograss and shortleaf spikesedge. Another jurisdictional area was flagged along the

edge of the discharge canal, but the wetland flags were not surveyed, because the area is not close enough to the project corridor for concern (i.e. Wetland L3). The northern terminus of the pipeline will connect to a proposed pump station that will be connected to Cell 7 of the reclaimed wetland wastewater treatment system onsite. The jurisdictional boundary along the pump station location at Cell 7 has already been included in the ERP application previously submitted by the City of Lakeland and TEC for the construction of the pump station and intake structure facility.

SECTION 4.0

CONSTRUCTION PLANS, SCHEDULE, AND TECHNIQUES

4.0 CONSTRUCTION PLANS, SCHEDULE AND TECHNIQUES

TEC plans on installing a 30 to 36-inch in diameter polyvinyl chloride (PVC) pipeline within a 50- to 100-ft wide construction corridor. Because the proposed pipeline route follows existing maintained road right-of-way for much of the way, clearing should be minimal. Except for TEC-owned property at the PPS and the stretch of private property and the North Prong Alafia River from S.R. 60 to Cozart Road, the proposed right-of-way traverses public lands.

Pipeline construction methods for most of the route will likely consist of trenching (dig trench, place pipe, backfill, and restore), horizontal drilling known as jack and bore (i.e., a horizontal hole is bored through the ground from an entrance to an exit pit by means of a rotating cutting head and auger internal to a steel casing that is being advanced hydraulically), or directional boring, commonly called horizontal directional drilling or HDD (i.e., a steerable trenchless method of installing underground pipes, conduits and cables in a shallow arc along a prescribed bore path by using a surface launched drilling rig, with minimal impact on the surrounding area). Typically, HDD is used when trenching and jack and bore methods are not practical. The pipeline installation under the crossing of the North Prong of the Alafia River will incorporate HDD. Jack and bore will be used at the crossing of the South Prong of the Alafia River, four rail track crossings, five highway crossings (i.e., C.R. 630, C.R. 640, S.R. 37 [2 crossings] and S.R. 60), and potentially crossings of some roadway intersections containing dense or hazardous utilities (e.g., S.R. 37 and Pinecrest Road intersection containing methanol and ammonia pipelines). Trenches are planned for all other upland and wetland crossings. Cross section drawings of proposed crossings of jurisdictional areas are provided on Sheets 15, 29, 36, 38, 44, 56, 85, 87, 89, 95, 105, 106, 108, 110, 112, 114, 116, 131, 145, 147, 149, 154, 157, 159, 161, 164, 182, 184, 186, 188, 190, 197, 199, and 208.

Access roads are not required for the majority of the route where it follows public road rights-of-way. Where the route does leave S.R. 37 along the CSX Railroad to S.R. 60, TEC may require temporary access roads in portions of this route. No access road will be constructed across the North Prong Alafia River or its floodplain. This sensitive portion

of the route will be constructed using HDD. The rest of the route should provide reasonable access.

The limits of construction for the proposed project will encompass approximately 96.8 acres of land. There will be a total of approximately 15 miles of pipeline with a permanent easement width of 25 ft. The following narrative provides the construction plans and techniques to be utilized for the reclaimed water pipeline project over the January 1, 2013 to December 31, 2013 construction schedule.

4.1 ADMINISTRATIVE

A Pre-Construction Conference will be held at the PPS site. Participants will include necessary personnel from the Contractor, Construction Management, and TEC. An agenda for topics of discussion will be established by Construction Management prior to issuing a Notice to Proceed (NTP) to the Contractor. Existing utilities in the vicinity of work will be located and marked prior to the Contractor receiving the NTP. After the NTP is issued, establishment of silt fencing, temporary sediment ponds, and other erosion control devices will commence. Jurisdictional areas will be delineated in the field and buffer zones established to define construction limits.

4.2 CLEARING AND GRADING

All clearing of the construction corridor shall be confined within the limits and bounds established in this permit application. No native tree greater than four inches is anticipated to be removed; however, if required, trees will be removed and disposed of at an offsite landfill facility. TEC shall dispose of all timber, brush, stumps, rock and any other surface debris either onsite or at an authorized disposal area offsite. Following the clearing operations, the construction corridor will be graded as may be required to accommodate the pipeline trenching and installation activities. Earthwork will be performed using scrapers, dozers, backhoes, and other earthmoving equipment. The topsoil shall be graded to one side of the corridor and used as backfill or preserved until final clean-up and re-vegetation activities. Temporary stockpiles may be established to store excess, segregated or specialized materials. Immediately behind the rough grading

operations, a dedicated environmental implementation crew shall install or re-install any erosion controls such as silt fence, rock dams, sediment basins and other measures as may be necessary. TEC will re-establish pre-existing corridor contours and tie-in to existing, undisturbed contours adjacent to disturbed areas. TEC will haul in or dispose of earth as may be necessary to satisfy this requirement. All earth that is to be removed from the property will be properly disposed of at an authorized land fill facility.

4.3 DRAINAGE

During construction in drainage ditches, all flow will be rerouted around work areas until the ditches can be restored in place. During construction, sediment controls will be utilized to protect downstream systems from siltation and sedimentation. These controls may include the installation of staked silt fences with hay bales along uplands and shallow wetland edges and/or turbidity screens placed downstream of construction areas, as required (see Figures 7 through 10).

4.4 WETLANDS/SURFACE WATERS

TEC will protect all wetlands and surface waters whether or not they are shown on the construction drawings. The general wetland construction and mitigation procedures that will be followed to minimize adverse environmental impacts to wetlands are:

1) Using the most appropriate equipment or machinery;
2) Implementing appropriate maintenance and operation on the equipment or machinery, including adequate training, staffing, and working procedures;
3) Using machinery and techniques that are designed to reduce drainage impacts to wetlands;
4) Designing appropriate wetland crossings that will maintain water flows and accommodate fluctuating water tables;
5) Maintaining adequate flow in wetlands to protect aquatic life and prevent the interruption of downstream uses;
6) Assembling the pipeline in upland and use “push-pull” or “float” techniques to place the pipe in flooded areas of the trench;
7) Limiting equipment operation in wetlands;

8) Limiting removal of vegetation;
9) Segregating and stockpiling wetland surface soils for restoration during backfilling;
10) Using low-ground-weight construction equipment if standing water or saturated soils are present;
11) Dewatering trenches in such a manner that no heavy silt-laden water flows into any wetland;
12) Utilizing temporary sediment barriers; and
13) Where the pipeline trench may drain a wetland, controls will be implemented to maintain the original hydrology.

TEC will prevent the spilling or dumping of spoil into wetlands and surface waters by using silt screens or other protection devices. Prior to any grading and trenching activities, a temporary sediment barrier (i.e., silt fence or hay bales) will be installed across the entire construction right-of-way immediately upslope of the wetland boundary (see Figures 7 through 10). Erosion controls will be placed as needed parallel to the construction right-of-way within the wetland. Erosion and sedimentation barriers will be properly installed and maintained throughout the construction period to prevent sediment from flowing into adjacent undisturbed wetland areas. Spoil will be placed in upland areas onsite or removed from site and disposed of in an authorized disposal area. Spoil will not be placed in wetlands or surface waters.

Where soils are dry enough at the time of construction to support equipment, no additional equipment support for stability will be required. For crossing wetlands with saturated soils or soils otherwise unable to support mainline construction equipment, the construction right-of-way will be stabilized with prefabricated equipment mats during construction. In an inundated condition, construction will entail pushing or pulling a floating section of pre-assembled pipe into position. During the initial restoration phase, all construction debris will be removed from the right-of-way. Segregated topsoil will be replaced over the trench line, and wetland contours and drainage patterns will be restored to approximate original condition by matching that which exists in adjacent undisturbed areas. Restoring the grade, drainage patterns, and replacing topsoil over the trench will

promote the re-establishment of native hydrophytic vegetation. Where the pipeline trench may affect wetland hydrology (e.g., drain the wetland), controls will be implemented as necessary to maintain the original wetland hydrology. These clean-up and final grading steps shall be completed within 10 working days after the pipeline is backfilled, weather conditions permitting. Within six working days of restoration of the substrate, weather conditions permitting, wetlands will be seeded with annual ryegrass at a rate of 40 pounds per acre. The rye grass will effectively stabilize the site and serve as a nursery crop as the indigenous wetland vegetation re-establishes itself. The ryegrass quickly loses vigor during the first growing season and allows re-vegetation by native wetland plant species.

4.5 TRENCHING

TEC will excavate a trench within the designated corridor for placement of the pipeline in areas where there is no directional bore. The trench will be excavated to a width and depth to provide a minimum of cover over the pipe as specified in the permit drawings.

The depth of the trench shall be measured from the level of the graded ground on each side of the trench. TEC will excavate the trench to additional depth so as to lay the pipeline under other pipelines or utility lines with at least 12 inches clearance, or to the requirements specified by the Project Engineer.

Where drain tile is damaged, cut or removed it will be temporarily repaired immediately, in such a manner that the drain lines can function properly.

Heavy equipment will not be stored or operated over an existing pipeline. TEC desires to reduce to a minimum the number of bends to lay the pipe, which will be accomplished by cutting the trench slightly deeper in approaches to road crossings and ditches. TEC will operate the trenching machine at various depths to eliminate unnecessary bending rather than to finish grading the trench by hand.

TEC may install rock rip rap and/or stone on the banks of drainage ditches where erosion might wash away the loosely consolidated backfill. Rip rap may also be used to help stabilize the backfill where the pipeline traverses embankments. In no cases shall rip rap be used to stabilize jurisdictional wetland areas or moist ground within the right-of-way. If heavy equipment needs to move through such areas, then temporary mats will be used.

4.6 JACK AND BORE DRILLING

Jack and bore is a method for installing a casing that will serve as a duct for the reclaimed water pipeline. It is a multi-stage process consisting of constructing a temporary horizontal jacking platform and a starting alignment track in an entrance pit at a desired elevation. The casing is then jacked by manual control along the starting alignment track with simultaneous excavation of the soil being accomplished by a rotating cutting head. For this project, a 48-inch steel casing will be utilized. The spoil is transported back to the entrance pit by the auger rotating inside the casing. The Contractor shall layout the proposed jack and bore pits prior to the commencement of work. Jacking and receiving pits shall be constructed as shown on permit drawings. Each separate jack and bore operation shall be performed continuously on a 24-hour basis until work is completed. Pits shall be fenced on sides. Bored or jacked installations shall have a bored-hole diameter essentially the same as the outside diameter of the casing plus the thickness of the protective coating. If voids should develop or if the bored-hole diameter is greater than the outside diameter of the casing pipe, plus coating, by more than approximately 1 inch, grouting or other methods shall be employed to fill such voids. Pressure grouting of the soils before or during jacking or boring may be required to stabilize the soil, control water, prevent loss of material, and prevent settlement or displacement of the ground and/or tracks. Grout shall be cement, chemical, or other special injection material selected to accomplish the necessary stabilization. When water is known or expected to be encountered, pumps of sufficient capacity to handle the flow shall be maintained at the site and be constantly attended operationally on a 24-hour per day basis. When dewatering, to detect any settlement or displacement of the track, ground, or facilities close observations shall be maintained. The dewatering system shall lower and maintain the groundwater level a minimum of 2-ft below the invert at all times during construction

by utilizing well points, vacuum well points, or deep wells to prevent the inflow of water or water and soil into the heading. Groundwater observation wells may be required to demonstrate compliance with dewatering requirements. The proposed methods of dewatering shall be submitted to FDEP prior to the commencement of work. The discharge from the dewatering operations shall be carefully monitored. Should excessive fine soils particles at any time during the dewatering process be observed, the dewatering shall be halted immediately and cannot resume until the unsatisfactory condition is remedied to the satisfaction of FDEP.

4.7 HORIZONTAL DIRECTIONAL DRILLING

The directional bore alignment will approximate the approved permit drawings, as close as possible. The exact locations of the bore entry point and exit point will be determined in the field during the drilling operation. However, each bore point will be located a minimum of 100-ft landward of jurisdictional limits. TEC will install the 36-inch high density polyethylene (HDPE) pipeline at the depth proposed on approved permit drawings. Any change in the depth from approved permit drawings will be documented and the wetland permitting agencies (i.e., FDEP and USACE) will be notified of the changes in writing. If a proposed change should result in potential impacts to jurisdictional wetlands/surface waters, work in the area will cease until the change is approved by the above-referenced wetland permitting agencies.

TEC will limit the longitudinal pull on the pipe to not exceed 72 percent of the specified minimum yield strength (SMYS) of the pipe. TEC will continuously monitor pulling forces during pull back of pipe section. TEC will adequately support the pipe string with support rollers or side booms. The rollers or cradles shall be of a type that will prevent damage to the pipe coating. The pipe section will be pulled back in one continuous section. A swivel shall be used to minimize pipe rotation during pull back. After completion of the crossing, TEC will develop a set of "as-built" drawings including both horizontal and vertical alignments. TEC will haul, string, weld, field coat, and test the bore pipe section. TEC may use mud tanks or construct temporary mud pits to contain drill fluid. TEC will adequately contain all slurry onsite during boring activity. Upon

completion of the crossing, TEC will dispose of any drill fluids, mud, and cuttings in a manner consistent with state and local environmental regulations.

4.8 BENTONITE EMERGENCY SPILL PLAN

Drilling fluid is composed of a carrier fluid (water) and drilling fluid additives. The most widely used drilling fluids for HDD application are based on bentonite. Bentonite is a naturally occurring clay mineral that forms a mud when mixed with water. The bentonite clay-water mixture is not classified as a toxic or hazardous substance. However, if it is released into water bodies, bentonite has the potential to adversely impact fish and invertebrates.

This following Bentonite Emergency Spill Plan shall be implemented when HDD is used. TEC and/or their contractors or agents shall be responsible for following the plan. The Bentonite Emergency Spill Plan can be outlined and characterized as follows:

1. **Rapid Response and Containment Procedures** – TEC shall employ a Contractor who is well qualified and has sufficient expertise in the area of directional drilling to perform the work for this project. Furthermore, the Contractor shall employ sufficient qualified personnel on the site during directional drilling operations to monitor the work. The Contractor shall designate an immediate response team that will initiate containment procedures immediately in the event of the occurrence of a bentonite spill. The response team shall include sufficient personnel and equipment to contain and remove the excess bentonite from the site. TEC also has emergency response resources on standby 24 hours per day, 7 days a week, due to the nature of the natural gas utility business. Environmental Consultants are part of the TEC emergency response team. Containment of any spill occurrence shall include construction of earth berms, silt fencing, aquatic barriers and other means to prevent the spread of the bentonite spill. Best Management Practices will be used to adjust the spill plan to fit the situation as needed. An inspector/agent of TEC will typically be onsite during pipeline construction. Any spill occurrences and cleanup shall be

documented by the Contractor and the TEC inspector. A bentonite spill shall be reported to the appropriate governmental agencies as required.

2. **Timely Cleanup Capability** – Once the Containment Procedures have been implemented, the same above-described forces shall immediately undertake the cleanup of the spilled bentonite. The material shall be removed from the site and disposed of at a landfill or other facility that is approved to accept bentonite waste. The bentonite shall be removed from the site and hauled using approved methods. Environmental Consultants will coordinate the cleanup process.

3. **Full Restoration of Wetlands** – In the event that bentonite is transmitted into wetland areas as a result of the pipeline project, the bentonite shall be removed from the wetland areas as described above. After removal is complete and inspected by an Environmental Consultant and appropriate governmental agency as required, the wetland area shall be restored to original condition inasmuch as possible. All necessary grading and planting shall be the responsibility of TEC and Contractor. All restoration work shall be conducted under the direction of an Environmental Consultant. The Environmental Consultant shall employ Best Management Practices to insure that the wetlands are restored satisfactorily.

4.9 FRAC-OUT CONTINGENCY PLAN

In addition to an accidental spill, HDD has the potential to release drilling fluids through fractured bedrock (frac-out) into the surrounding rock and sand to travel toward the surface. This Frac-Out Contingency Plan establishes operational procedures and responsibilities for the prevention, containment, and clean-up of frac-outs associated with the directional drilling to be performed on this project. All TEC personnel and subcontractors responsible for the work must adhere to this plan during the entire directional drilling process. Thus, once a frac-out is identified:

1. All work stops, including the recycling of drilling mud/lubricant. The pressure of water above the pipe keeps excess mud from escaping through the fracture.
2. Determine the location and extent of the frac-out.

3. Report frac-out to TEC for necessary environmental reporting
4. If the frac-out is terrestrial:
    - Isolate the area with hay bales, sand bags, or silt fencing to surround and contain the drilling mud.
    - Consult with Tampa Electric Company regarding next appropriate action among the following:
        - A mobile vacuum truck will be used to pump the drilling mud from the contained area and recycled to the return pit.
        - The drilling mud will be left in place to avoid potential damage from vehicles entering the area.
5. Once excess drilling mud is removed, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
6. If the frac-out is aquatic (i.e., under water):
    - Monitor frac-out for four hours to determine if the drilling mud congeals. (Bentonite will usually harden, effectively sealing the frac-out location).
    - Consult with TEC regarding next appropriate action among the following:
        - If drilling mud congeals, take no other action that would potentially suspend sediments in the water column.
        - If drilling mud does not congeal, erect isolation/containment environment (underwater boom and curtain).
        - If the fracture becomes excessively large, a spill response team would be called in to contain and clean up excess drilling mud in the water. Phone numbers of spill response teams in the area will be onsite.
        - If the spill affects and area that is vegetated, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
        - Re-vegetated areas will be monitored twice per year for two years subsequent to frac-out to confirm re-vegetation is successful.

After frac-out is stabilized and any required removal is completed, document post-cleanup conditions with photographs and prepare frac-out incident report describing time,

place, actions taken to remediate frac-out and measures implemented to prevent recurrence. Incident report will be provided to FDEP as part of project compliance not more than 30 days after the incident.

4.10 CONSTRUCTION SCHEDULE

Construction equipment will include loaders, graders, dump trucks, directional drilling machines, asphalt-paving machines, compactors, pipe handling equipment, and watering trucks. Construction activities will generally include the ongoing/progressive installation of pipe, valves, and restoration along the full route. Typically, a pipe crew can install approximately 400 ft per day on average; therefore, the full length of pipeline may require approximately 200 crew-days. With two crews, this would take approximately five months working straight through. A third or fourth crew would probably be working in parallel for restoration, special crossings, etc. When installation is complete, the pipeline would be pressure-tested for final acceptance. It is reasonable to consider a total construction period of eight to 10 months for submittals, mobilization, installation, testing, acceptance, and weather/other delays. However, the timetable could change depending upon the final pipeline alignment with respect to adjacent utilities, wetlands, number of roadway crossings, weather delays, etc. Therefore, the estimated project schedule is January 1, 2013 to December 31, 2013.

SECTION 5.0

OPERATION AND MAINTENANCE

5.0 OPERATION AND MAINTENANCE

5.1 DRAINAGE FACILITIES

The right-of-way located within public road rights-of-way will be maintained by FDOT. Drainages within and immediately adjacent to right-of-way crossings will be inspected and maintained, as necessary. Roadside ditches along the project right-of-way will be checked as required for erosion, scour, sediment deposits, and other impediments to ensure proper drainage. If ditches require cleaning, this will be performed with small equipment such as bobcats and pickups.

5.2 TEMPORARY EROSION CONTROL FACILITIES

Silt fencing and ditches will be inspected at regular intervals during the construction phase. Sediment deposits greater than 4 inches deep will be removed. Torn silt fencing will be replaced as needed until final surface stabilization is achieved. Sediment tracking prevention devices such as rock-surfaced construction entrances will be inspected daily for sediment depth, and replaced if needed to prevent sediment from leaving the right-of-way. Sediment deposits greater than 4 inches deep will be removed from temporary sediment ponds.

5.3 MAINTENANCE ACCESS

Access for maintenance of the pipeline will be from existing adjacent roads or from adjacent upland areas within the right-of-way. Enough space will be provided for a small truck to drive alongside the pipeline along uplands for inspection and maintenance purposes.

5.4 ONGOING MAINTENANCE

The majority of the right-of-way will primarily follow public road rights-of-way, so it will be maintained accordingly as FDOT currently maintains it. All other right-of-way crossings will be inspected and maintained as necessary. Maintenance manpower requirements should be likewise minimal. A water pipeline typically requires little maintenance. Other than monitoring flow rates and operating pressure, the pipeline

maintenance activities will include:

- Monthly *windshield* inspection of the pipeline to look for evidence of leaks exhibited by seepage and/or depressions along the alignment.
- Monthly inspection of the air release valves to assure proper operation.
- *Exercising* the valves on a monthly basis. Depending on the number of valves implemented into the final design, this activity could take approximately two days.
- Due to the characteristics of the water, pipeline *pigging* may not be required. However, a more thorough analysis of the need for pigging should be done during design activities.

The windshield inspection and inspection of air release valves can be accomplished by a single person in one day. Maintenance activities for the pump station should include onsite inspection twice weekly to observe general condition of pumps, electrical components, and piping. The activities should include inspection for leaks, unusual pump/motor sounds, security of the pump house, etc. Telemetry will provide a general view of pump and pipeline health through monitoring of flow rates, pump speed, system pressure, etc. Such monitoring could be accomplished during the normal course of control room activities.

SECTION 6.0

ACTIVITIES PROPOSED IN SURFACE WATERS AND FLOODPLAINS

6.0 ACTIVITIES PROPOSED IN SURFACE WATERS AND FLOODPLAINS

6.1 SURFACE WATERS

Except for the South and North Prongs of the Alafia River, there are no natural surface waters located within the project area and wetlands are either reclaimed or potentially remnant after phosphate mining. Jurisdictional areas identified within the project area consist mostly of man-made upland cut drainage ditches, ponds, and/or reclaimed or remnant wetlands. The previously referenced wetland and surface water impacts are considered to be the minimum required to assure safe and efficient construction and operation of the proposed reclaimed water pipeline. In some cases, some excess backfill not utilized during trenching will be disposed of offsite. There are no impacts to local drainage patterns anticipated as a result of the proposed action. Representative plan view and cross-sections of the proposed facilities identifying existing and proposed grades, jurisdictional limits, etc. are provided in Sheets 14 through 221. Approximately 7.542 acres of jurisdictional areas will be affected by construction as indicated on the plan view and cross-section drawings.

Where proposed activities are adjacent to jurisdictional areas, appropriate sediment control methods will be used as required. Sediment controls may include the installation of staked silt fences with hay bales along uplands and shallow wetland edges. Silt and/or turbidity screens will also be placed downstream of construction areas, as required.

During periods of high water levels, temporary mats may be used in jurisdictional areas to provide access for construction. Upon completion of construction activity, matting will be removed and impacted areas restored to their original condition.

There is an FDEP Conservation Easement bordering both sides of the North Prong of the Alafia River that occupies the majority of the project corridor at the crossing. TEC will seek a modification of that easement to cross the river via HDD. Such a request will be required because the easement includes language prohibiting utilities. Additionally, river crossings typically require a sovereign submerged lands crossing approval. The crossing of the South Prong Alafia River also crosses TIITF-owned lands and will, therefore,

potentially require an approval from the state. However, TEC will be crossing the South Prong of the Alafia River within the existing FDOT right-of-way easement.

6.2 FLOODPLAINS

The proposed corridor intersects Flood Zone A areas associated with the South Prong Alafia River (for a length of approximately 500 ft) and North Prong Alafia River (for a length of approximately 1,500 ft); at a location approximately 4,000-ft north of County Road (C.R.) 630 (for a length of approximately 4,000 ft); at a location approximately 2,800-ft north of Railroad Street in Bradley Junction (for a length of approximately 3,000 ft); at a location approximately 300-ft south of C.R. 640 (for a length of approximately 500 ft); at a location approximately 1,800-ft south of the intersection of S.R. 37 and Old S.R. 37 (for a length of approximately 1,000 ft); at the location of the corridor where the alignment shifts from south to north to west to east just north of the intersection of S.R. 37 and Old S.R. 37 (for a length of approximately 2,400 ft), and at four separate areas on the PPS that range from 125 to 750 ft. No impacts to the 100-year floodplain are anticipated as a result of the proposed actions. A map of the 100-year floodplain crossings is provided on Figure 4 (Sheets 1 through 5).

SECTION 7.0

MITIGATION PLAN

7.0 MITIGATION PLAN

As stated previously, TEC proposes to install a 15-mile long reclaimed water pipeline from the Polk Power Station to the City of Lakeland Wetland Treatment System. The construction will result in disturbance to 7.033 acres of reclaimed/remnant wetlands/mine ponds and upland-cut drainage ditches. It was determined that only 2.816 acres of the total 7.033 acres of jurisdictional impacts within the project corridor consist of natural or reclaimed wetlands (i.e., PP4, R8, R9, R35, W1, W3, M4, M5, M7, and M8). Approximately, 0.087 acre of impact consists of a storm water retention pond, a treated wastewater discharge ditch, and the edge of a highly disturbed, man-made wet graded slope (i.e., M6, L1, and L2, respectively). The remaining 4.13 acres of impact consists of upland cut, man-made surface water runoff ditches that undergo routine maintenance (i.e., PP1, PP2, R1, R2, R4, R5, R6, R10, R11, R13 through R34, R36 through R43, M2, M3, and S1 through S7). Thus, there were 2.816 acres of wetland impacts and 4.217 acres of man-made, upland cut surface water impacts. The majority of the man-made, upland cut surface water systems are routinely maintained by mowing/clearing and sometimes scraping to remove built up vegetation, trash, sediment, and debris. Since these systems are not true wetlands and in a continual state of disturbance through maintenance activities, restoring the excavated areas of the ditches/ponds to original grade after trenching operations are complete and allowing a natural recruitment of herbaceous and shrubby wetland plants is considered to be adequate mitigation for the proposed impacts. In addition, in order to expedite the reestablishment of hydrophytic species, the top one foot of topsoil will be segregated and stockpiled during trenching and returned to its original location and elevation after backfilling of the pipeline is completed. The same restoration procedure will be followed after trenching in the above-referenced wetland areas (see Section 4.4). However, there may be a permanent loss of wetland function in the existing shrubby/forested wetlands associated with maintaining the area above the imbedded pipeline in a low-growing herbaceous condition that may require additional mitigation. A wetland impact summary is provided in Table 1 of Section 2 of this ERP application.

Section 373.4135, Florida Statutes (FS) states that adverse wetland impacts may be offset by the creation, maintenance, and use of mitigation banks. Currently, there are permitted mitigation banks in Florida providing freshwater wetland credits for mitigation. These banks provide replacement functions and values, expressed as credits, for permitted wetland impacts within each bank's service area. The mitigation bank service area generally reflects the drainage or watershed basin where the bank is located. If a project site is located within the service area of a permitted mitigation bank, bank credits may be purchased from the bank to compensate for wetland impacts. ECT determined that there are currently two permitted mitigation banks with service areas that overlap the project corridor at the southern terminus: Boran Ranch Mitigation Bank (BRMB) and Peace River Mitigation Bank (PRMB). BRMB and PRMB have a combined mitigation service area that only includes a portion of the project corridor (see Figure 6); however, either would be acceptable for the purchase of credits to ameliorate wetland impacts because:

1) The FDEP considers linear projects to be eligible to use a mitigation bank regardless of whether or not it is located within the designated mitigation service area (i.e., Chapter 373.413[6] [a] 5[d], Florida Statutes [F.S.]).
2) The USACE final compensatory mitigation rule (Federal Register Vol. 73, No. 70, April 10, 2008) states a preference for utilizing mitigation bank credits when an appropriate bank has the appropriate number and type of credits available. The rule also typically allows the use of a mitigation bank for linear projects that extend beyond the limits of the service area on a case by case basis and acceptance of state or local wetland regulatory approved mitigation in order to avoid duplicating or conflicting compensatory mitigation requirements.

The Uniform Mitigation Assessment Method (UMAM) was developed by various Florida state regulatory agencies, with input from local government and the USACE, Jacksonville District. On February 2, 2004, UMAM went into effect at the state level, and those Florida state and local governments responsible for environmental regulation were required to begin utilizing the methodology (Chapter 62-345, F.A.C.). Prior to its implementation at the federal level, the USACE conducted a study of the method and recommended UMAM be used for federal wetland regulatory purposes starting August 1, 2005. Implementation of UMAM by the USACE included a few changes from the state

rule. Specifically, the USACE continues to use the Temporal Lag Table - USACE 3 percent discount rate, rather than the state's time lag table, based on a 7 percent rate. Also, the USACE has more restrictions compared to the state in the amount of wetland and upland preservation credit given. The method is a standardized procedure for assessing the functions provided by wetlands and other surface waters, the amount that those functions are reduced by a proposed impact, the amount of mitigation necessary to offset that loss, and to also award and deduct mitigation bank credits.

Both qualitative description (Part I) and quantification of assessment area (Part II) UMAM forms are completed for each impact polygon and mitigation type. UMAM involves assessing three wetland functional parameters: Location and Landscape Support, Water Environment, and Community Structure, including vegetation and/or benthic communities. Pursuant to Rule 62-345.500, F.A.C., both impact and mitigation assessment areas are scored on a relative scale of zero to 10 based upon the level of function that benefits fish and wildlife (i.e., optimal [10], moderate [7], minimal [4], and not present [0]). The numerical scores are used to compare the reduction of ecological value due to the proposed impacts and the gain in ecological value due to proposed mitigation and to determine whether a sufficient amount of mitigation is proposed. The degree of ecological change on a site is determined for both the impact and mitigation assessment areas by the mathematical difference in the Part II scores between the current condition and with-impact condition and between the current condition and with-mitigation condition. This difference is the delta (Δ). Once the impact delta is determined, it is multiplied by the acreage of wetland impact to determine the number of mitigation bank credits required to ameliorate the wetland functional loss (FL).

The completed UMAM forms for impacts to shrubby and forested wetlands are provided in Appendix E. The functional loss for clearing impacts to the shrubby and forested wetlands (i.e., Wetlands PP4, R8, R9, R35, W1, W3, M4, M5, M7, and M8) on the project was calculated as follows:

Wetland PP4:

- Impact delta (with – current):
  ((5+7+3)/30) – (5+7+5)/30) = -0.07
- Functional Loss (impact delta x area):
  -0.07 x 0.06 acre = -0.004

Wetland R8:

- Impact delta (with – current):
  ((4+5+2)/30) – ((4+5+3)/30) = -0.03
- Functional Loss (impact delta x area):
  -0.03 x 0.152 acre = -0.005

Wetland R9:

- Impact delta (with – current):
  ((4+4+3)/30) – ((4+4+4)/30) = -0.03
- Functional Loss (impact delta x area):
  -0.03 x 0.197 acre = -0.006

Wetland R35:

- Impact delta (with – current):
  ((5+4+3)/30) – ((5+4+5)/30) = -0.07
- Functional Loss (impact delta x area):
  -0.07 x 0.206 acre = -0.014

Wetland W1:

- Impact delta (with – current):
  ((6+5+4)/30) – ((6+5+6)/30) = -0.07
- Functional Loss (impact delta x area):
  -0.07 x 1.848 acre = -0.129

Wetland W3:

- Impact delta (with – current):
  ((4+4+3)/30) – ((4+4+4)/30) = -0.03
- Functional Loss (impact delta x area):
  -0.03 x 0.102 acre = -0.003

Wetland M4:

- Impact delta (with – current):
  ((7+8+4)/30) – ((7+8+6)/30) = -0.07
- Functional Loss (impact delta x area):
  -0.07 x 0.125 acre = -0.009

Wetland M5:

- Impact delta (with – current):
  ((7+8+4)/30) – ((7+8+6)/30) = -0.07
- Functional Loss (impact delta x area):
  -0.07 x 0.076 acre = -0.005

Wetland M7:

- Impact delta (with – current):
  ((4+4+3)/30) – ((4+4+4)/30) = -0.03
- Functional Loss (impact delta x area):
  -0.03 x 0.034 acre = -0.001

Wetland M8:

- Impact delta (with – current):
  ((6+6+3)/30) – ((6+6+5)/30) = -0.07
- Functional Loss (impact delta x area):
  -0.07 x 0.016 acre = -0.001

Therefore, based upon the analyses provided, TEC will assume that purchasing 0.177 or 0.18 forested wetland mitigation credits will be more than sufficient to ameliorate 2.816 acres of permanent wetland clearing impacts associated with the proposed project construction (see Table 3 of Section 2 of this ERP application). Currently, the BRMB only has non-forested wetland credits available and the PRMB only has forested wetland credits. Therefore, both state and federal forested wetland credits will be purchased from the PRMB after TEC receives approval from the FDEP and a permit application from the USACE, respectively. The mitigation credits will be debited based upon the schedules established for the PRMB.

SECTION 8.0

ARCHAEOLOGICAL AND CULTURAL RESOURCES

8.0 ARCHAEOLOGICAL AND CULTURAL RESOURCES

Section 267.061(2), F.S. allows the Florida Division of Historical Resources (FDHR) the opportunity to comment on any proposed State-assisted undertakings such as projects that require a permit from the State Water Management Districts and/or the FDEP in order to consider the effects of the undertaking on National Register listed or eligible properties. TEC conducted a Master Site File Search through the FDHR of the study corridor proposed in the SCA modification application. Based on that research, nine previously recorded archaeological resources, eight previously recorded historic structures, and three previously recorded resource groups were found in proximity to the proposed study corridor. Based on this, additional archaeological testing was considered likely to be required by the FDHR and State Historic Preservation Officer (SHPO). Therefore, TEC contracted the services of Janus Research, Inc. to conduct a cultural resource assessment survey (C.R.AS) for the proposed project corridor and produce a final report. The purpose of the survey was to locate, identify, and bound any previously recorded or unrecorded pre-contact or historic-period cultural resources in the corridor and, as feasible, assess the significance in terms of their eligibility for listing in the *National Register of Historic Places (NRHP)* according to the criteria set forth in 36 CFR Section 60.4.

A copy of the *Cultural Resources Assessment Survey of the Tampa Electric Company (TECO) Polk Power Station Reclaimed Water Pipeline Project, Polk County County, Florida* (Janus Research, April 2012) report was submitted to the FDHR/SHPO. A copy of the C.R.A.S. report and cover letter submittal to the FDHR/SHPO are provided in a CD format within Appendix F. As indicated in the cover letter, the current survey identified no archaeological material within the archaeological area of potential effect (APE).

The current survey resulted in the identification of three significant previously recorded historic resources within the APE: the Seaboard Coast Line Railroad (8PO6449), the CSX Railroad (8PO7140), and the Winston and Bone Valley Railroad (8PO7528). These three significant historic railroads will be avoided through the use of jack and bore construction. This construction method will install the pipeline underneath these

resources and no impacts to these resources are anticipated. Fourteen unrecorded historic buildings adjacent to the project corridor were also identified. However, all of these structures exhibited a common design type found throughout Florida, and alterations have limited the historic integrity of many. Therefore, these buildings were found to be ineligible for listing in the National Register, either individually or as part of a district.

Therefore, based upon the results of this survey, the currently proposed alignment, and the proposed construction methods, no further archaeological testing or historic investigations within the proposed project corridor are recommended by Janus Research, Inc. The FDHR/SHPO agreed with the findings of the C.R.A.S. report and the recommendations of Janus Research, Inc. A copy of the FDHR/SHPO response is included in Appendix F.

SECTION 9.0

SUMMARY

9.0 SUMMARY

This project is in the public interest in that it will ultimately provide more efficient electric service and reliability to the public. The project will unavoidably result in 7.033 acres of impacts in jurisdictional areas. The surface water impacts are proposed to be mitigated onsite by restoring the affected areas. Permanent impacts to shrubby/forested wetlands associated with clearing in 2.816 acres of wetlands are proposed to be mitigated through the purchase of mitigation credits from a permitted mitigation bank. In addition, it is not anticipated that any threatened or endangered species or archaeological/cultural resources will be affected by project construction activities.

FIGURES

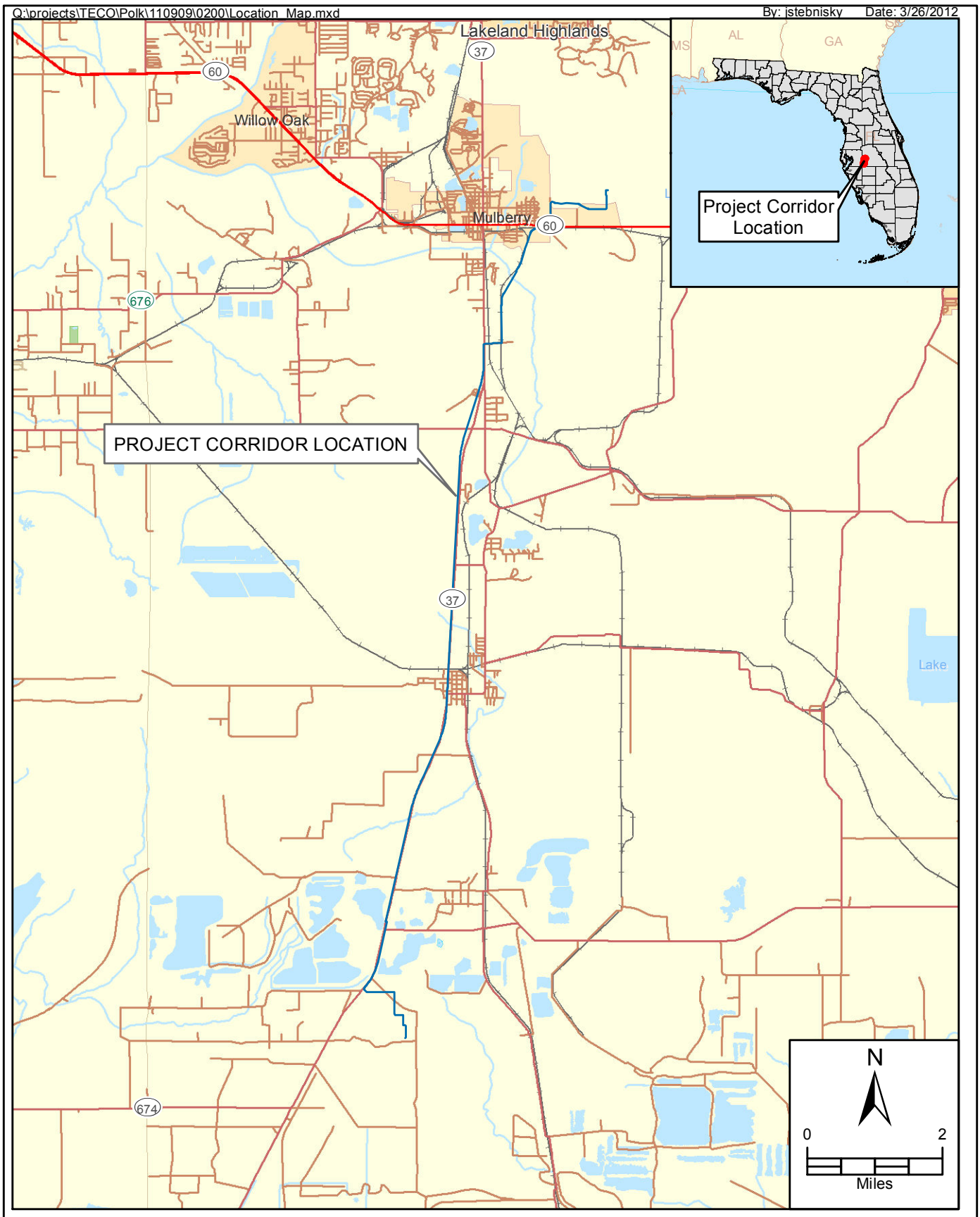


FIGURE 1.
LOCATION MAP
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: ESRI Street Map Data, 2010; ECT, 2012.

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\quad.mxd By: jstebnisky Date: 4/11/2012

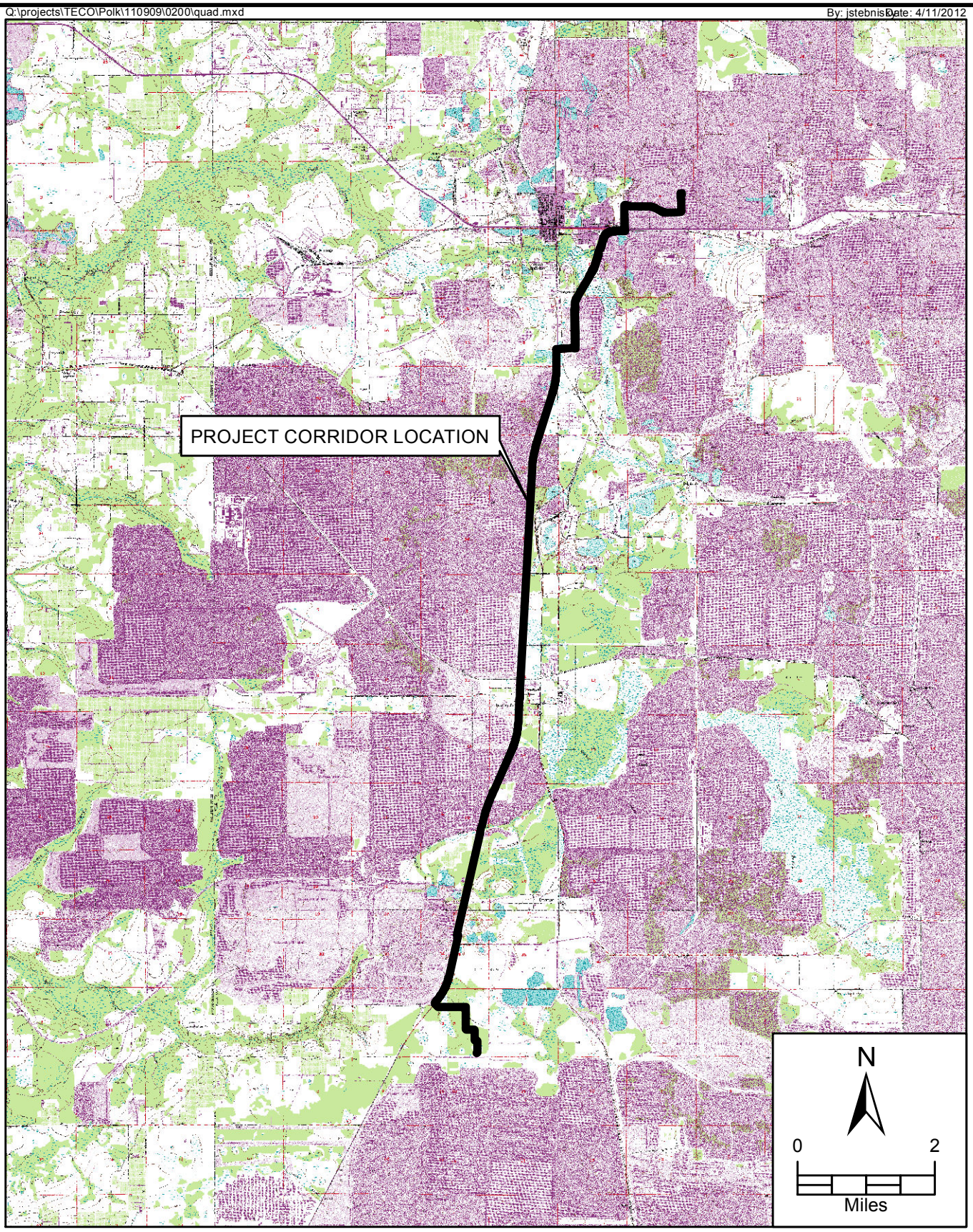
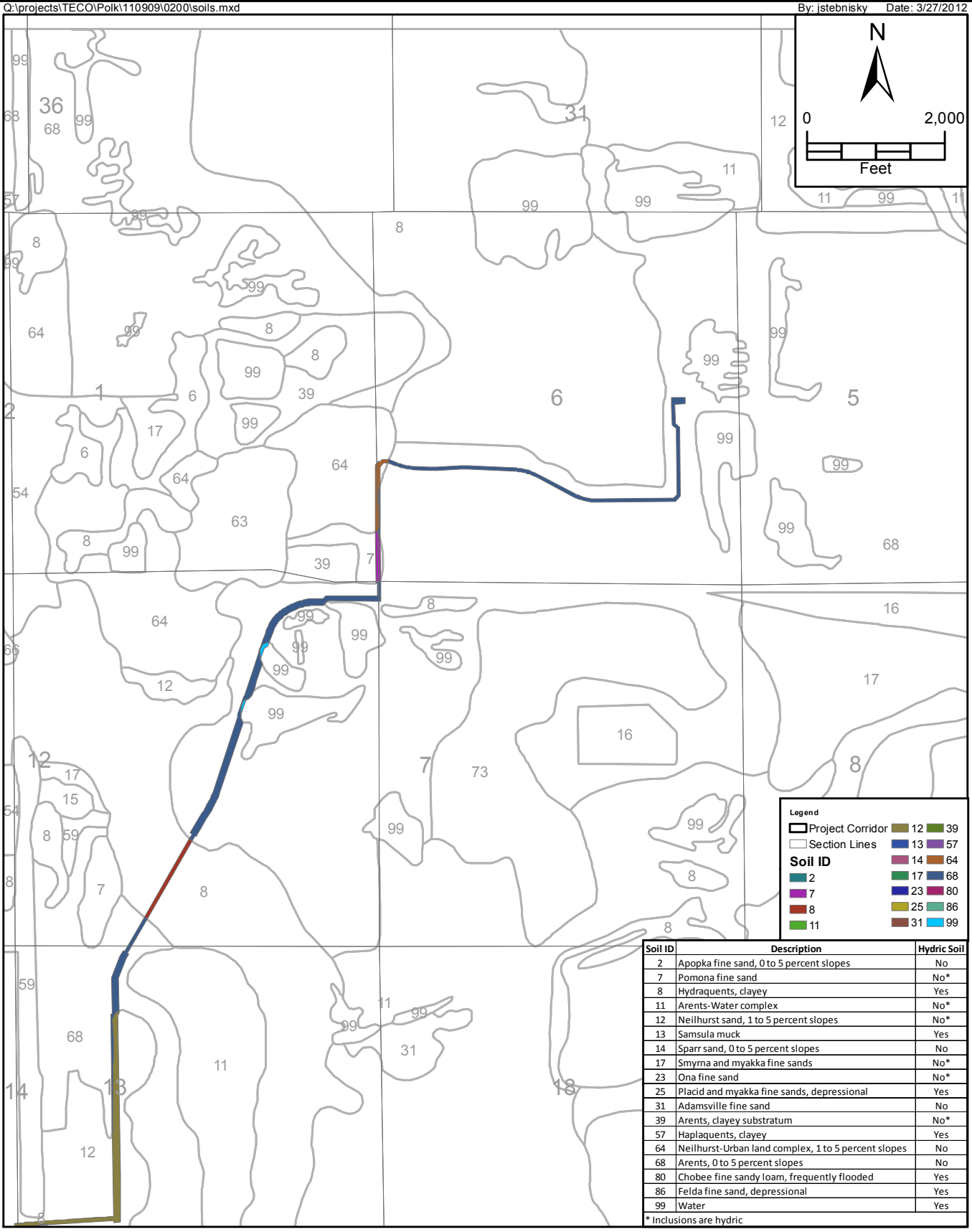


FIGURE 2.
USGS QUADRANGLE MAP (T30S, R23E, S1, 12, 13, 14, 23, 26, & 35; T30S, R24E, S6 & 7; T31S, R23, S2,11, 14, 22, 23, 27 & 34; T32S, R23, S3)
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA
Sources: Labins.org Quad Maps of Mulberry, 1993, Bradley Junction, Baird & Duette NE, Fl., 1987; ECT, 2012.

TECO TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\soils.mxd By: jstebnisky Date: 3/27/2012



Soil ID	Description	Hydric Soil
2	Apopka fine sand, 0 to 5 percent slopes	No
7	Pomona fine sand	No*
8	Hydraquents, clayey	Yes
11	Arents-Water complex	No*
12	Neilhurst sand, 1 to 5 percent slopes	No*
13	Samsula muck	Yes
14	Sparr sand, 0 to 5 percent slopes	No
17	Smyrna and myakka fine sands	No*
23	Ona fine sand	No*
25	Placid and myakka fine sands, depressional	Yes
31	Adamsville fine sand	No
39	Arents, clayey substratum	No*
57	Haplaquents, clayey	Yes
64	Neilhurst-Urban land complex, 1 to 5 percent slopes	No
68	Arents, 0 to 5 percent slopes	No
80	Chobee fine sandy loam, frequently flooded	Yes
86	Felda fine sand, depressional	Yes
99	Water	Yes

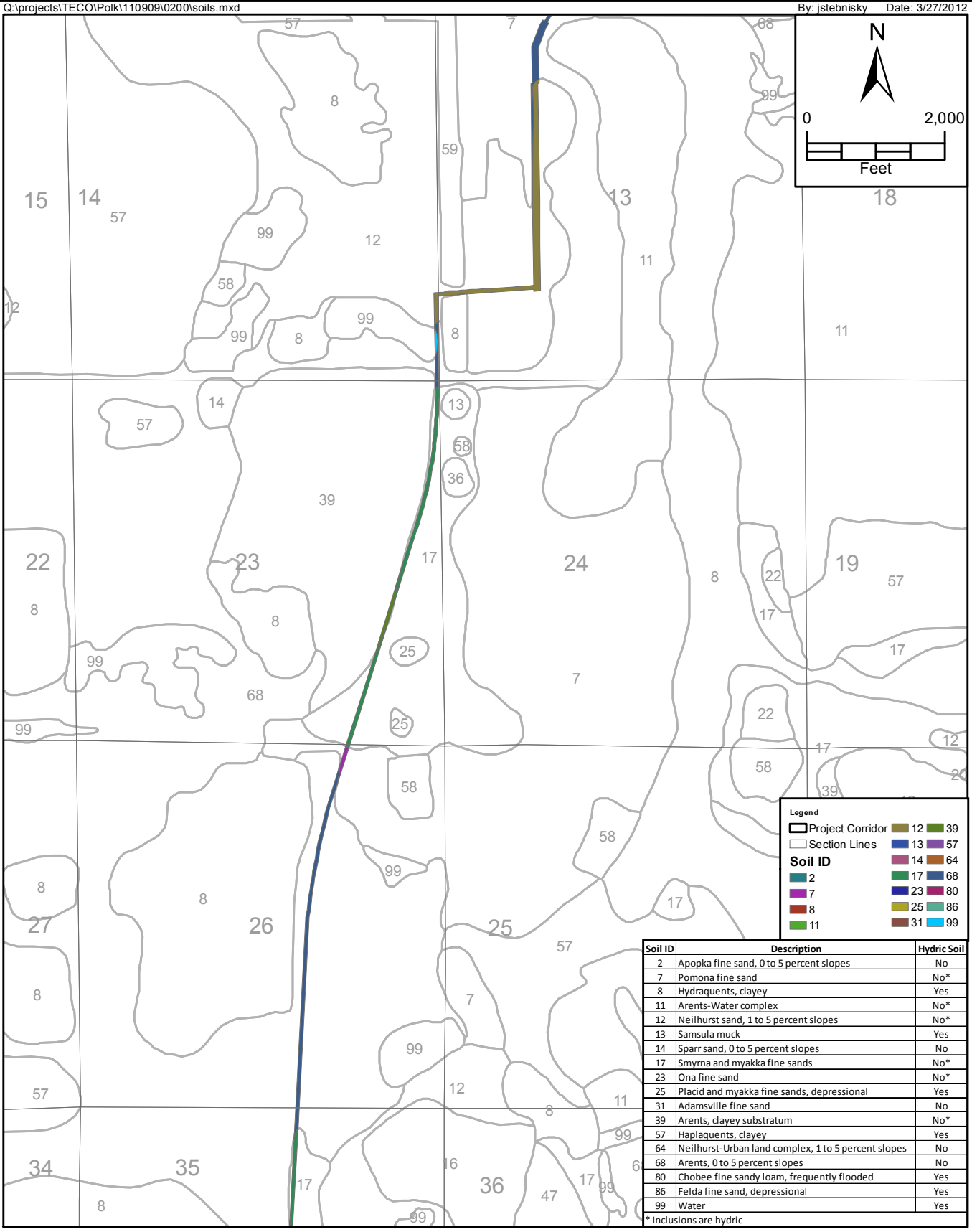
* Inclusions are hydric

FIGURE 3.
SOILS MAP - SHEET 1 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: NRCS, 1991; ECT, 2012

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\soils.mxd By: jstebnisky Date: 3/27/2012



Soil ID	Description	Hydric Soil
2	Apopka fine sand, 0 to 5 percent slopes	No
7	Pomona fine sand	No*
8	Hydraquents, clayey	Yes
11	Arents-Water complex	No*
12	Neilhurst sand, 1 to 5 percent slopes	No*
13	Samsula muck	Yes
14	Sparr sand, 0 to 5 percent slopes	No
17	Smyrna and myakka fine sands	No*
23	Ona fine sand	No*
25	Placid and myakka fine sands, depressional	Yes
31	Adamsville fine sand	No
39	Arents, clayey substratum	No*
57	Haplaquents, clayey	Yes
64	Neilhurst-Urban land complex, 1 to 5 percent slopes	No
68	Arents, 0 to 5 percent slopes	No
80	Chobee fine sandy loam, frequently flooded	Yes
86	Felda fine sand, depressional	Yes
99	Water	Yes

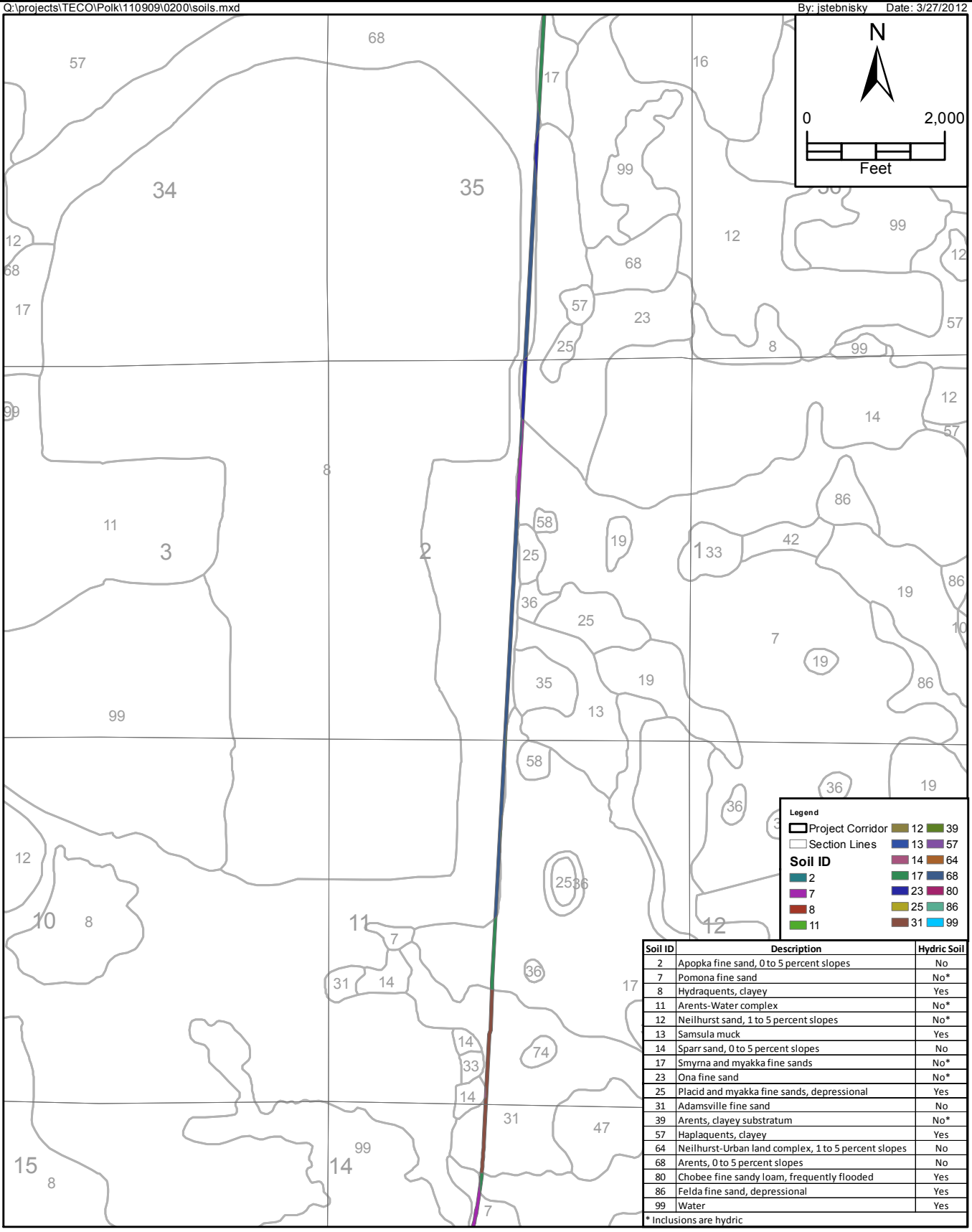
* Inclusions are hydric

FIGURE 3.
SOILS MAP - SHEET 2 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: NRCS, 1991; ECT, 2012

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\soils.mxd By: jstebnisky Date: 3/27/2012



Soil ID	Description	Hydric Soil
2	Apopka fine sand, 0 to 5 percent slopes	No
7	Pomona fine sand	No*
8	Hydraquents, clayey	Yes
11	Arents-Water complex	No*
12	Neilhurst sand, 1 to 5 percent slopes	No*
13	Samsula muck	Yes
14	Sparr sand, 0 to 5 percent slopes	No
17	Smyrna and myakka fine sands	No*
23	Ona fine sand	No*
25	Placid and myakka fine sands, depressional	Yes
31	Adamsville fine sand	No
39	Arents, clayey substratum	No*
57	Haplaquents, clayey	Yes
64	Neilhurst-Urban land complex, 1 to 5 percent slopes	No
68	Arents, 0 to 5 percent slopes	No
80	Chobee fine sandy loam, frequently flooded	Yes
86	Felda fine sand, depressional	Yes
99	Water	Yes

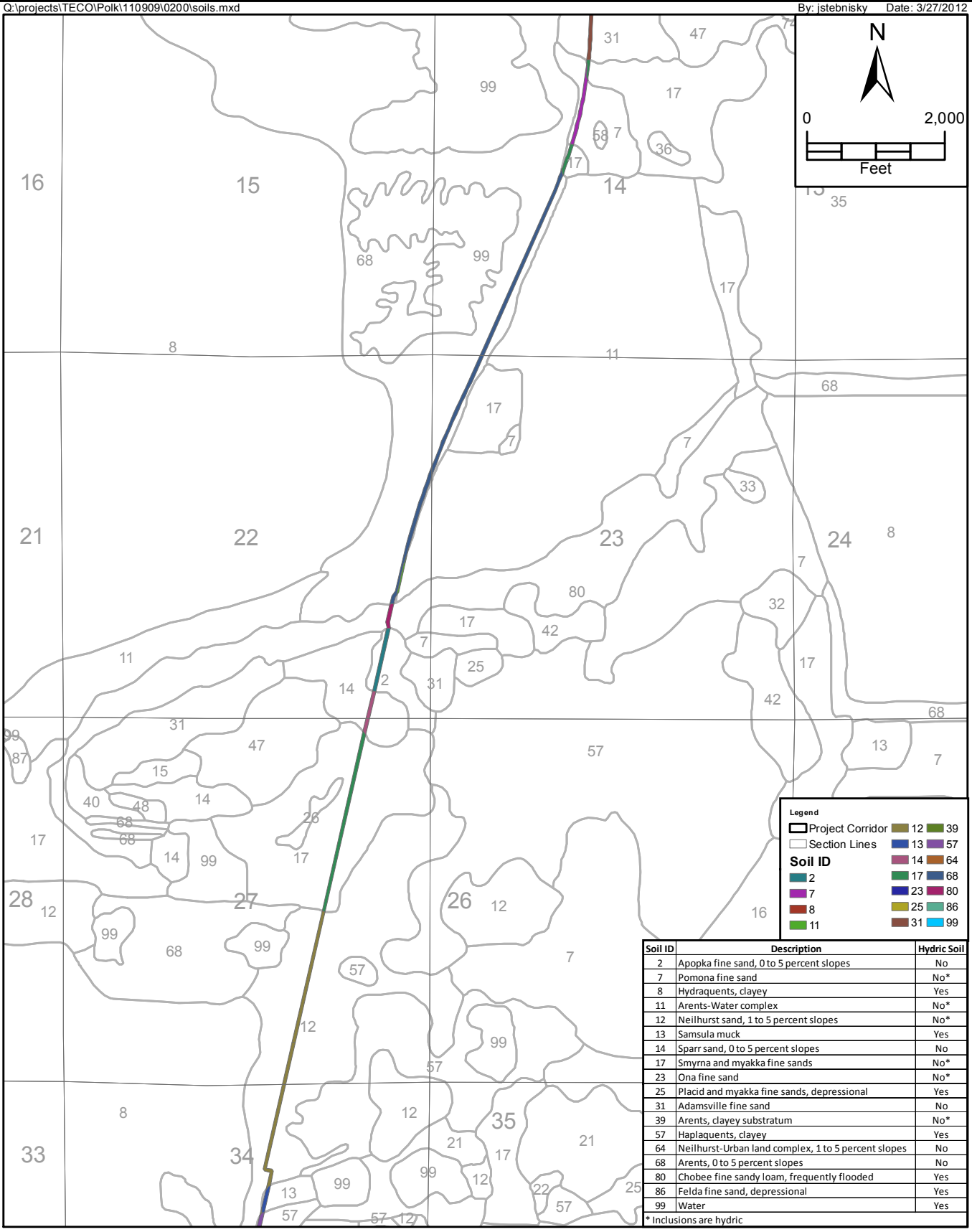
* Inclusions are hydric

FIGURE 3.
SOILS MAP - SHEET 3 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: NRCS, 1991; ECT, 2012

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\soils.mxd By: jstebnisky Date: 3/27/2012



Soil ID	Description	Hydric Soil
2	Apopka fine sand, 0 to 5 percent slopes	No
7	Pomona fine sand	No*
8	Hydraquents, clayey	Yes
11	Arents-Water complex	No*
12	Neilhurst sand, 1 to 5 percent slopes	No*
13	Samsula muck	Yes
14	Sparr sand, 0 to 5 percent slopes	No
17	Smyrna and myakka fine sands	No*
23	Ona fine sand	No*
25	Placid and myakka fine sands, depressional	Yes
31	Adamsville fine sand	No
39	Arents, clayey substratum	No*
57	Haplaquents, clayey	Yes
64	Neilhurst-Urban land complex, 1 to 5 percent slopes	No
68	Arents, 0 to 5 percent slopes	No
80	Chobee fine sandy loam, frequently flooded	Yes
86	Felda fine sand, depressional	Yes
99	Water	Yes

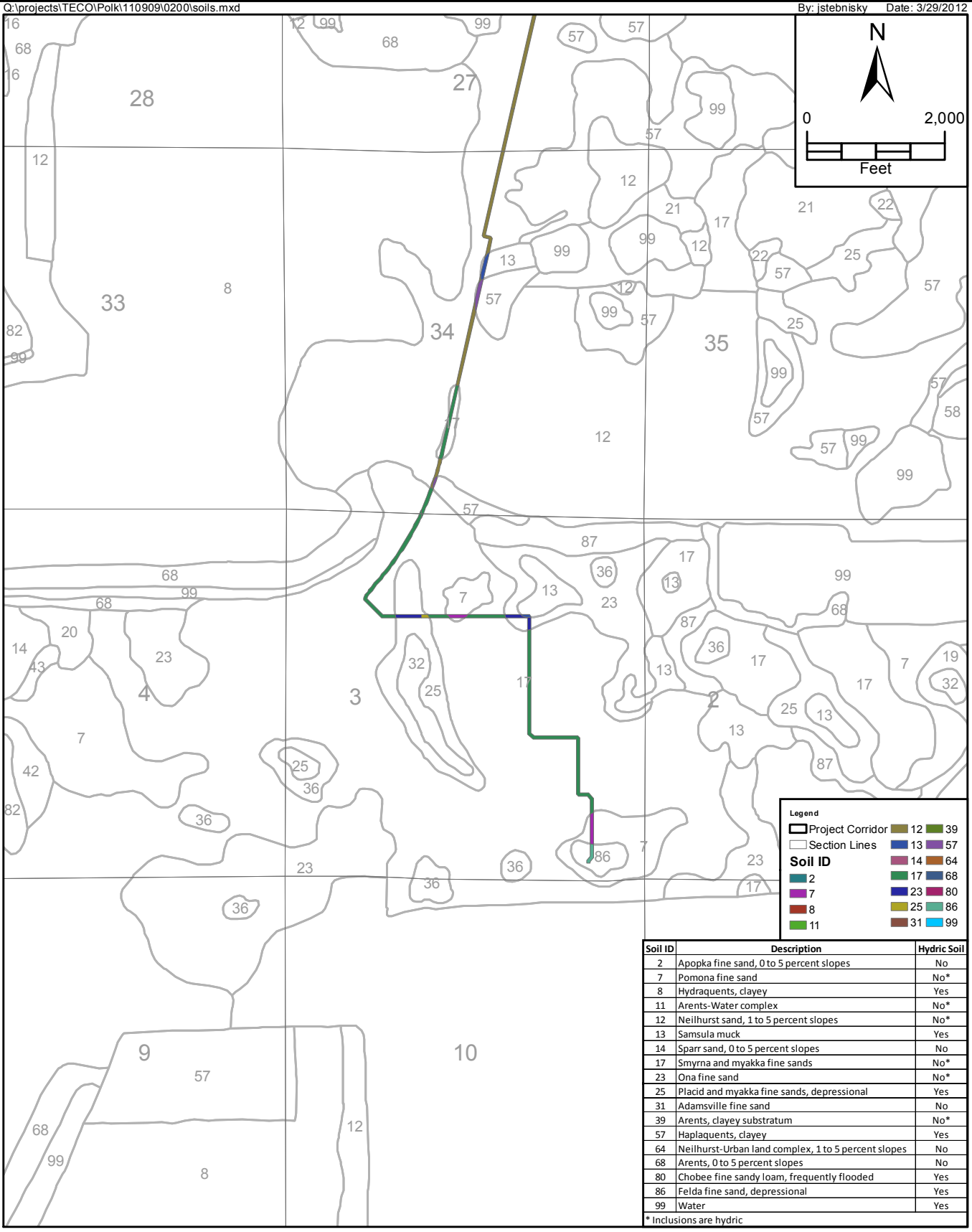
* Inclusions are hydric

FIGURE 3.
SOILS MAP - SHEET 4 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: NRCS, 1991; ECT, 2012

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\soils.mxd By: jstebnisky Date: 3/29/2012



Soil ID	Description	Hydric Soil
2	Apopka fine sand, 0 to 5 percent slopes	No
7	Pomona fine sand	No*
8	Hydraquents, clayey	Yes
11	Arents-Water complex	No*
12	Neilhurst sand, 1 to 5 percent slopes	No*
13	Samsula muck	Yes
14	Sparr sand, 0 to 5 percent slopes	No
17	Smyrna and myakka fine sands	No*
23	Ona fine sand	No*
25	Placid and myakka fine sands, depressional	Yes
31	Adamsville fine sand	No
39	Arents, clayey substratum	No*
57	Haplaquents, clayey	Yes
64	Neilhurst-Urban land complex, 1 to 5 percent slopes	No
68	Arents, 0 to 5 percent slopes	No
80	Chobee fine sandy loam, frequently flooded	Yes
86	Felda fine sand, depressional	Yes
99	Water	Yes

* Inclusions are hydric

FIGURE 3.
SOILS MAP - SHEET 5 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: NRCS, 1991; ECT, 2012

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\Floodplain.mxd By: jstebnisky Date: 3/26/2012

ZONE	DESCRIPTION
A	An area inundated by 100-year flooding, for which no BFEs have been determined.
X	An area that is determined to be outside the 100- and 500-year floodplains.

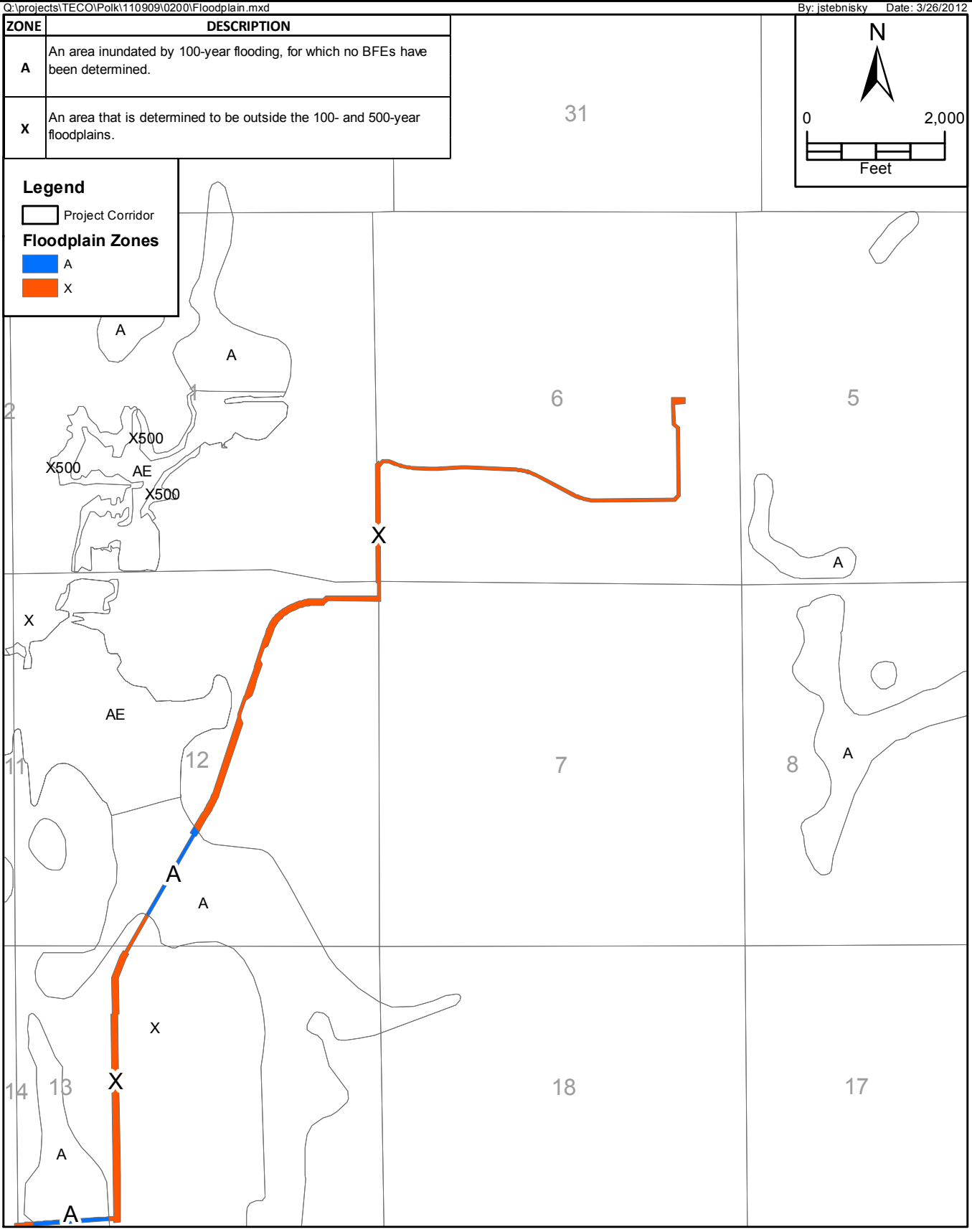


FIGURE 4.
FLOODPLAIN MAP - SHEET 1 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: FEMA, 1996; ECT, 2012

TECO
TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\Floodplain.mxd By: jstebnisky Date: 3/26/2012

ZONE	DESCRIPTION
A	An area inundated by 100-year flooding, for which no BFEs have been determined.
X	An area that is determined to be outside the 100- and 500-year floodplains.

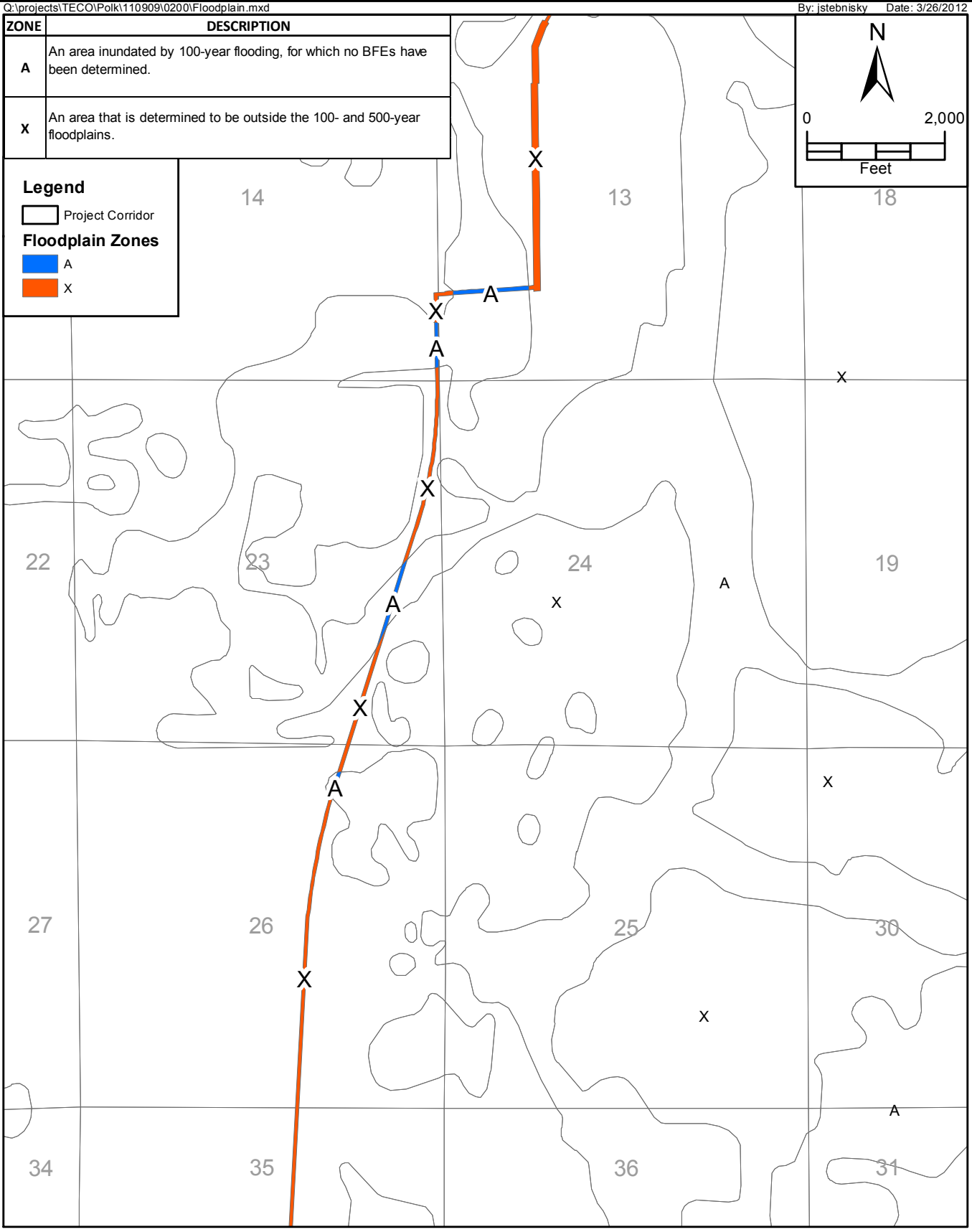


FIGURE 4.
FLOODPLAIN MAP - SHEET 2 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: FEMA, 1996; ECT, 2012

TECO TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\Floodplain.mxd By: jstebnisky Date: 3/26/2012

ZONE	DESCRIPTION
A	An area inundated by 100-year flooding, for which no BFEs have been determined.
X	An area that is determined to be outside the 100- and 500-year floodplains.

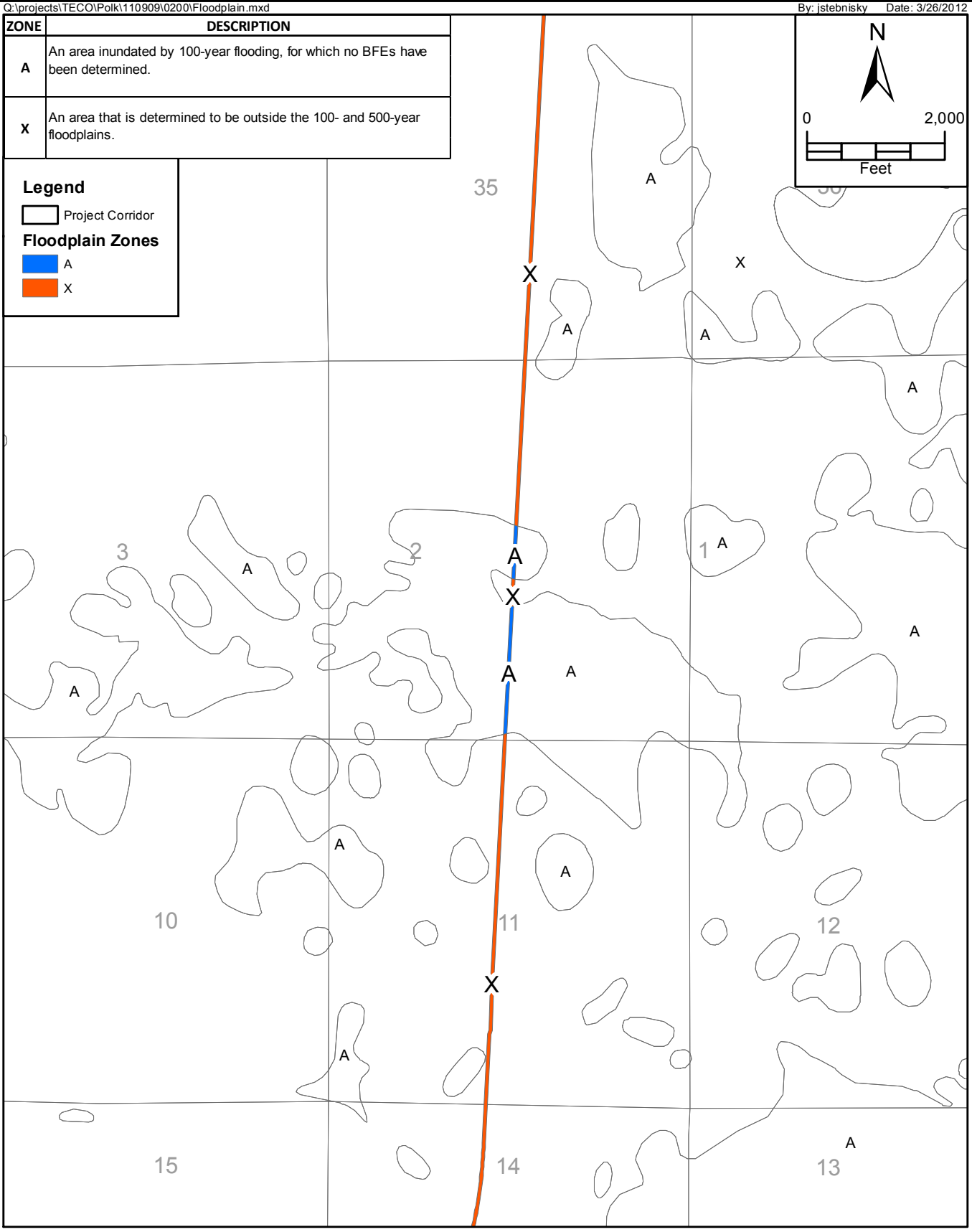


FIGURE 4.
FLOODPLAIN MAP - SHEET 3 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA
Sources: FEMA, 1996; ECT, 2012

TECO TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\Floodplain.mxd By: jstebnisky Date: 3/26/2012

ZONE	DESCRIPTION
A	An area inundated by 100-year flooding, for which no BFEs have been determined.
X	An area that is determined to be outside the 100- and 500-year floodplains.

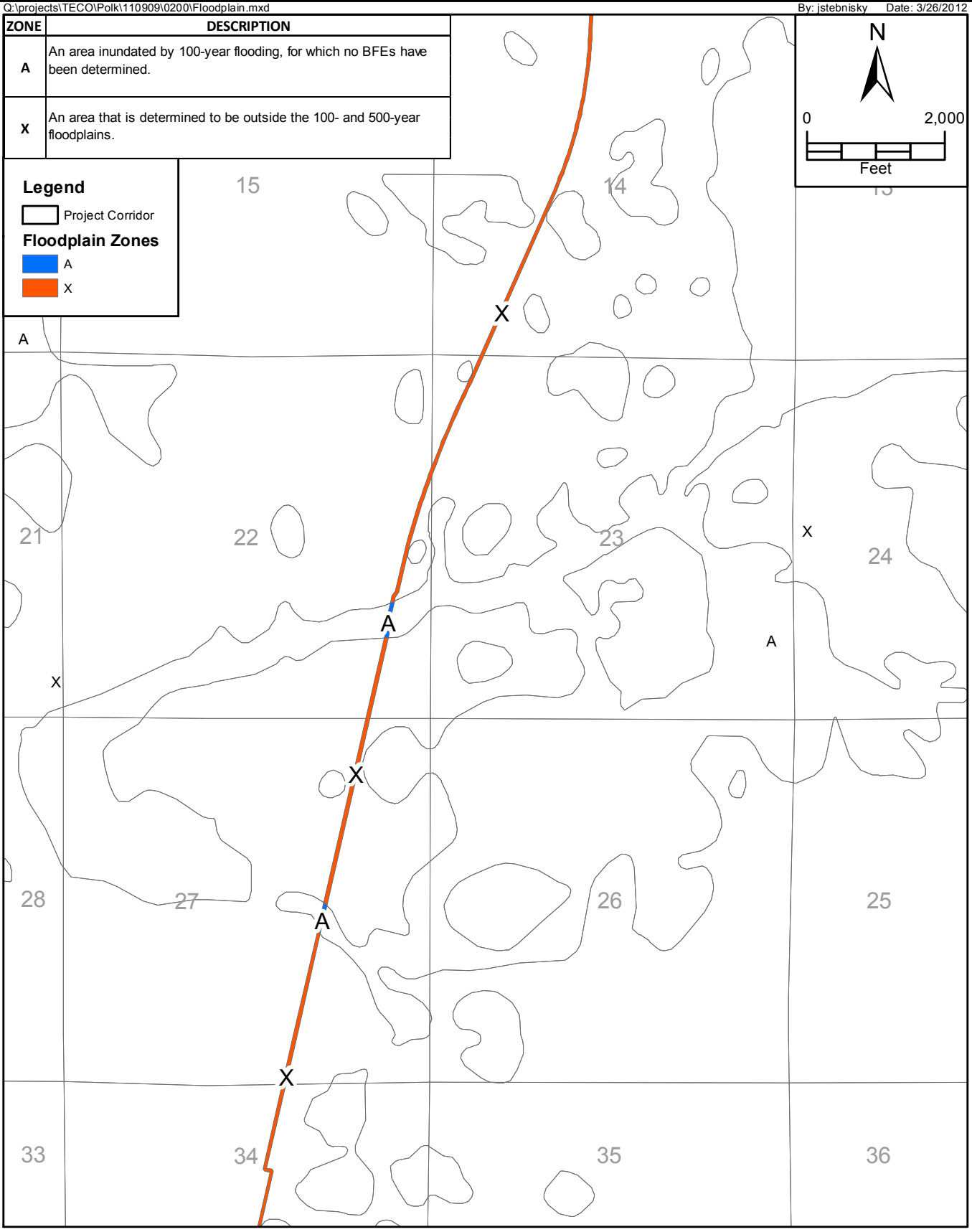


FIGURE 4.
FLOODPLAIN MAP - SHEET 4 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: FEMA, 1996; ECT, 2012

TECO TAMPA ELECTRIC

Q:\projects\TECO\Polk\110909\0200\Floodplain.mxd By: jstebnisky Date: 3/26/2012

ZONE	DESCRIPTION
A	An area inundated by 100-year flooding, for which no BFEs have been determined.
X	An area that is determined to be outside the 100- and 500-year floodplains.

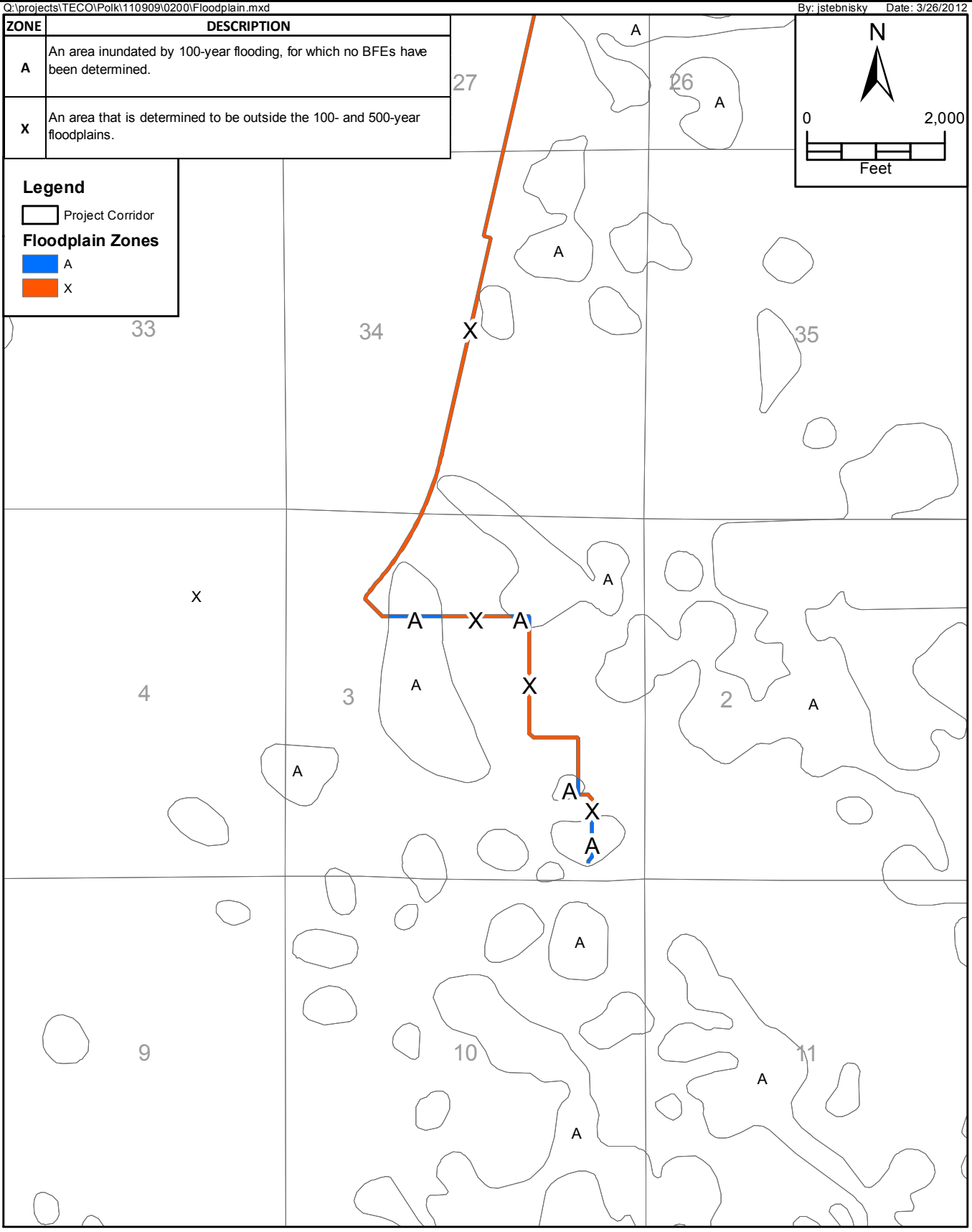
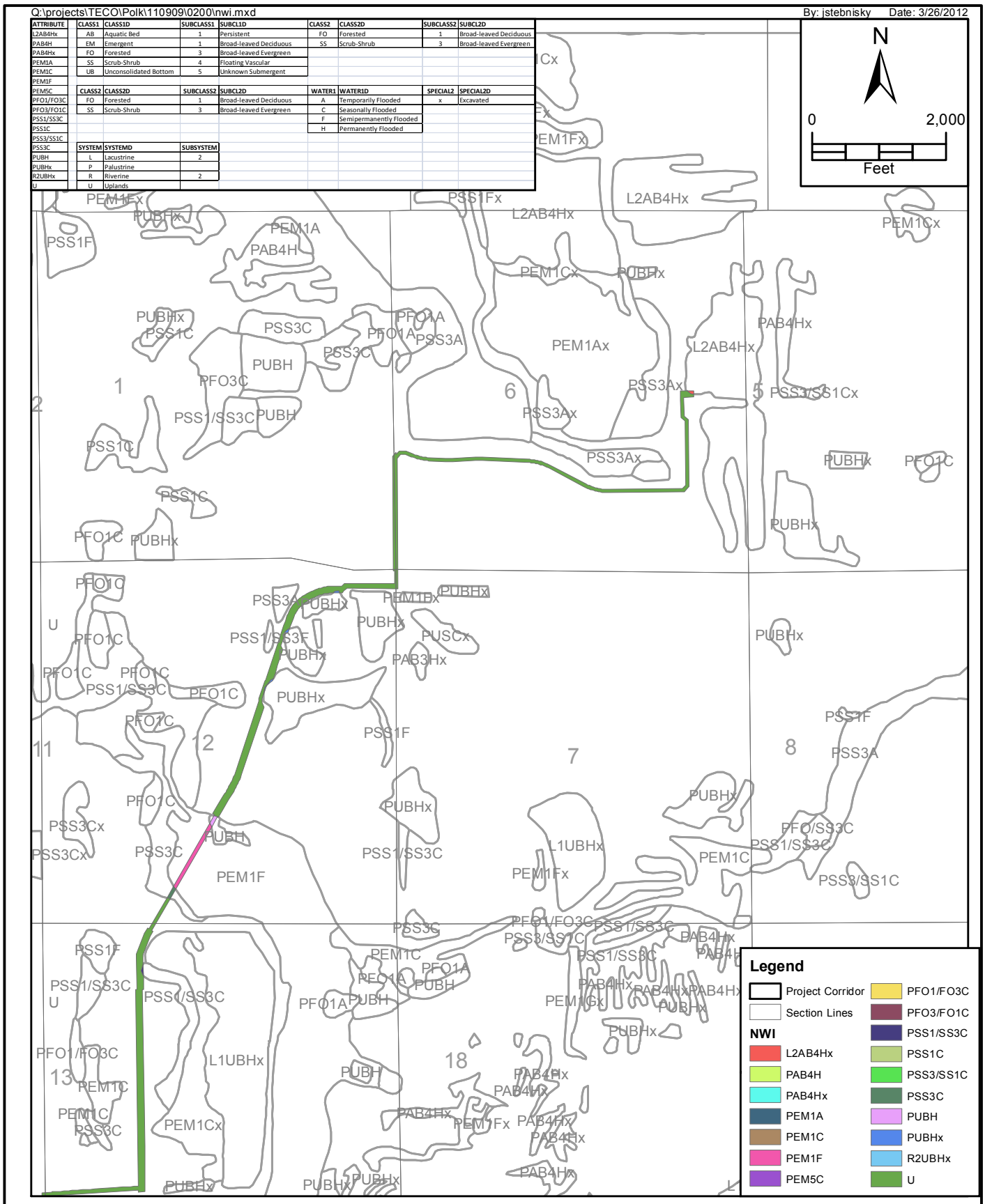


FIGURE 4.
FLOODPLAIN MAP - SHEET 5 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA
Sources: FEMA, 1996; ECT, 2012

TECO TAMPA ELECTRIC

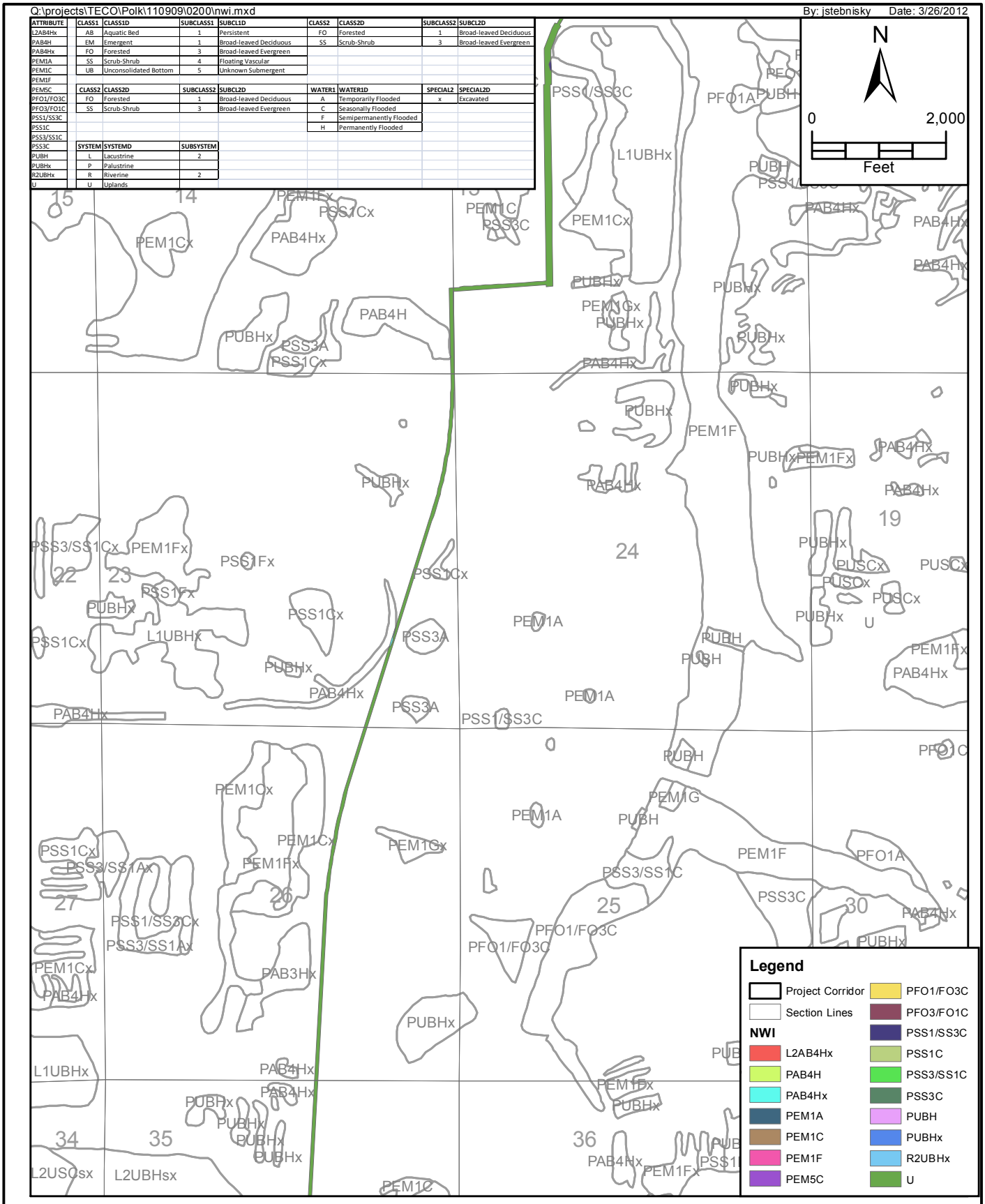


ATTRIBUTE	CLASS1	CLASS1D	SUBCLASS1	SUBCL1D	CLASS2	CLASS2D	SUBCLASS2	SUBCL2D
L2AB4Hx	AB	Aquatic Bed	1	Persistent	FO	Forested	1	Broad-leaved Deciduous
PAB4H	EM	Emergent	1	Broad-leaved Deciduous	SS	Scrub-Shrub	3	Broad-leaved Evergreen
PAB4Hx	FO	Forested	3	Broad-leaved Evergreen				
PEM1A	SS	Scrub-Shrub	4	Floating Vascular				
PEM1C	UB	Unconsolidated Bottom	5	Unknown Submergent				
PEM1F								
PEM5C	CLASS2	CLASS2D	SUBCLASS2	SUBCL2D	WATER1	WATER1D	SPECIAL2	SPECIAL2D
PFO1/FO3C	FO	Forested	1	Broad-leaved Deciduous	A	Temporarily Flooded	x	Excavated
PFO3/FO1C	SS	Scrub-Shrub	3	Broad-leaved Evergreen	C	Seasonally Flooded		
PSS1/SS3C					F	Semipermanently Flooded		
PSS1C					H	Permanently Flooded		
PSS3/SS1C								
PSS3C	SYSTEM	SYSTEMD	SUBSYSTEM					
PUBH	L	Lacustrine	2					
PUBHx	P	Palustrine						
R2UBHx	R	Riverine	2					
U	U	Uplands						

FIGURE 5.
NATIONAL WETLANDS INVENTORY MAP - SHEET 1 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: U.S. Fish & Wildlife Services, 2006; ECT, 2012

TECO
TAMPA ELECTRIC



ATTRIBUTE	CLASS1	CLASS1D	SUBCLASS1	SUBCL1D	CLASS2	CLASS2D	SUBCLASS2	SUBCL2D
L2AB4Hx	AB	Aquatic Bed	1	Persistent	FO	Forested	1	Broad-leaved Deciduous
PAB4H	EM	Emergent	1	Broad-leaved Deciduous	SS	Scrub-Shrub	3	Broad-leaved Evergreen
PAB4Hx	FO	Forested	3	Broad-leaved Evergreen				
PEM1A	SS	Scrub-Shrub	4	Floating Vascular				
PEM1C	UB	Unconsolidated Bottom	5	Unknown Submergent				
PEM1F								
PEM5C	CLASS2	CLASS2D	SUBCLASS2	SUBCL2D	WATER1	WATER1D	SPECIAL2	SPECIAL2D
PFO1/FO3C	FO	Forested	1	Broad-leaved Deciduous	A	Temporarily Flooded	x	Excavated
PFO3/FO1C	SS	Scrub-Shrub	3	Broad-leaved Evergreen	C	Seasonally Flooded		
PSS1/SS3C					F	Semipermanently Flooded		
PSS1C					H	Permanently Flooded		
PSS3/SS1C								
PSS3C	SYSTEM	SYSTEMD	SUBSYSTEM					
PUBH	L	Lacustrine	2					
PUBHx	P	Palustrine						
R2UBHx	R	Riverine	2					
U	U	Uplands						

FIGURE 5.
NATIONAL WETLANDS INVENTORY MAP - SHEET 2 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: U.S. Fish & Wildlife Services, 2006; ECT, 2012

TECO
TAMPA ELECTRIC

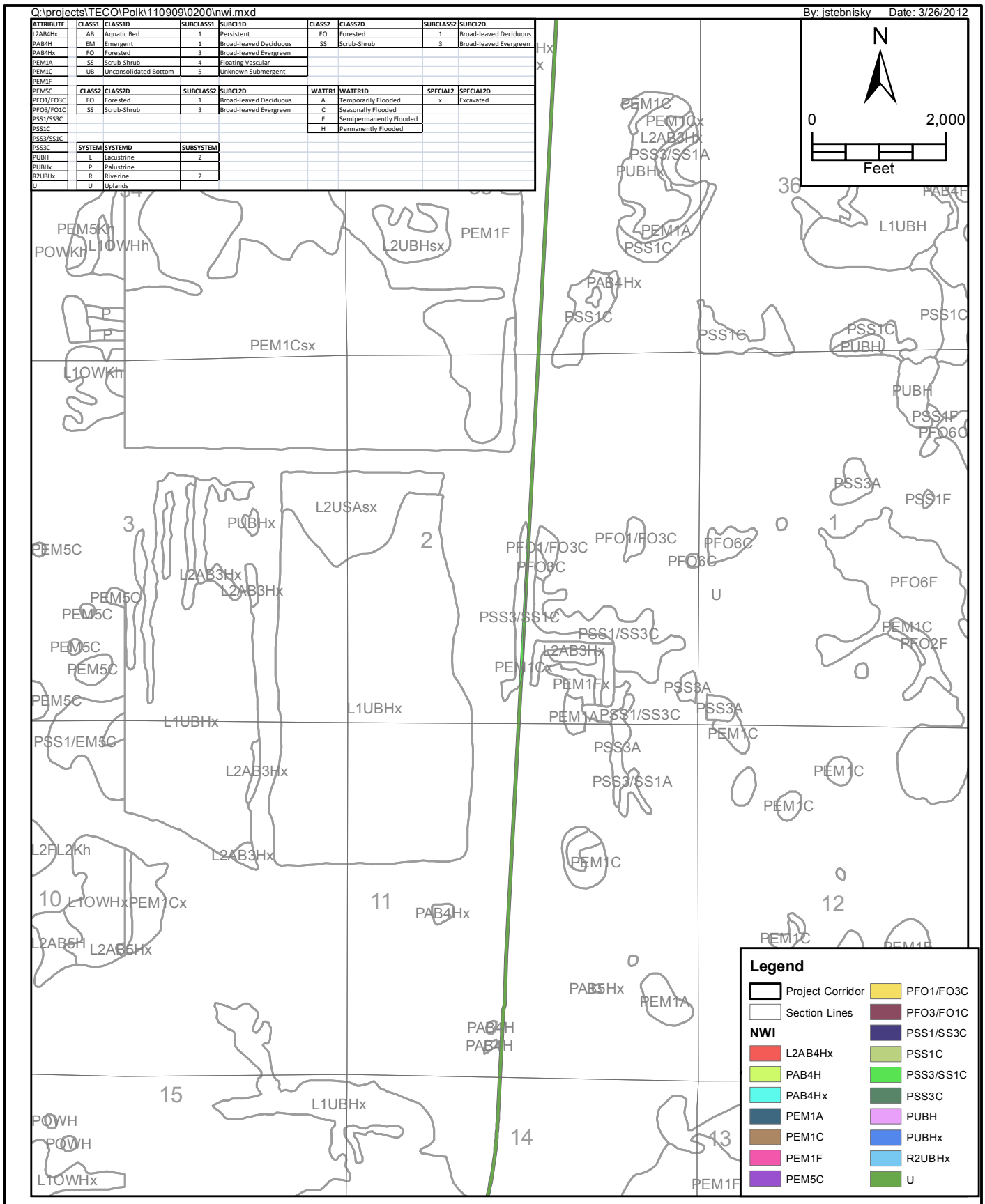


FIGURE 5.
NATIONAL WETLANDS INVENTORY MAP - SHEET 3 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: U.S. Fish & Wildlife Services, 2006; ECT, 2012

TECO
TAMPA ELECTRIC

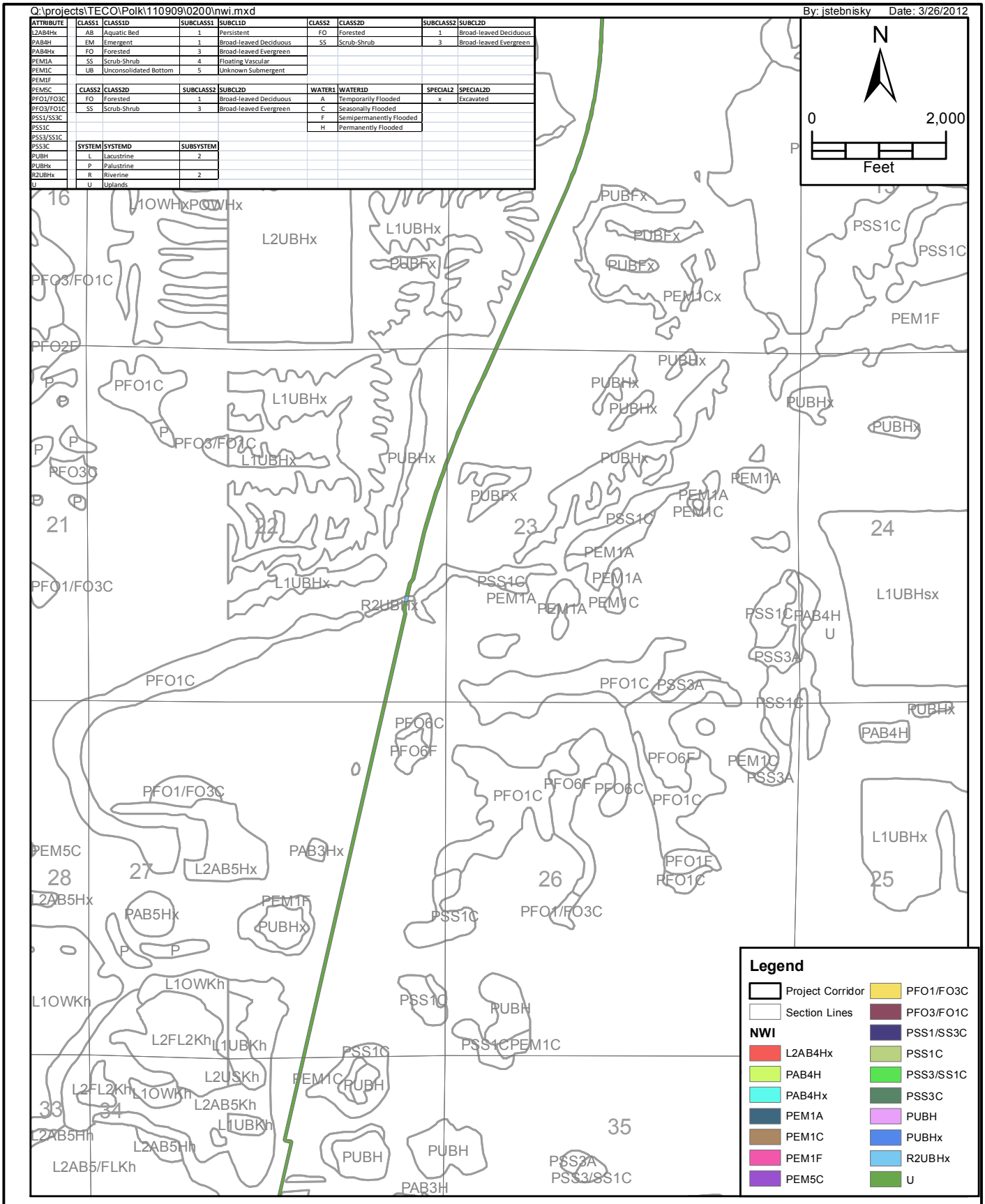
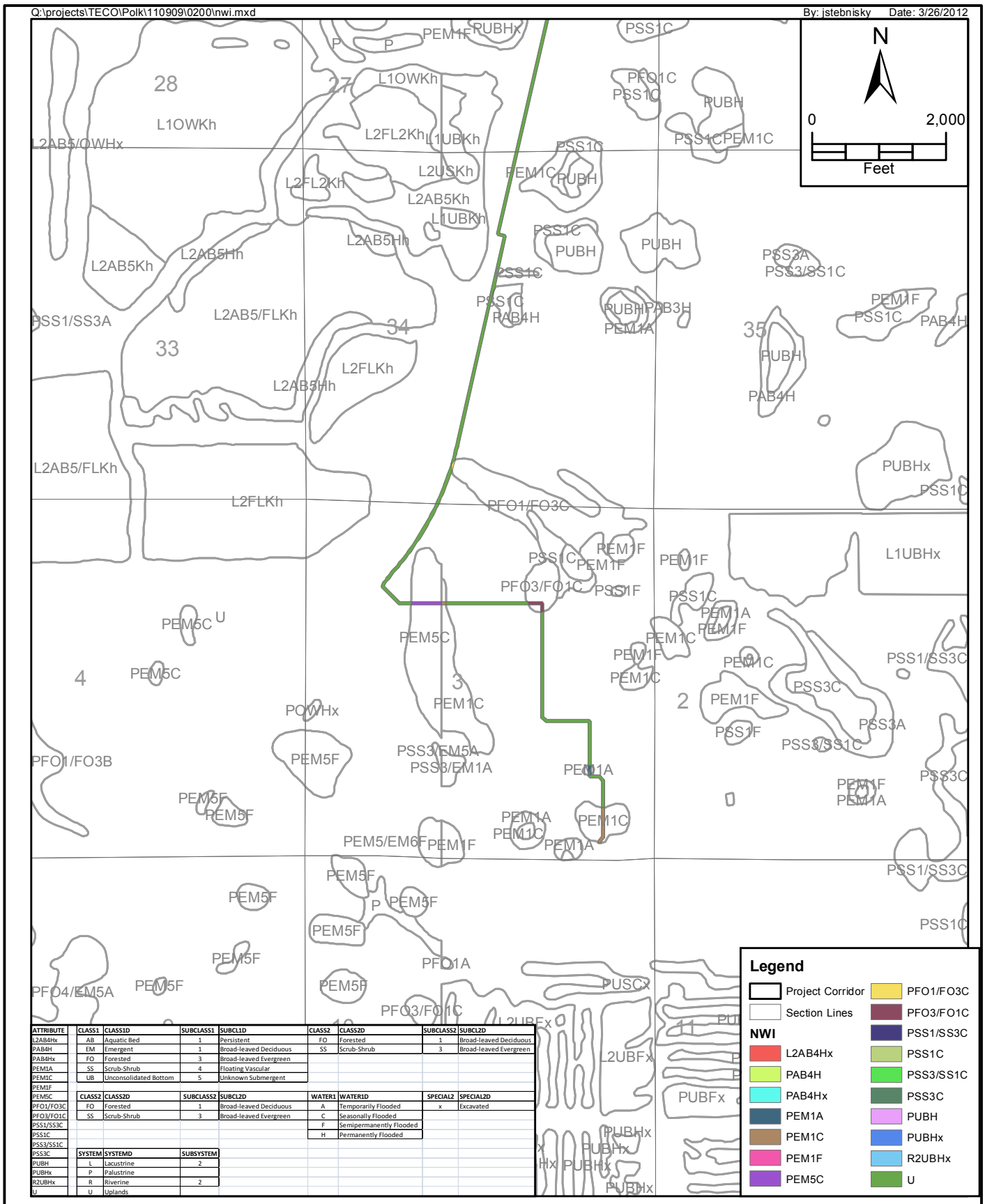


FIGURE 5.
NATIONAL WETLANDS INVENTORY MAP - SHEET 4 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: U.S. Fish & Wildlife Services, 2006; ECT, 2012

TECO
TAMPA ELECTRIC



ATTRIBUTE	CLASS1	CLASS1D	SUBCLASS1	SUBCL1D	CLASS2	CLASS2D	SUBCLASS2	SUBCL2D
L2AB4Hx	AB	Aquatic Bed	1	Persistent	FO	Forested	1	Broad-leaved Deciduous
PAB4H	EM	Emergent	1	Broad-leaved Deciduous	SS	Scrub-Shrub	3	Broad-leaved Evergreen
PAB4Hx	FO	Forested	3	Broad-leaved Evergreen				
PEM1A	SS	Scrub-Shrub	4	Floating Vascular				
PEM1C	UB	Unconsolidated Bottom	5	Unknown Submergent				
PEM1F								
PEM5C	CLASS2	CLASS2D	SUBCLASS2	SUBCL2D	WATER1	WATER1D	SPECIAL2	SPECIAL2D
PFO1/FO3C	FO	Forested	1	Broad-leaved Deciduous	A	Temporarily Flooded	x	Excavated
PFO3/FO1C	SS	Scrub-Shrub	3	Broad-leaved Evergreen	C	Seasonally Flooded		
PSS1/SS3C					F	Semipermanently Flooded		
PSS1C					H	Permanently Flooded		
PSS3/SS1C								
PSS3C	SYSTEM	SYSTEMD	SUBSYSTEM					
PUBH	L	Lacustrine	2					
PUBHx	P	Palustrine						
R2UBHx	R	Riverine	2					
U	U	Uplands						

FIGURE 5.
NATIONAL WETLANDS INVENTORY MAP - SHEET 5 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: U.S. Fish & Wildlife Services, 2006; ECT, 2012

TECO
TAMPA ELECTRIC

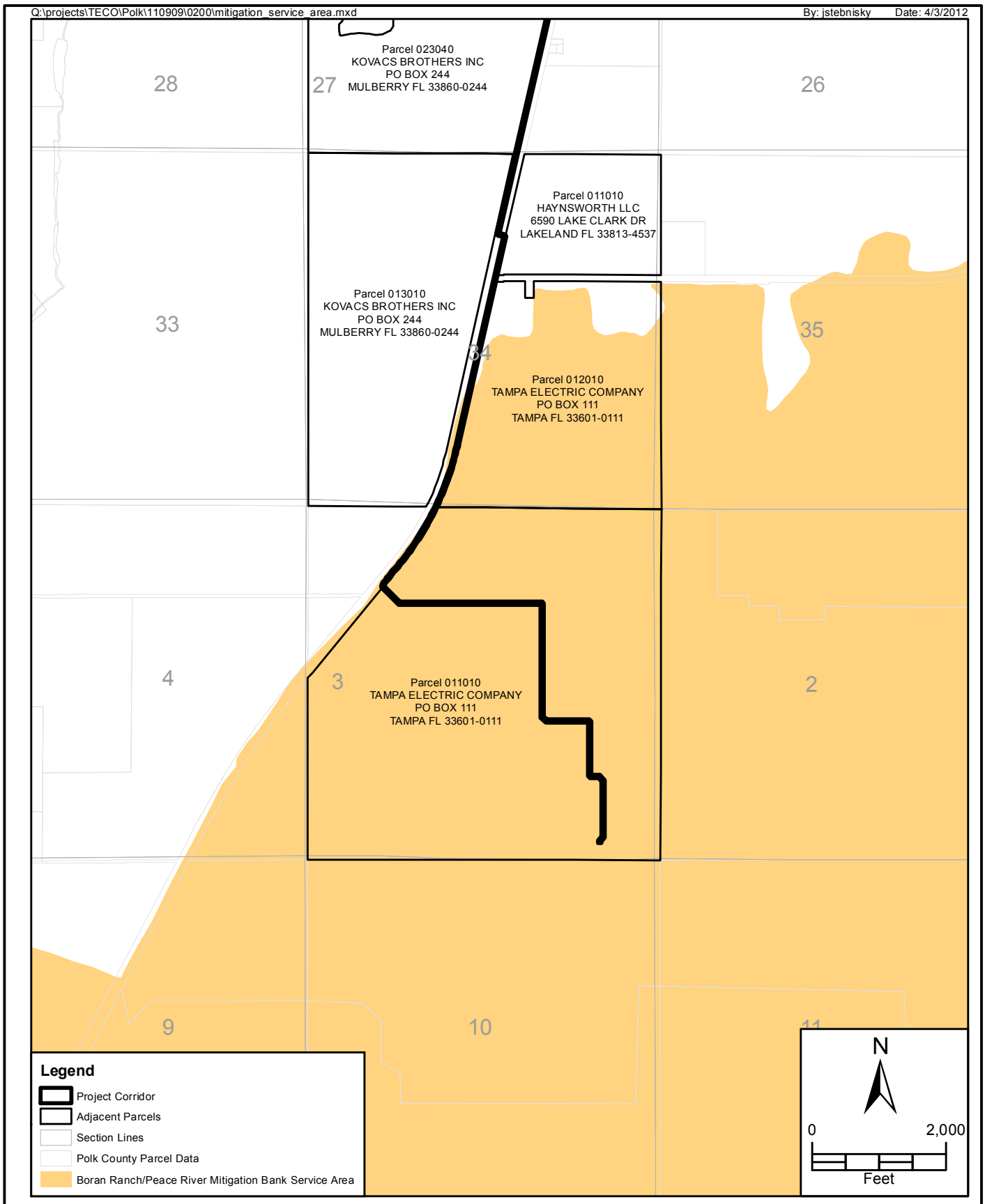


FIGURE 6
MITIGATION BANK SERVICE AREA
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: FDEP, 2012; Polk County Parcel Data, 2012; ECT, 2012

TECO
TAMPA ELECTRIC

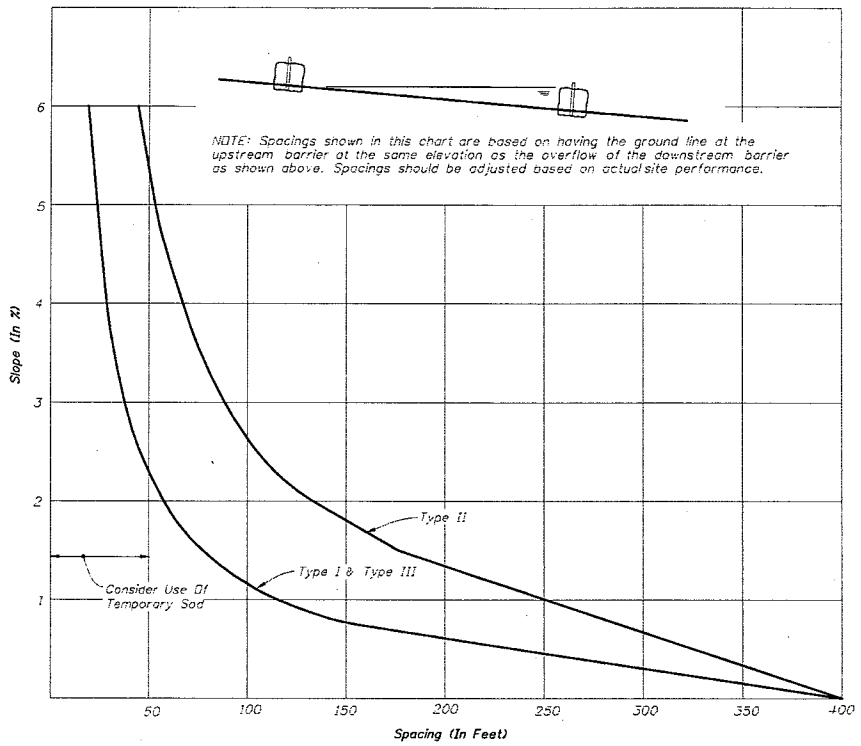
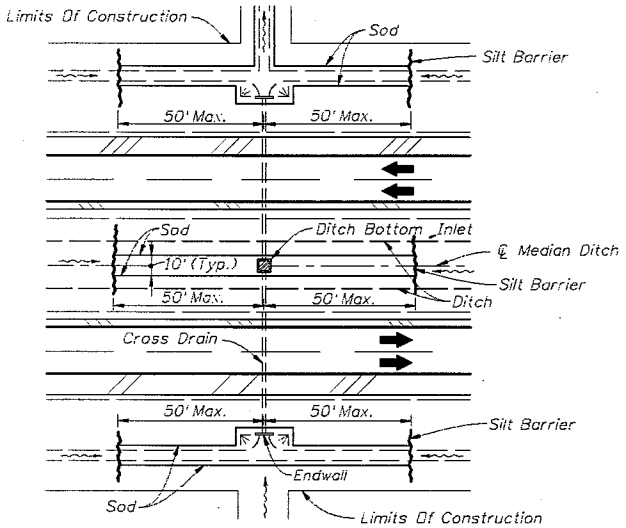


CHART I

RECOMMENDED SPACING FOR SYNTHETIC BALES OR BALE TYPE BARRIERS AND TYPE III SILT FENCE



DITCH INSTALLATIONS AT DRAINAGE STRUCTURES

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE 7.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
DETAIL SHEET I
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

FIGURE 7 | 0

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB--38
www.aecom.com

FIGURE 8.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

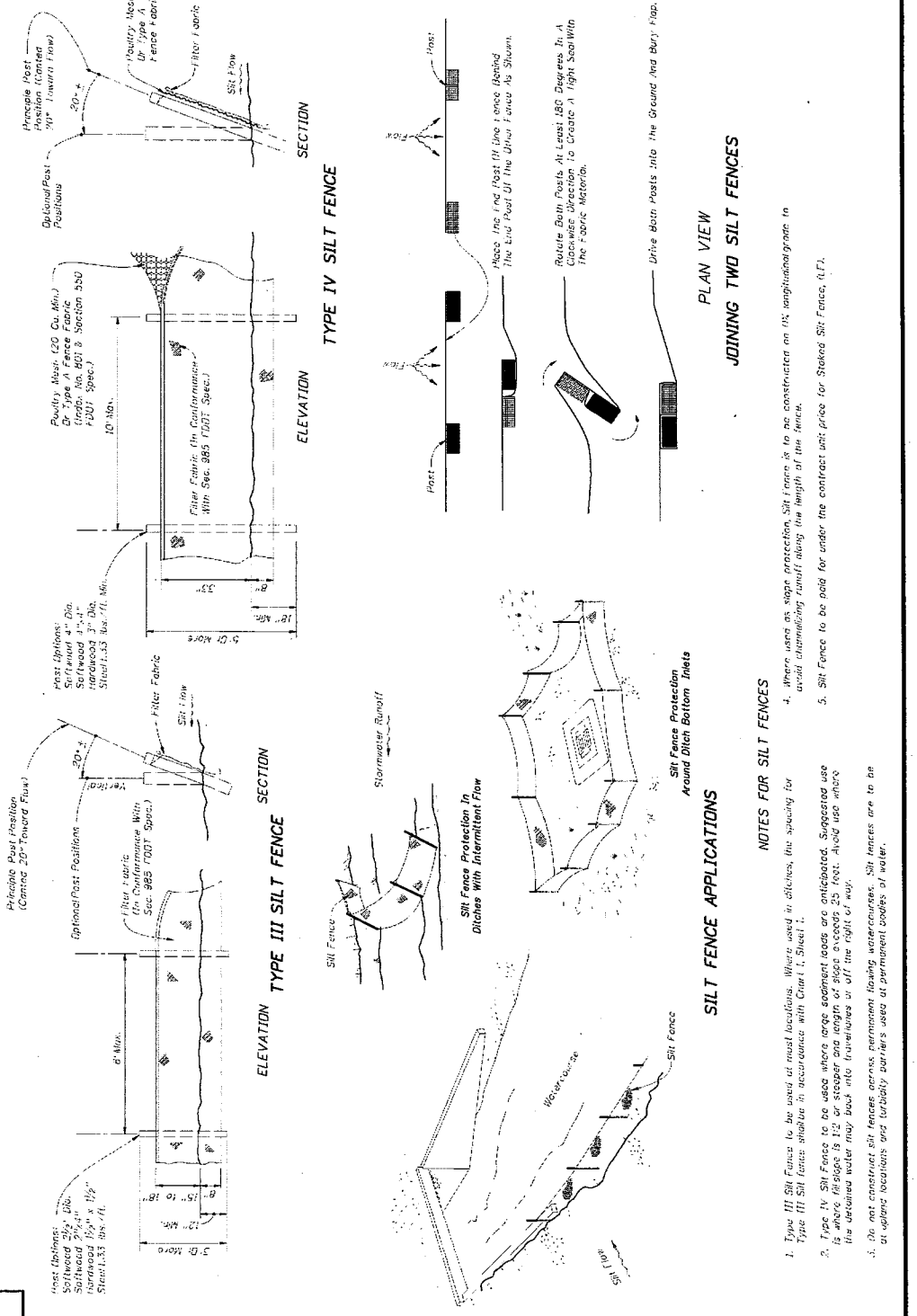
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

DETAIL SHEET II

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

FIGURE 8 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE 9.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
DETAIL SHEET III
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

FIGURE 9 | 0

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE 10.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT DETAIL SHEET IV POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

FIGURE 10 | 0

FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FDOT, 1999)

110 - RESIDENTIAL, LOW DENSITY <LESS THAN TWO DWELLING UNITS PER ACRE>
120 - RESIDENTIAL, MEDIUM DENSITY <TWO-FIVE DWELLING UNITS PER ACRE>
140 - COMMERCIAL AND SERVICES
141 - RETAIL SALES AND SERVICES
147 - MIXED COMMERCIAL AND SERVICES
150 - INDUSTRIAL
155 - OTHER LIGHT INDUSTRIAL
159 - INDUSTRIAL UNDER CONSTRUCTION
165 - RECLAIMED LAND
171 - EDUCATIONAL FACILITIES (INSTITUTIONAL)
174 - MEDICAL AND HEALTH CARE (INSTITUTIONAL)
186 - COMMUNITY RECREATIONAL FACILITIES
211 - IMPROVED PASTURE
212 - UNIMPROVED PASTURE
213 - WOODLAND PASTURES
221 - CITRUS GROVES
310 - HERBACEOUS
329 - OTHER SHRUBS AND BRUSH
419 - OTHER PINES
422 - BRAZILIAN PEPPER
425 - TEMPERATE HARDWOOD
427 - LIVE OAK
434 - HARDWOOD-CONIFER MIXED
442 - HARDWOOD PLANTATIONS
511 - NATURAL STREAMS
513 - UPLAND-CUT DITCHES
532 - RESERVOIRS LARGER THAN 100 ACRES, BUT LESS THAN 500 ACRES
533 - RESERVOIRS LARGER THAN 10 ACRES, BUT LESS THAN 100 ACRES
534 - RESERVOIRS LESS THAN 10 ACRES, WHICH ARE DOMINANT FEATURES
617 - MIXED WETLAND HARDWOODS
618 - WILLOW AND ELDERBERRY
641 - FRESHWATER MARSHES
643 - WET PRAIRIES
647 - SHRUB SWAMPS
812 - RAILROADS
814 - ROADS AND HIGHWAYS
830 - UTILITIES
831 - ELECTRIC POWER FACILITIES
834 - SEWAGE TREATMENT

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

Sheet 1.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
FLUCFCS CODE
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 1 OF 221 | 0

SHEET No.	DESCRIPTION
1	FLUCFCS CODE
2	DRAWING INDEX I
3	DRAWING INDEX II & TABLE
4	MAP INDEX I
5	MAP INDEX II
6	MAP INDEX III
7	MAP INDEX IV
8	MAP INDEX V
9	MAP INDEX VI
10	MAP INDEX VII
11	MAP INDEX VIII
12	MAP INDEX IX
13	MAP INDEX X
14	PLAN VIEW
15	PROFILE OF SHEET 14
16	PLAN VIEW
17	PLAN VIEW
18	PLAN VIEW
19	PLAN VIEW
20	PLAN VIEW
21	PLAN VIEW
22	PLAN VIEW
23	PLAN VIEW
24	PLAN VIEW
25	PLAN VIEW
26	PLAN VIEW
27	PLAN VIEW
28	PLAN VIEW
29	PROFILE OF SHEET 28
30	PLAN VIEW
31	PLAN VIEW
32	PLAN VIEW
33	PLAN VIEW
34	PLAN VIEW
35	PLAN VIEW
36	PROFILE OF SHEET 35
37	PLAN VIEW
38	PROFILE OF SHEET 37
39	PLAN VIEW
40	PLAN VIEW
41	PLAN VIEW
42	PLAN VIEW
43	PLAN VIEW
44	PROFILE OF SHEET 43
45	PLAN VIEW
46	PROFILE OF SHEET 45
47	PLAN VIEW
48	PLAN VIEW
49	PLAN VIEW
50	PLAN VIEW
51	PLAN VIEW
52	PLAN VIEW
53	PLAN VIEW
54	PLAN VIEW
55	PLAN VIEW
56	PROFILE OF SHEET 55
57	PLAN VIEW
58	PLAN VIEW
59	PLAN VIEW
60	PLAN VIEW
61	PLAN VIEW
62	PLAN VIEW
63	PLAN VIEW
64	PLAN VIEW
65	PLAN VIEW
66	PLAN VIEW
67	PROFILE OF SHEET 66
68	PLAN VIEW
69	PLAN VIEW
70	PLAN VIEW
71	PLAN VIEW
72	PLAN VIEW
73	PLAN VIEW
74	PLAN VIEW
75	PLAN VIEW
76	PLAN VIEW
77	PLAN VIEW
78	PLAN VIEW
79	PLAN VIEW
80	PLAN VIEW
81	PLAN VIEW
82	PLAN VIEW
83	PLAN VIEW
84	PLAN VIEW
85	PROFILE OF SHEET 84
86	PLAN VIEW
87	PROFILE OF SHEET 86
88	PLAN VIEW
89	PROFILE OF SHEET 88
90	PLAN VIEW
91	PLAN VIEW
92	PLAN VIEW
93	PLAN VIEW
94	PLAN VIEW
95	PROFILE OF SHEET 94
96	PLAN VIEW
97	PLAN VIEW
98	PLAN VIEW
99	PLAN VIEW
100	PLAN VIEW
101	PLAN VIEW
102	PLAN VIEW
103	PLAN VIEW
104	PLAN VIEW
105	PROFILE OF SHEET 104
106	PROFILE OF SHEET 104
107	PLAN VIEW
108	PROFILE OF SHEET 107
109	PLAN VIEW
110	PROFILE OF SHEET 109
111	PLAN VIEW
112	PROFILE OF SHEET 111
113	PLAN VIEW
114	PROFILE OF SHEET 113
115	PLAN VIEW
116	PROFILE OF SHEET 115
117	PLAN VIEW
118	PLAN VIEW
119	PLAN VIEW
120	PLAN VIEW
121	PLAN VIEW
122	PLAN VIEW
123	PLAN VIEW
124	PLAN VIEW
125	PLAN VIEW
126	PLAN VIEW
127	PLAN VIEW
128	PLAN VIEW
129	PLAN VIEW
130	PLAN VIEW
131	PROFILE OF SHEET 130
132	PLAN VIEW
133	PLAN VIEW
134	PLAN VIEW
135	PLAN VIEW
136	PLAN VIEW
137	PLAN VIEW
138	PLAN VIEW
139	PLAN VIEW
140	PLAN VIEW
141	PLAN VIEW
142	PLAN VIEW
143	PLAN VIEW
144	PLAN VIEW
145	PROFILE OF SHEET 144
146	PLAN VIEW
147	PROFILE OF SHEET 146
148	PLAN VIEW
149	PROFILE OF SHEET 148
150	PLAN VIEW
151	PLAN VIEW
152	PLAN VIEW
153	PLAN VIEW
154	PROFILE OF SHEET 153
155	PLAN VIEW
156	PLAN VIEW
157	PROFILE OF SHEET 156
158	PLAN VIEW
159	PROFILE OF SHEET 158
160	PLAN VIEW
161	PROFILE OF SHEET 160
162	PLAN VIEW
163	PLAN VIEW
164	PROFILE OF SHEET 163
165	PLAN VIEW
166	PLAN VIEW
167	PLAN VIEW
168	PLAN VIEW
169	PLAN VIEW
170	PLAN VIEW
171	PLAN VIEW
172	PLAN VIEW
173	PLAN VIEW
174	PLAN VIEW
175	PLAN VIEW
176	PLAN VIEW
177	PLAN VIEW
178	PLAN VIEW
179	PLAN VIEW
180	PLAN VIEW
181	PLAN VIEW
182	PROFILE OF SHEET 181
183	PLAN VIEW
184	PROFILE OF SHEET 183
185	PLAN VIEW
186	PROFILE OF SHEET 185
187	PLAN VIEW
188	PROFILE OF SHEET 187
189	PLAN VIEW
190	PROFILE OF SHEET 189
191	PLAN VIEW
192	PLAN VIEW
193	PLAN VIEW
194	PLAN VIEW
195	PLAN VIEW
196	PLAN VIEW
197	PROFILE OF SHEET 196
198	PLAN VIEW
199	PROFILE OF SHEET 198
200	PLAN VIEW
201	PLAN VIEW
202	PLAN VIEW
203	PLAN VIEW
204	PLAN VIEW
205	PLAN VIEW
206	PLAN VIEW
207	PLAN VIEW
208	PROFILE VIEW OF SHEET 207
209	PLAN VIEW
210	PLAN VIEW
211	PLAN VIEW
212	PLAN VIEW
213	PLAN VIEW
214	PLAN VIEW
215	PLAN VIEW
216	PLAN VIEW
217	PLAN VIEW
218	PLAN VIEW
219	PLAN VIEW
220	PLAN VIEW
221	PLAN VIEW

DOUGLAS BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
SHEET 2.DWG	60218603

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
DRAWING INDEX I
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

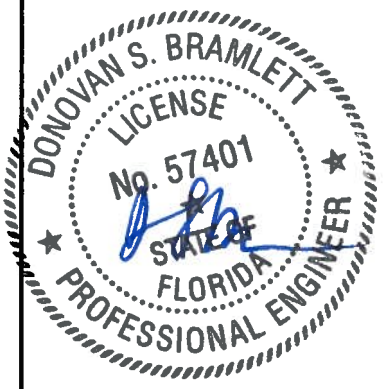
SHEET 2 OF 221

0

SHEET No.	DESCRIPTION
FIGURE 1	LOCATION MAP
FIGURE 2	USGS QUADRANGLE MAP
FIGURE 3	SOILS MAP 1 OF 5
FIGURE 3	SOILS MAP 2 OF 5
FIGURE 3	SOILS MAP 3 OF 5
FIGURE 3	SOILS MAP 4 OF 5
FIGURE 3	SOILS MAP 5 OF 5
FIGURE 4	FLOODPLAIN MAP SHEET 1 OF 5
FIGURE 4	FLOODPLAIN MAP SHEET 2 OF 5
FIGURE 4	FLOODPLAIN MAP SHEET 3 OF 5
FIGURE 4	FLOODPLAIN MAP SHEET 4 OF 5
FIGURE 4	FLOODPLAIN MAP SHEET 5 OF 5
FIGURE 5	NATIONAL WETLAND INVENTORY MAP SHEET 1 OF 5
FIGURE 5	NATIONAL WETLAND INVENTORY MAP SHEET 2 OF 5
FIGURE 5	NATIONAL WETLAND INVENTORY MAP SHEET 3 OF 5
FIGURE 5	NATIONAL WETLAND INVENTORY MAP SHEET 4 OF 5
FIGURE 5	NATIONAL WETLAND INVENTORY MAP SHEET 5 OF 5
FIGURE 6	MITIGATION BANK SERVICE AREA
FIGURE 7	DETAIL SHEET I
FIGURE 8	DETAIL SHEET II
FIGURE 9	DETAIL SHEET III
FIGURE 10	DETAIL SHEET IV
APPENDIX B	ADJACENT PROPERTY OWNERSHIP SHEET 1 OF 5
APPENDIX B	ADJACENT PROPERTY OWNERSHIP SHEET 2 OF 5
APPENDIX B	ADJACENT PROPERTY OWNERSHIP SHEET 3 OF 5
APPENDIX B	ADJACENT PROPERTY OWNERSHIP SHEET 4 OF 5
APPENDIX B	ADJACENT PROPERTY OWNERSHIP SHEET 5 OF 5

CENTER OF WETLAND IMPACT AREA

WETLAND ID:	NORTHING:	EASTING:	LATITUDE:	LONGITUDE:	ACRES IMPACTED:
PP1	1230975	658649	N 27° 43' 12.65"	W 81° 59' 32.38"	0.001400
PP2	1231074	658663	N 27° 43' 13.63"	W 81° 59' 32.22"	0.024310
PP4	1234473	655824	N 27° 43' 47.29"	W 82° 00' 03.81"	0.060344
R1	1235274	655810	N 27° 43' 55.22"	W 82° 00' 03.97"	0.022786
R1-6	1235701	656074	N 27° 43' 59.45"	W 82° 00' 01.03"	0.004379
R2	1235848	656151	N 27° 44' 00.90"	W 82° 00' 00.17"	0.001597
R4	1236595	656407	N 27° 44' 08.30"	W 81° 59' 57.33"	0.087015
R5	1236907	656481	N 27° 44' 11.39"	W 81° 59' 56.50"	0.069772
R6	1237562	656617	N 27° 44' 17.88"	W 81° 59' 54.99"	0.104204
R8	1239467	657075	N 27° 44' 36.74"	W 81° 59' 49.89"	0.151801
R9	1239805	657153	N 27° 44' 40.09"	W 81° 59' 49.02"	0.197284
R10	1243769	657930	N 27° 45' 19.34"	W 81° 59' 40.37"	0.009626
R11	1245499	658318	N 27° 45' 36.47"	W 81° 59' 36.05"	0.006213
R13	1254849	661522	N 27° 47' 09.06"	W 81° 59' 00.37"	0.025183
R14	1255297	661641	N 27° 47' 13.49"	W 81° 58' 59.05"	0.0943065
R15	1255606	661703	N 27° 47' 16.55"	W 81° 58' 58.36"	0.1588195
R16	1256039	661783	N 27° 47' 20.84"	W 81° 58' 57.46"	0.040917
R17	1256628	661817	N 27° 47' 26.67"	W 81° 58' 57.08"	0.127911
R18	1257189	661847	N 27° 47' 32.23"	W 81° 58' 56.75"	0.056830
R19	1258802	661934	N 27° 47' 48.20"	W 81° 58' 55.78"	0.038866
R20	1258970	661912	N 27° 47' 49.86"	W 81° 58' 56.02"	0.001267
R21	1259096	661950	N 27° 47' 51.11"	W 81° 58' 55.60"	0.025662
R22	1259302	661962	N 27° 47' 53.15"	W 81° 58' 55.47"	0.029121
R23	1259463	661971	N 27° 47' 54.74"	W 81° 58' 55.37"	0.012700
R24	1259544	661975	N 27° 47' 55.55"	W 81° 58' 55.32"	0.002008
R25	1259602	661979	N 27° 47' 56.12"	W 81° 58' 55.28"	0.006104
R26	1260354	662015	N 27° 48' 03.57"	W 81° 58' 54.87"	0.072314
R27	1261214	662063	N 27° 48' 12.08"	W 81° 58' 54.34"	0.091310
R28	1262588	662119	N 27° 48' 25.69"	W 81° 58' 53.71"	0.050572
W1	1263885	662186	N 27° 48' 38.53"	W 81° 58' 52.98"	1.84777
R29	1265897	662314	N 27° 48' 58.46"	W 81° 58' 51.52"	0.116530
R30	1268629	662459	N 27° 48' 58.46"	W 81° 58' 49.92"	0.743126
R31	1271330	662606	N 27° 49' 52.26"	W 81° 58' 48.27"	0.057043
R32	1277512	663135	N 27° 50' 53.47"	W 81° 58' 42.37"	0.017359
R33	1277597	663144	N 27° 50' 54.31"	W 81° 58' 42.27"	0.016046
R34	1277626	663131	N 27° 50' 54.60"	W 81° 58' 42.41"	0.010606
R35	1278137	663304	N 27° 50' 59.66"	W 81° 58' 40.48"	0.205882
R36	1279113	663638	N 27° 51' 09.32"	W 81° 58' 36.76"	0.006592
R37	1279266	663685	N 27° 51' 10.84"	W 81° 58' 36.24"	0.023228
R38	1280149	663956	N 27° 51' 19.58"	W 81° 58' 33.22"	0.481248
R39	1281503	664370	N 27° 51' 32.99"	W 81° 58' 28.60"	0.146632
R40	1282291	664605	N 27° 51' 40.79"	W 81° 58' 25.98"	0.128693
R41	1283273	664734	N 27° 51' 50.51"	W 81° 58' 24.54"	0.046184
R42	1283719	664739	N 27° 51' 54.93"	W 81° 58' 24.48"	0.035517
R43	1283908	664734	N 27° 51' 56.80"	W 81° 58' 24.54"	0.026873
M2	1292270	667878	N 27° 53' 19.60"	W 81° 57' 49.48"	0.024572
M3	1293492	668288	N 27° 53' 31.70"	W 81° 57' 44.91"	0.712444
M4	1294714	668698	N 27° 53' 22.56"	W 81° 57' 48.14"	0.104551
M5	1295936	669108	N 27° 53' 30.73"	W 81° 57' 44.83"	0.75766
M6	1297158	669518	N 27° 53' 38.17"	W 81° 57' 34.16"	0.017035
M7	1298380	669928	N 27° 53' 38.64"	W 81° 57' 34.27"	0.033988
M8	1299602	670338	N 27° 53' 38.09"	W 81° 57' 28.06"	0.016253
S1	1300824	670748	N 27° 53' 40.55"	W 81° 57' 26.20"	0.005374
S2	1302046	671158	N 27° 53' 43.88"	W 81° 57' 26.34"	0.175433
S3	1303268	671568	N 27° 53' 47.57"	W 81° 57' 26.30"	0.062096
S4	1304490	671978	N 27° 53' 48.93"	W 81° 57' 26.29"	0.003781
S5	1305712	672388	N 27° 53' 50.03"	W 81° 57' 26.26"	0.015105
S6	1306934	672798	N 27° 53' 55.81"	W 81° 57' 26.40"	0.023192
S7	1308156	673208	N 27° 53' 51.39"	W 81° 57' 26.00"	0.065208
L1	1309378	673618	N 27° 53' 57.95"	W 81° 57' 25.51"	0.041174
L2	1310600	674028	N 27° 53' 54.93"	W 81° 56' 57.53"	0.028501



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

SHEET 3.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

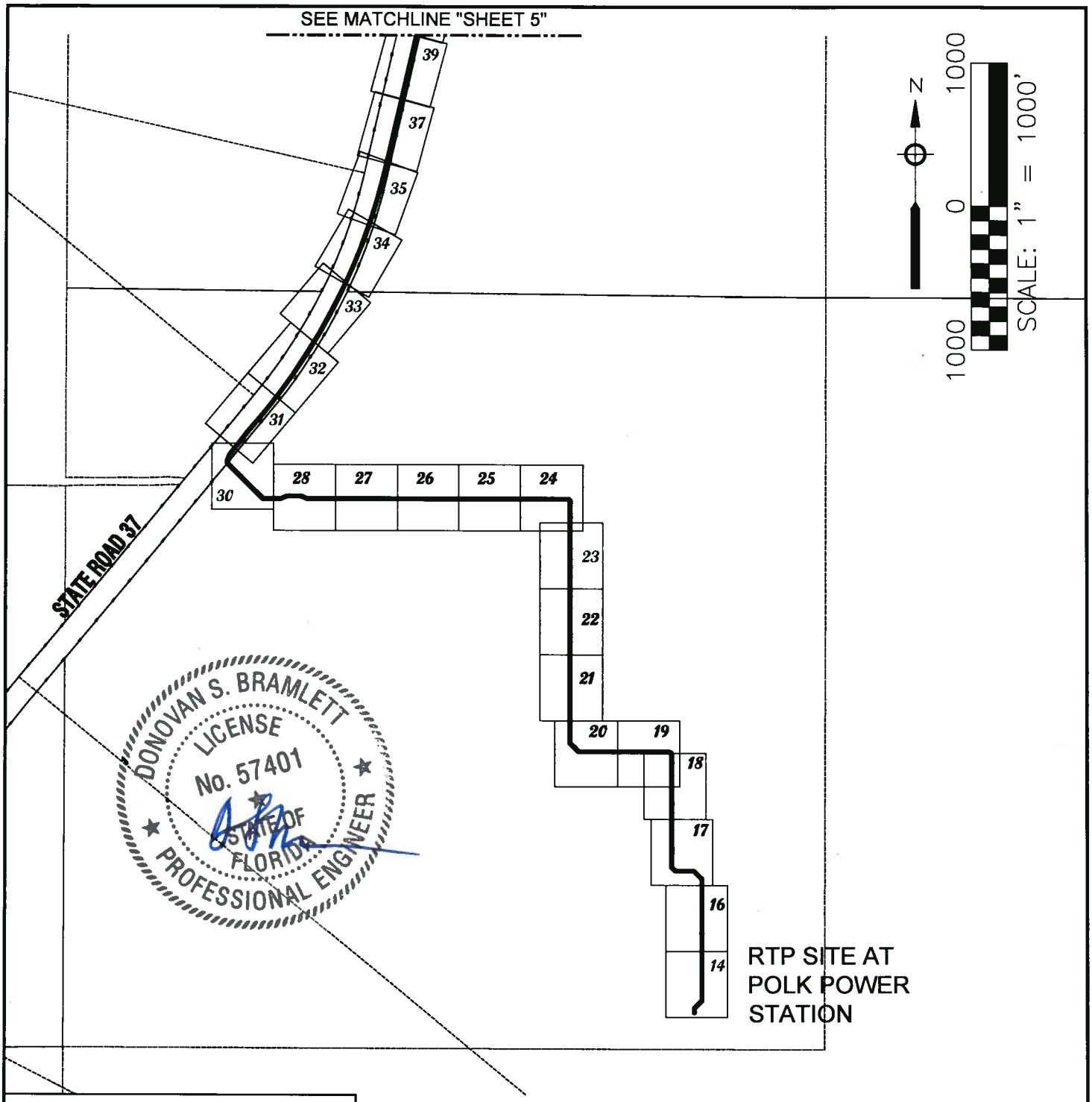
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
DRAWING INDEX & TABLE
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 3 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

SHEET 4.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

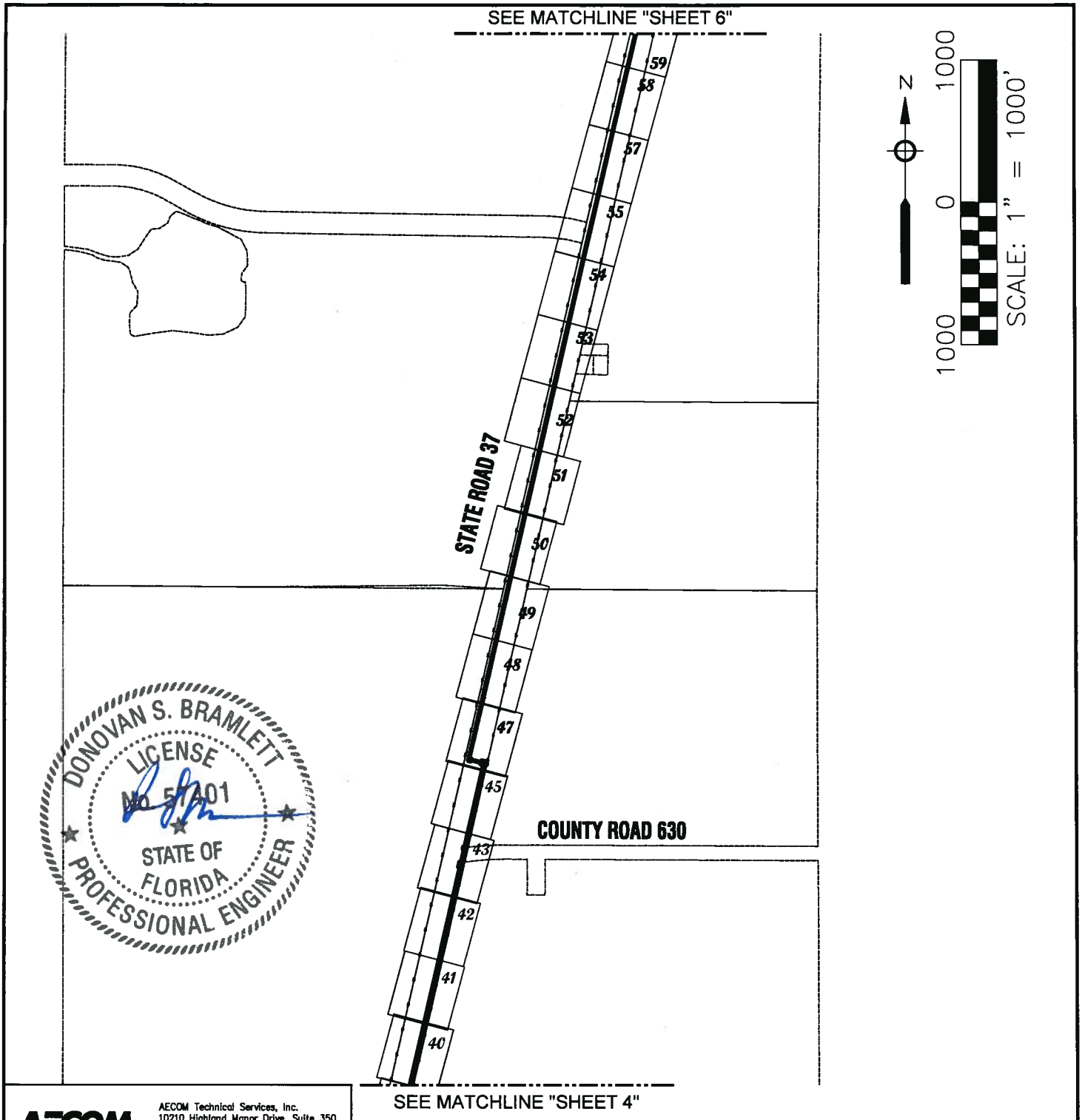
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

MAP INDEX I

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 4 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
NO. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

SHEET 5.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

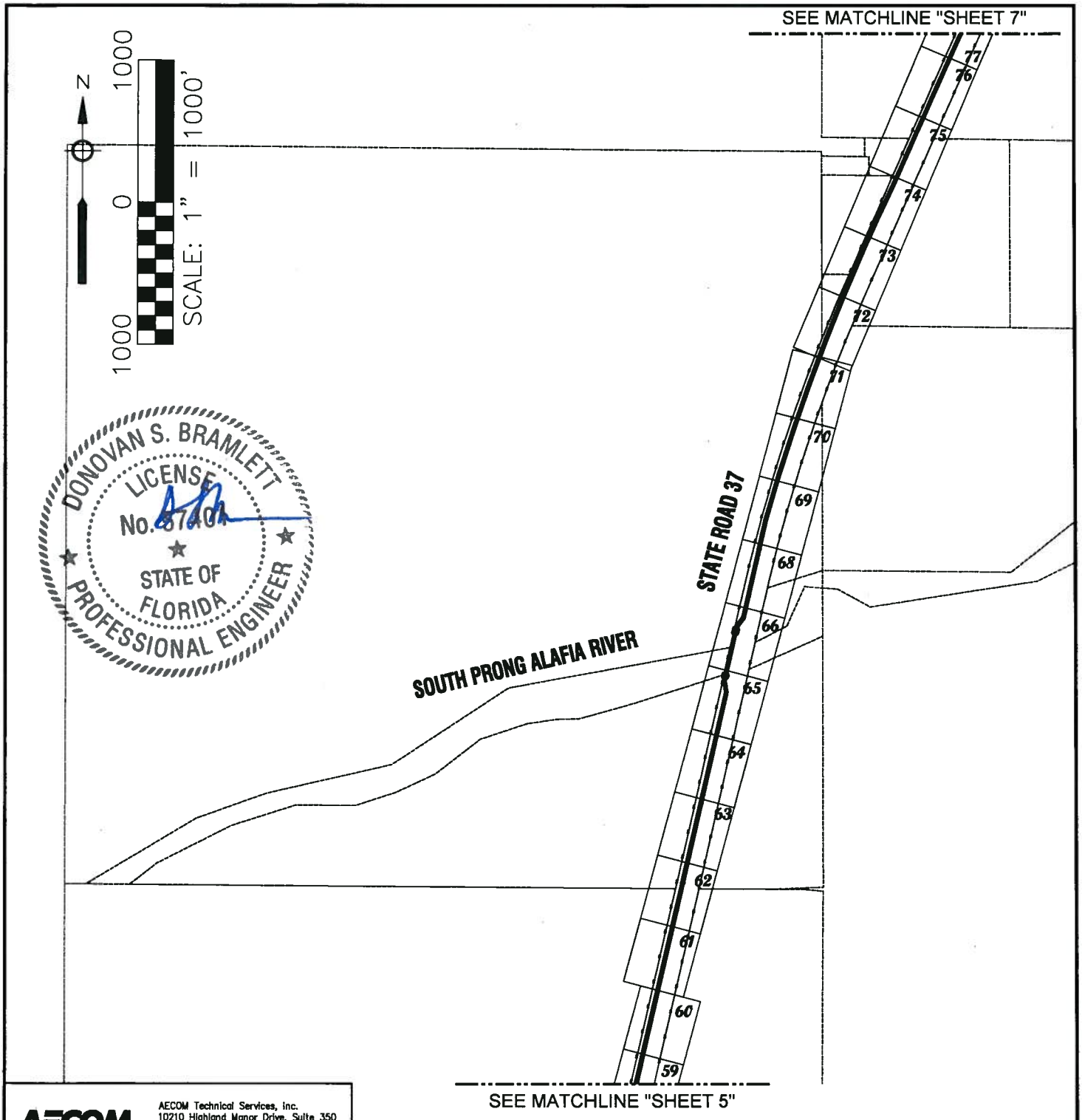
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX II
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 5 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

SHEET 6.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

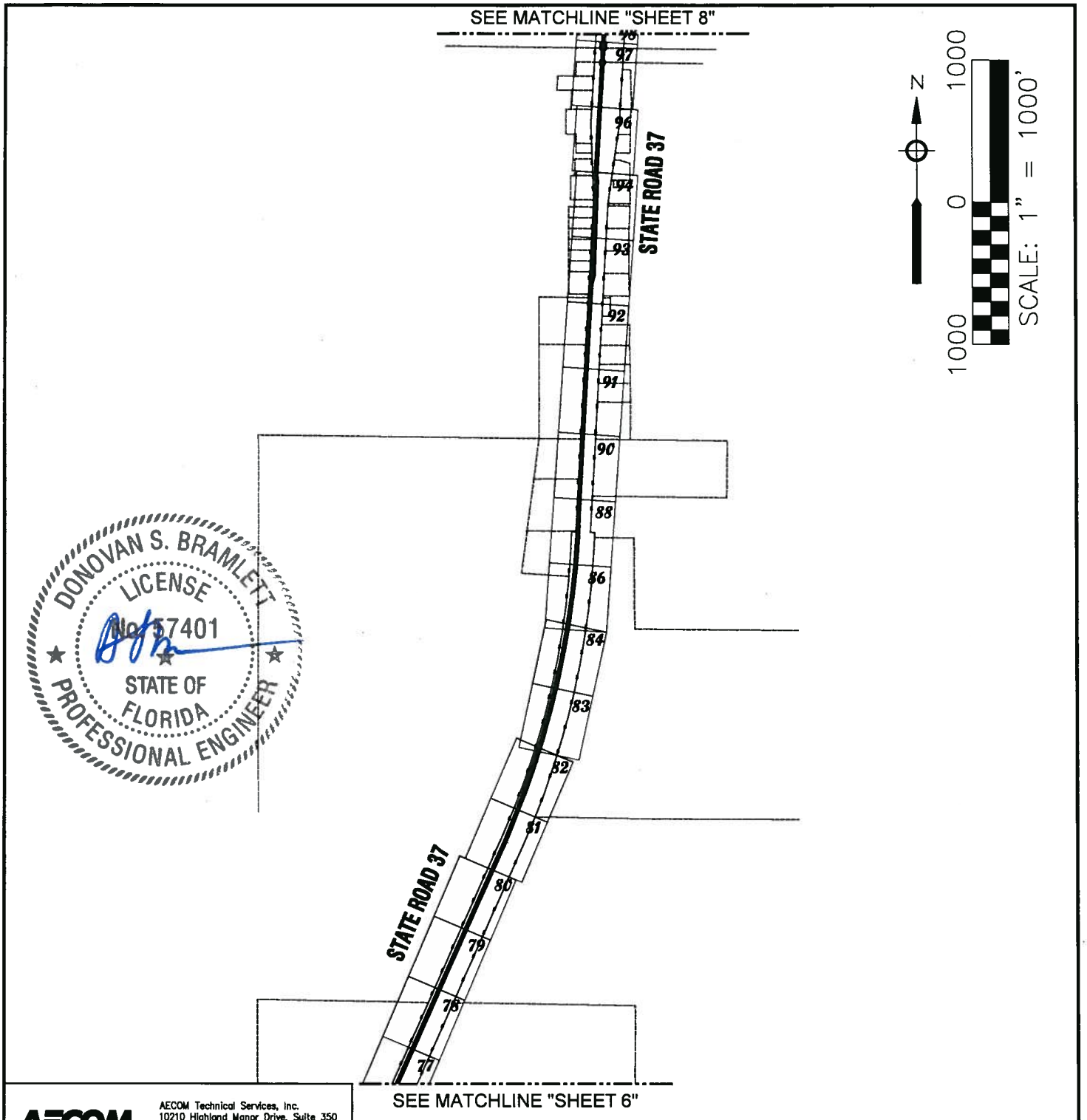
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX III
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 6 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

SHEET 7.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

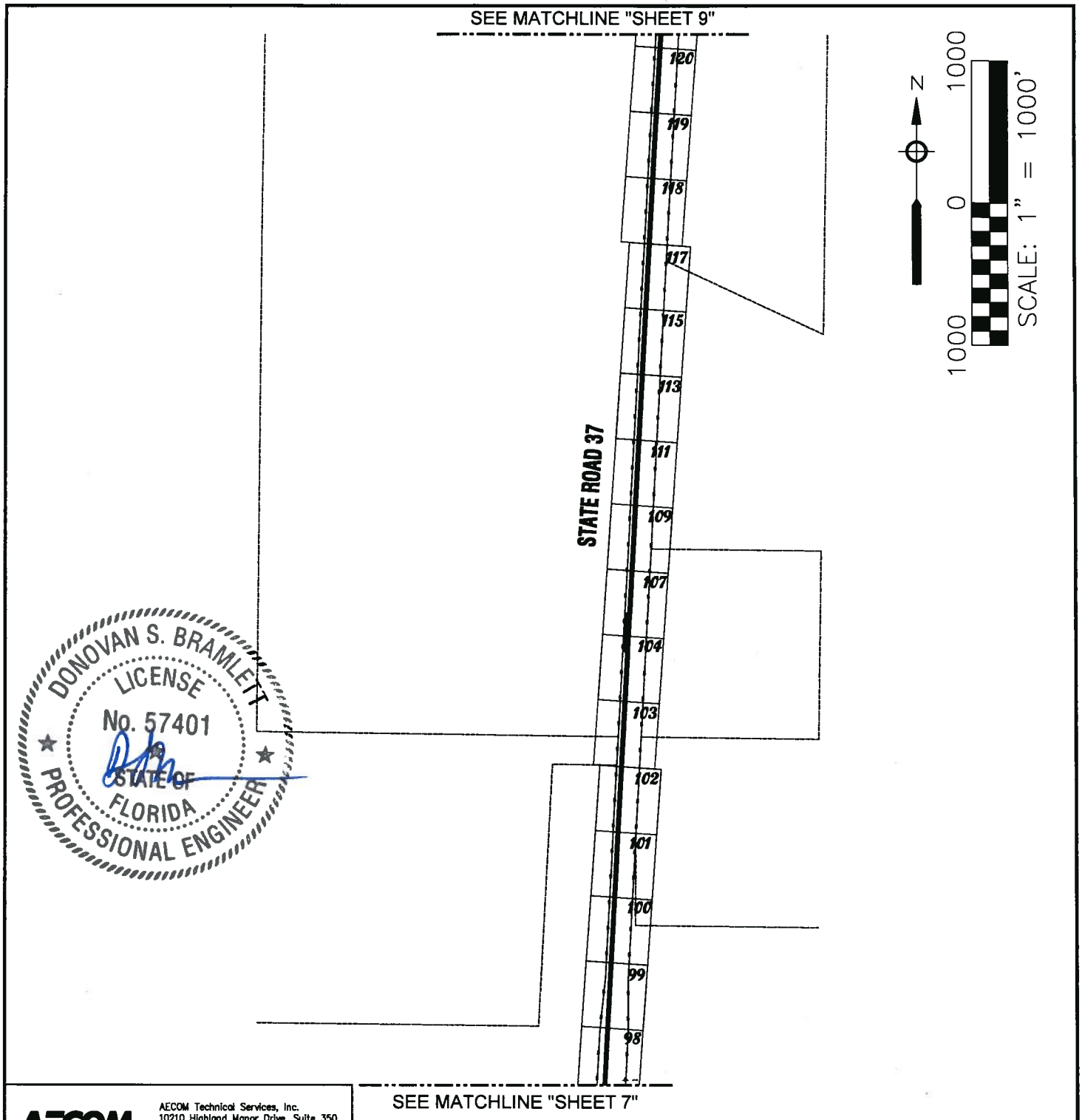
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX IV
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 7 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
SHEET 8.DWG	60218603

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

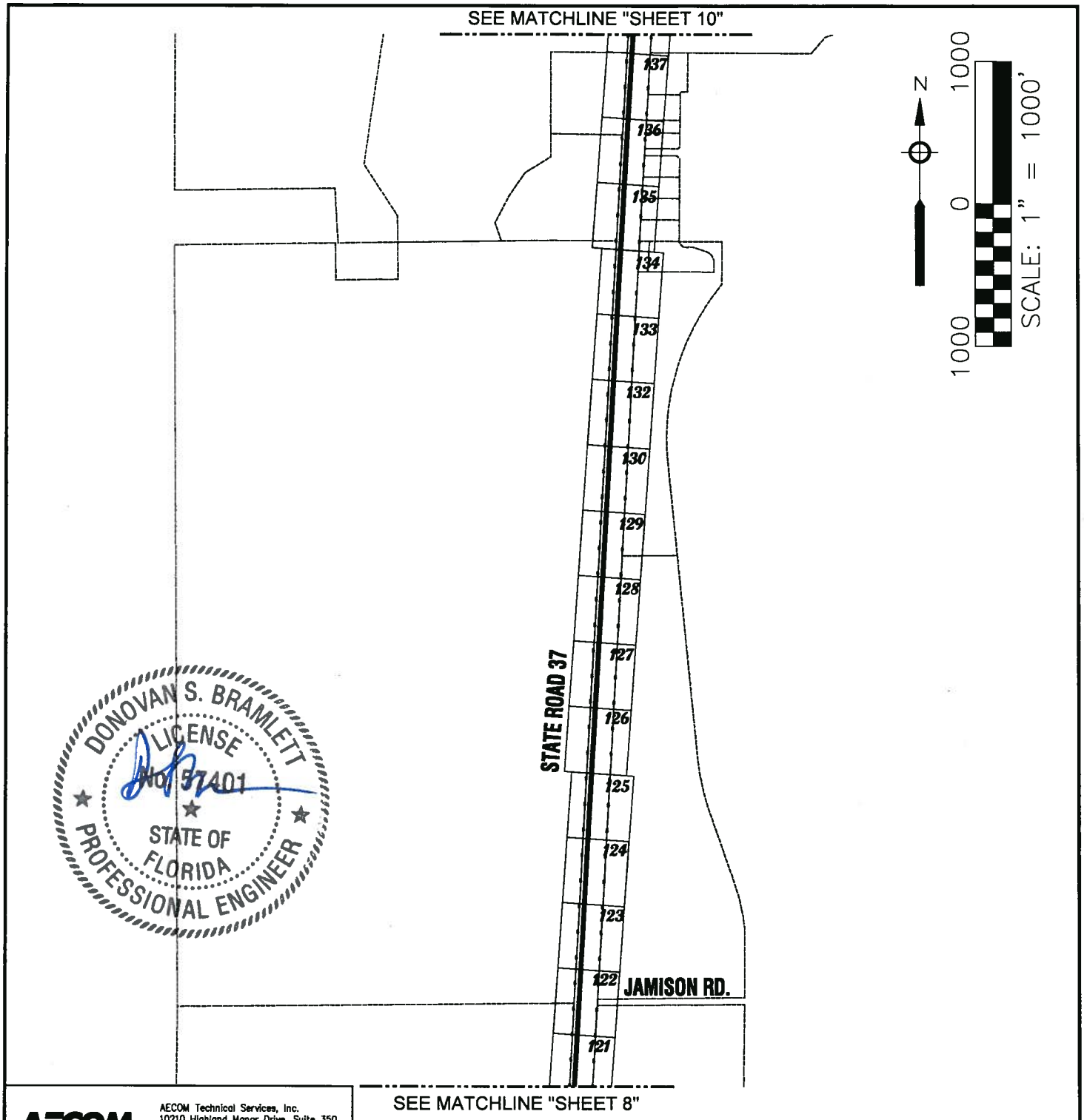
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX V
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 8 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
NO. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
SHEET 9.DWG	60218603

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

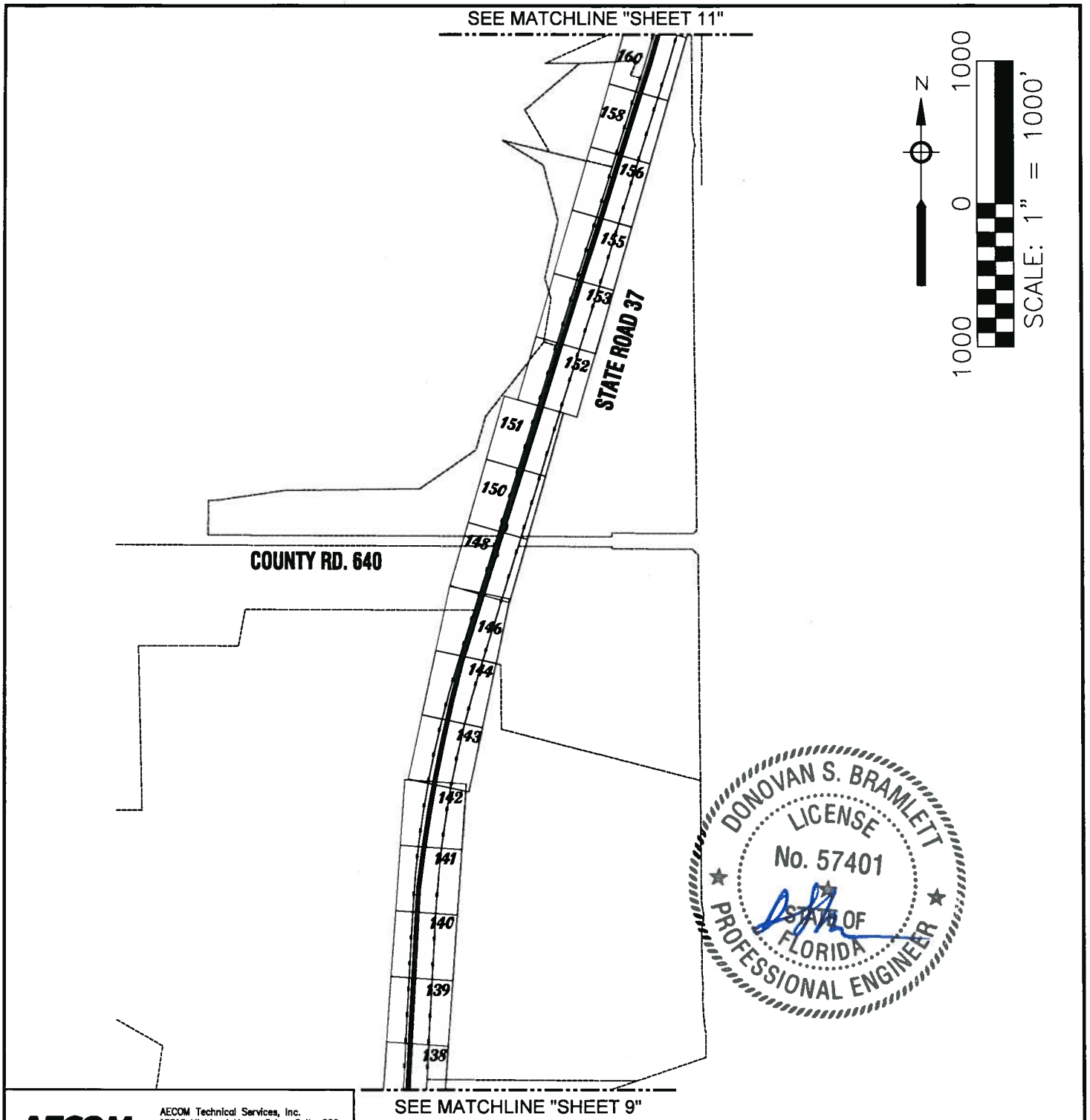
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX VI
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 9 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
SHEET 10.DWG	60218603

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

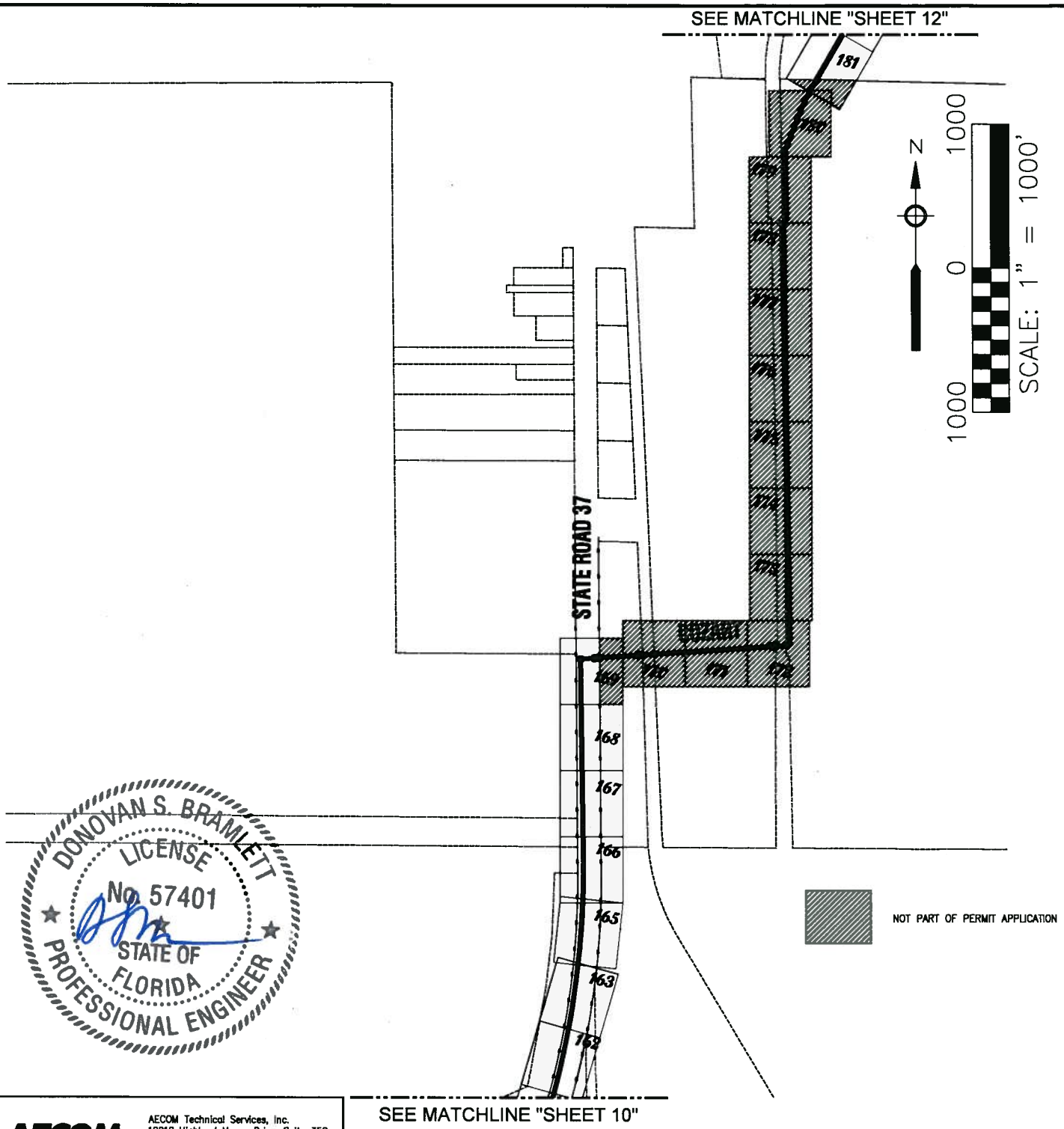
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX VII
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 10 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

SHEET 11.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

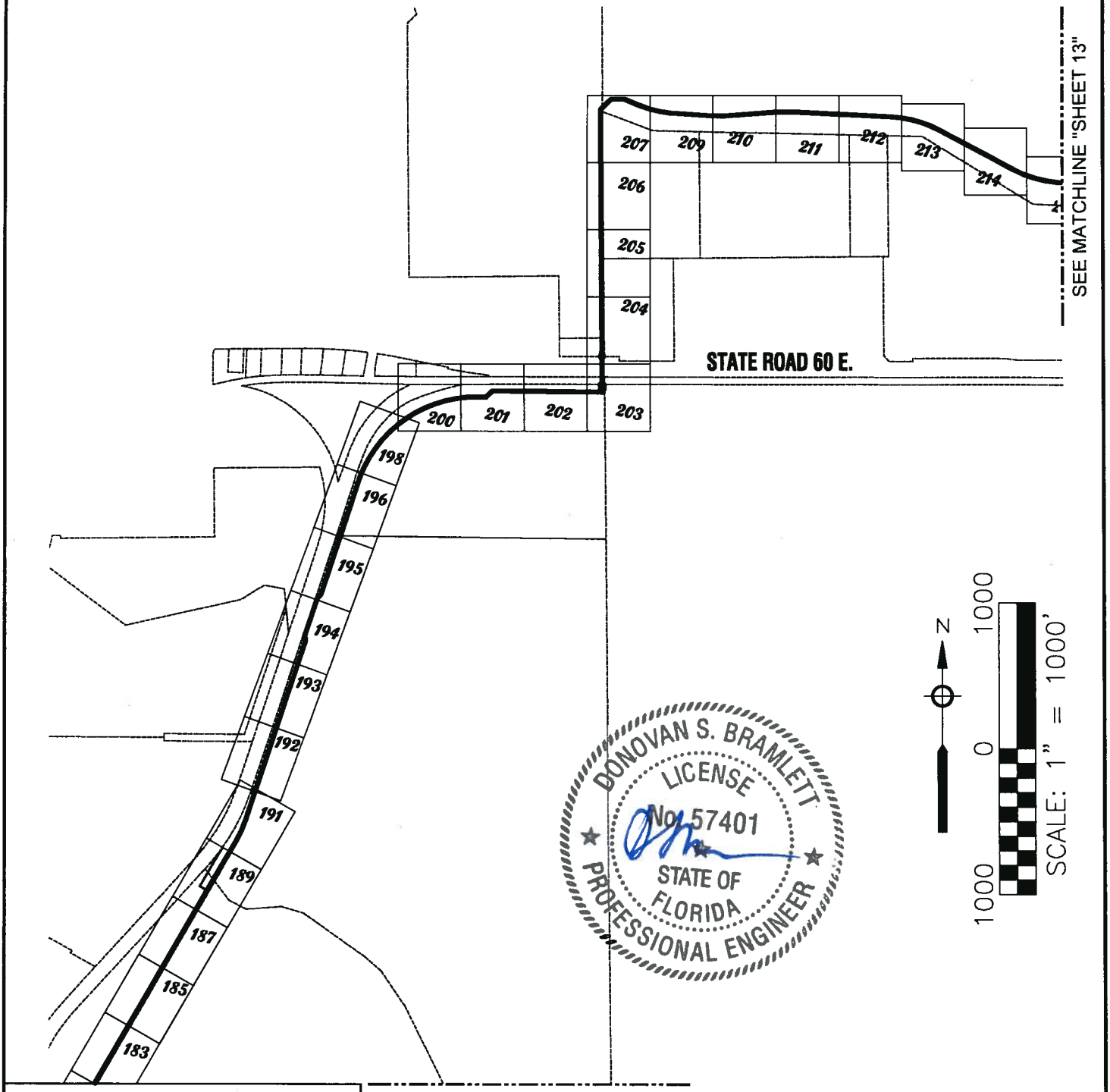
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX VIII
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 11 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

SHEET 12.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

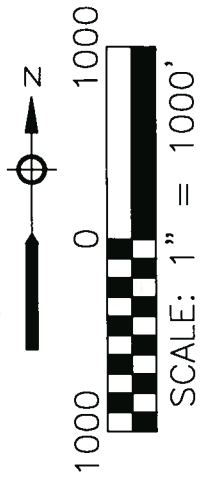
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

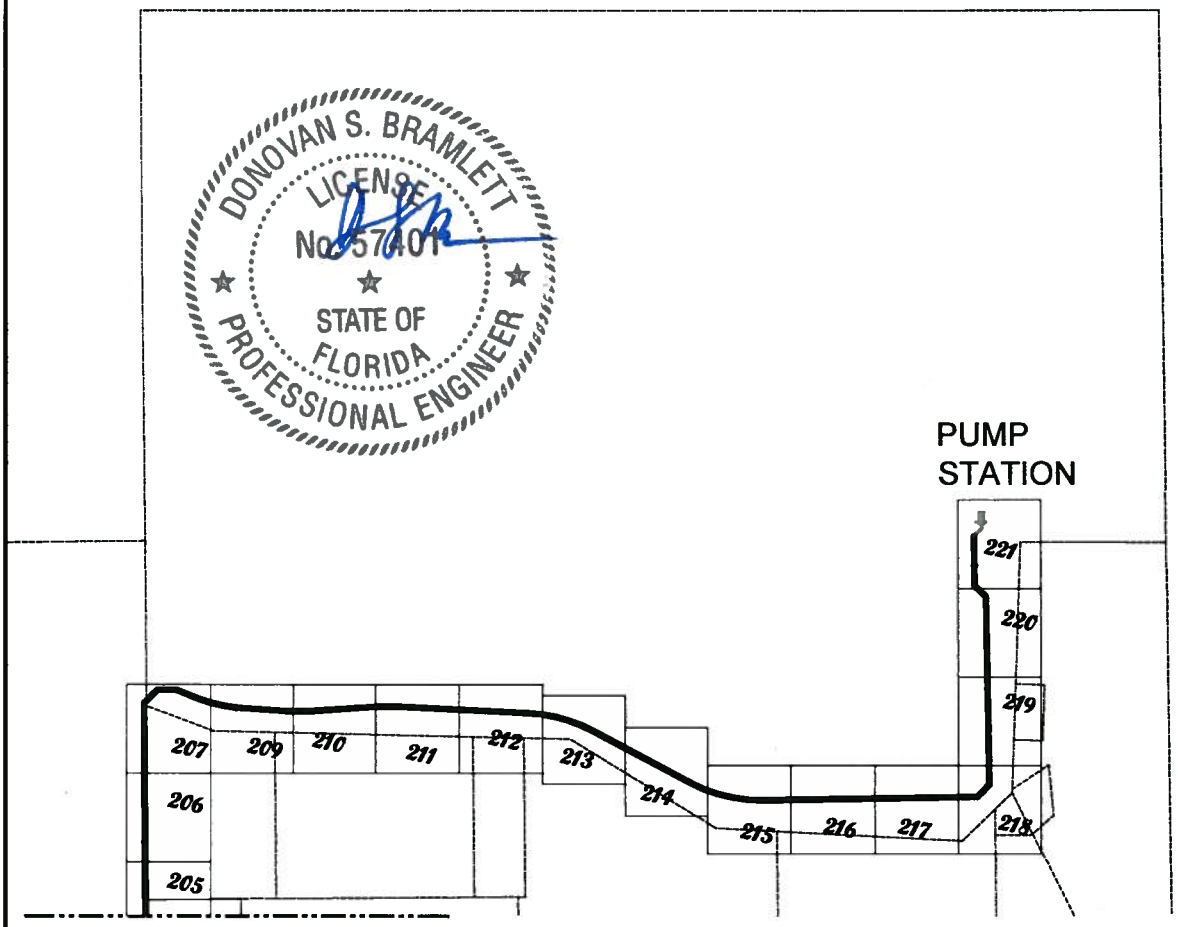
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
MAP INDEX IX
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 12 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

SHEET 13.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

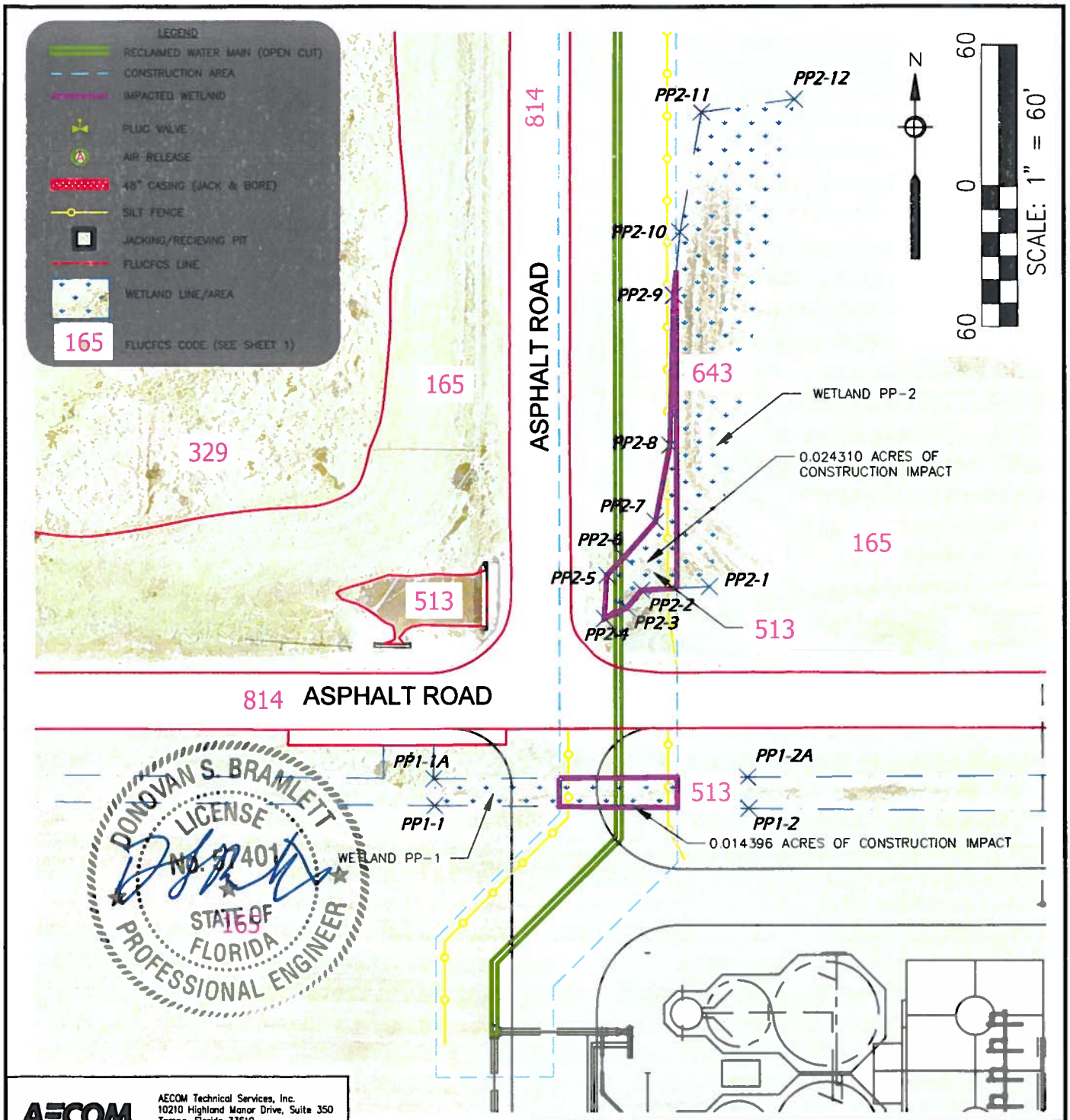
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

MAP INDEX X

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 13 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

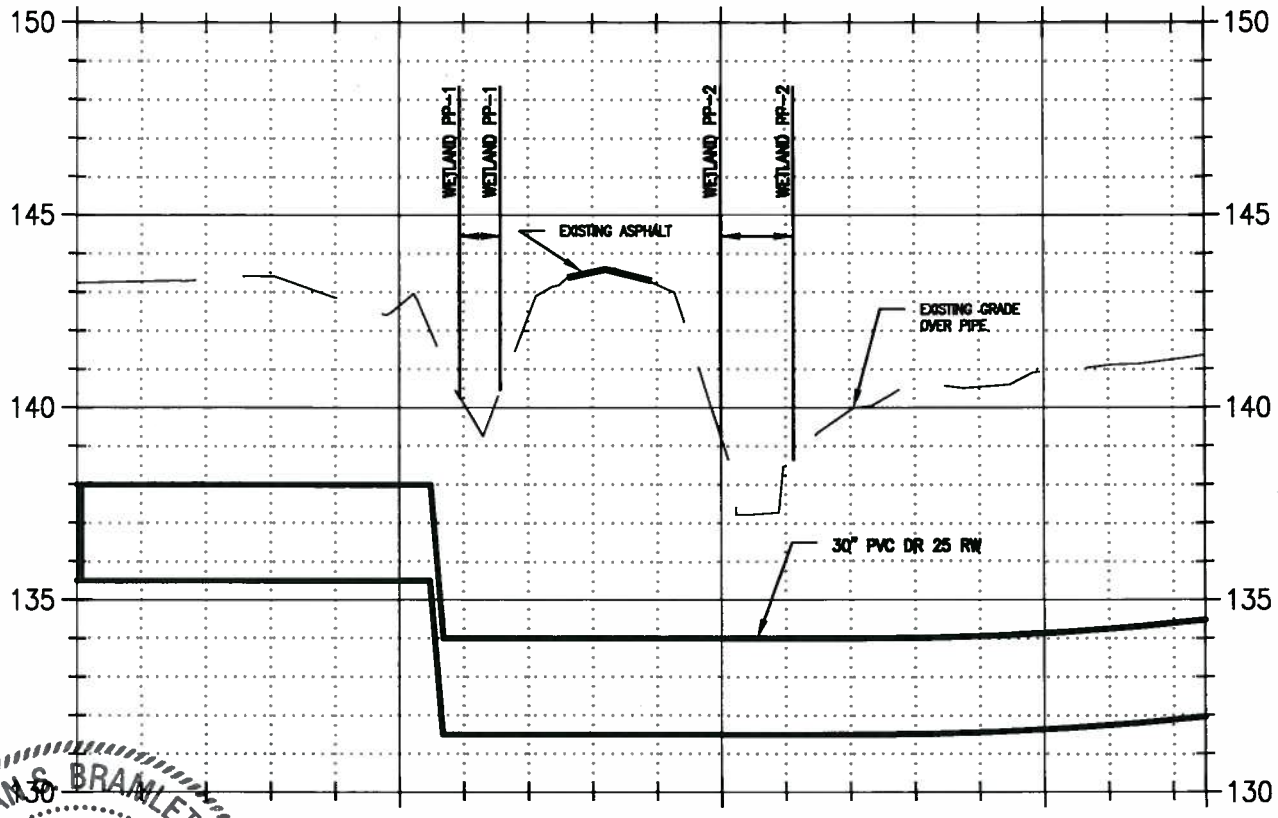
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

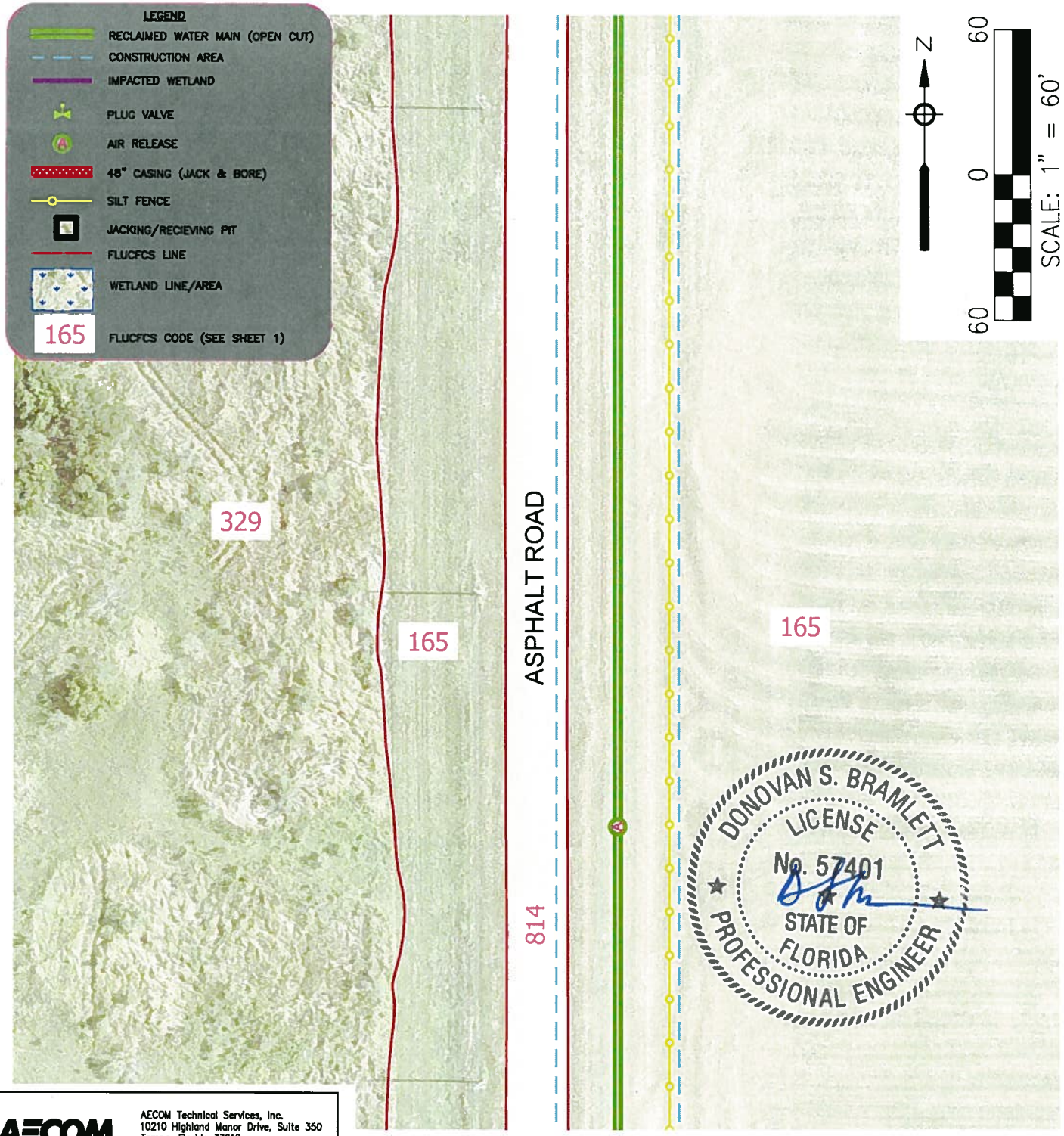
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 14
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

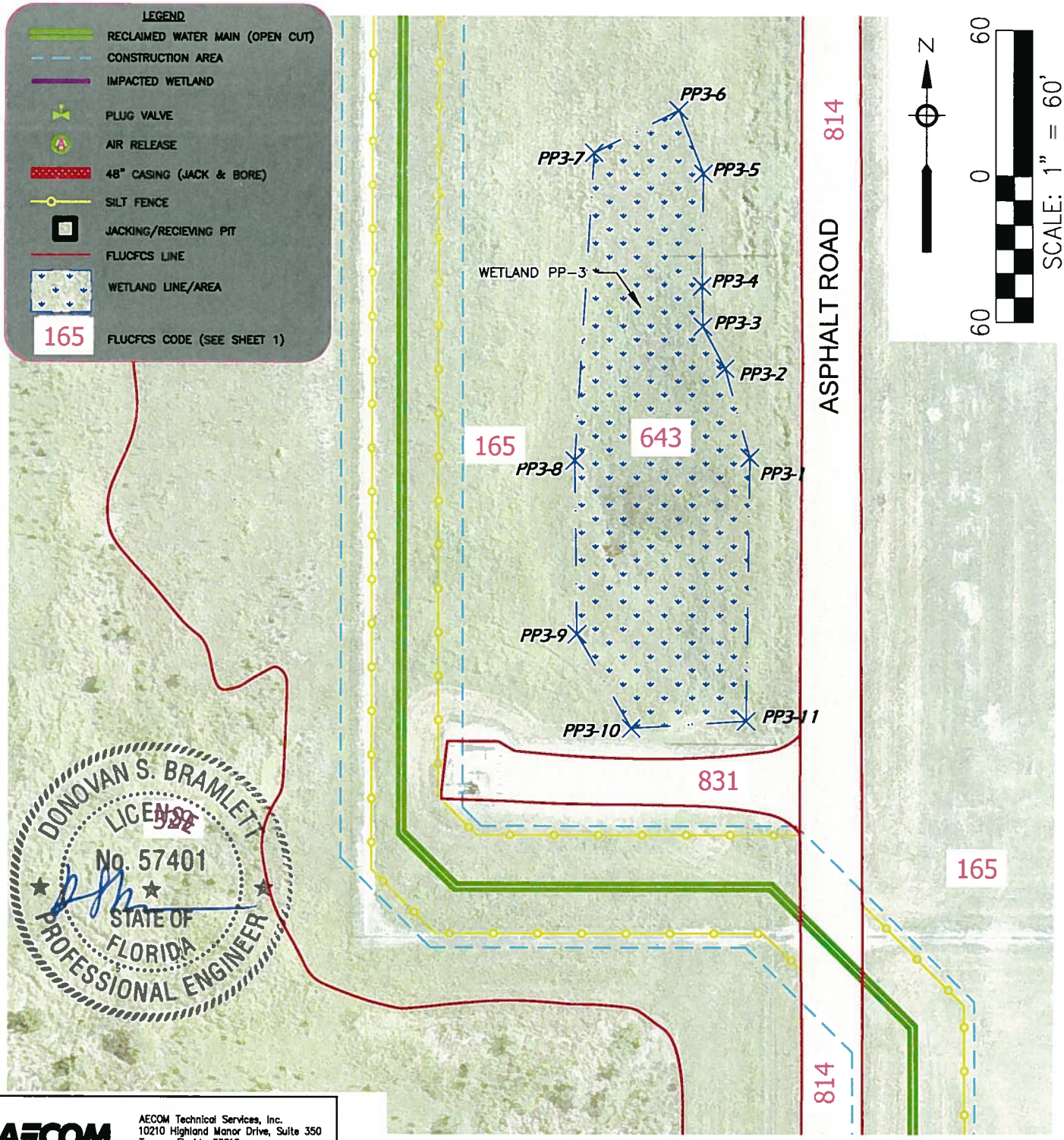
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

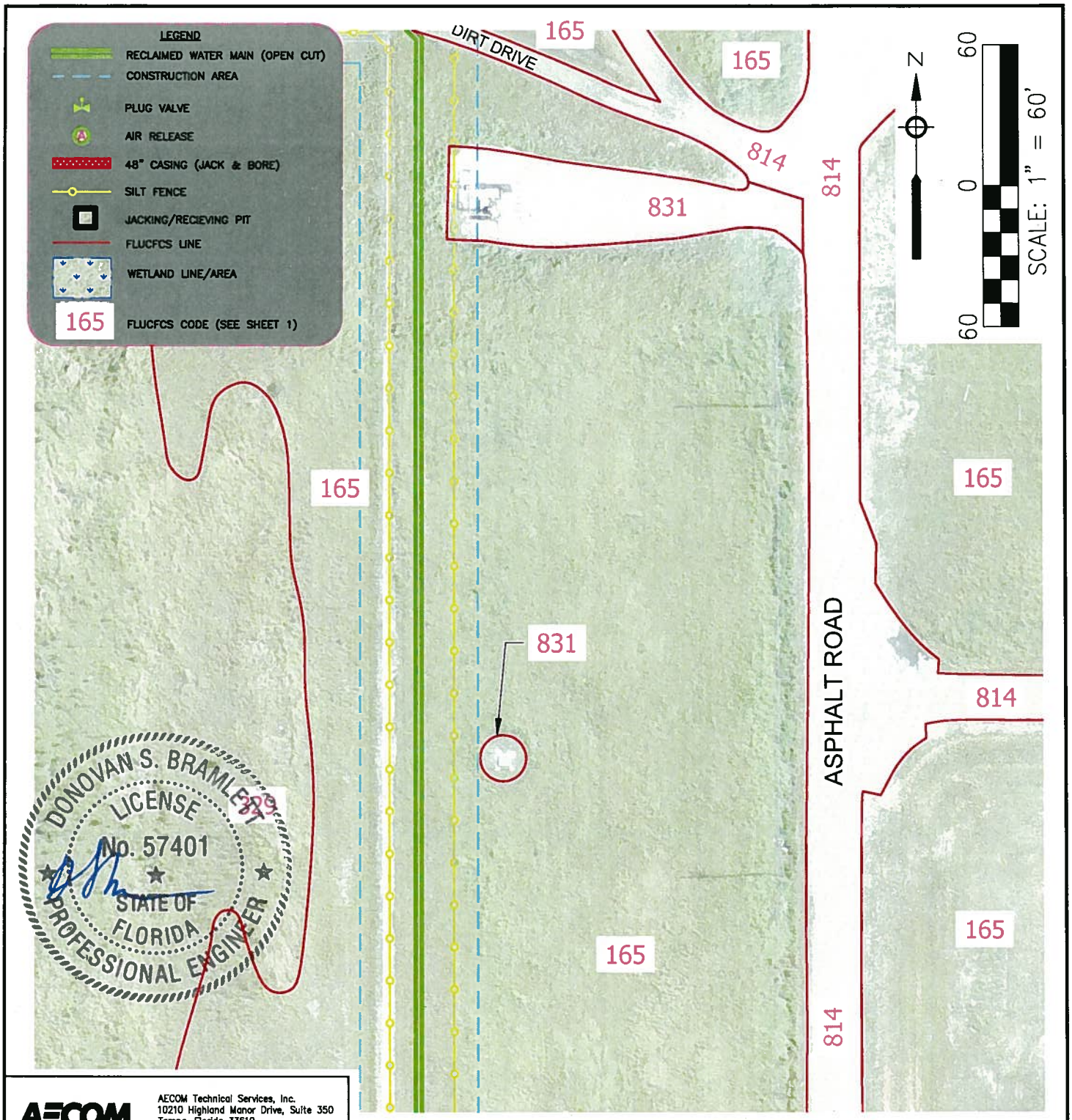
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

FILE NAME	PROJECT NUMBER
FIGURE_14-23.DWG	60218603

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

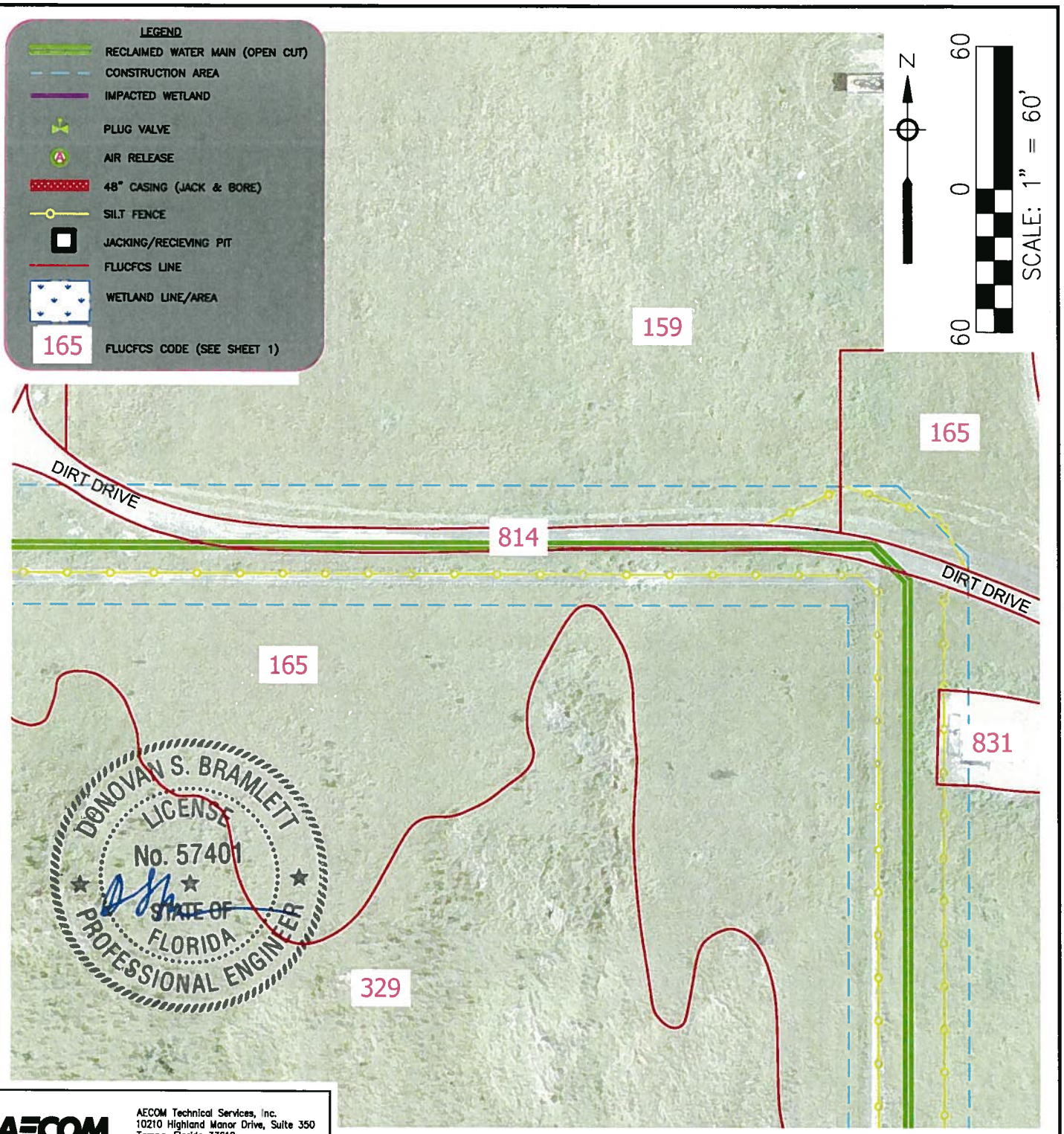
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

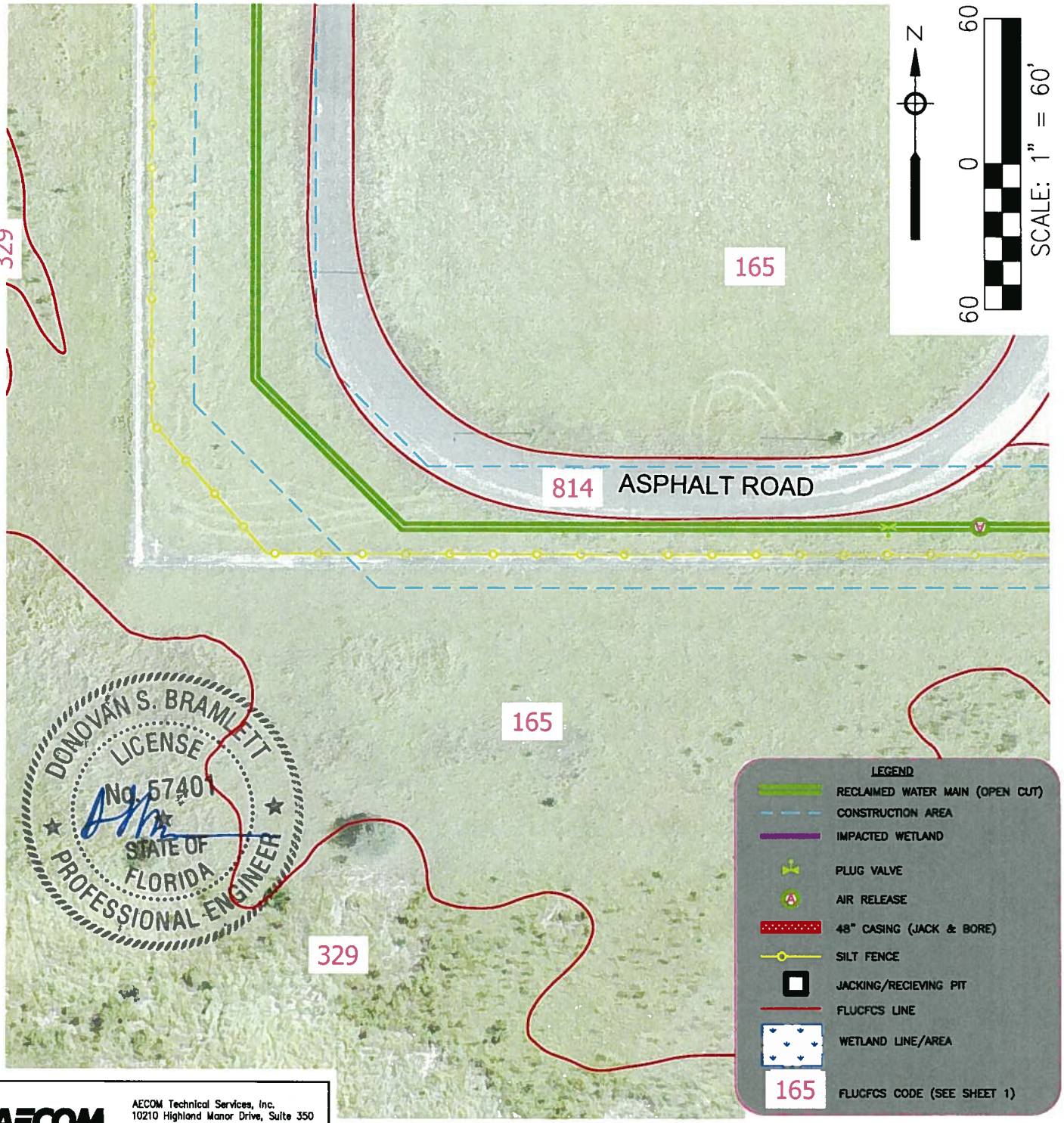
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

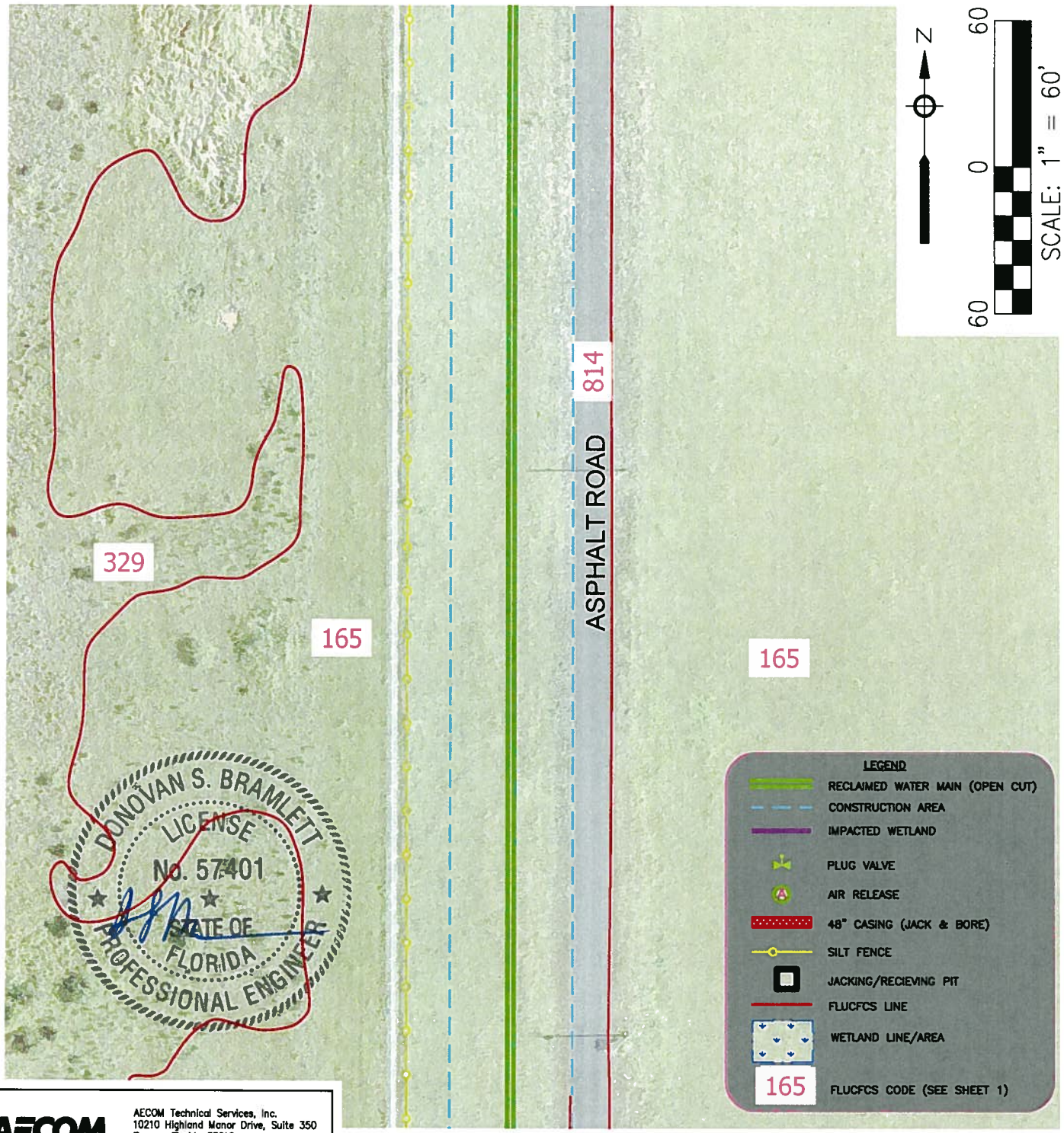
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

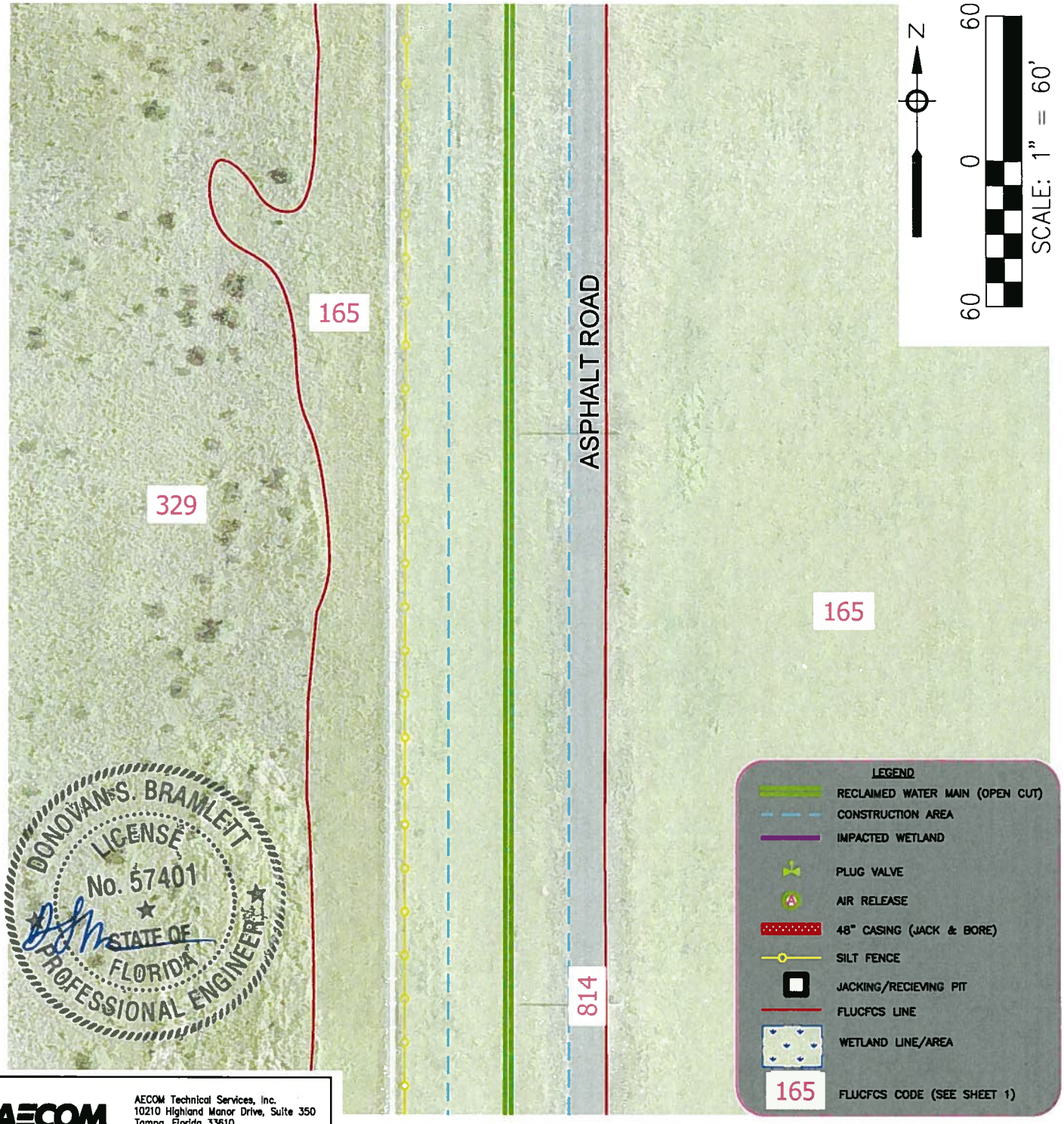
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 21 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

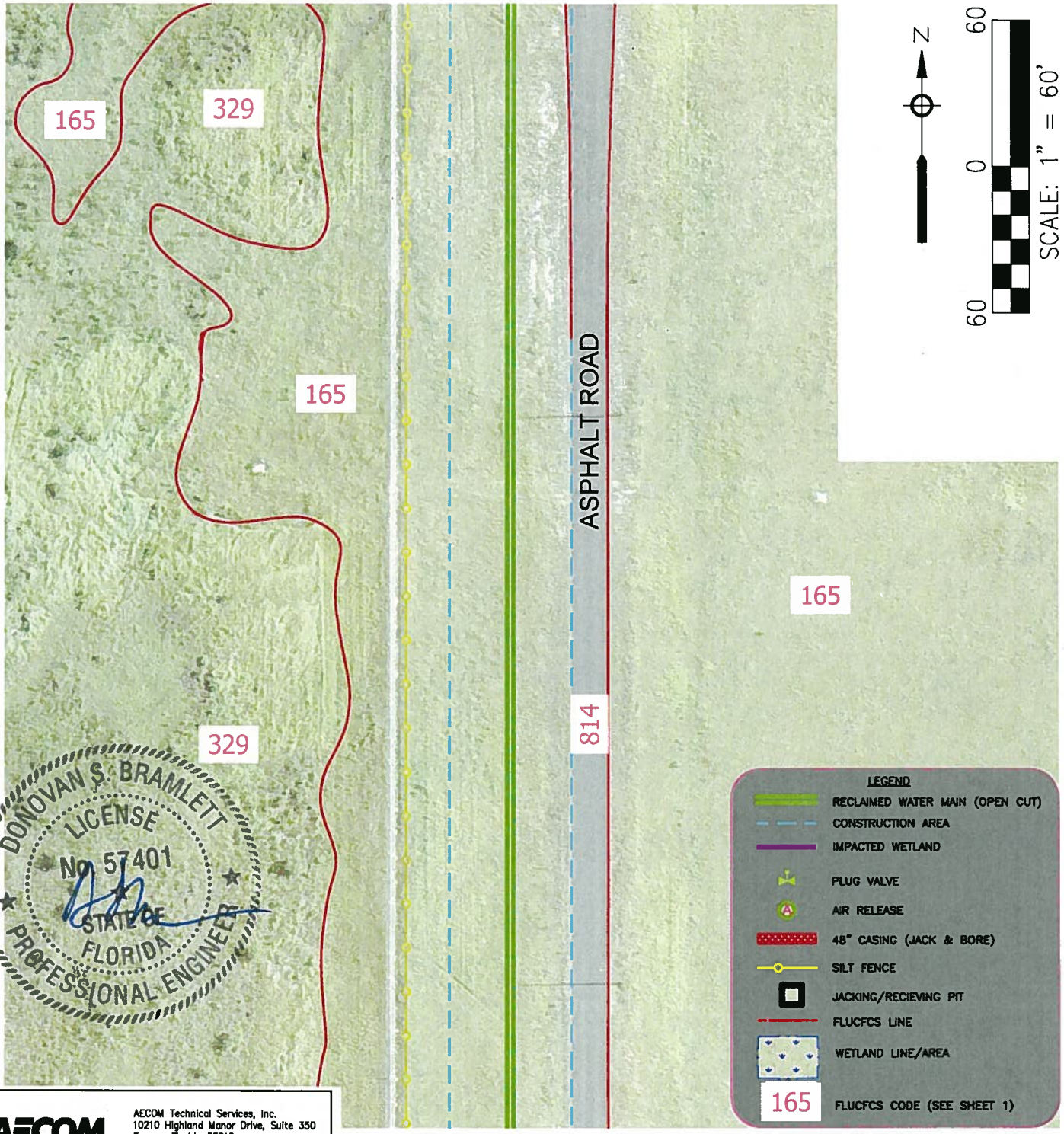
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_14-23.DWG	60218603
FILE NAME	PROJECT NUMBER

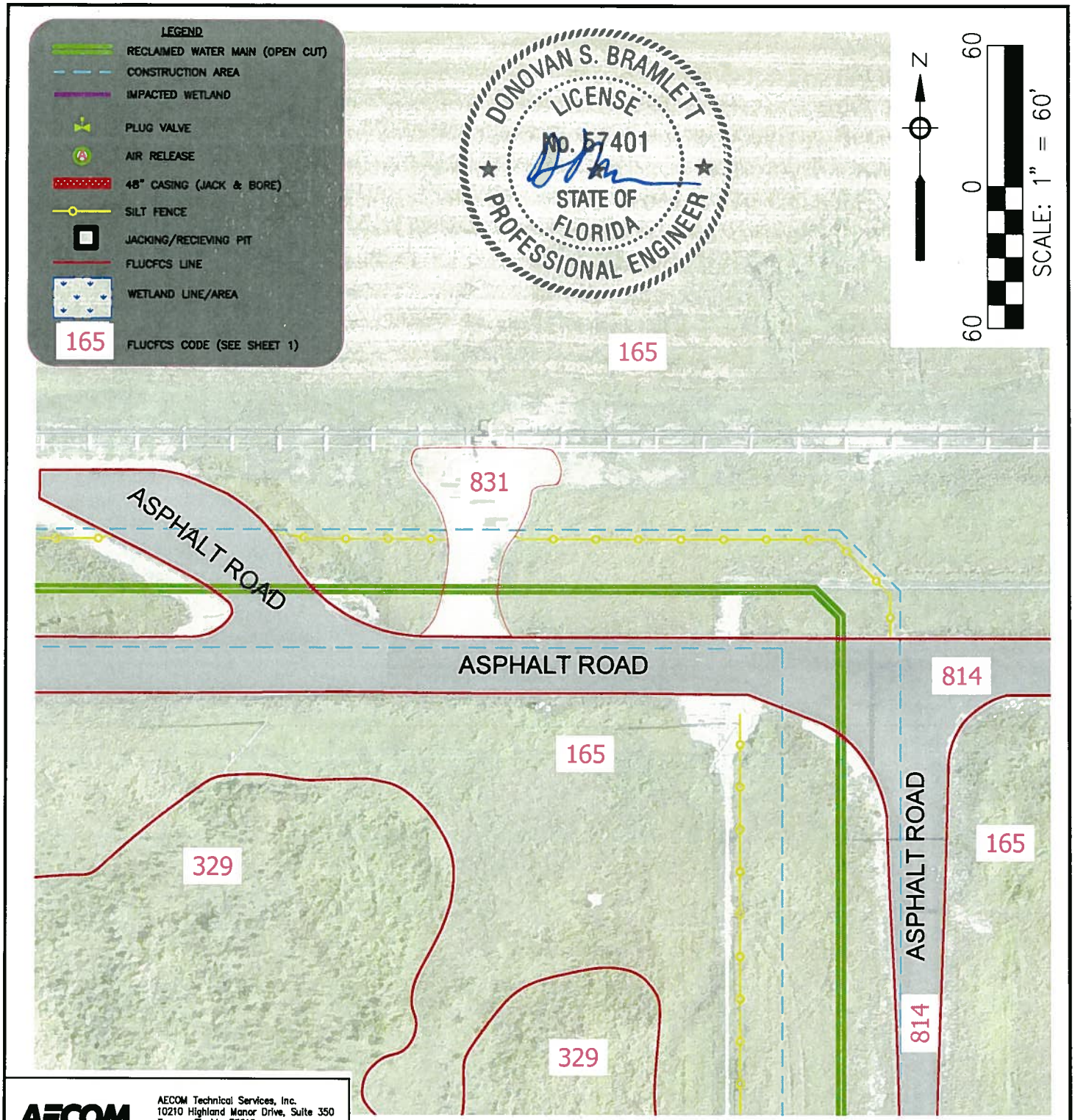
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

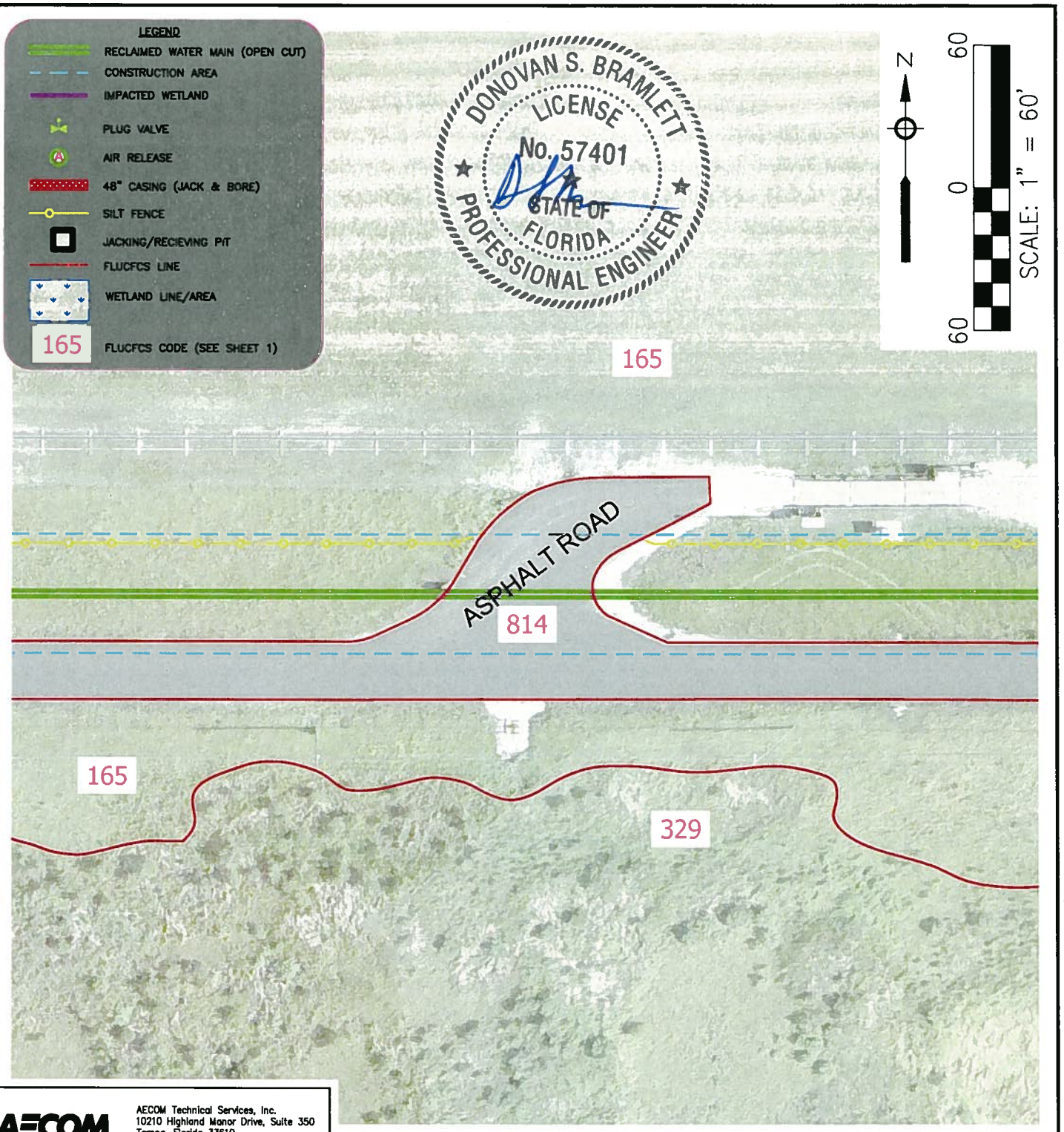
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

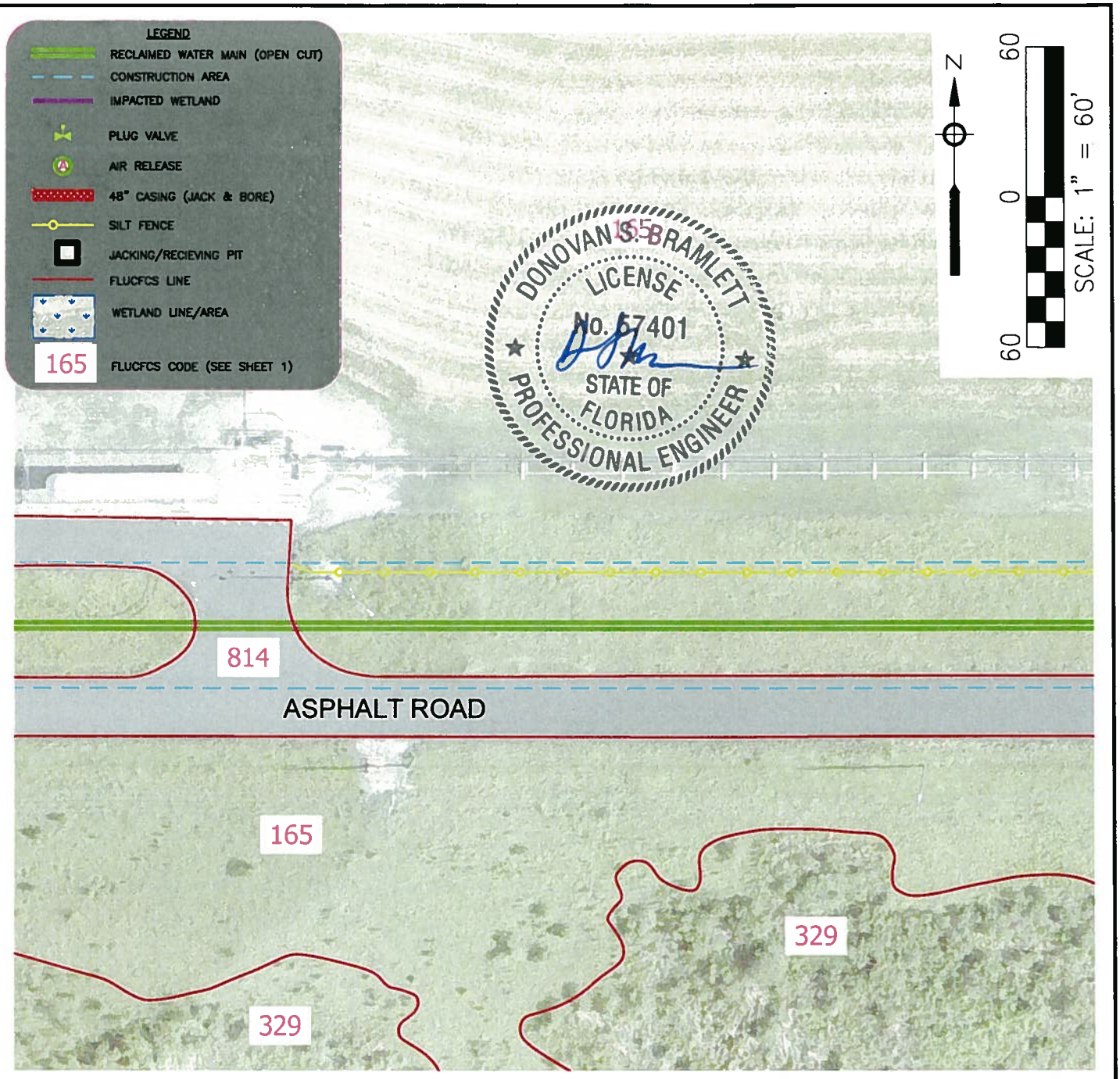
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

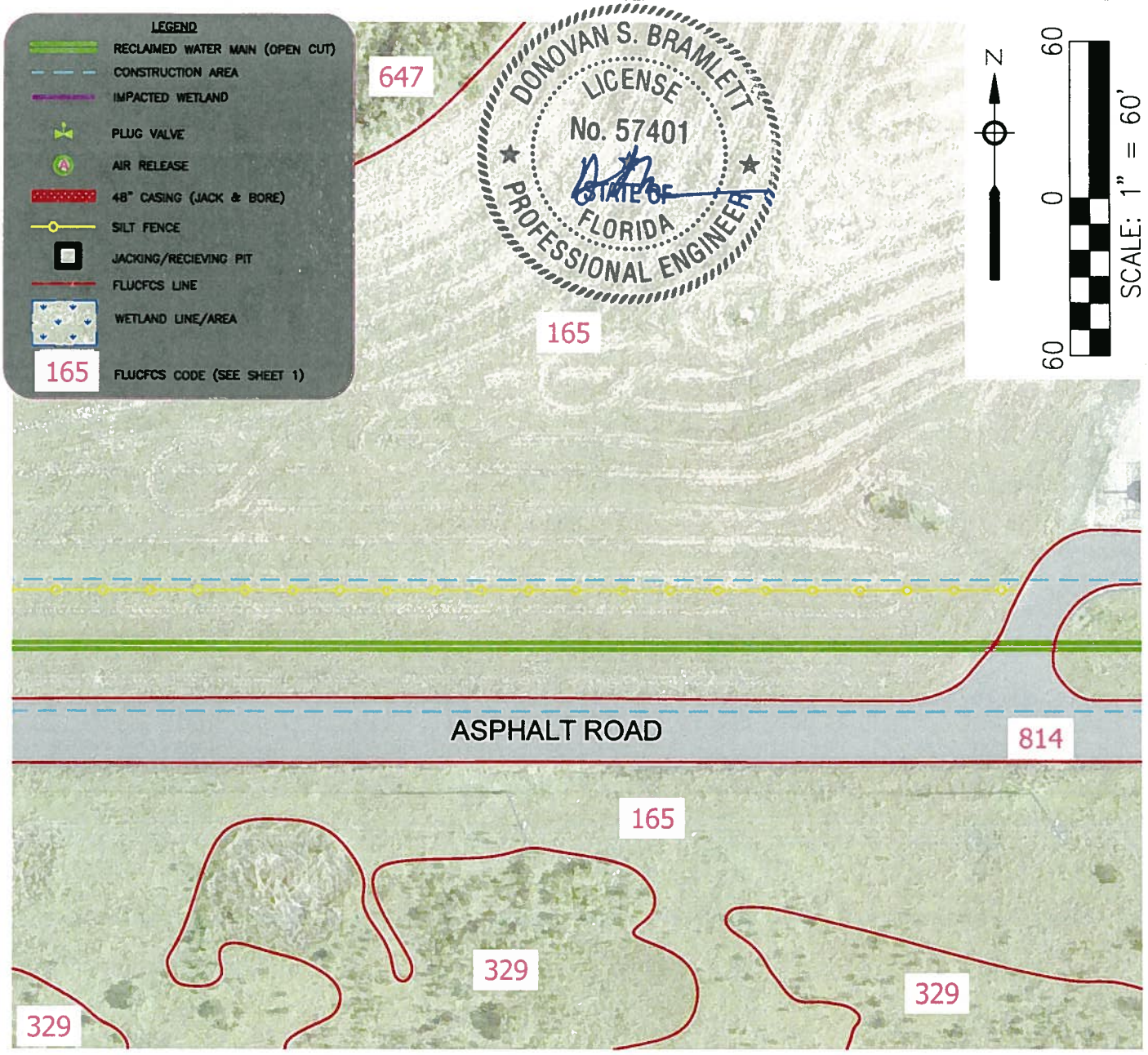
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

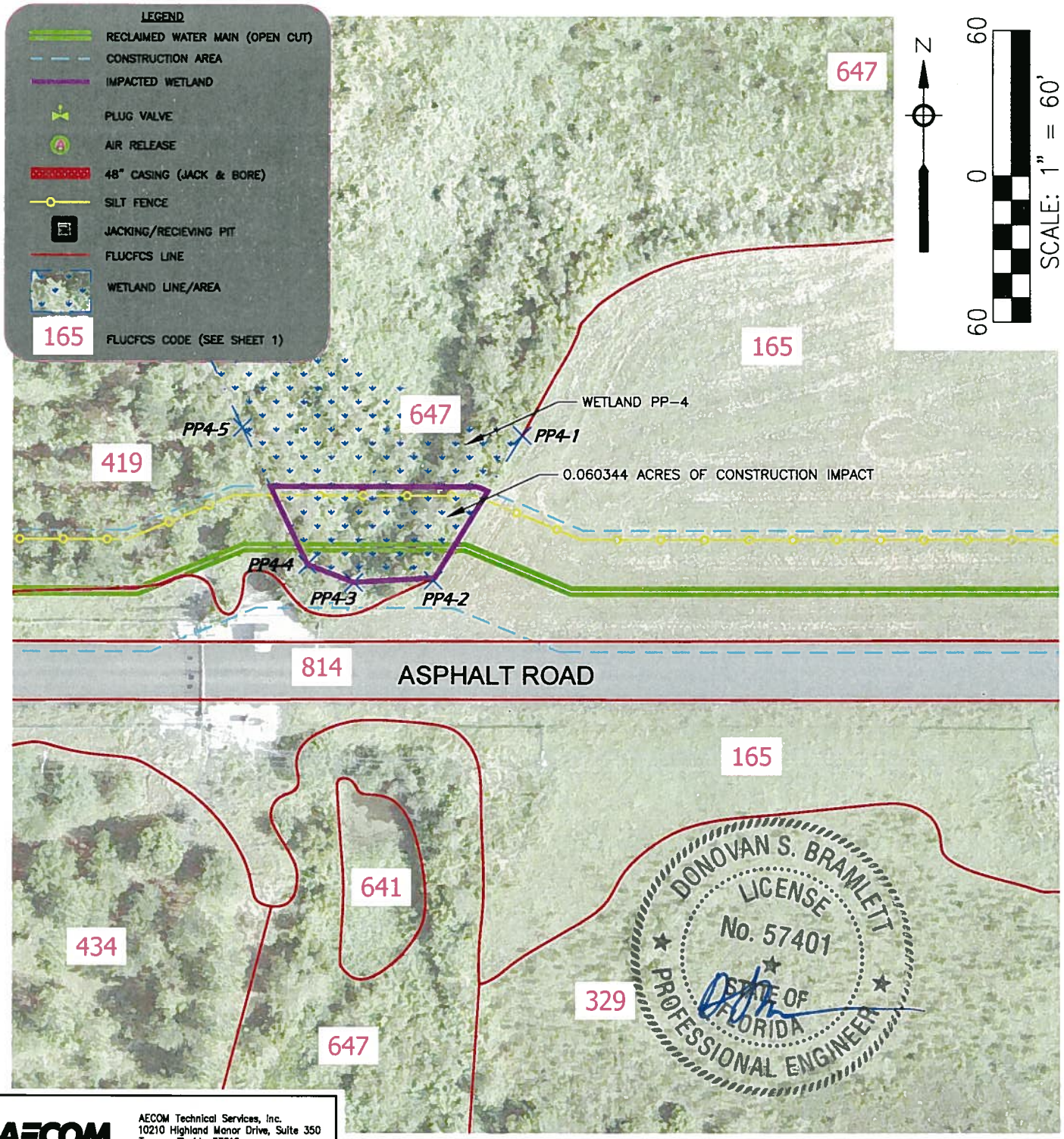
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

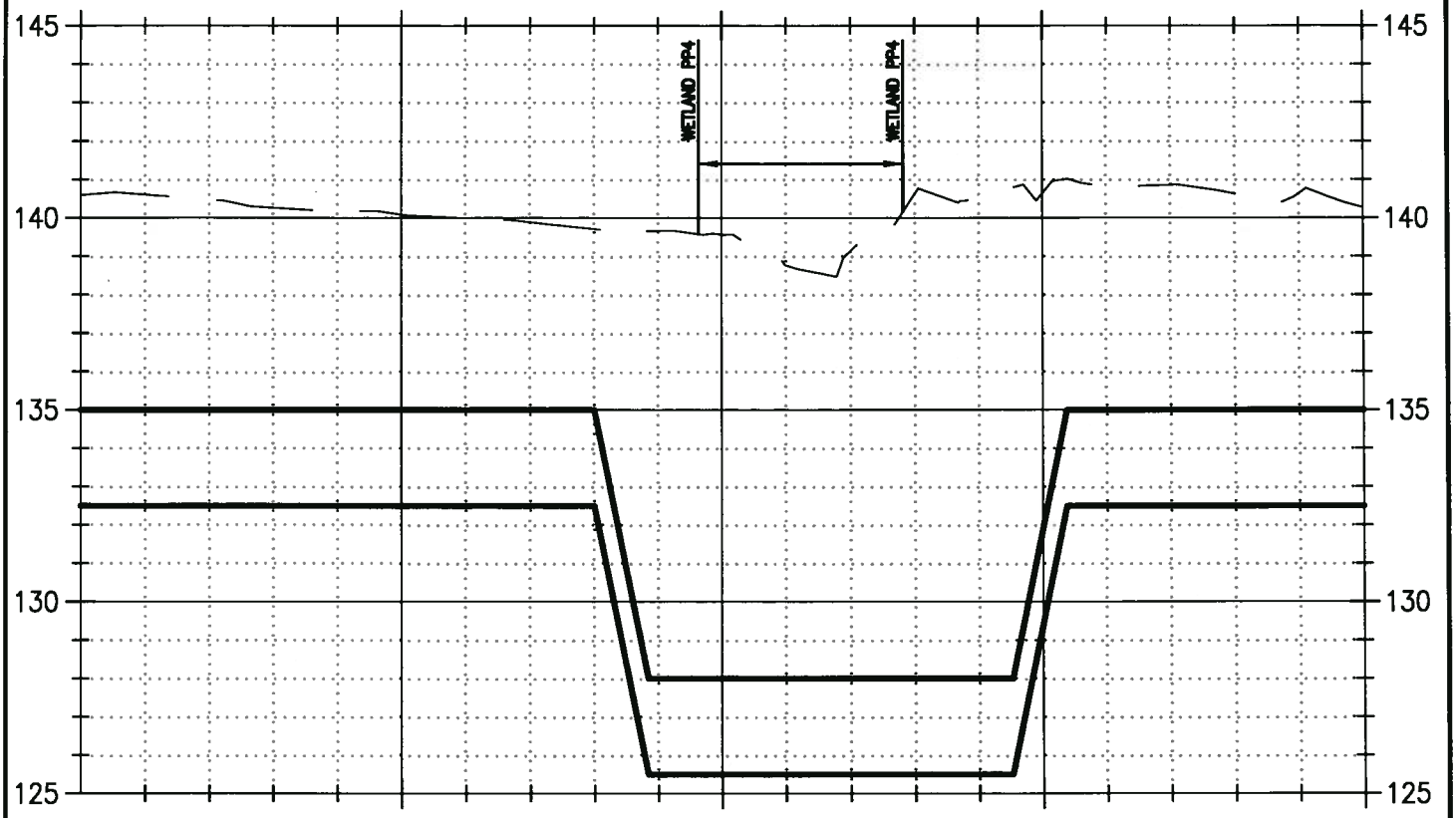
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

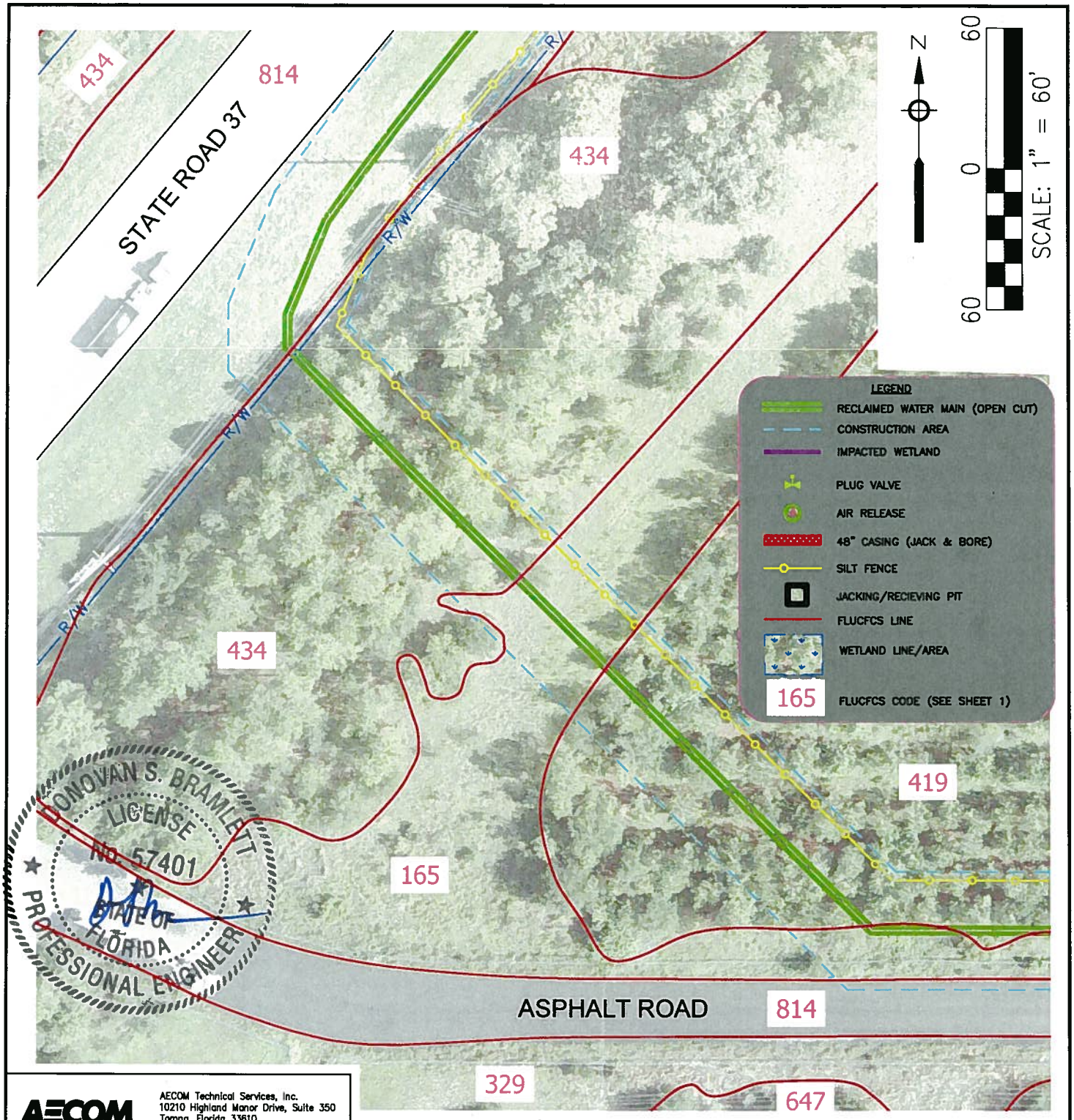
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 28
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 29 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

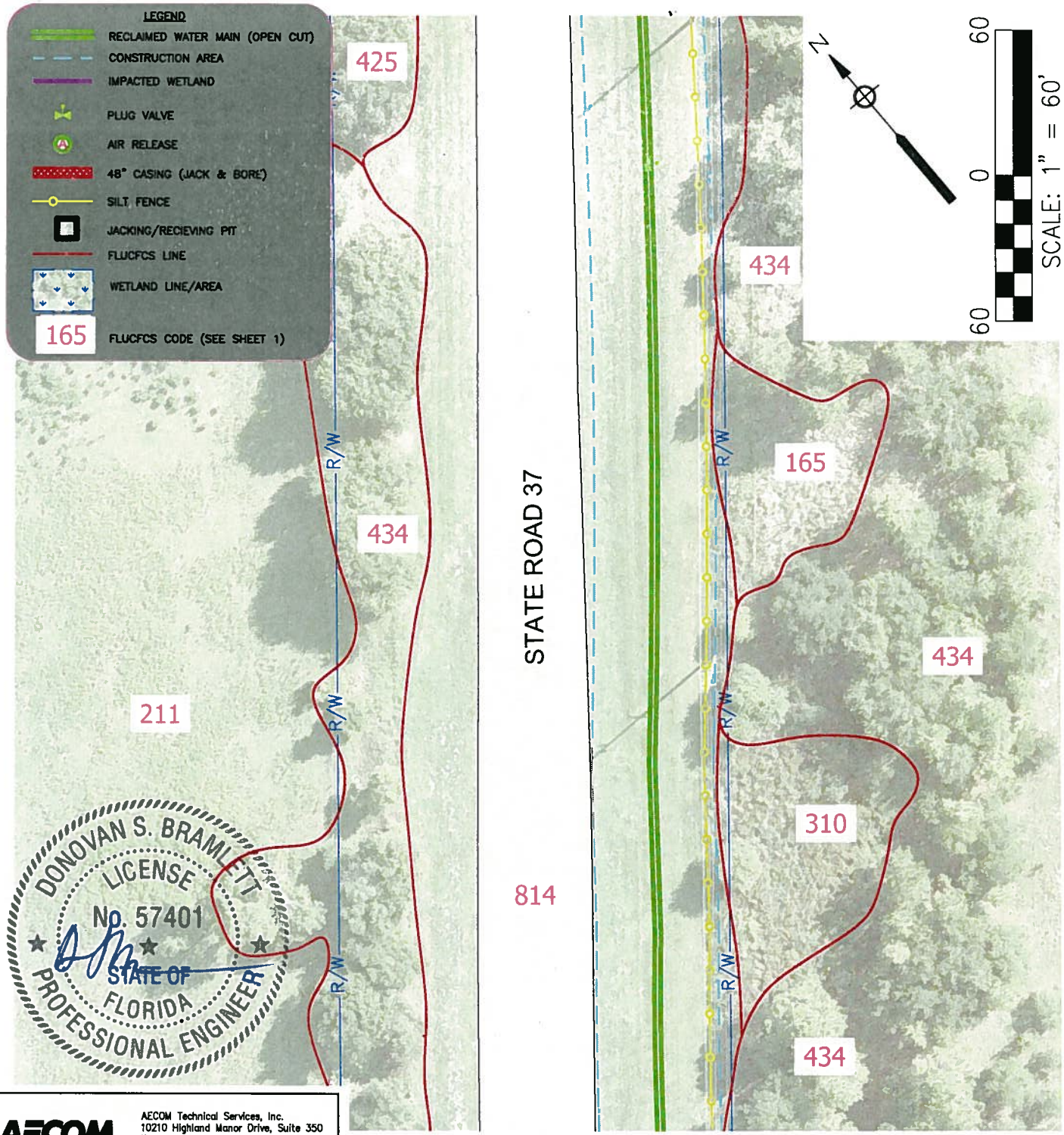
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_24-34.DWG	60218603

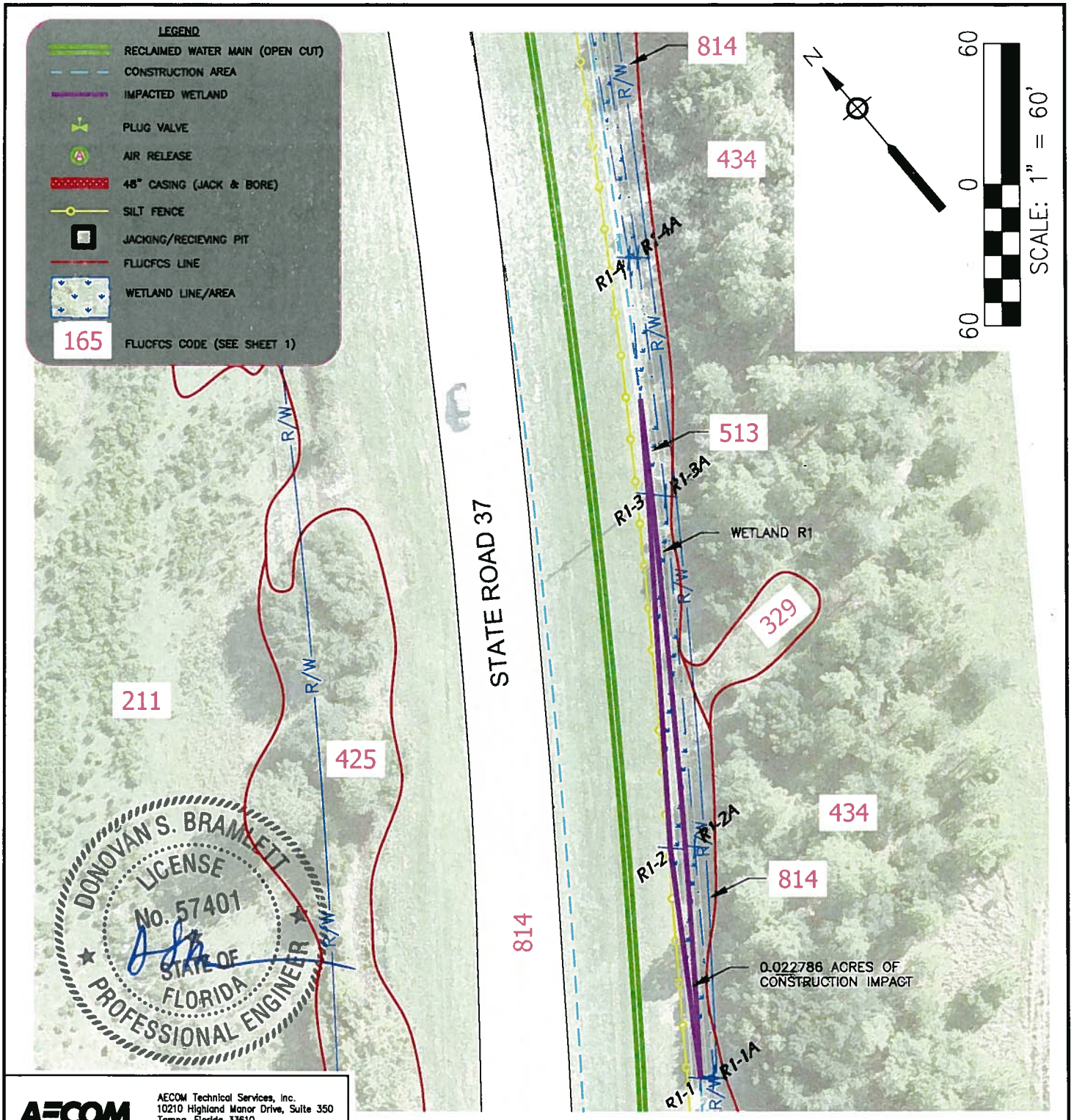
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

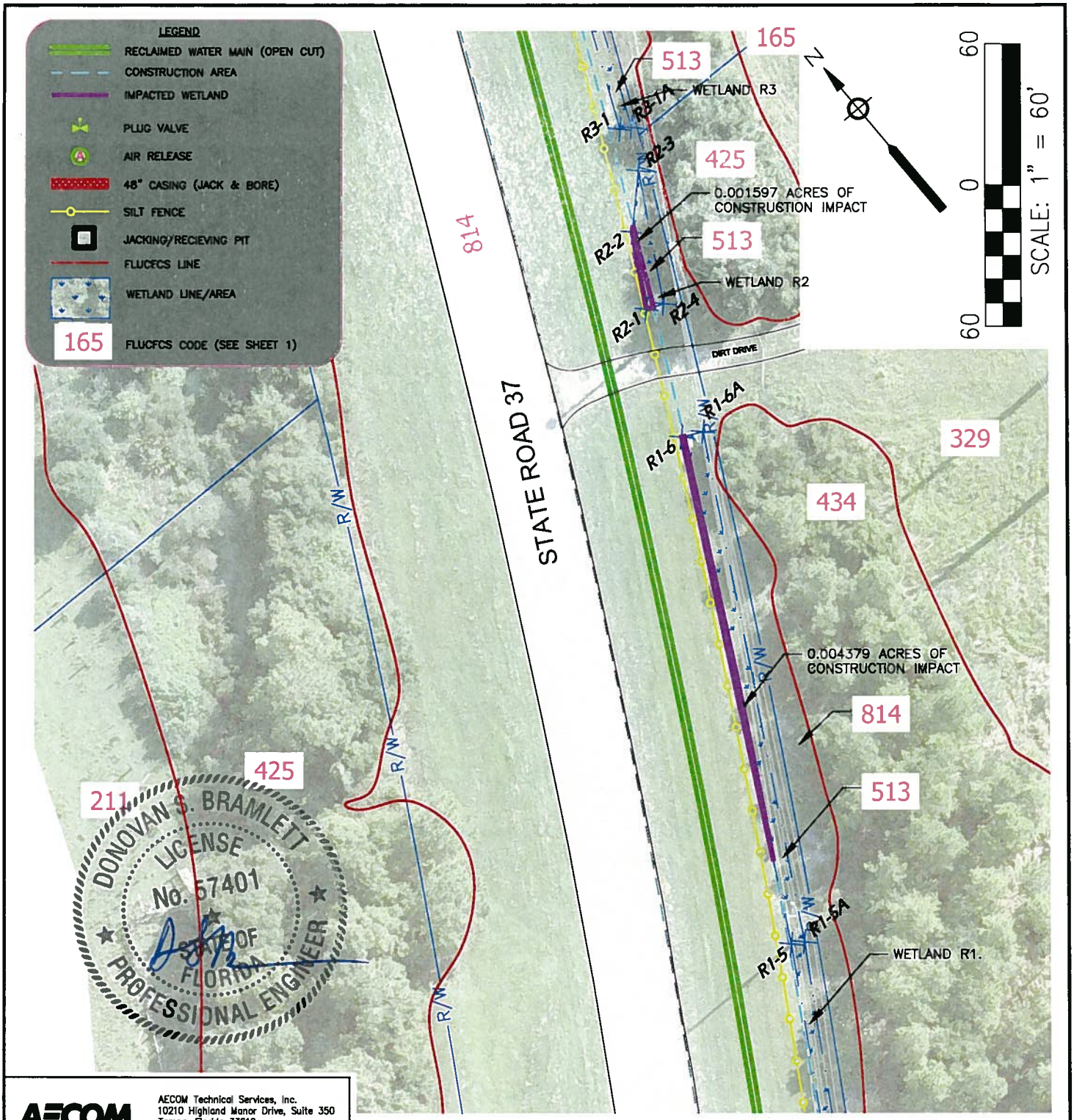
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_24-34.DWG	60218603
FILE NAME	PROJECT NUMBER

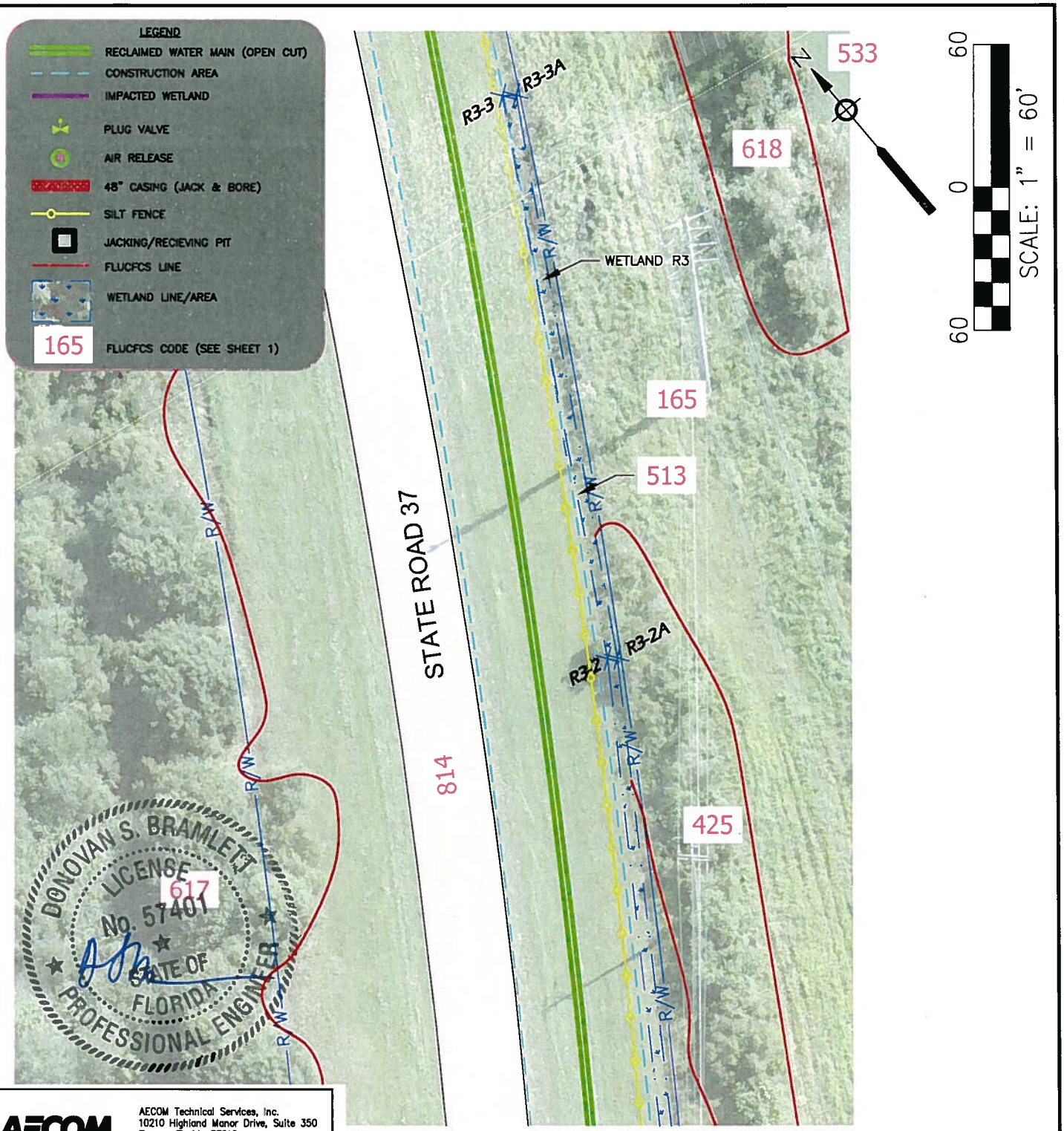
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_24-34.DWG	60218603

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

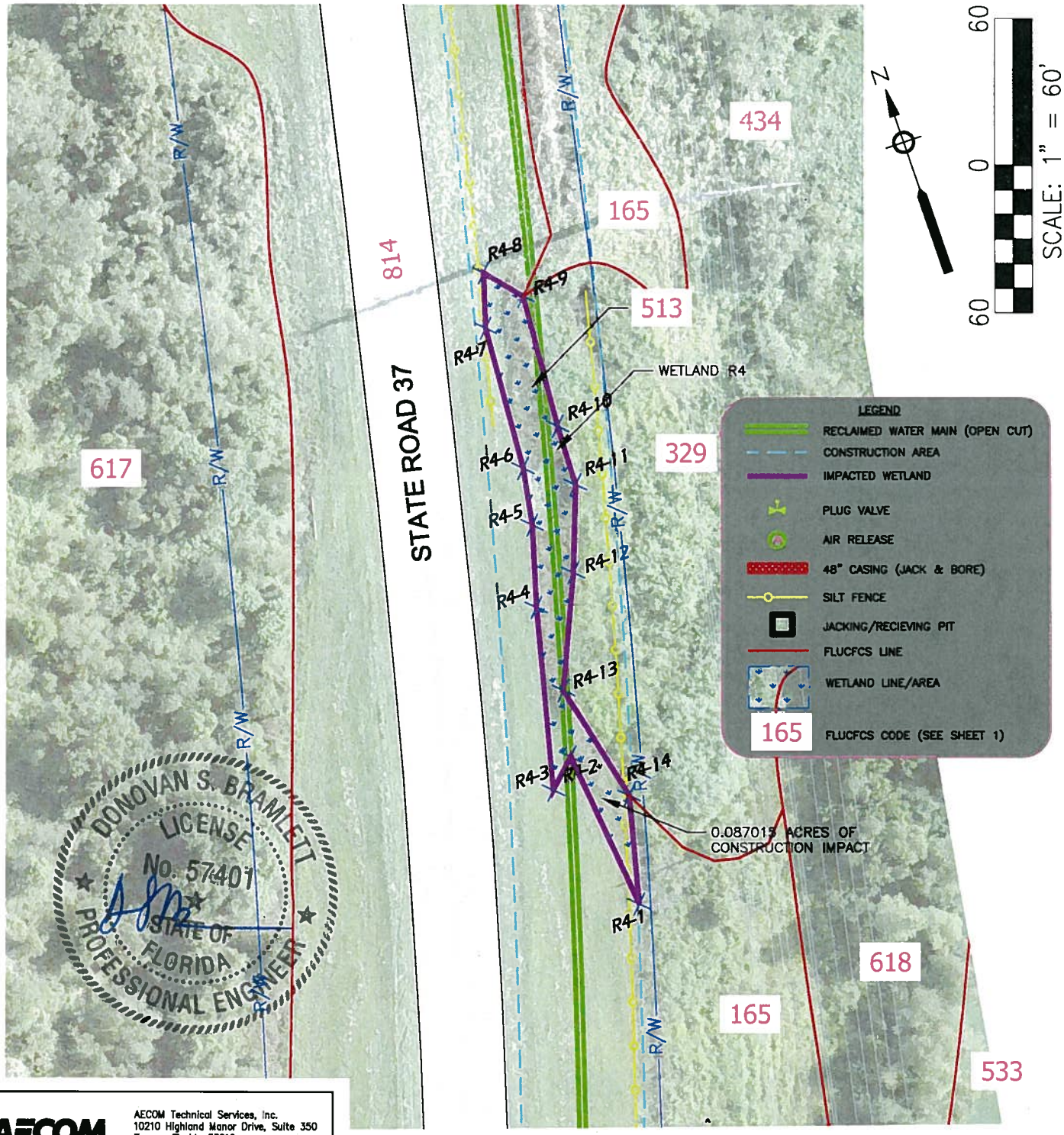
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 34 OF 221 | 0



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

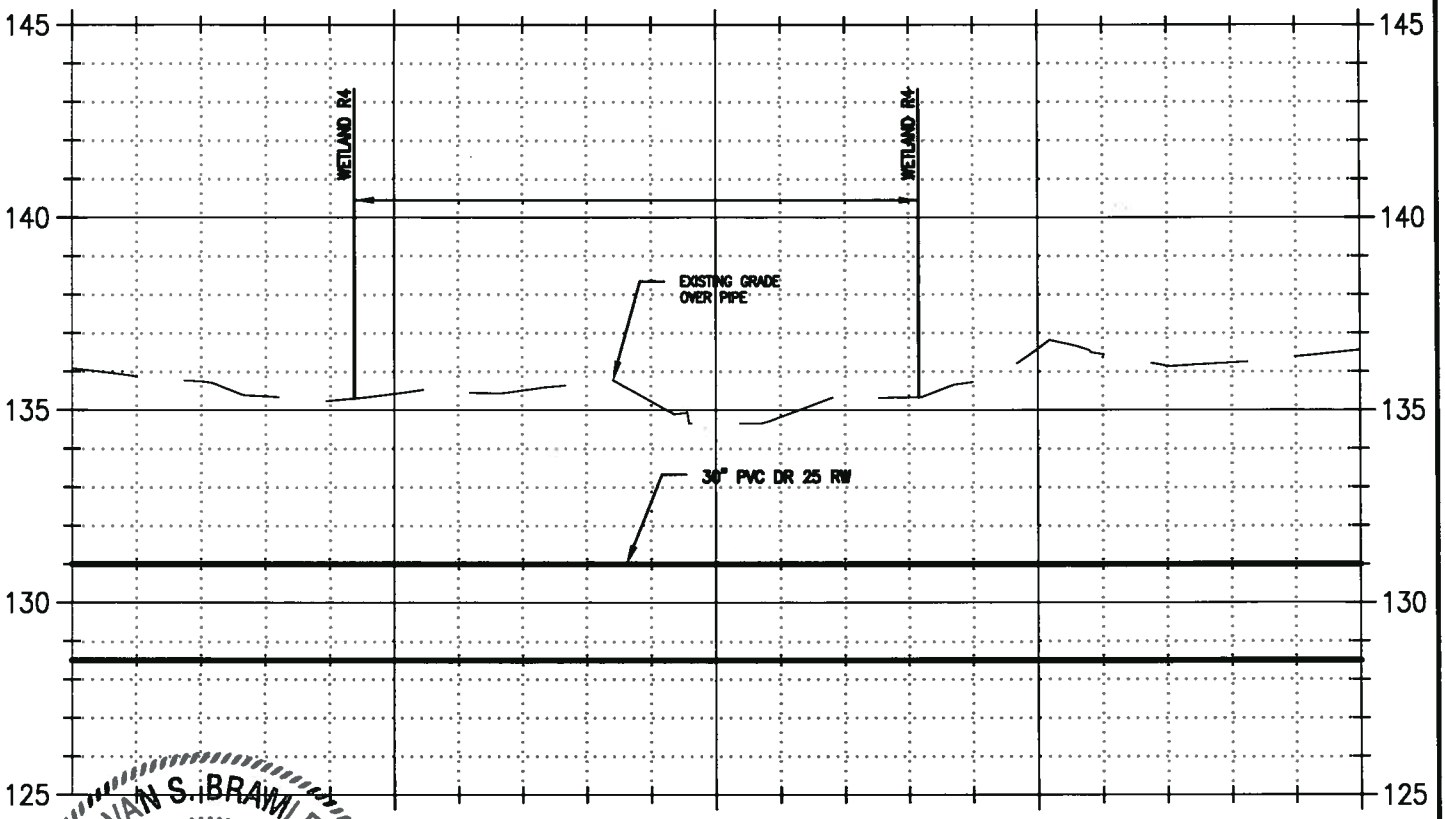
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

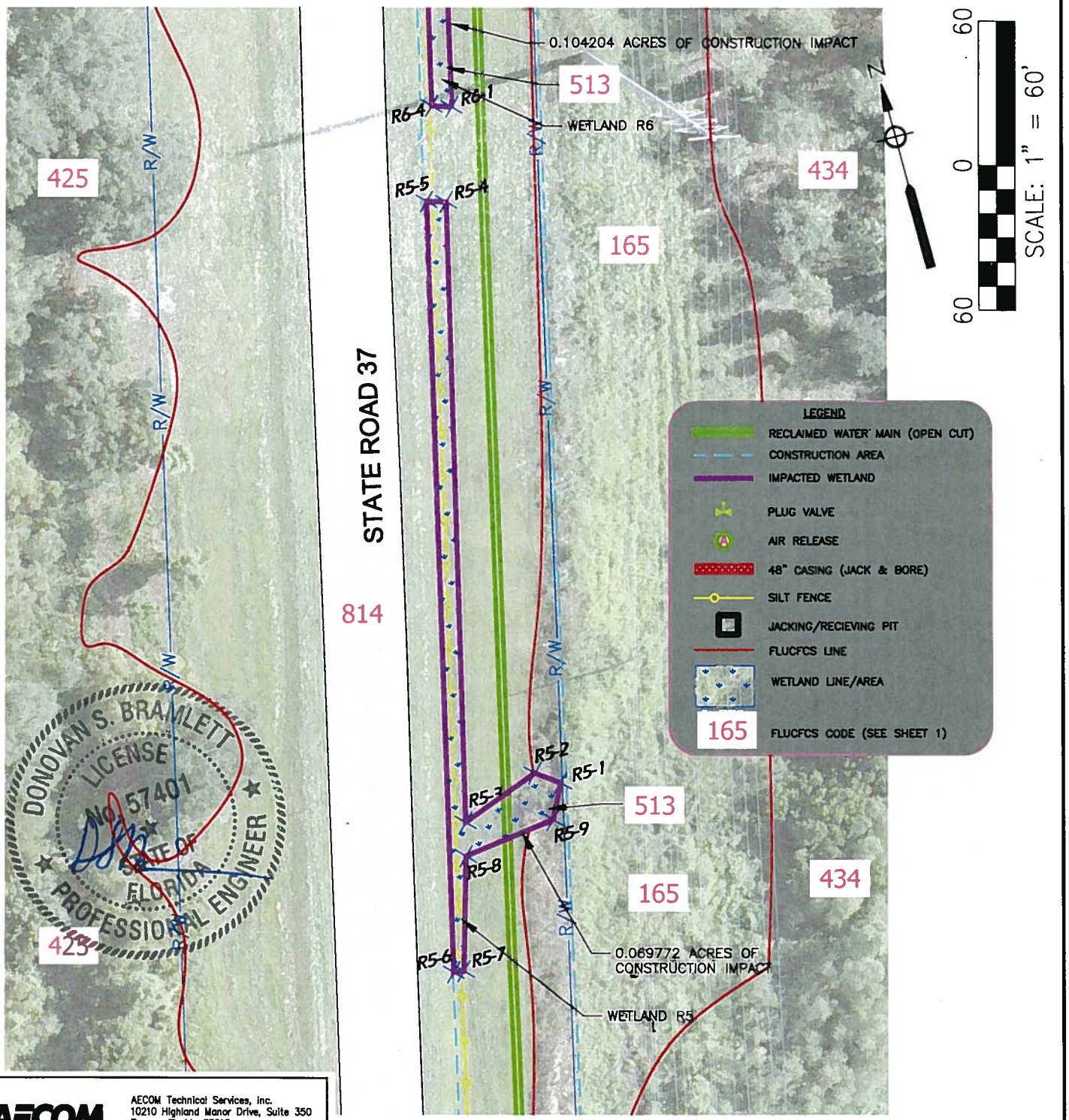
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 35
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

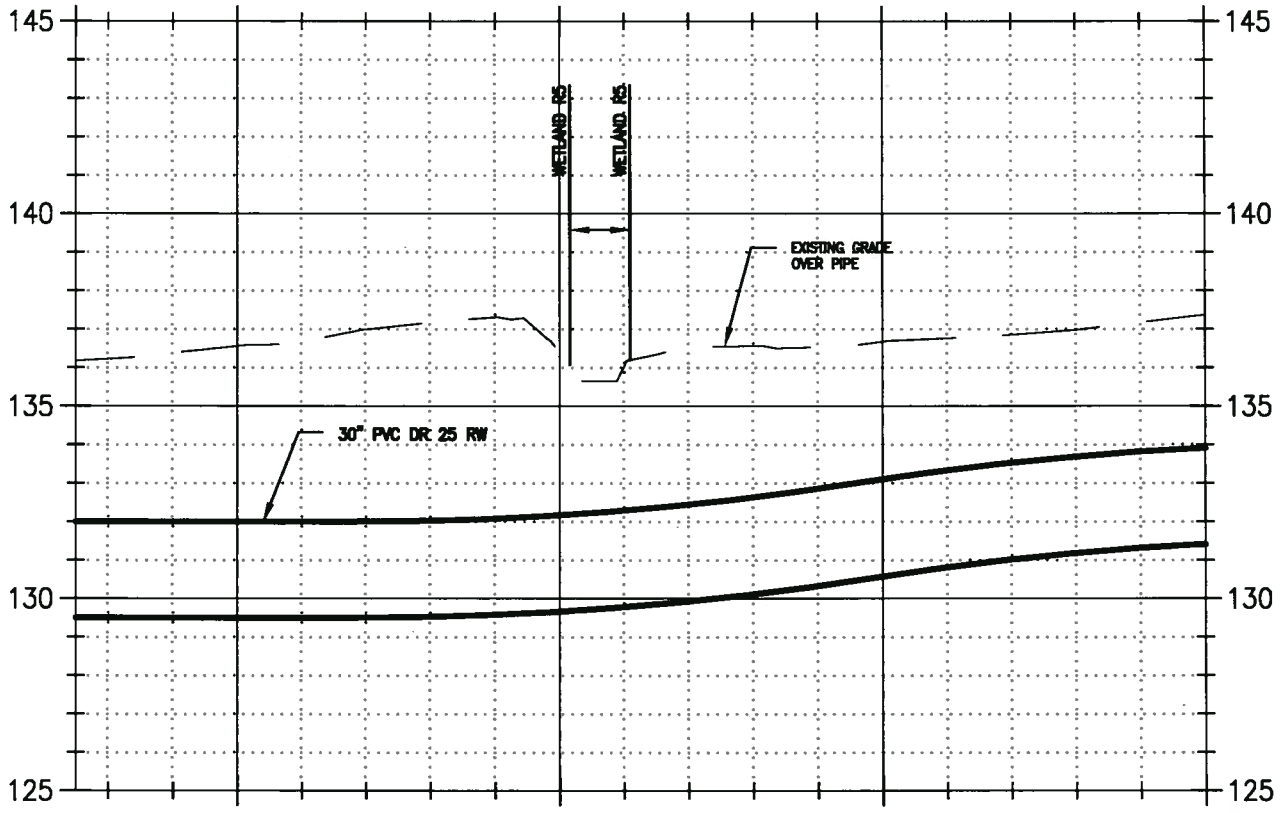
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER



PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

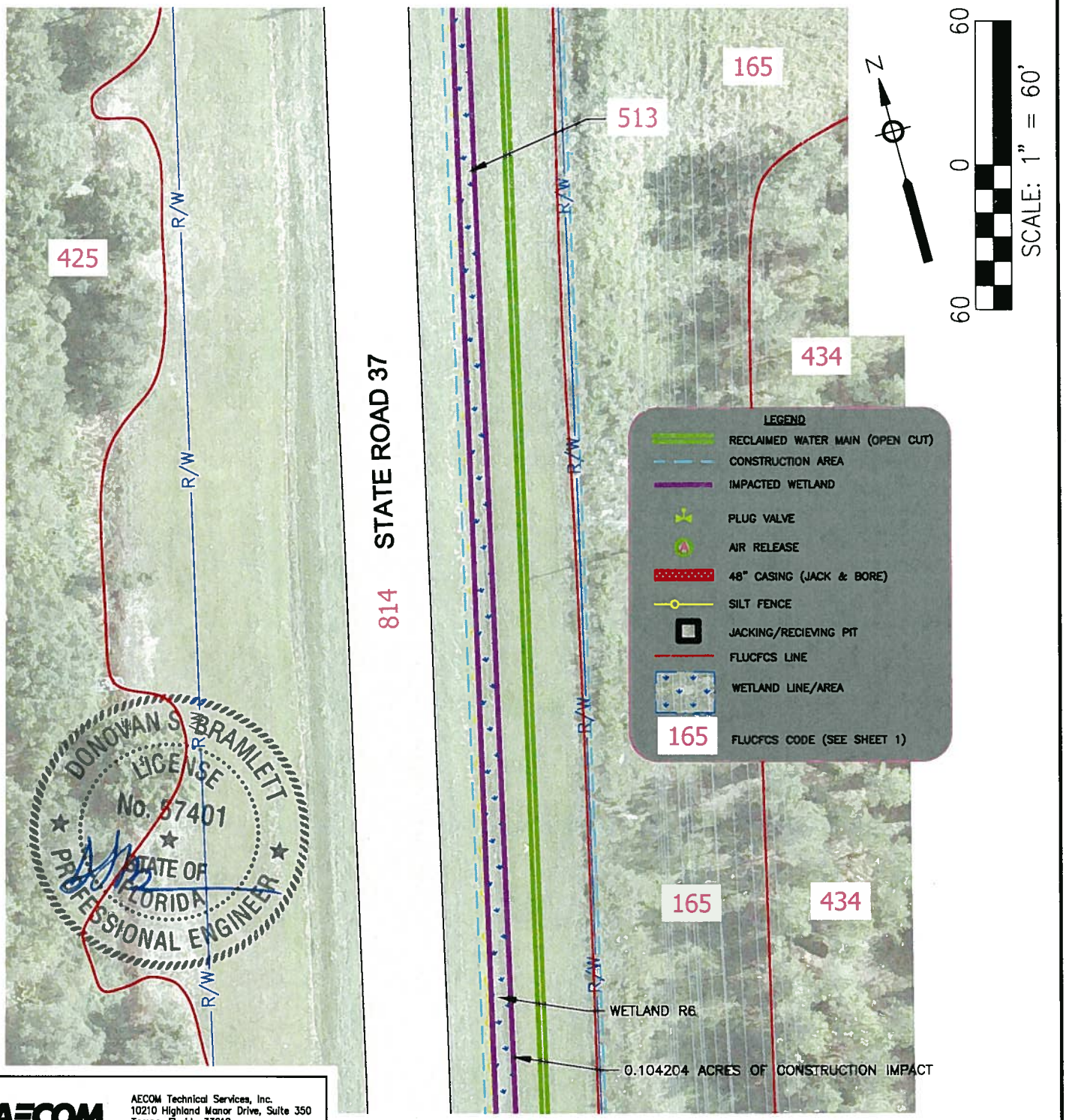
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 37
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

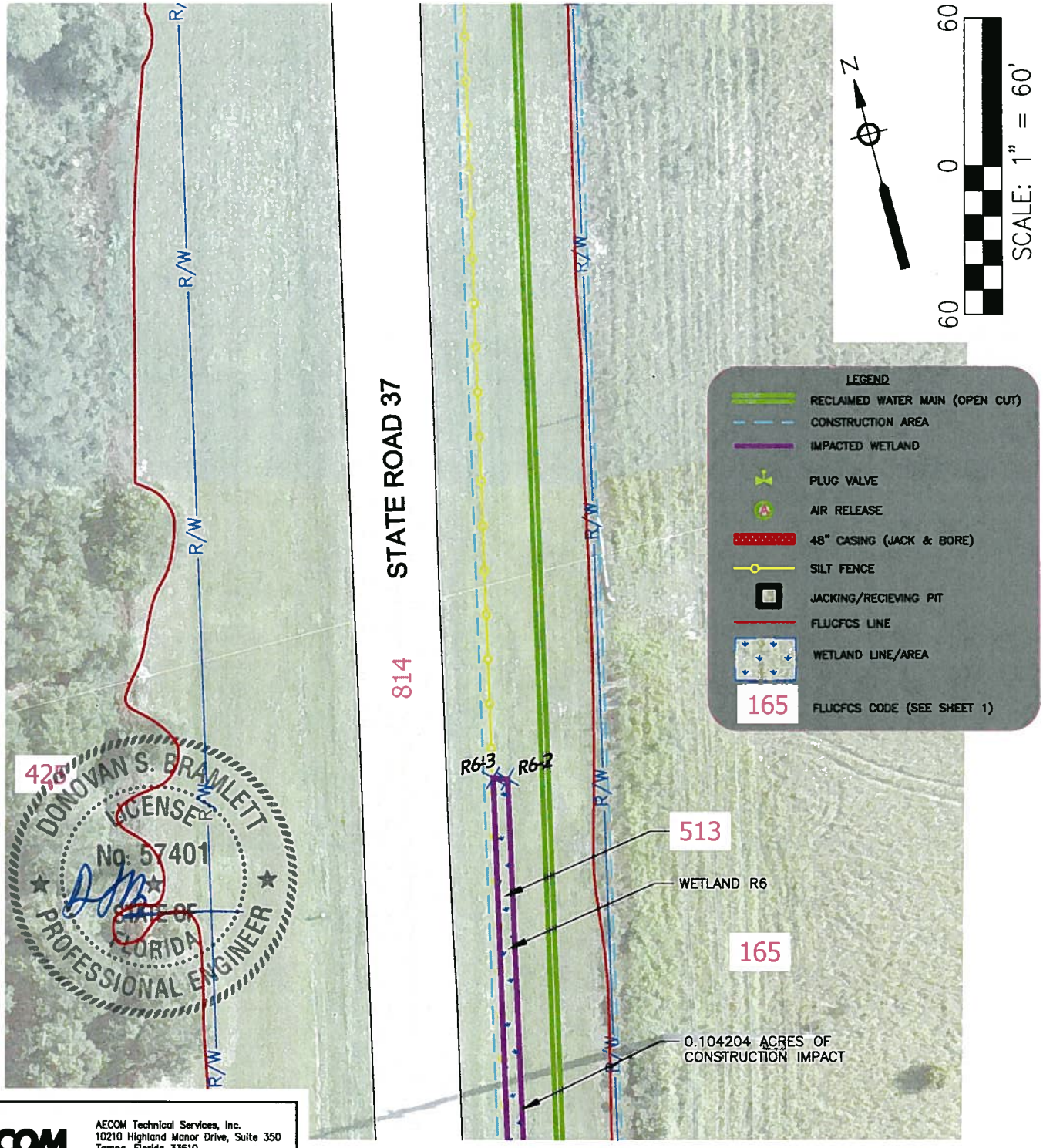
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_35-48.DWG	60218603

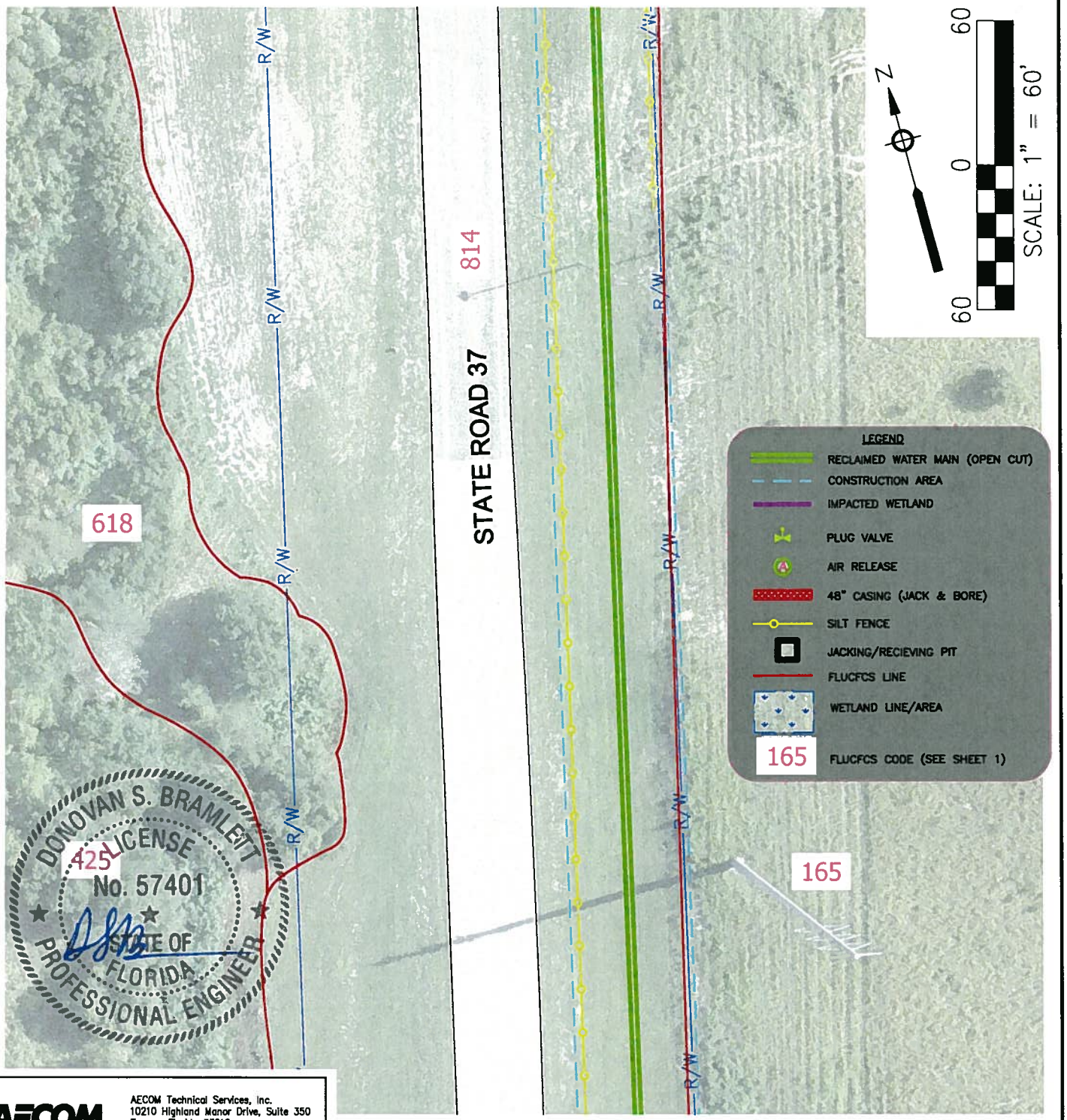
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

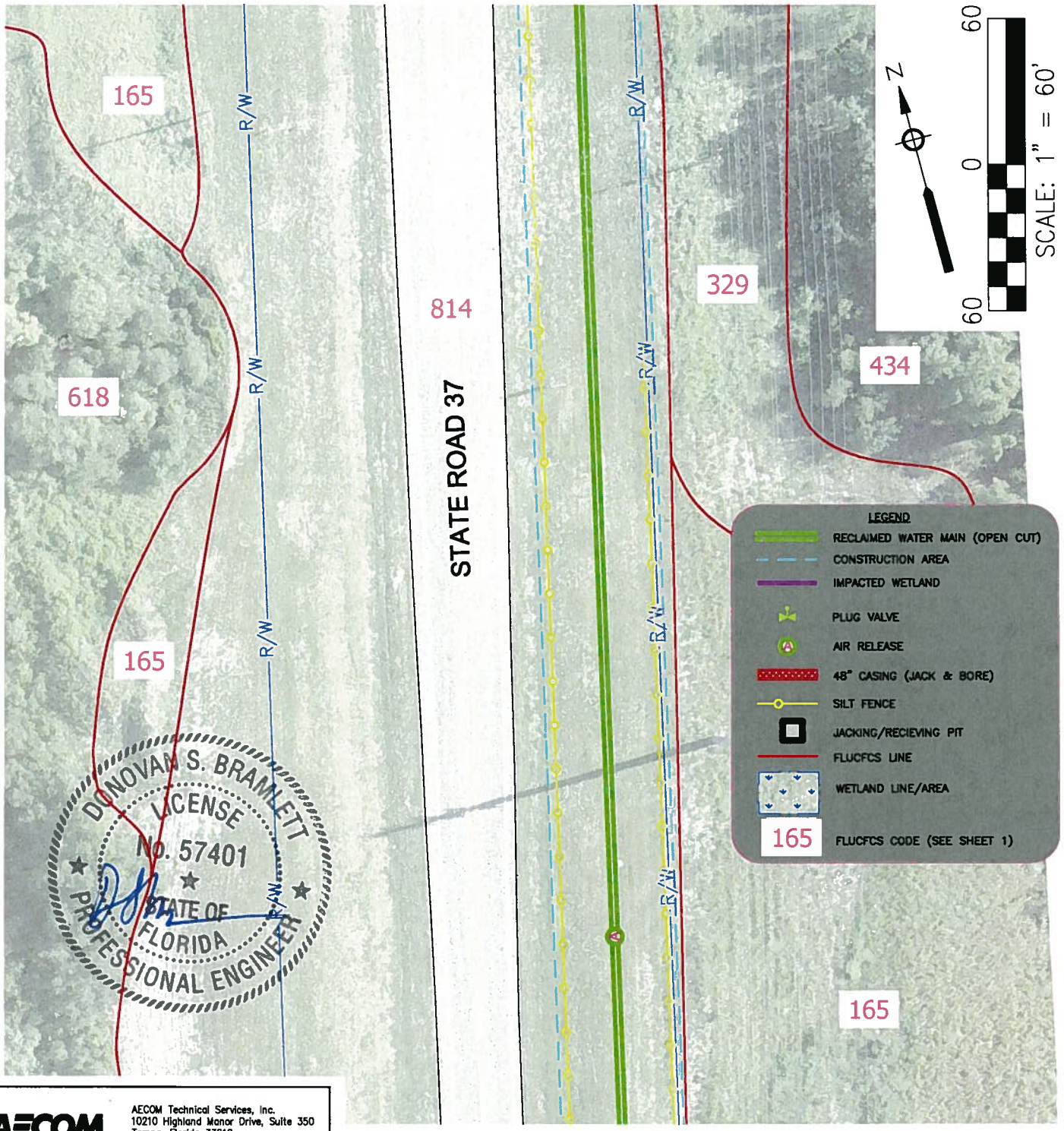
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

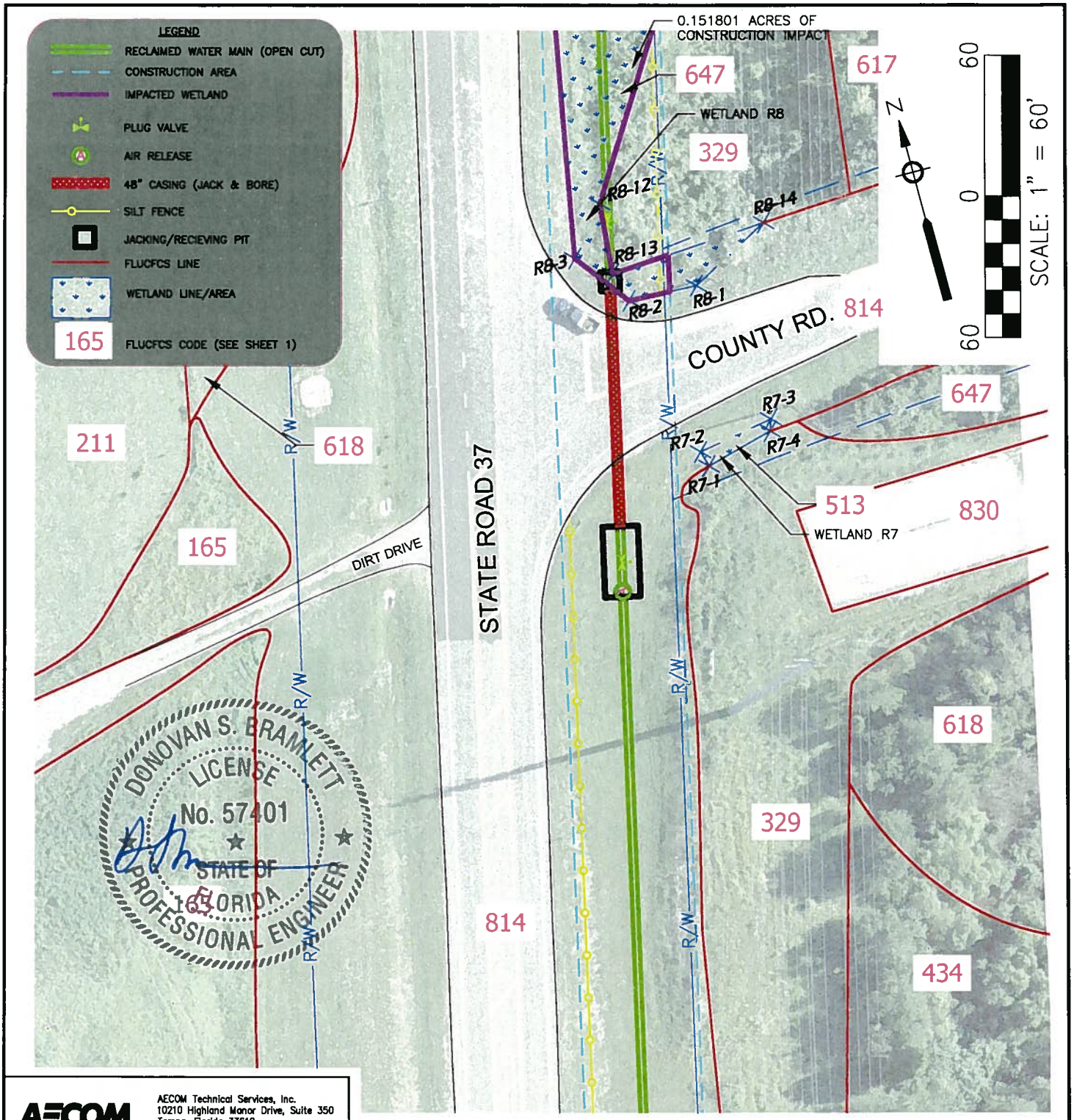
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

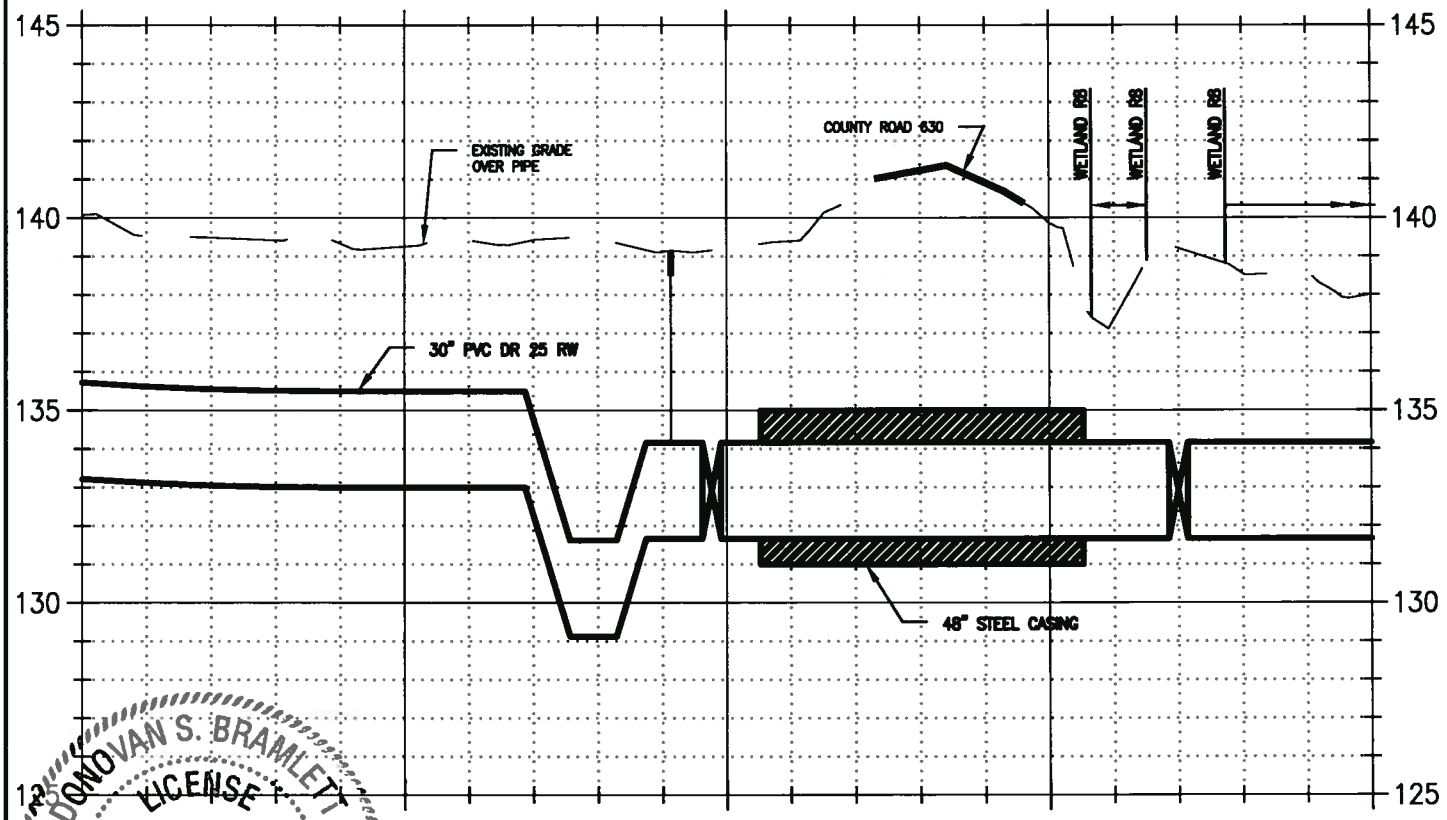
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

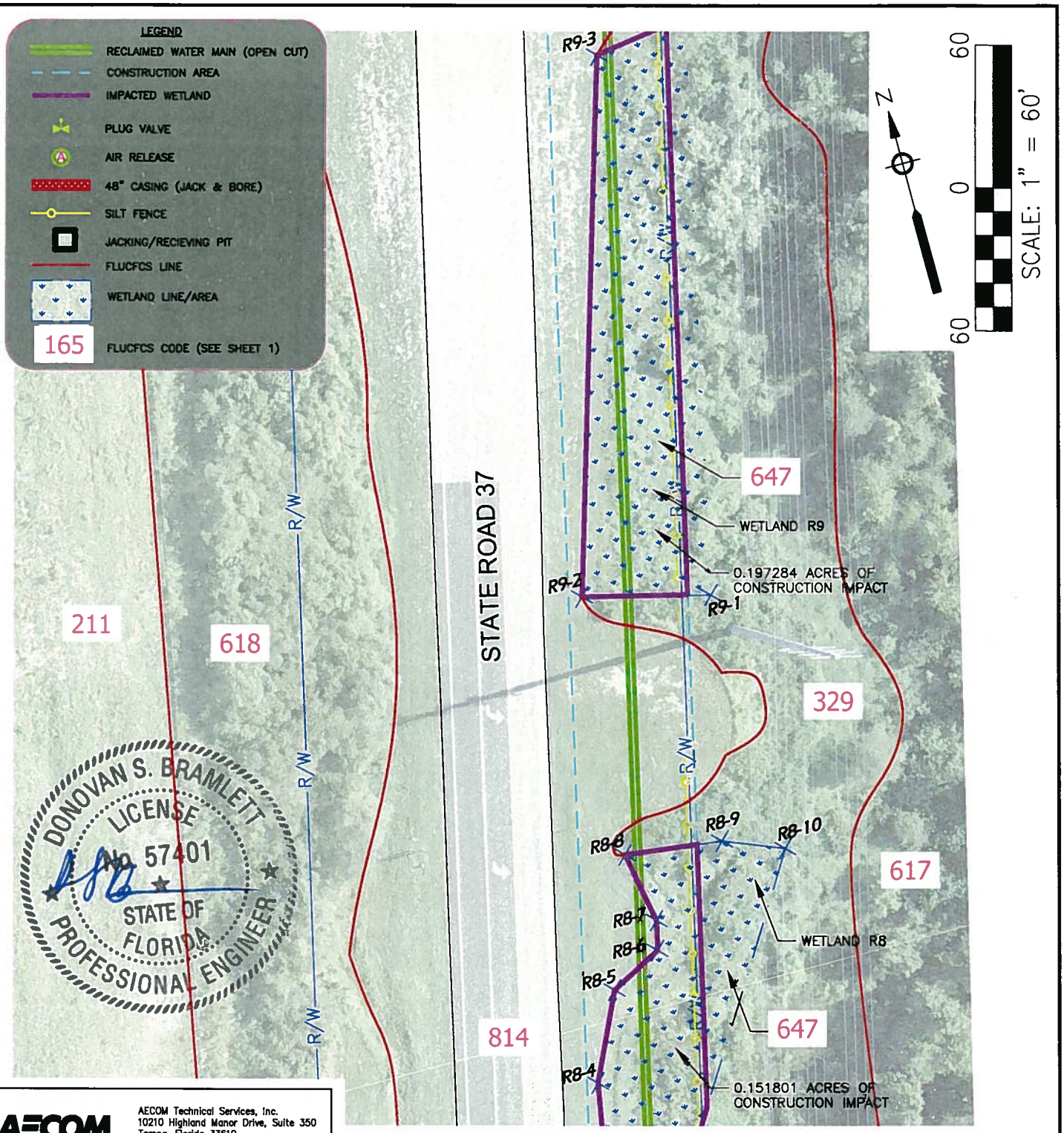
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 43
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

BY:		DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 45 OF 221 | 0



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

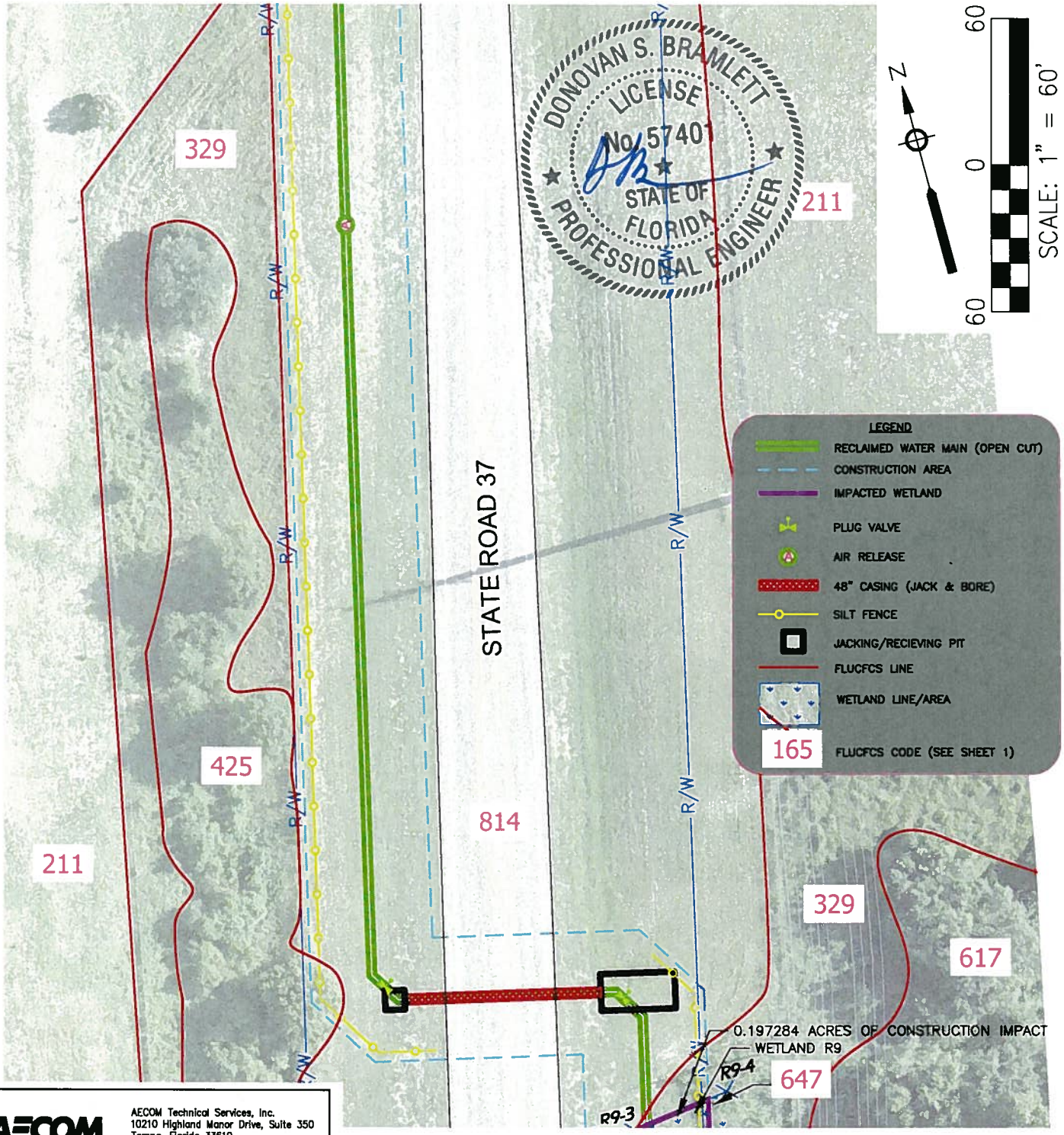
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 45
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

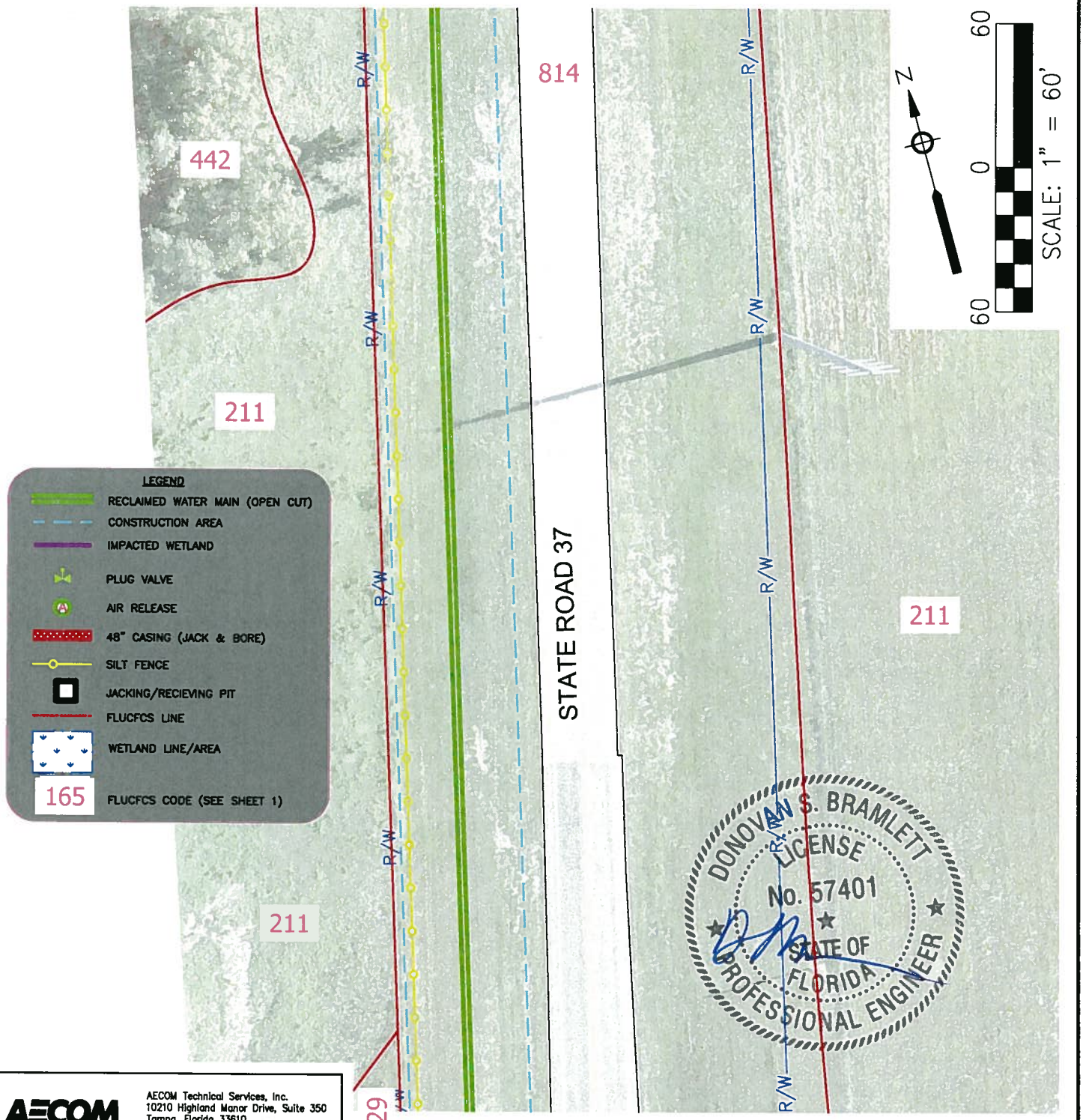
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_35-48.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

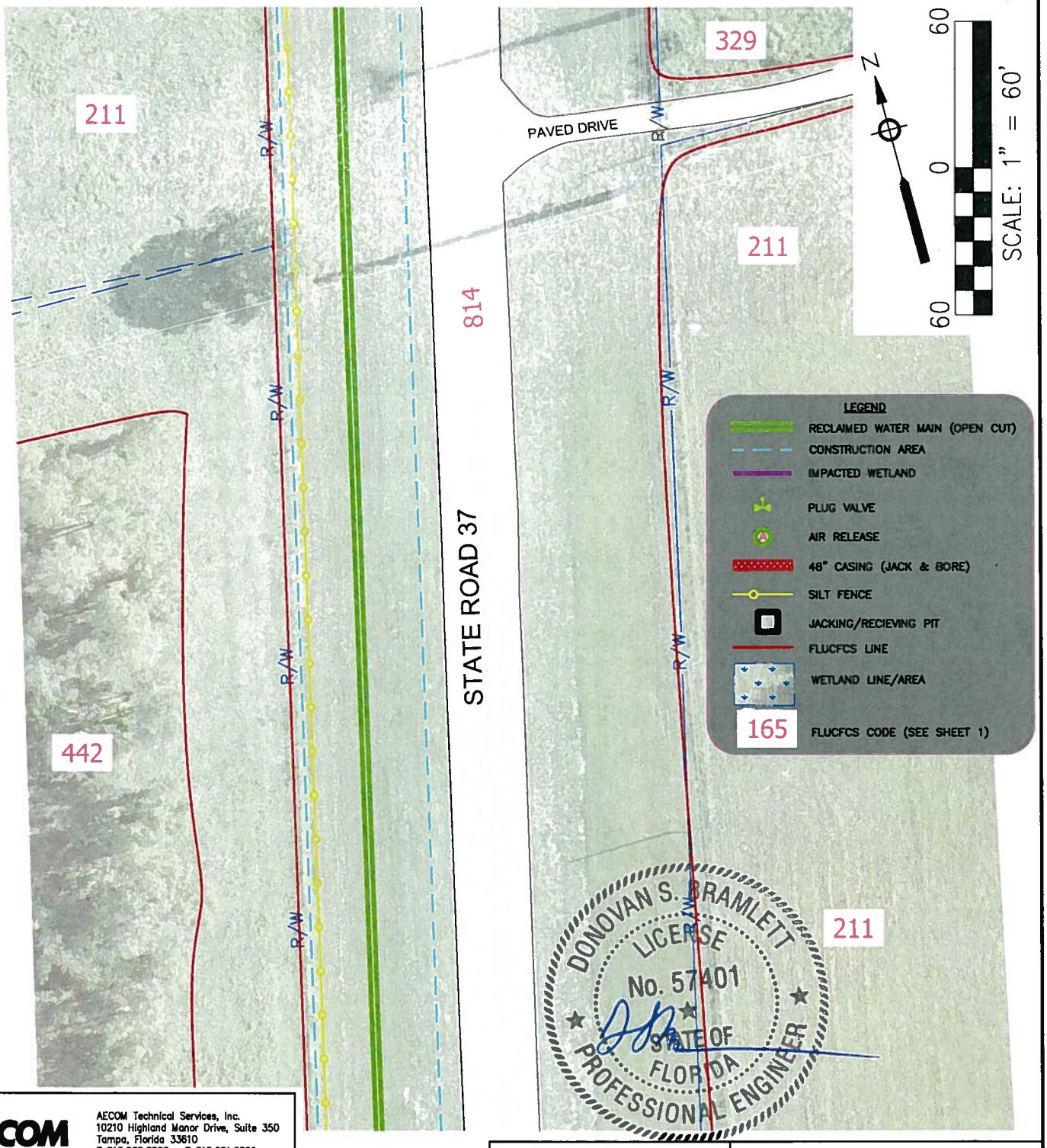
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_49-59.DWG	60218603

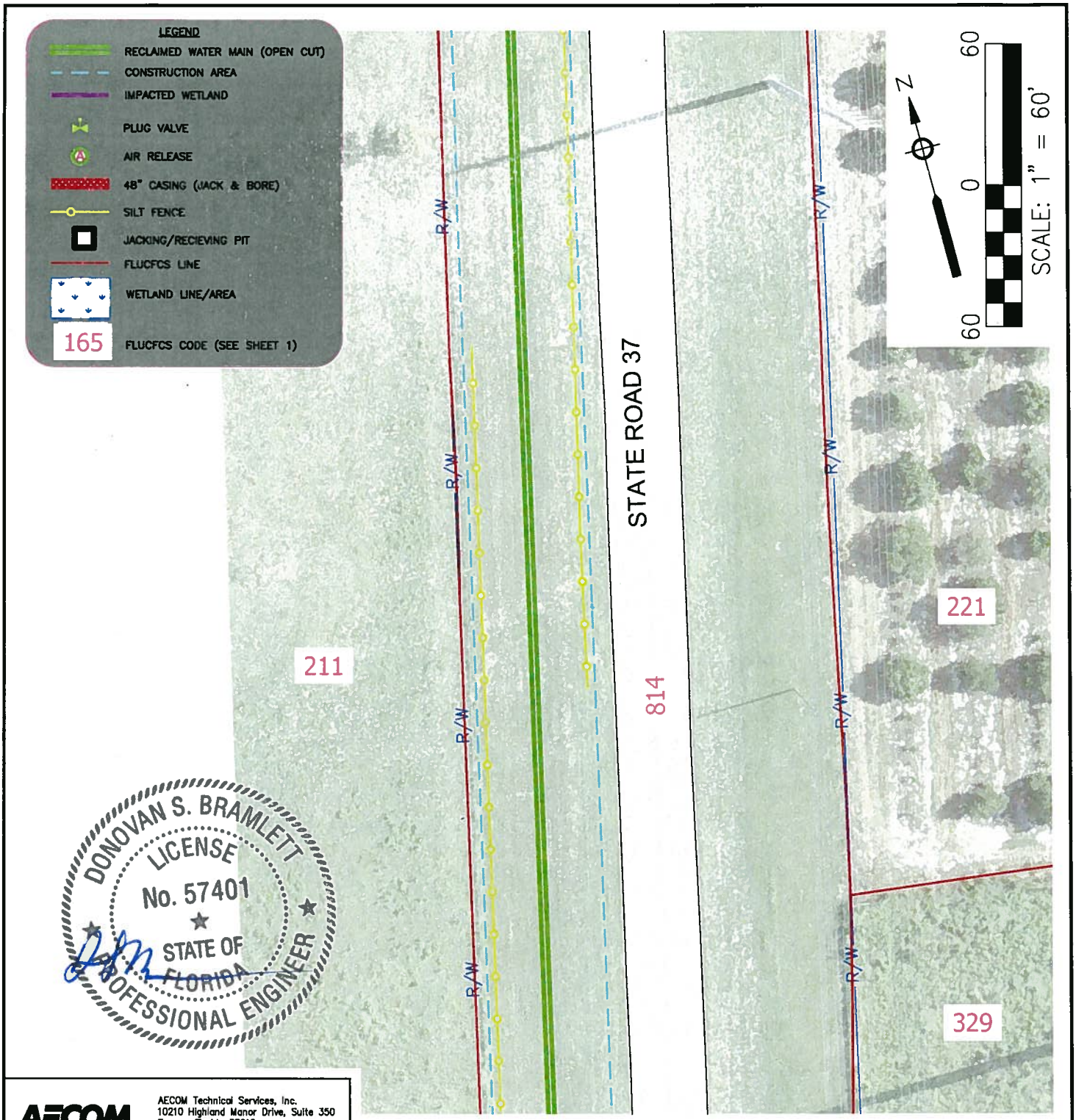
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

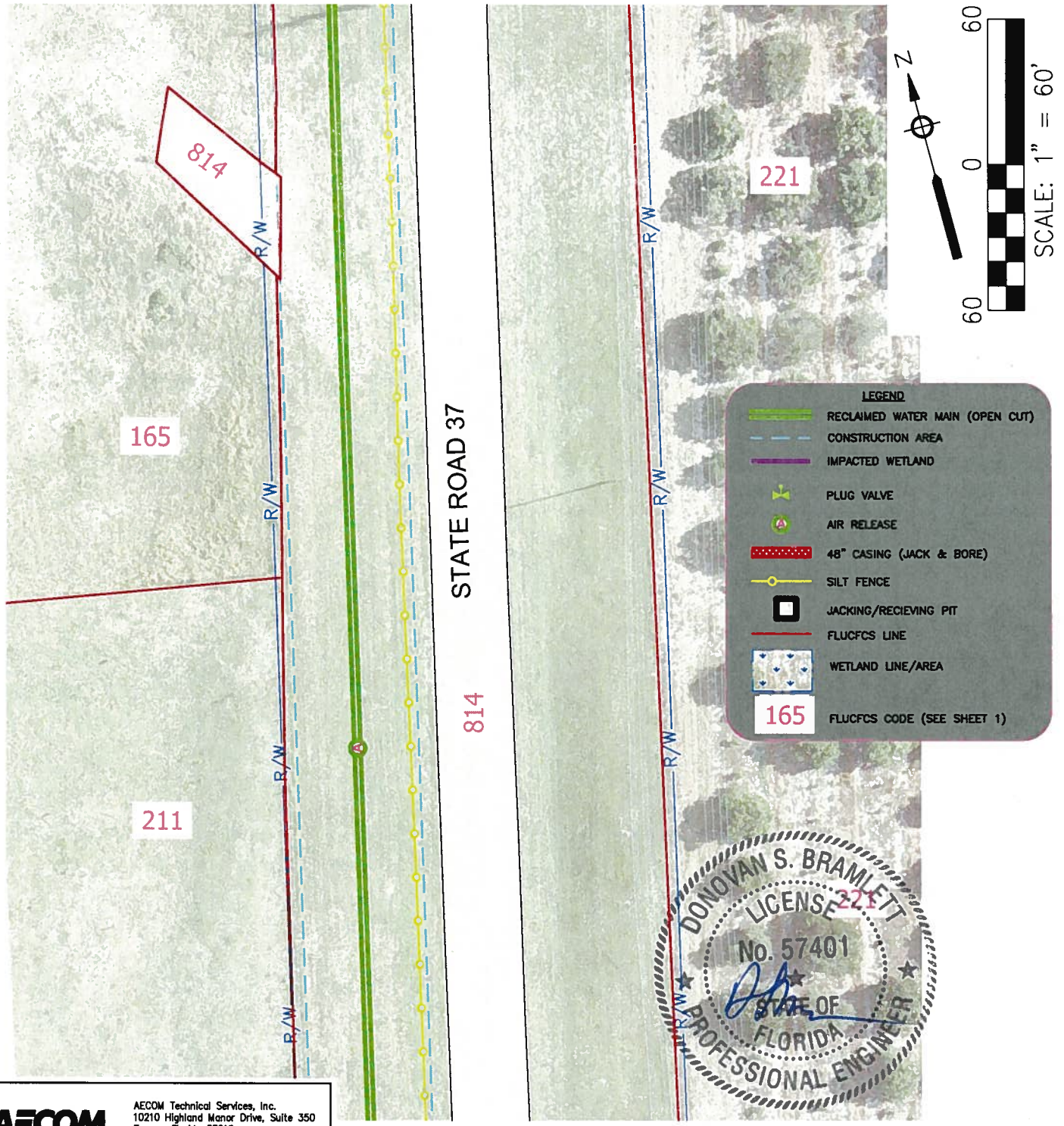
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

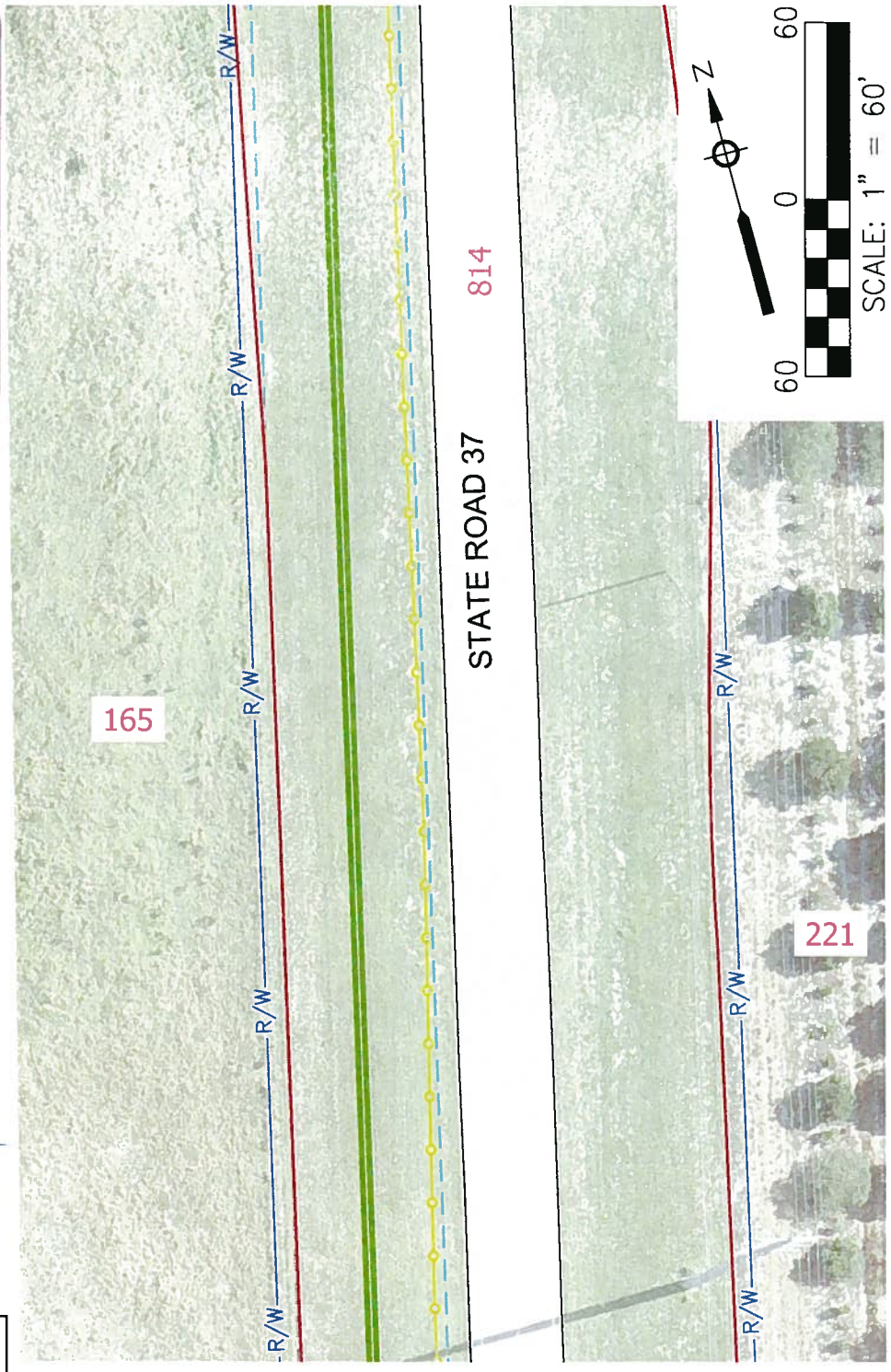
TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

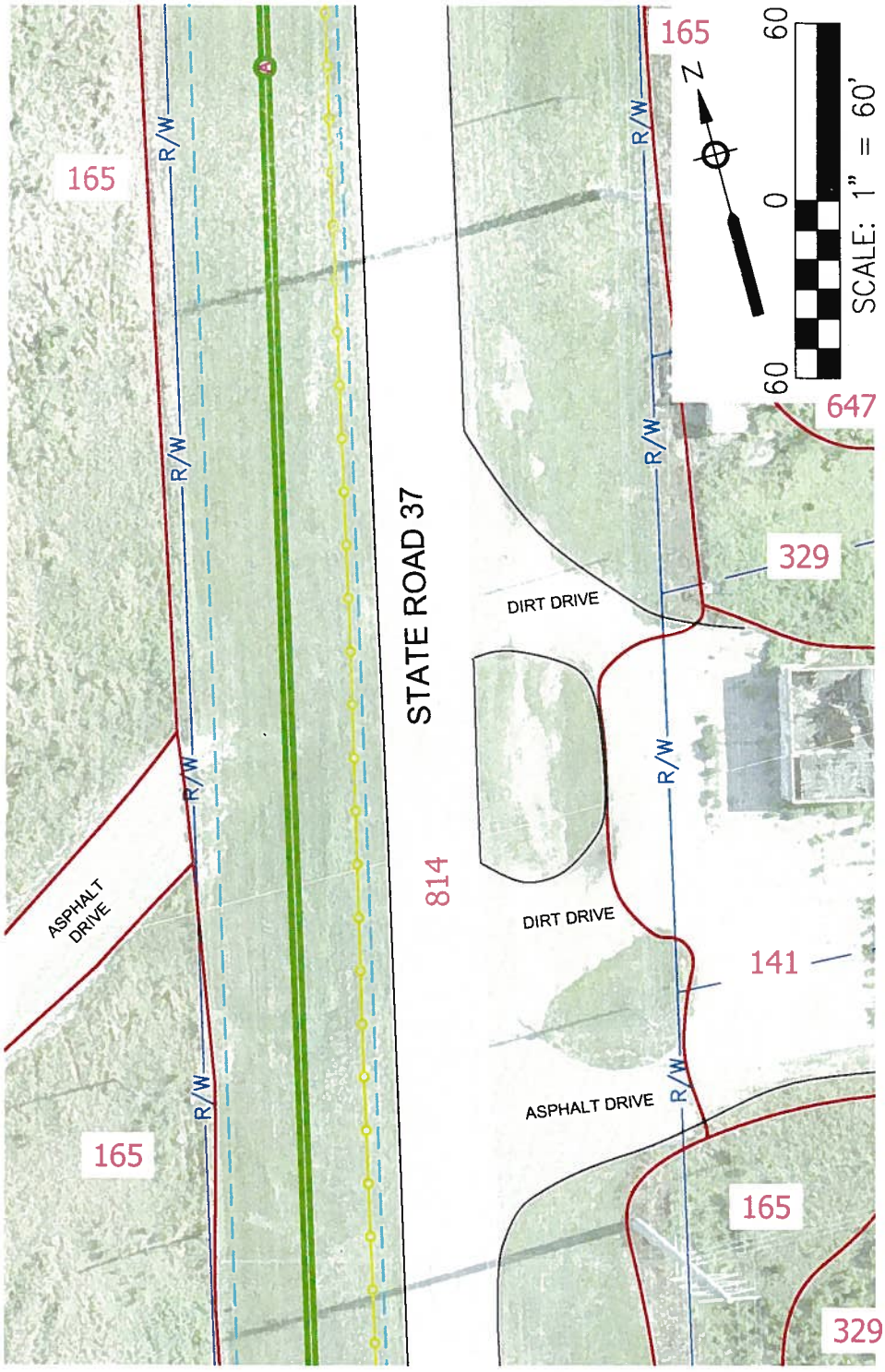
TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

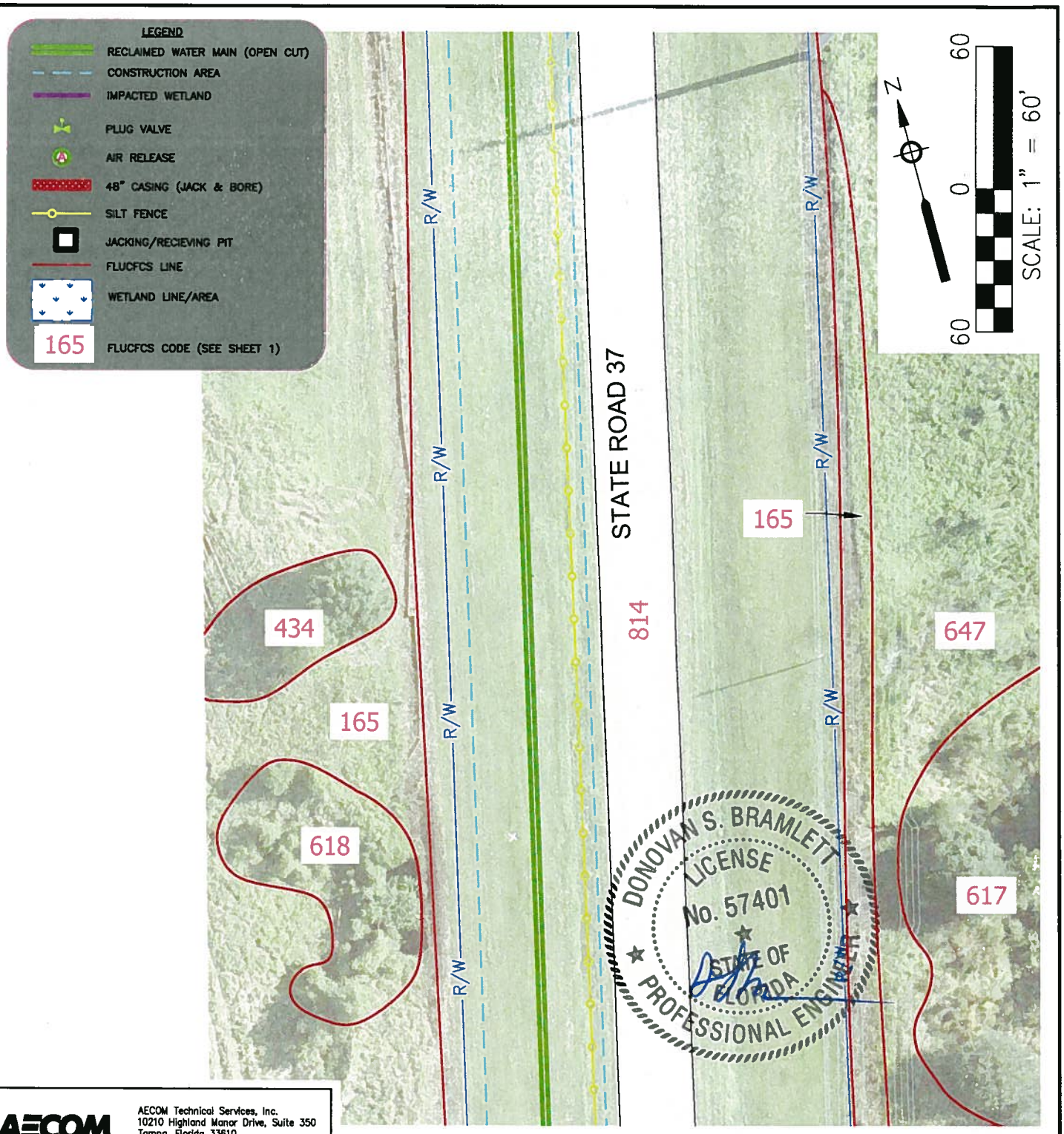
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

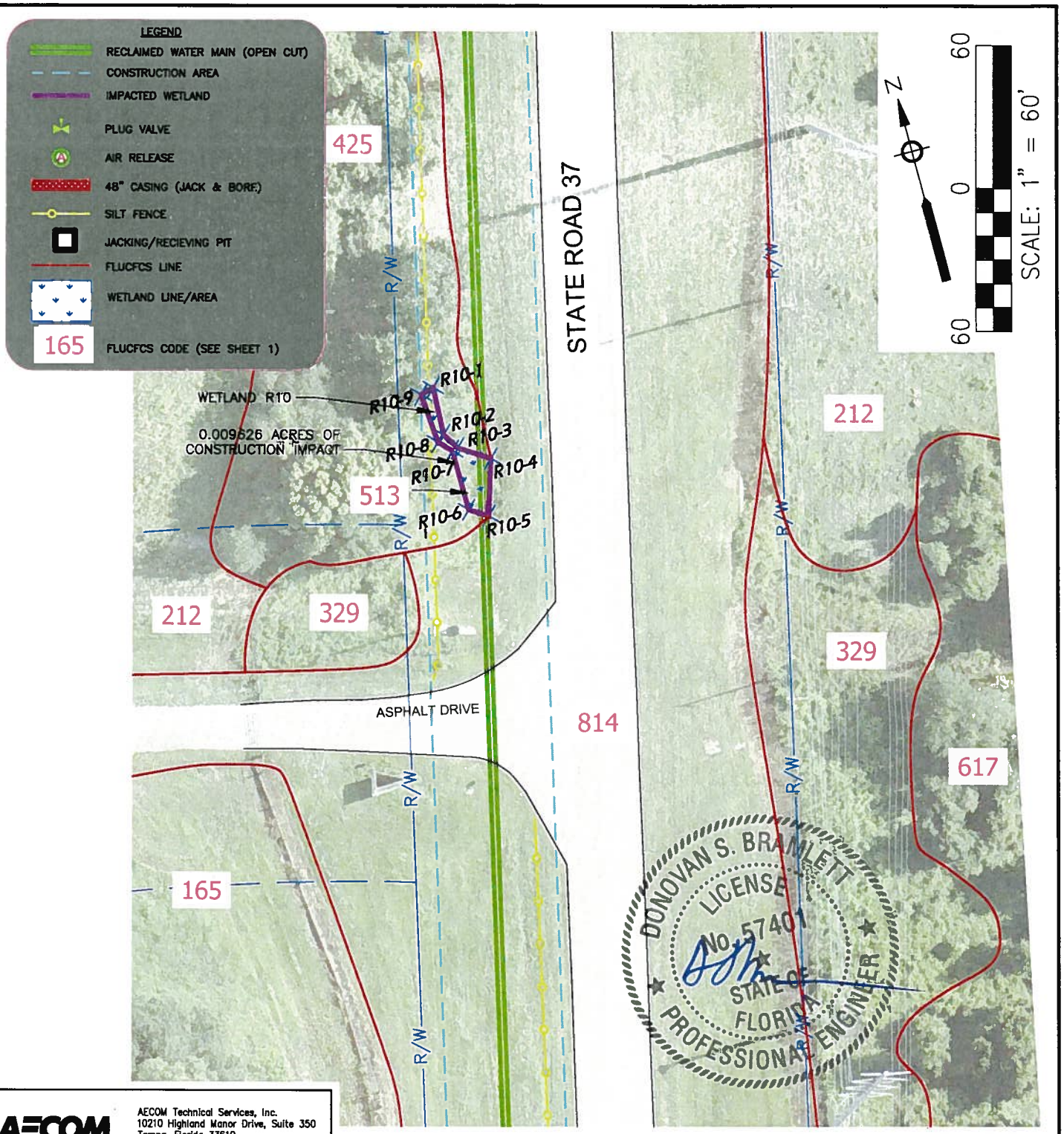
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

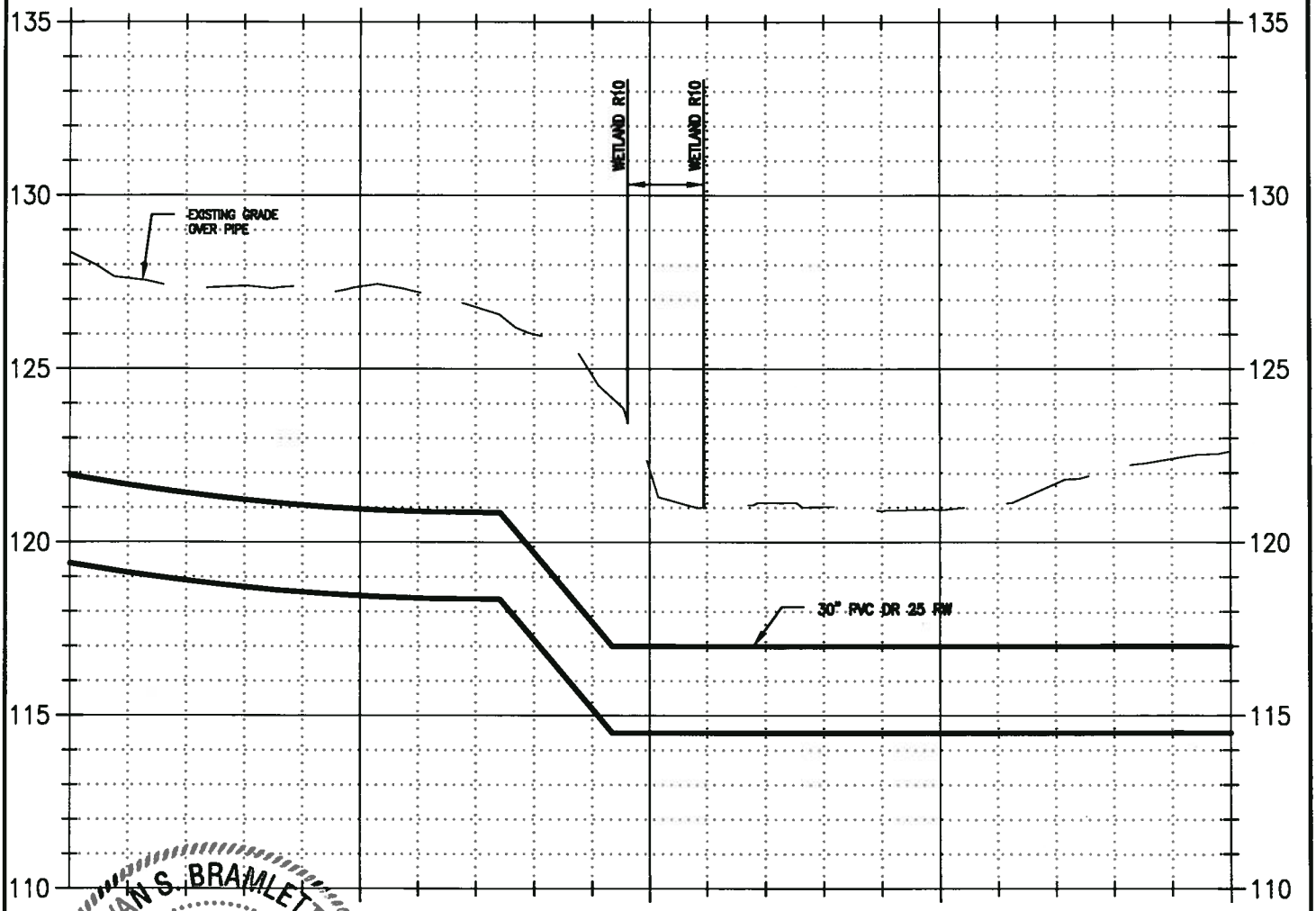
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

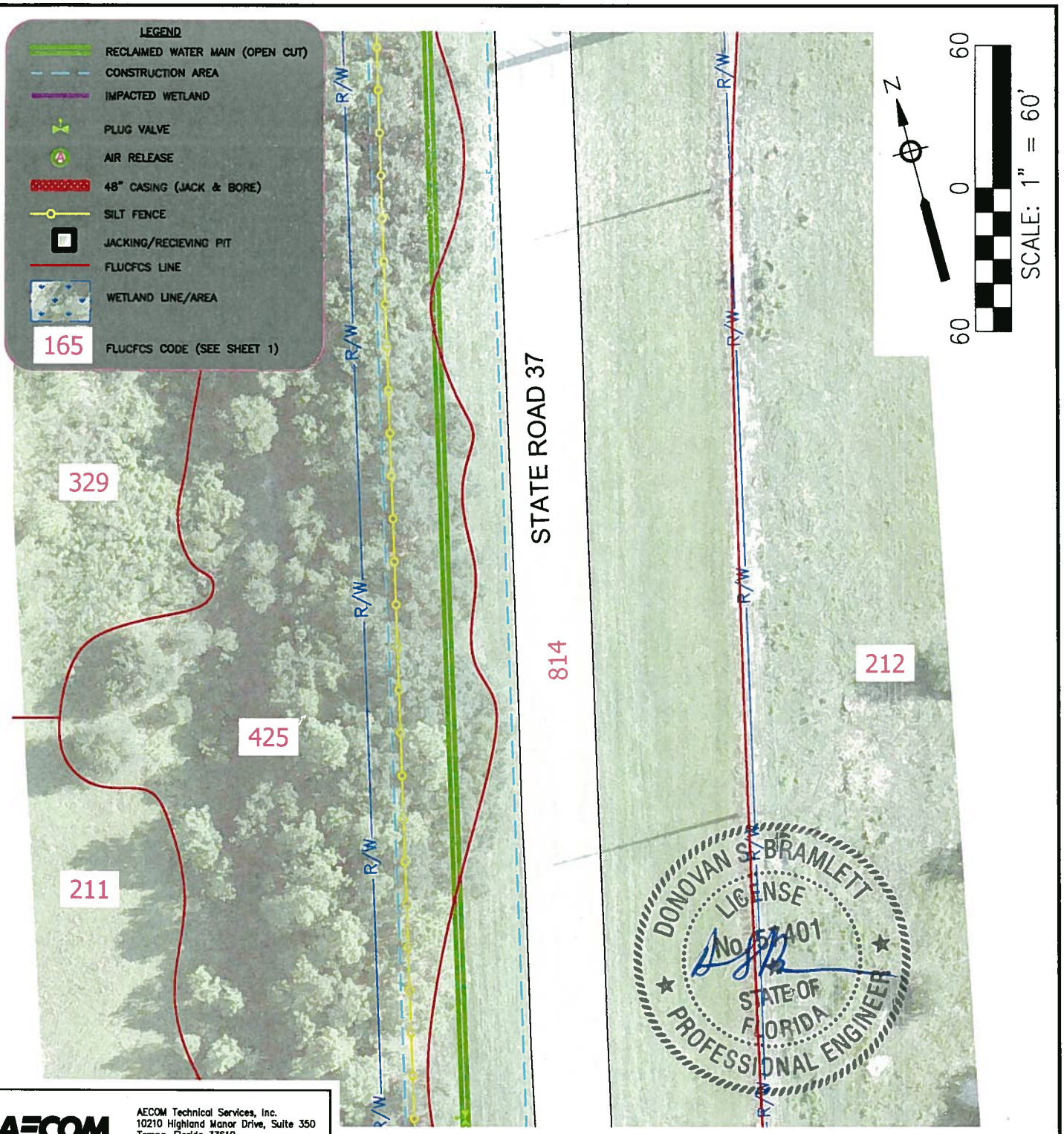
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 55
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_49-59.DWG	60218603
FILE NAME	PROJECT NUMBER

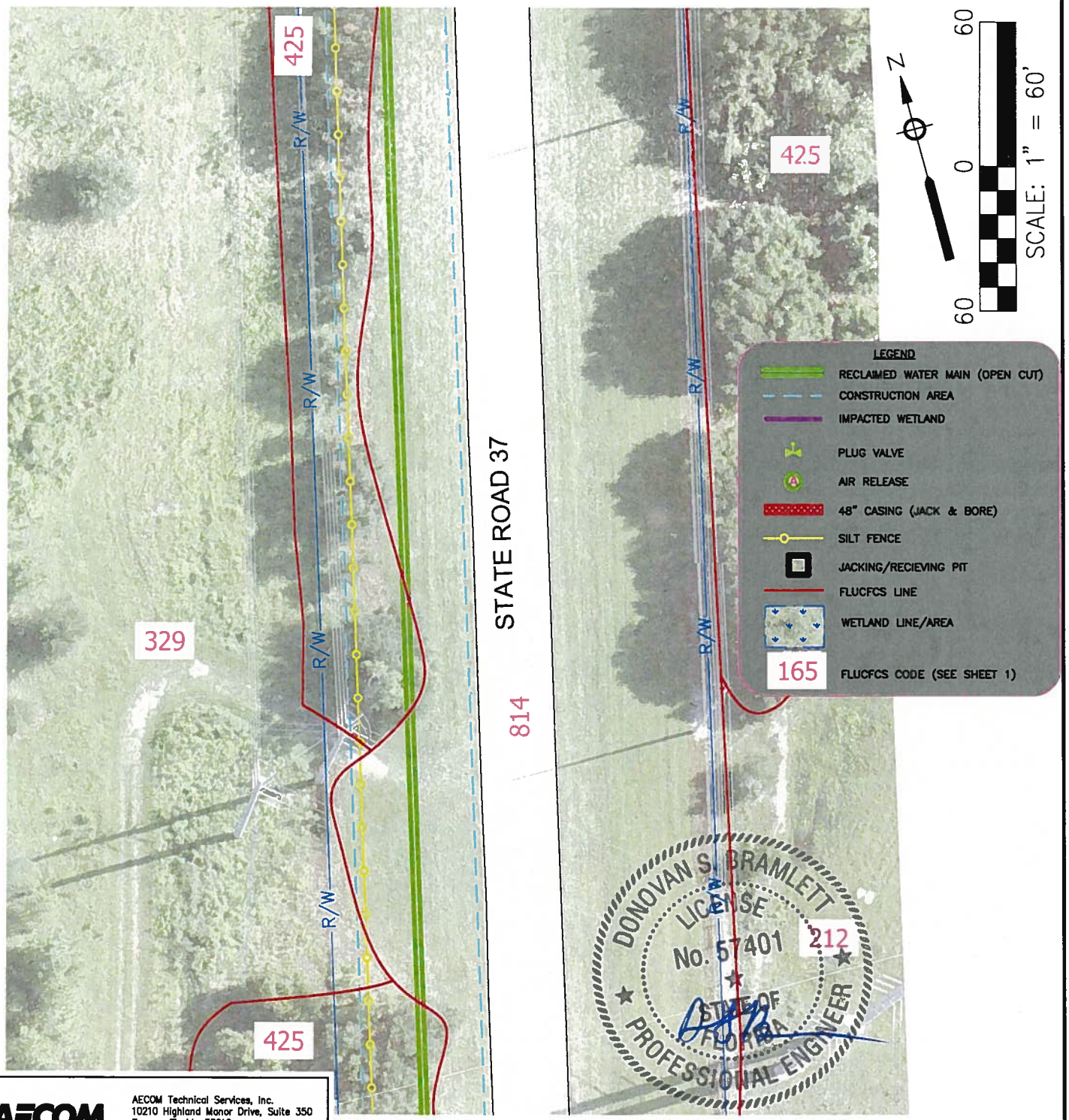
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_49-59.DWG	60218603

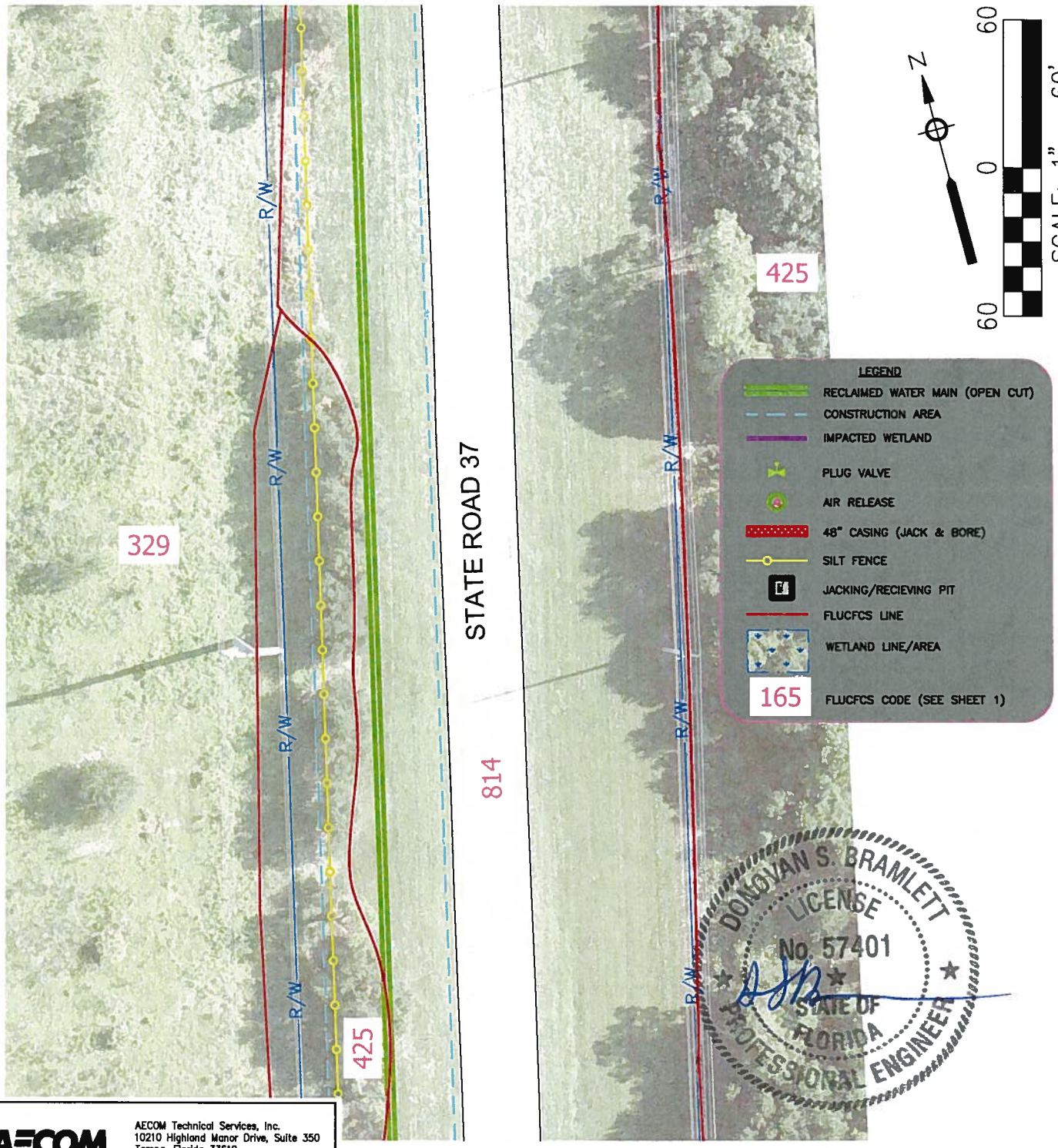
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_49-59.DWG	60218603

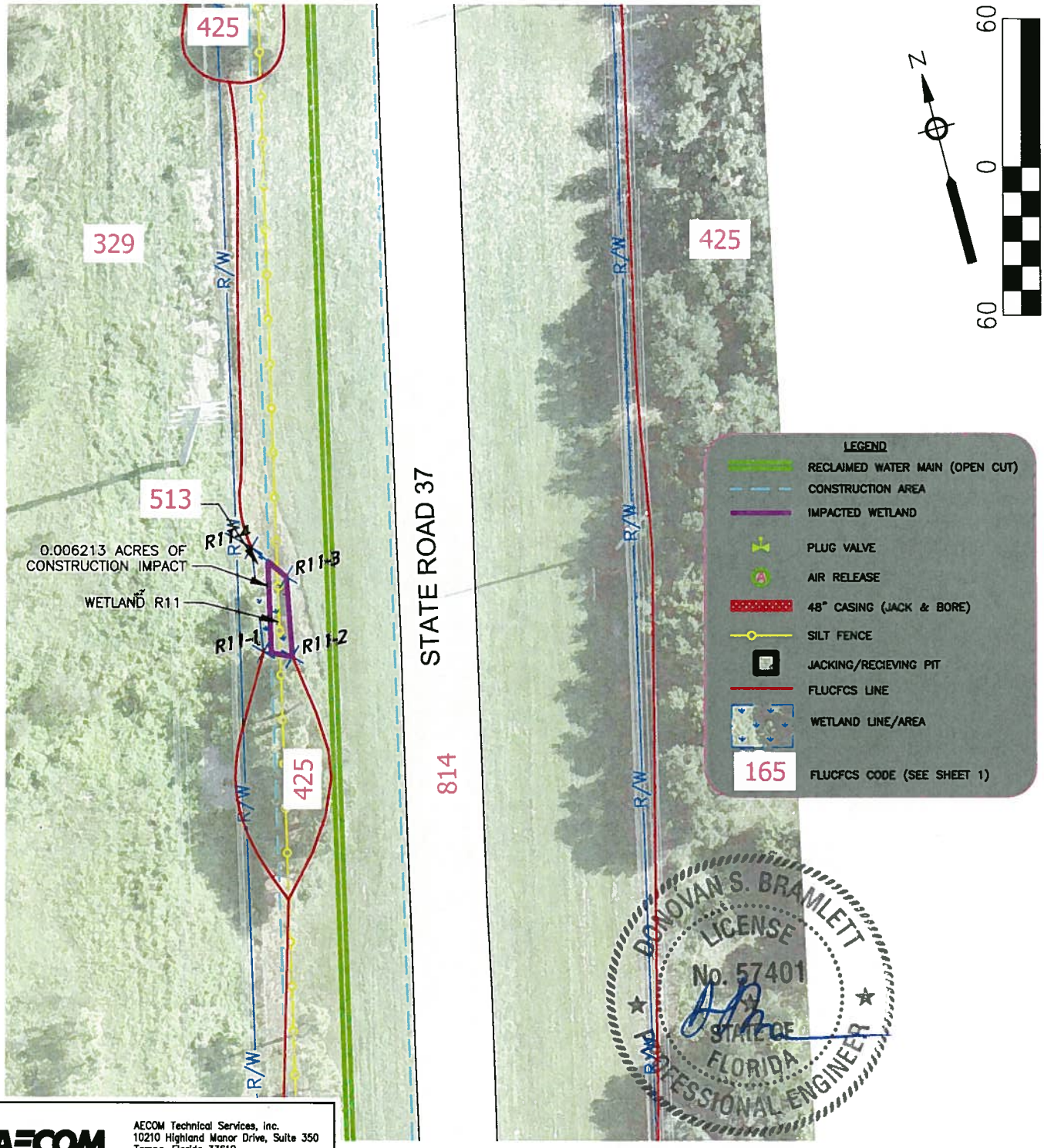
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

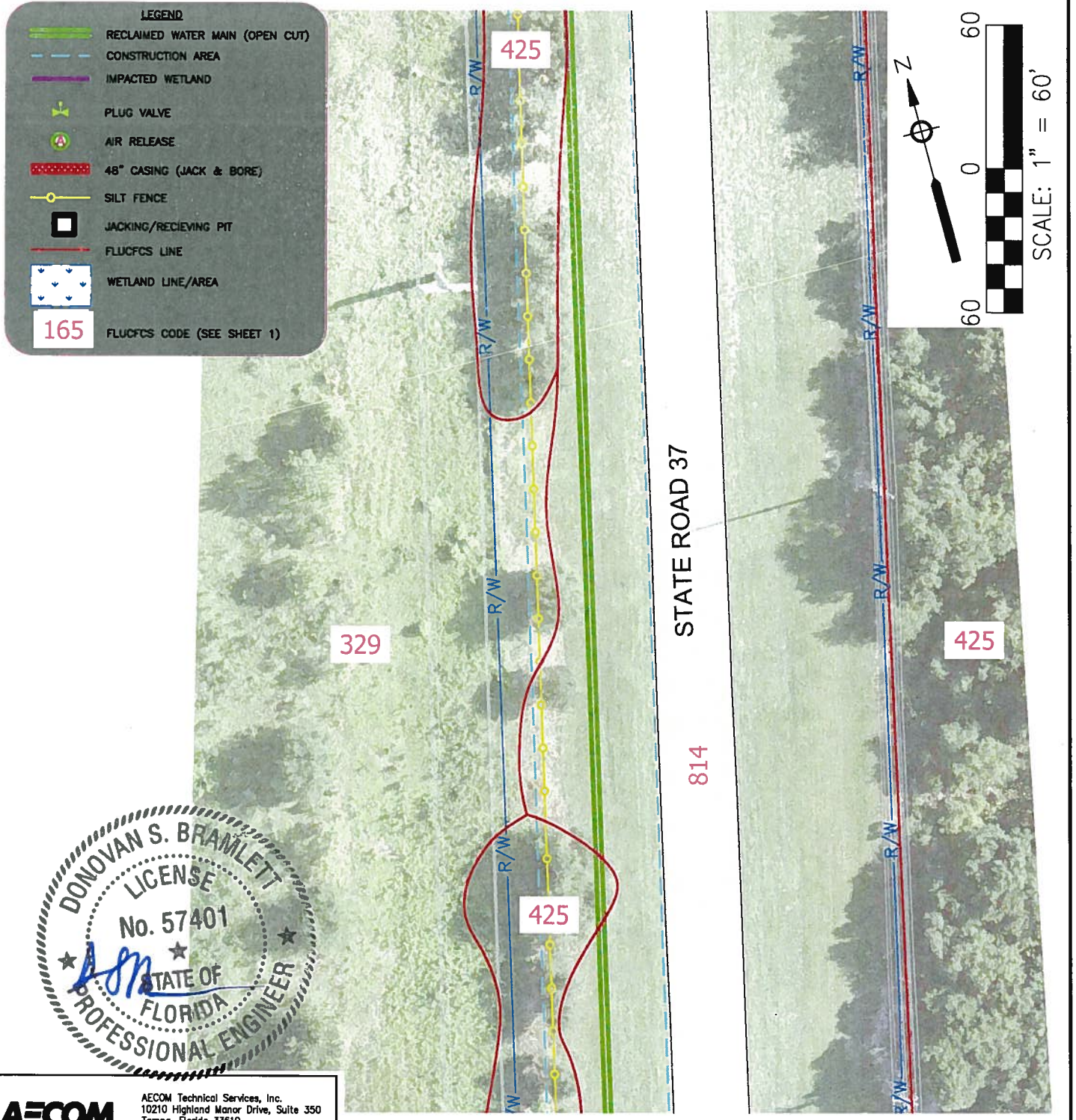
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB--38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

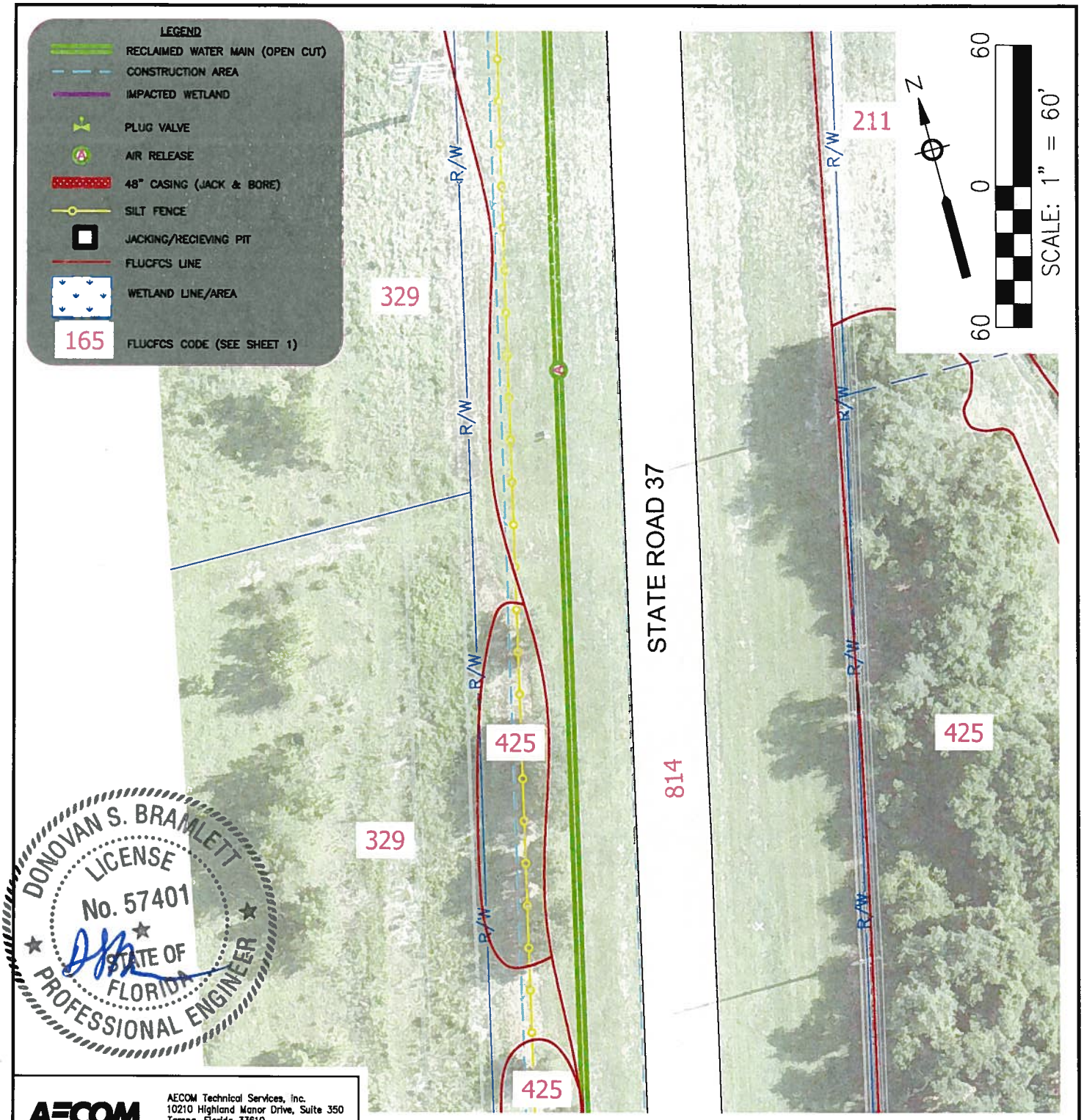
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

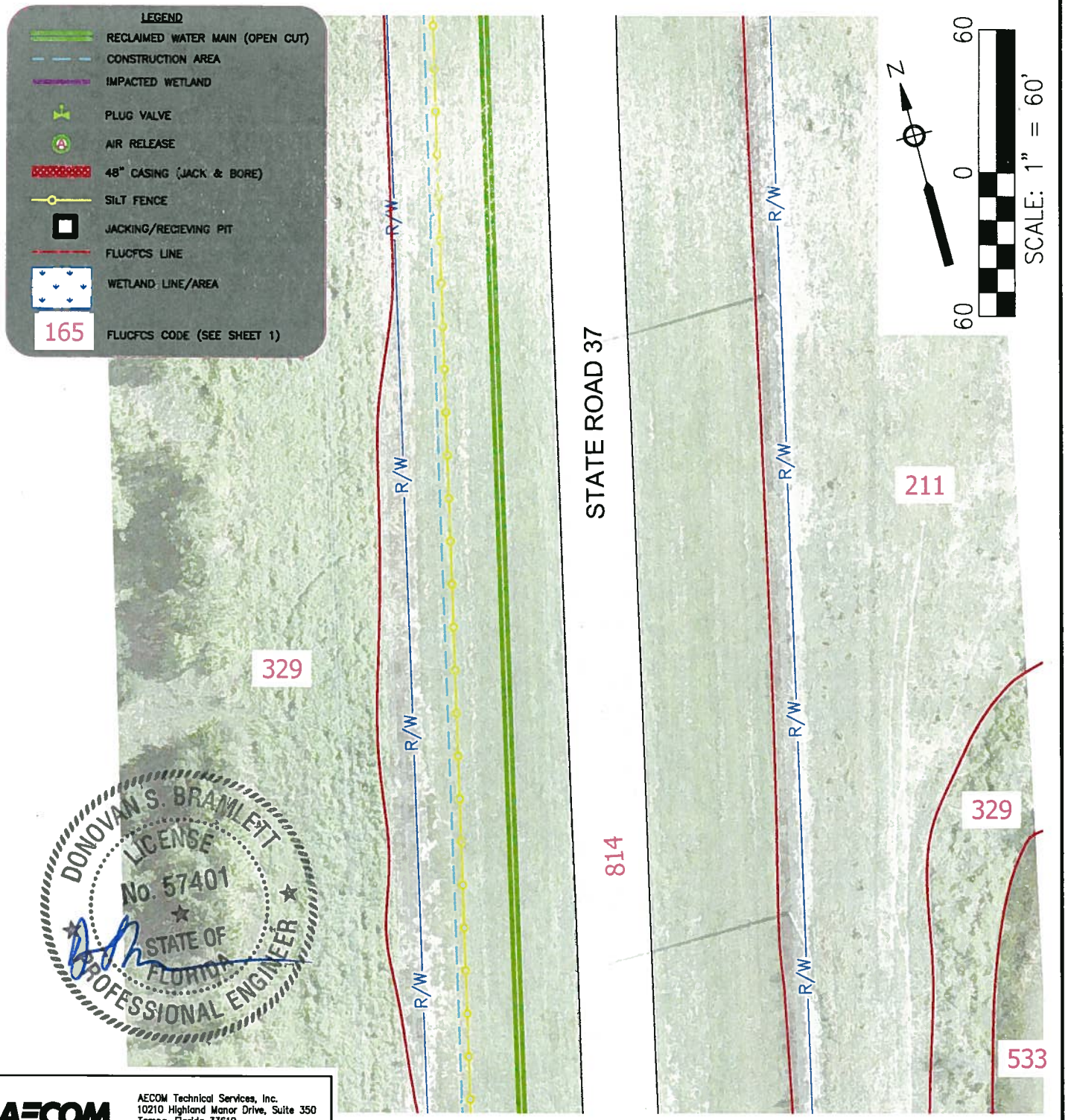
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

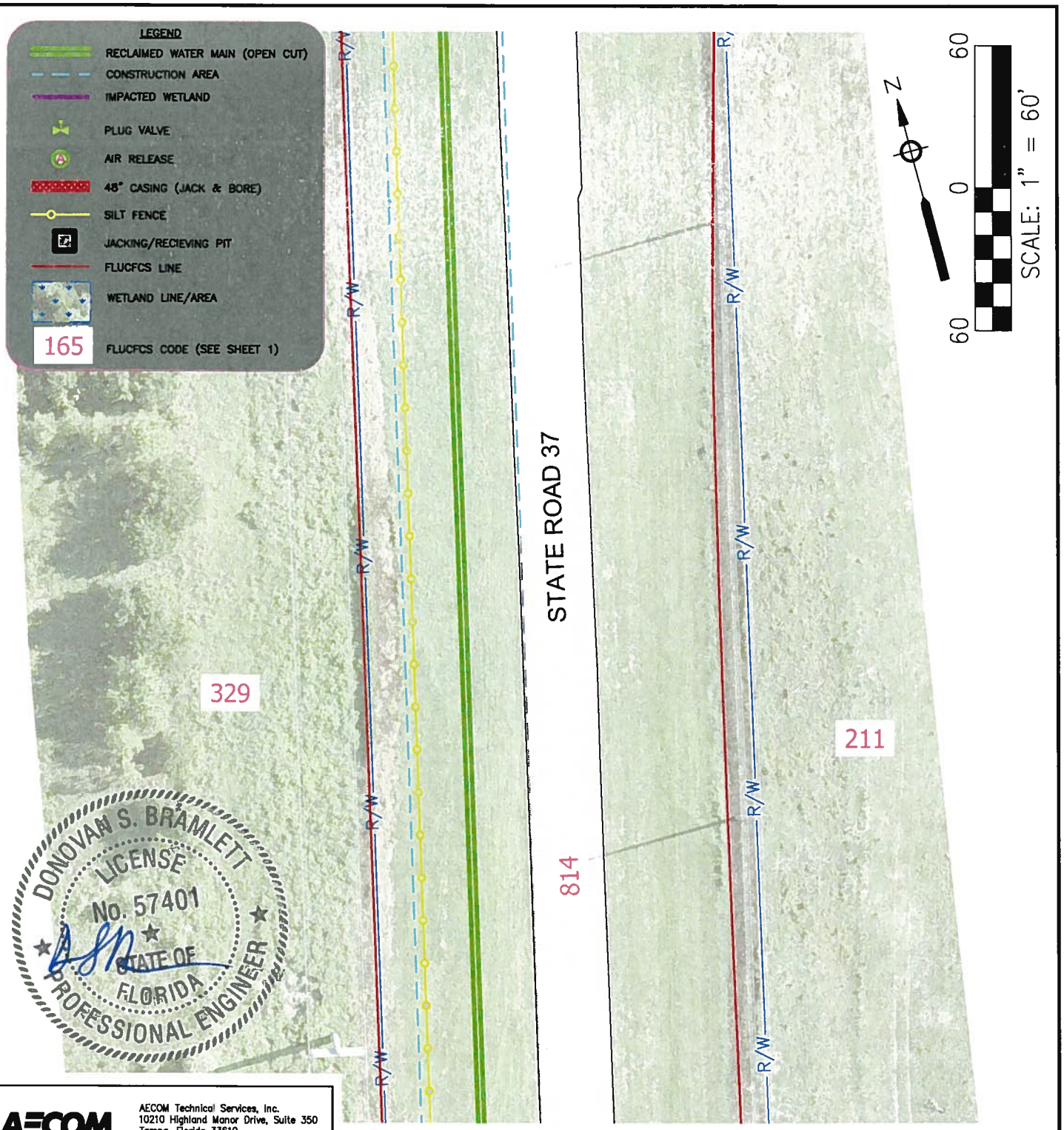
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

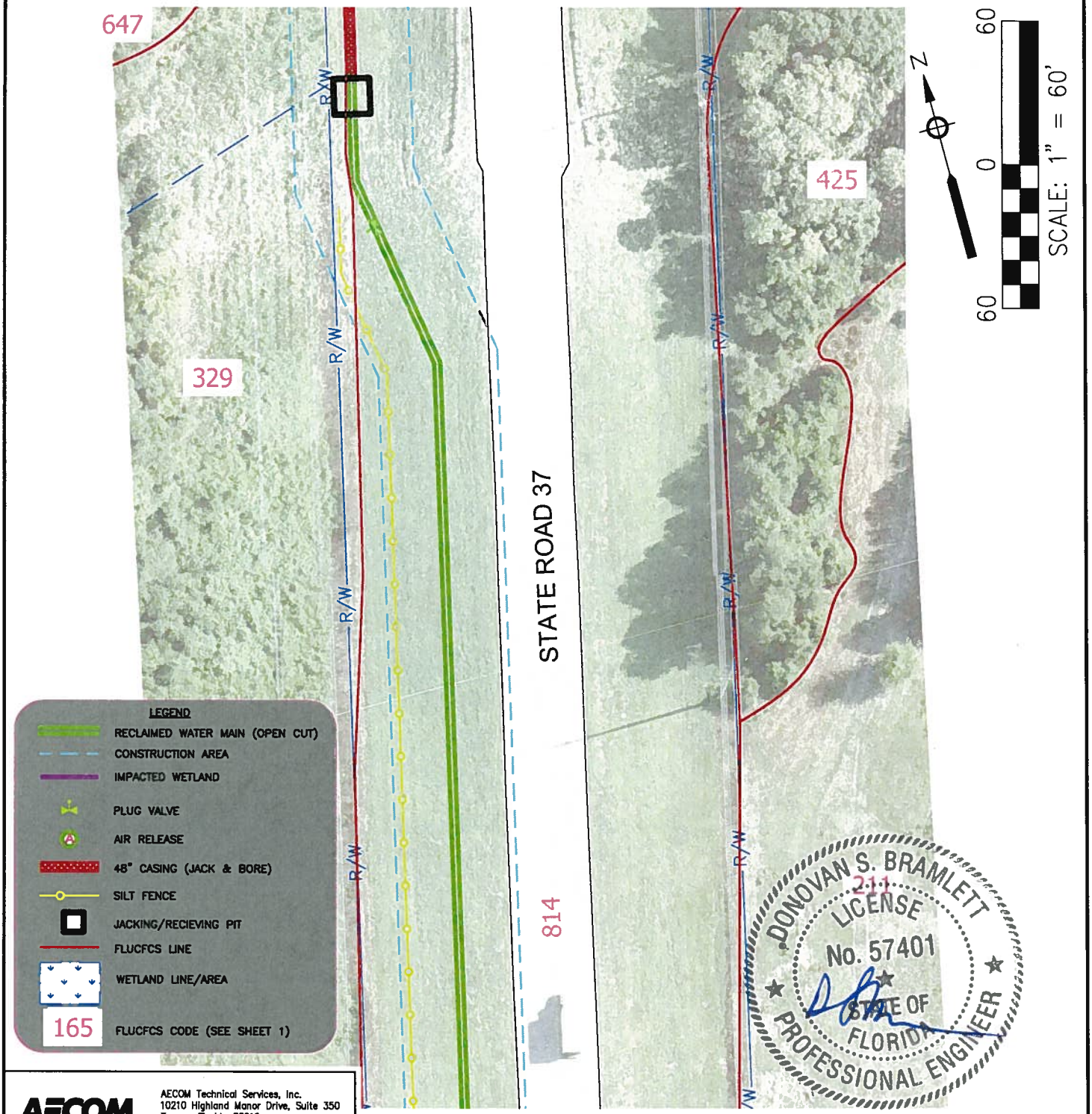
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

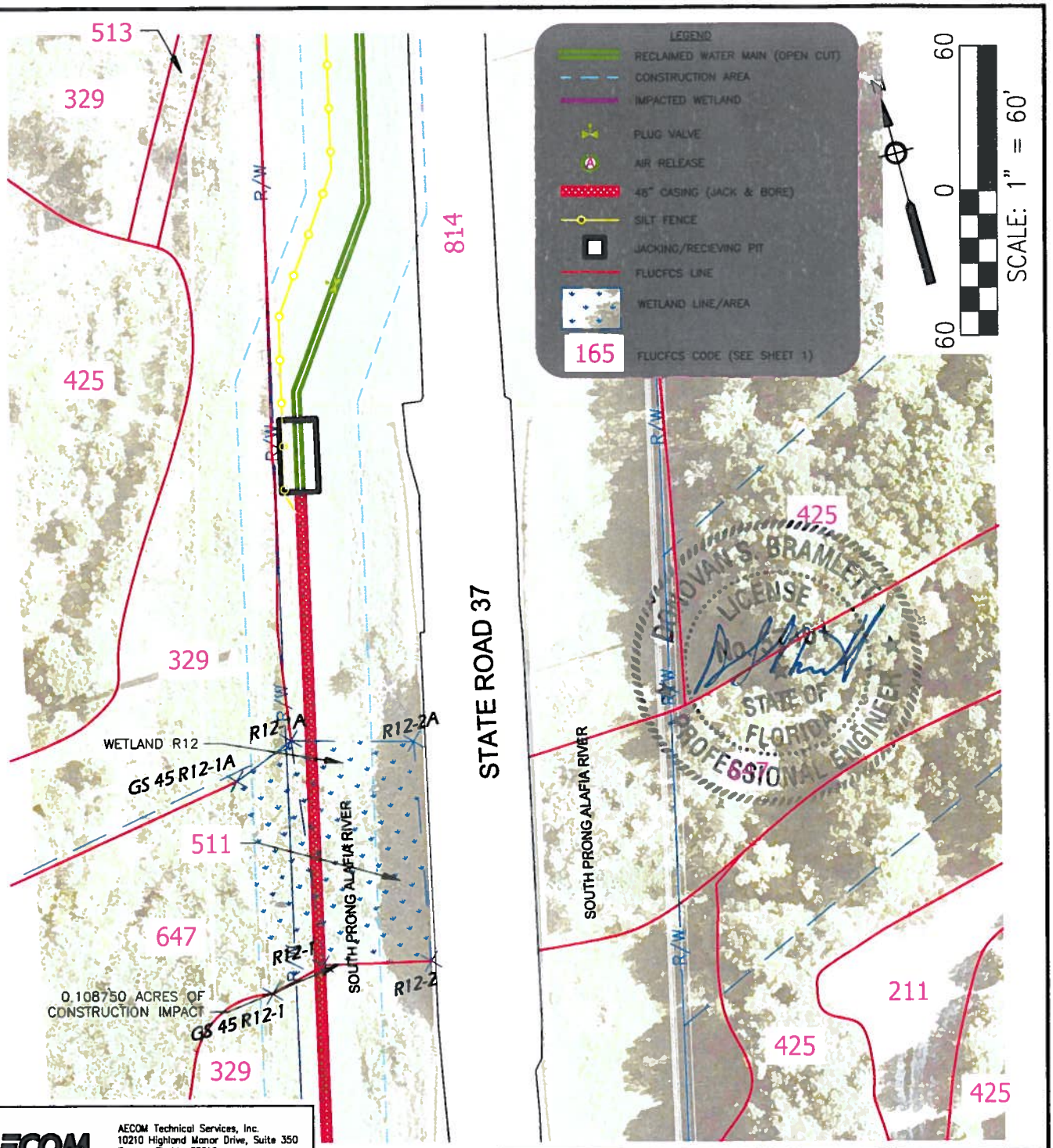
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

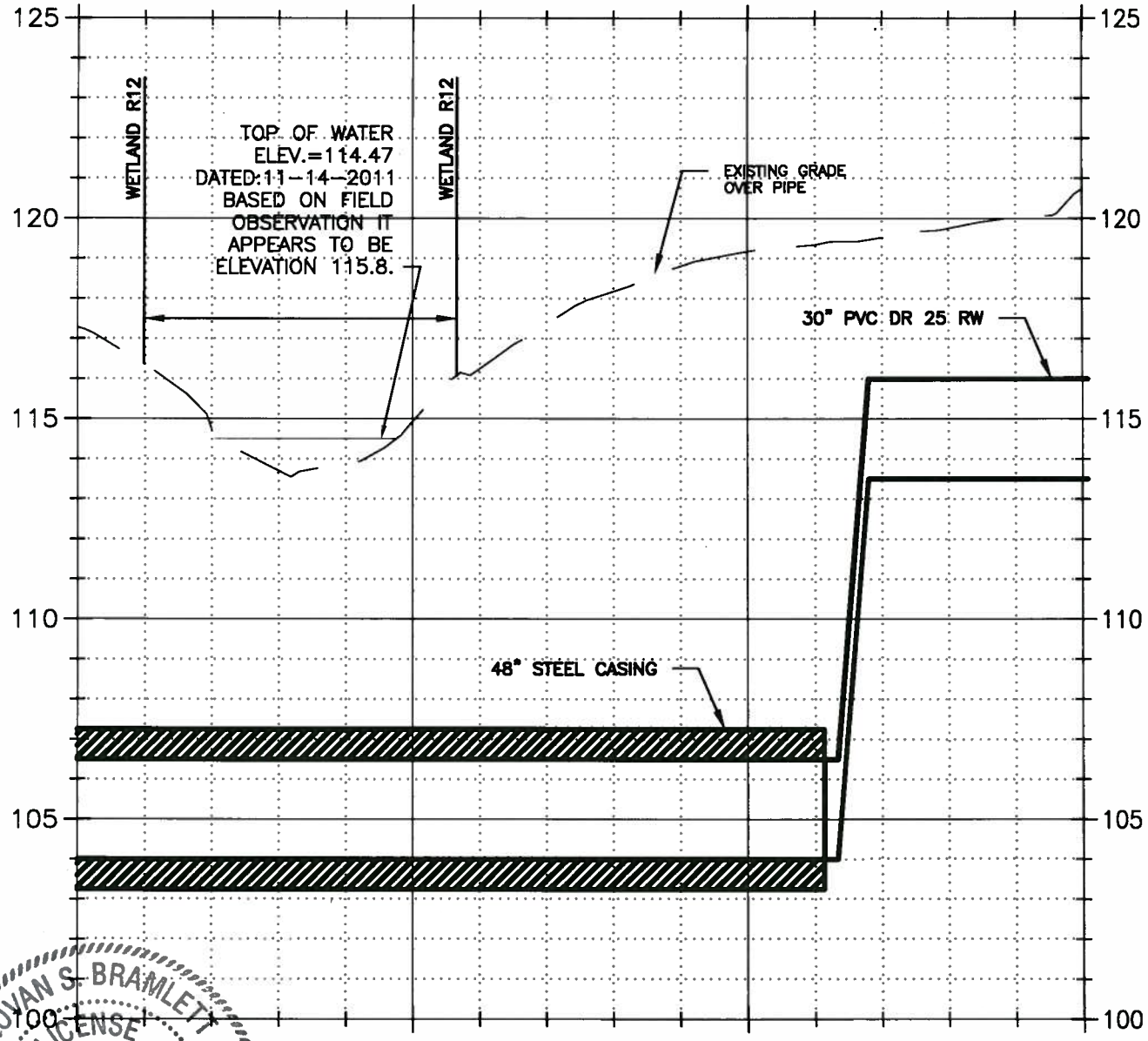
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

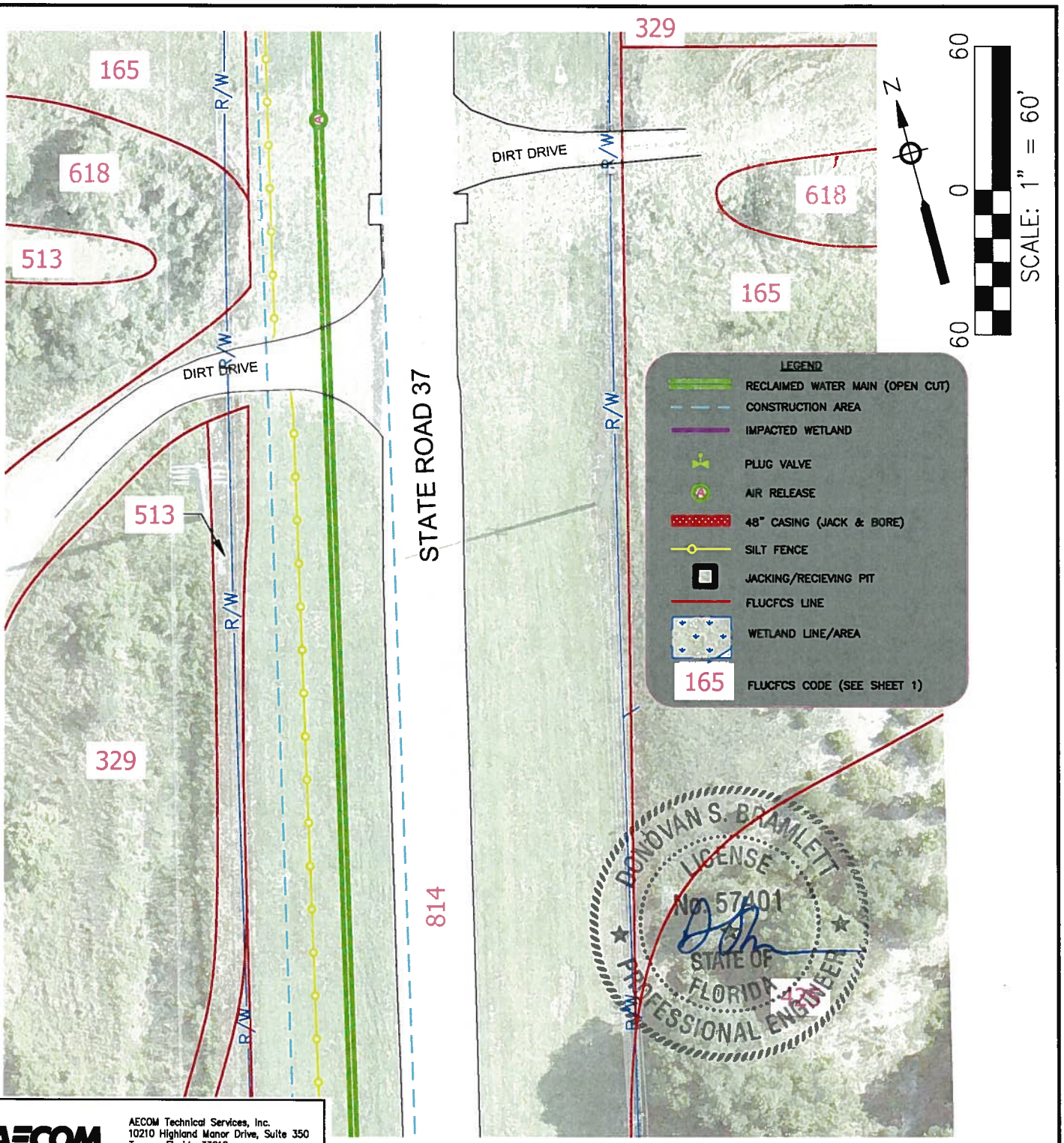
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 66
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

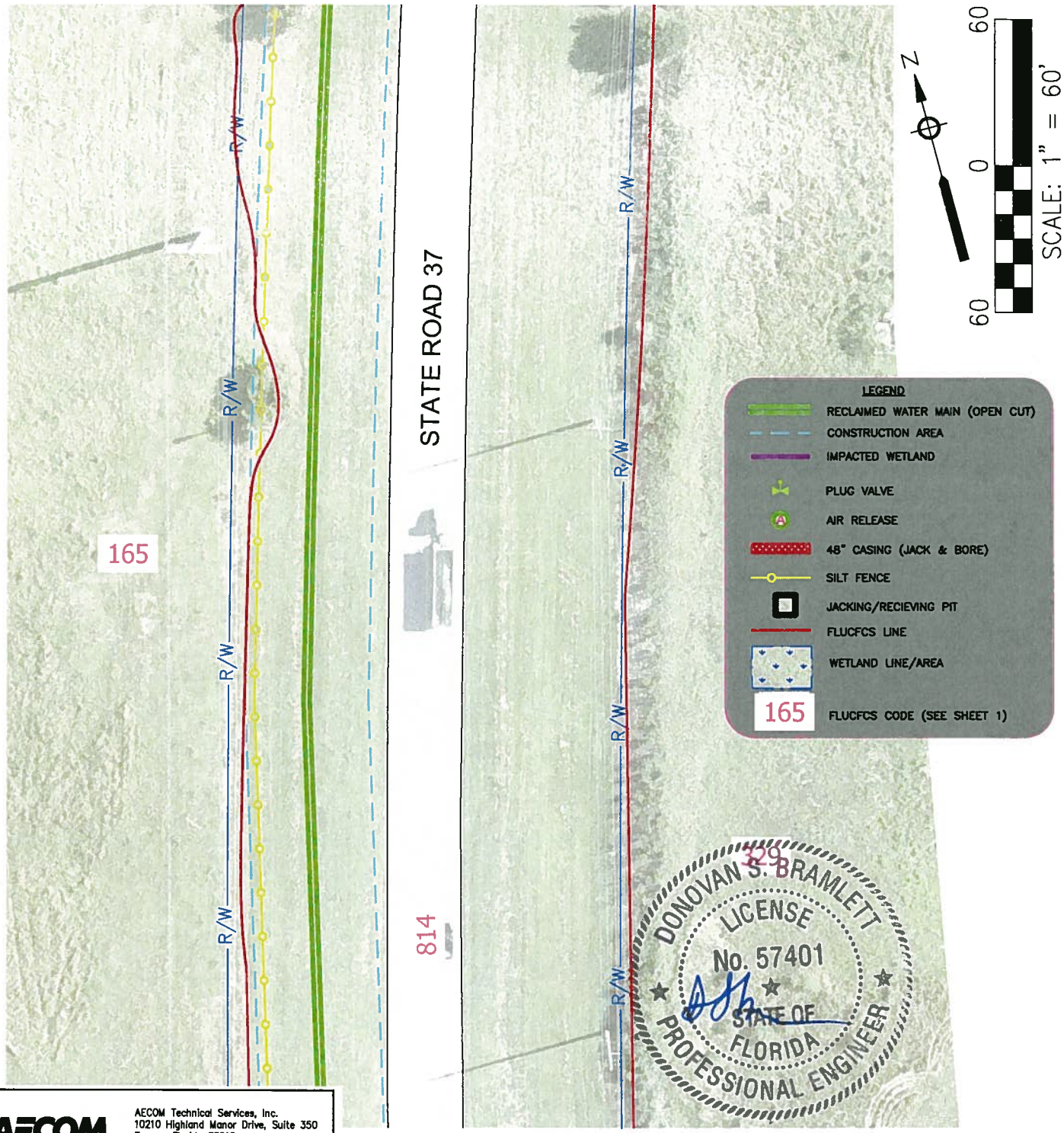
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

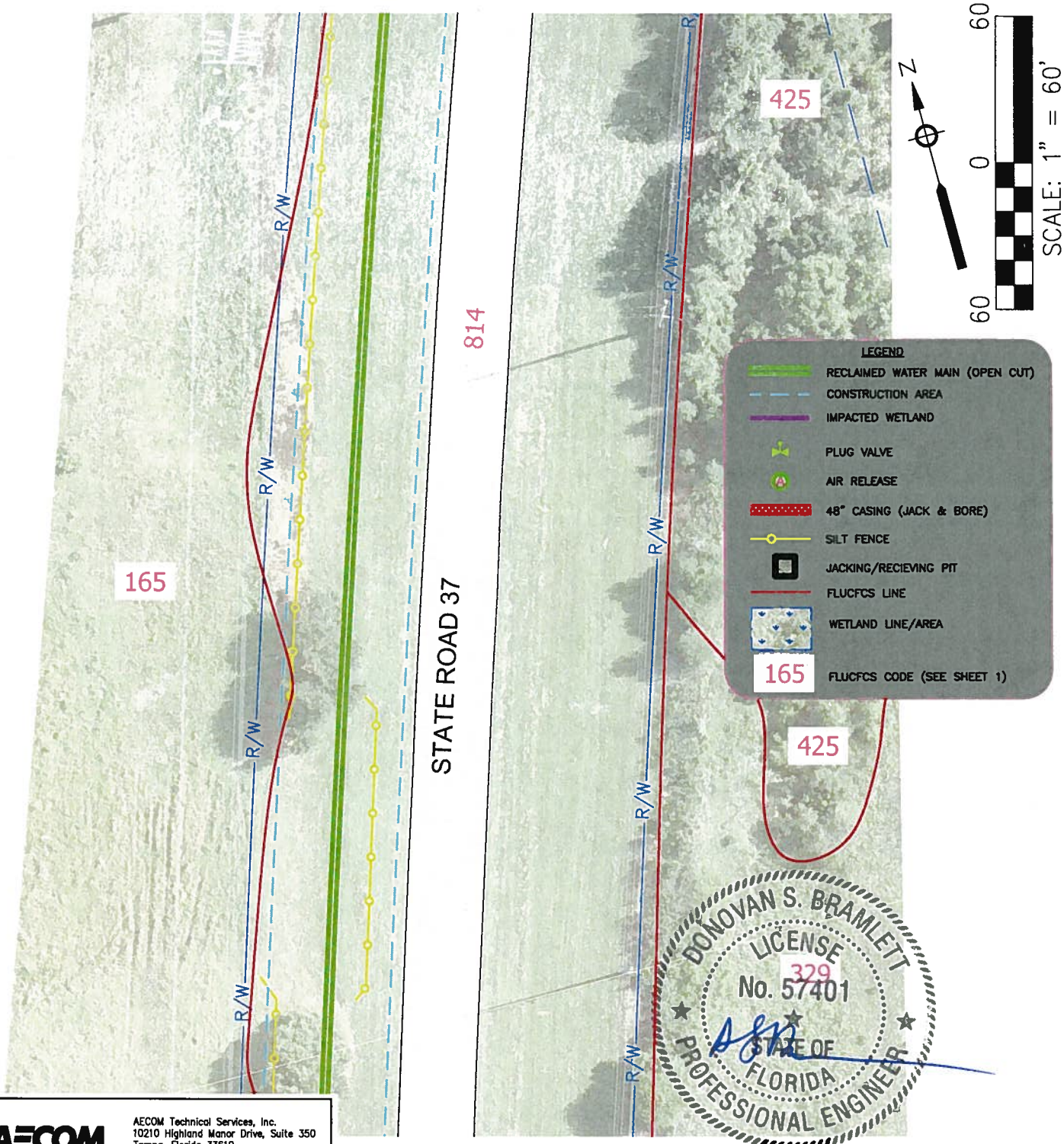
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_60-70.DWG	60218603
FILE NAME	PROJECT NUMBER

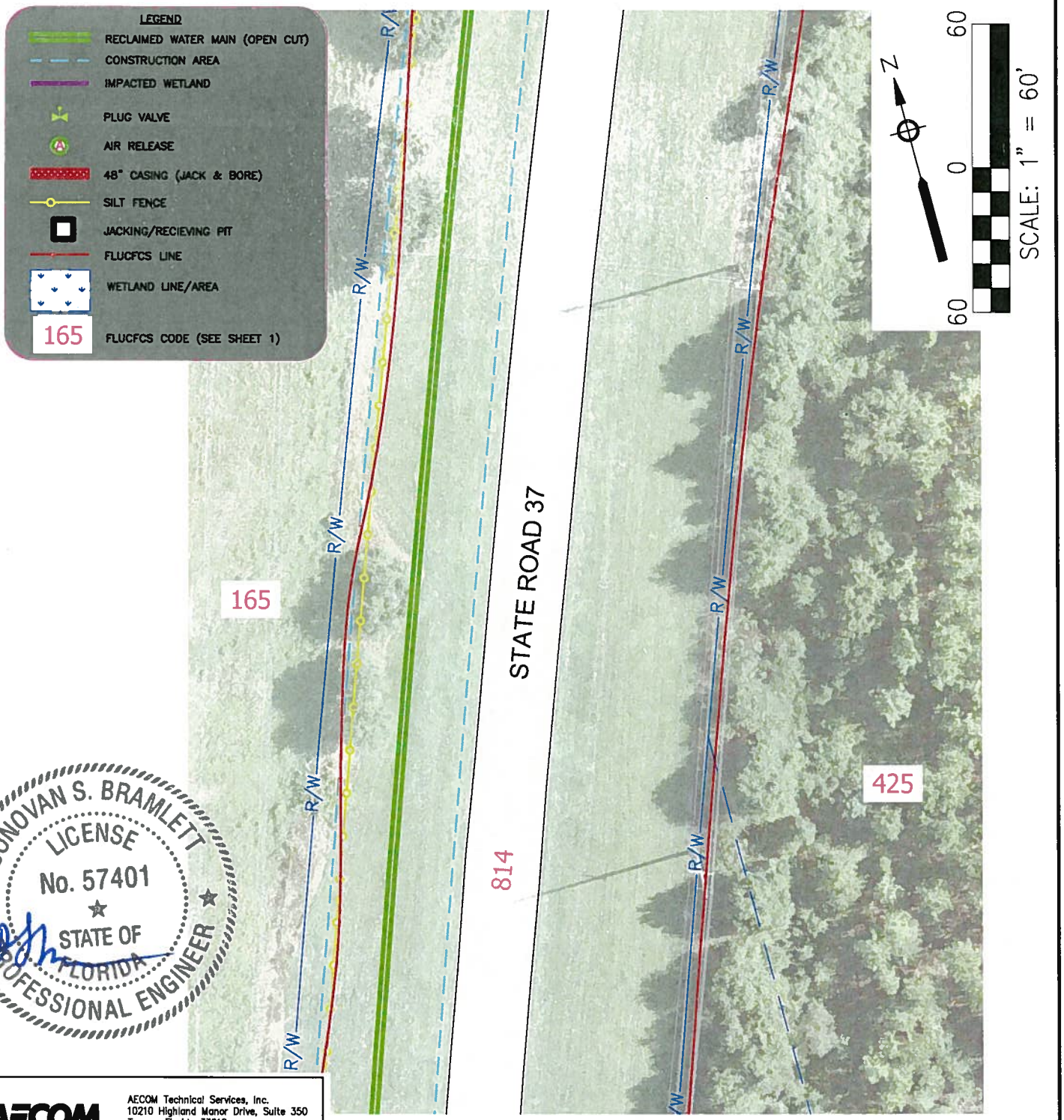
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

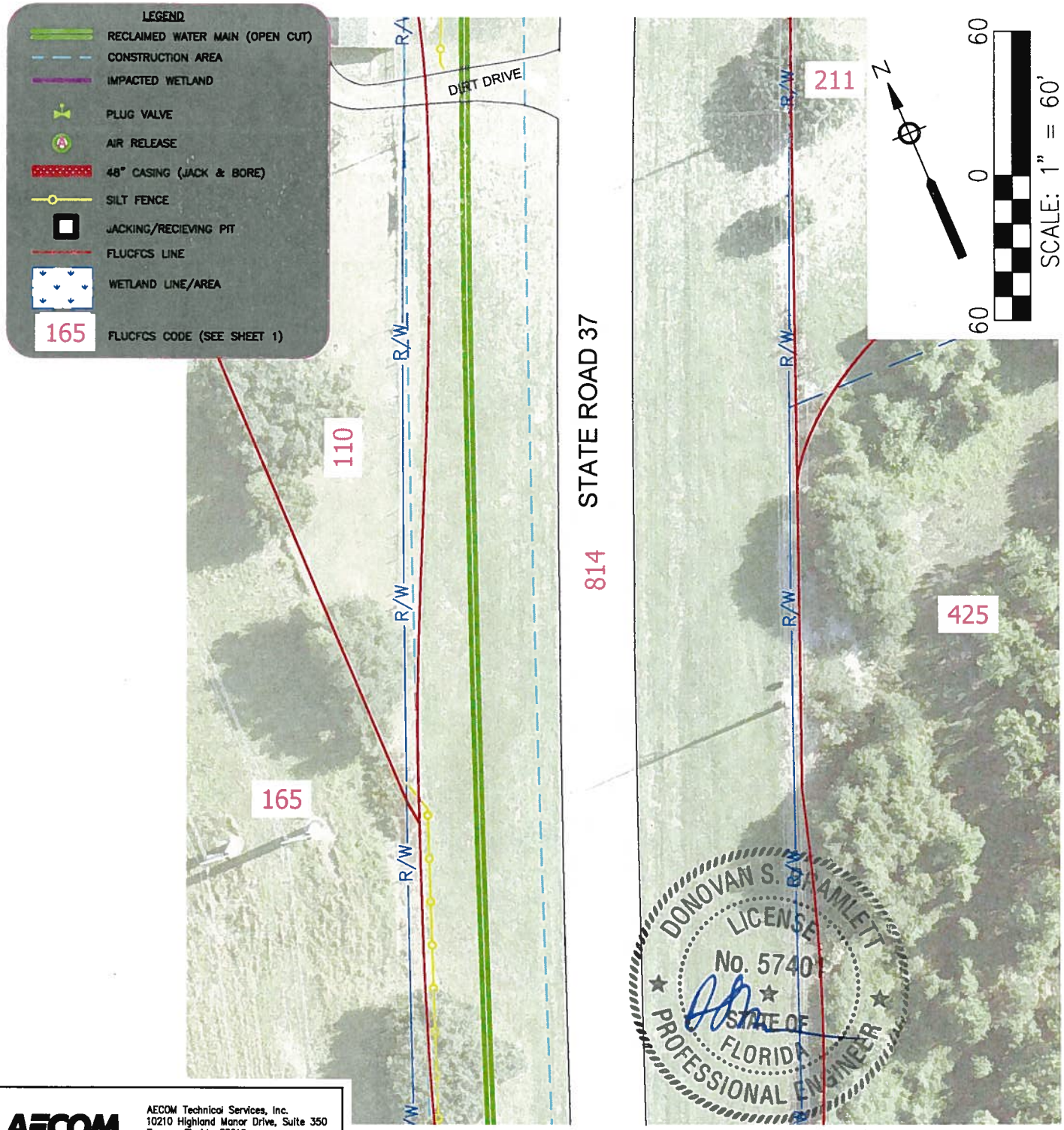
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. RAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

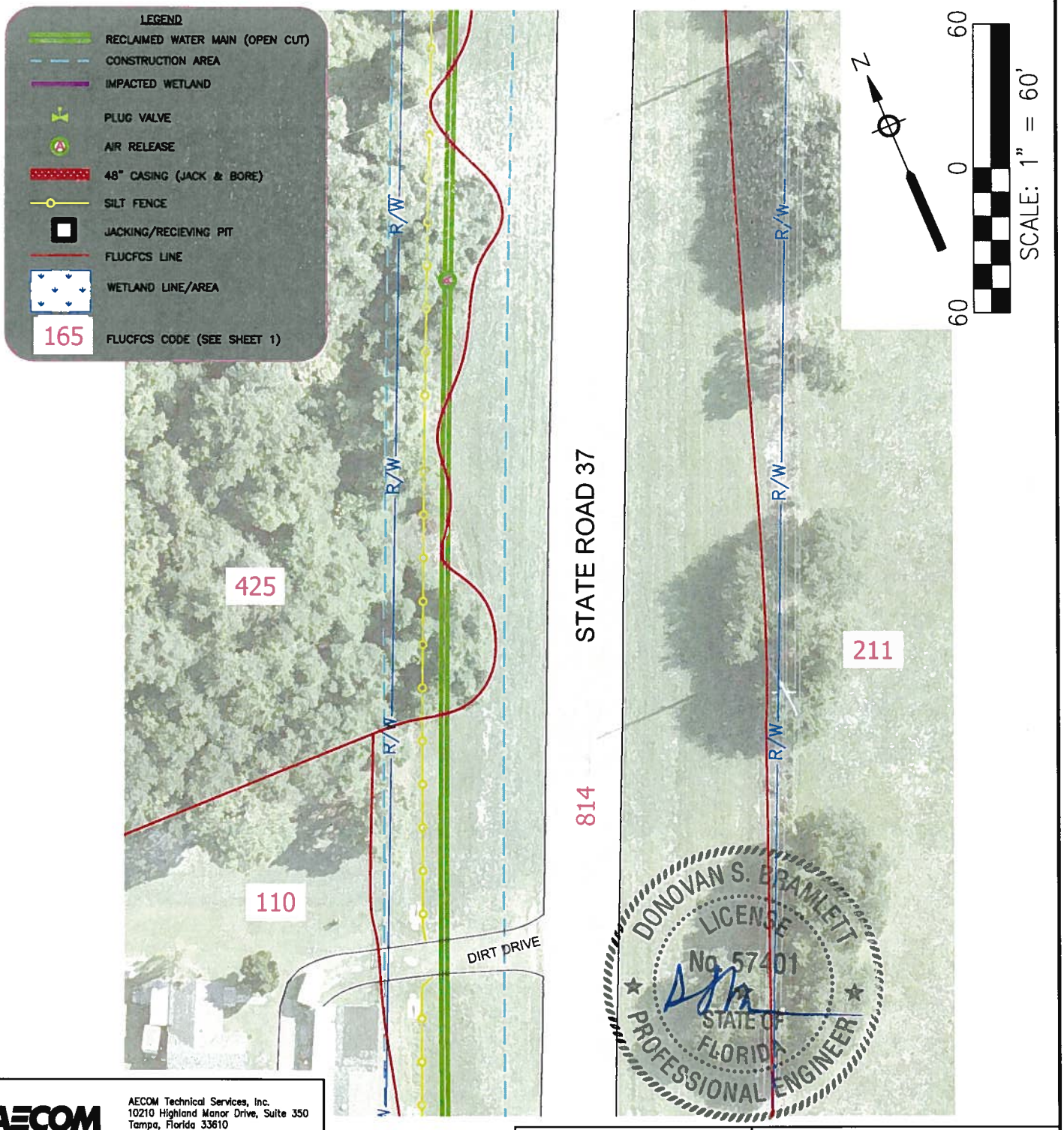
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

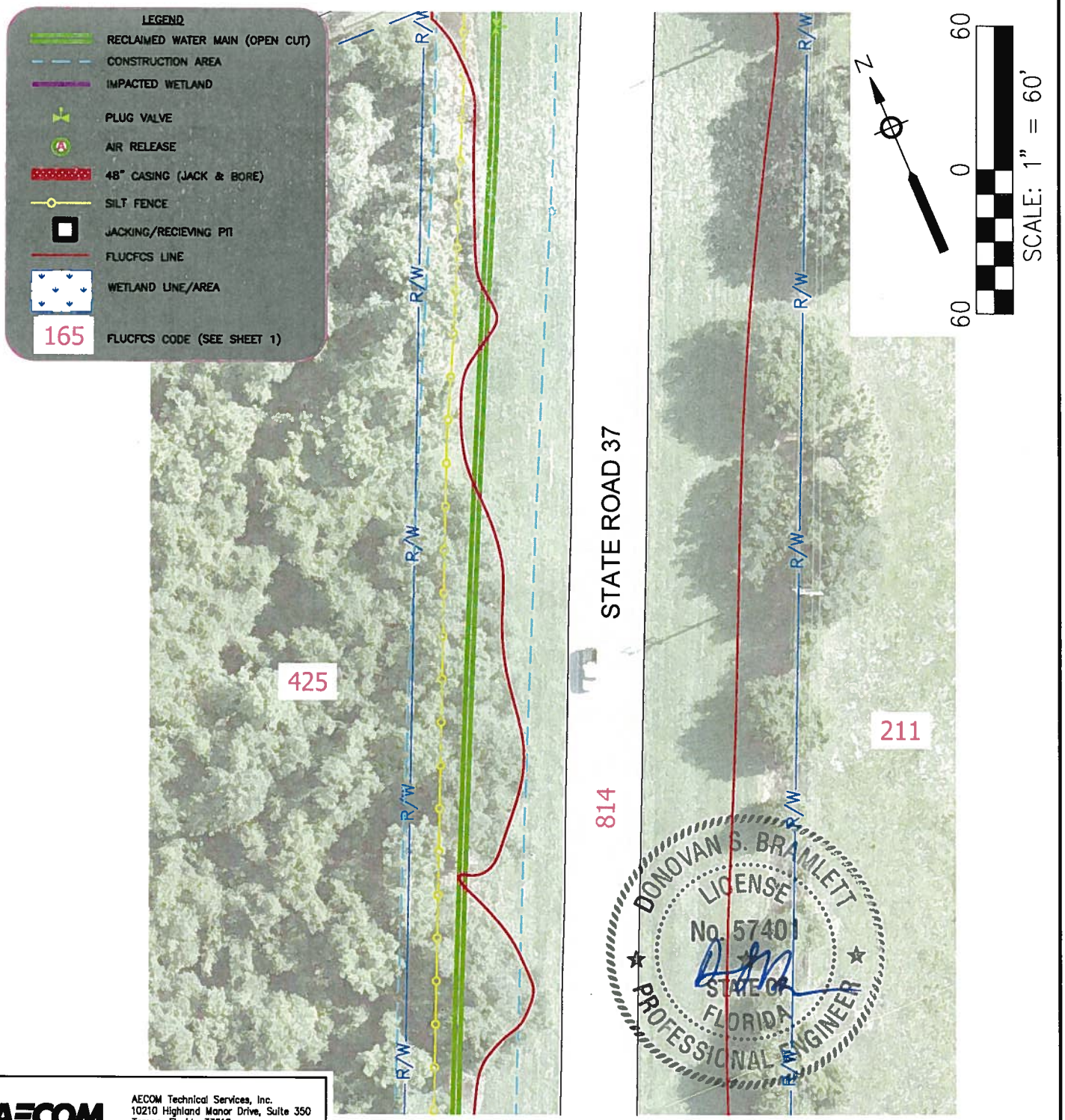
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

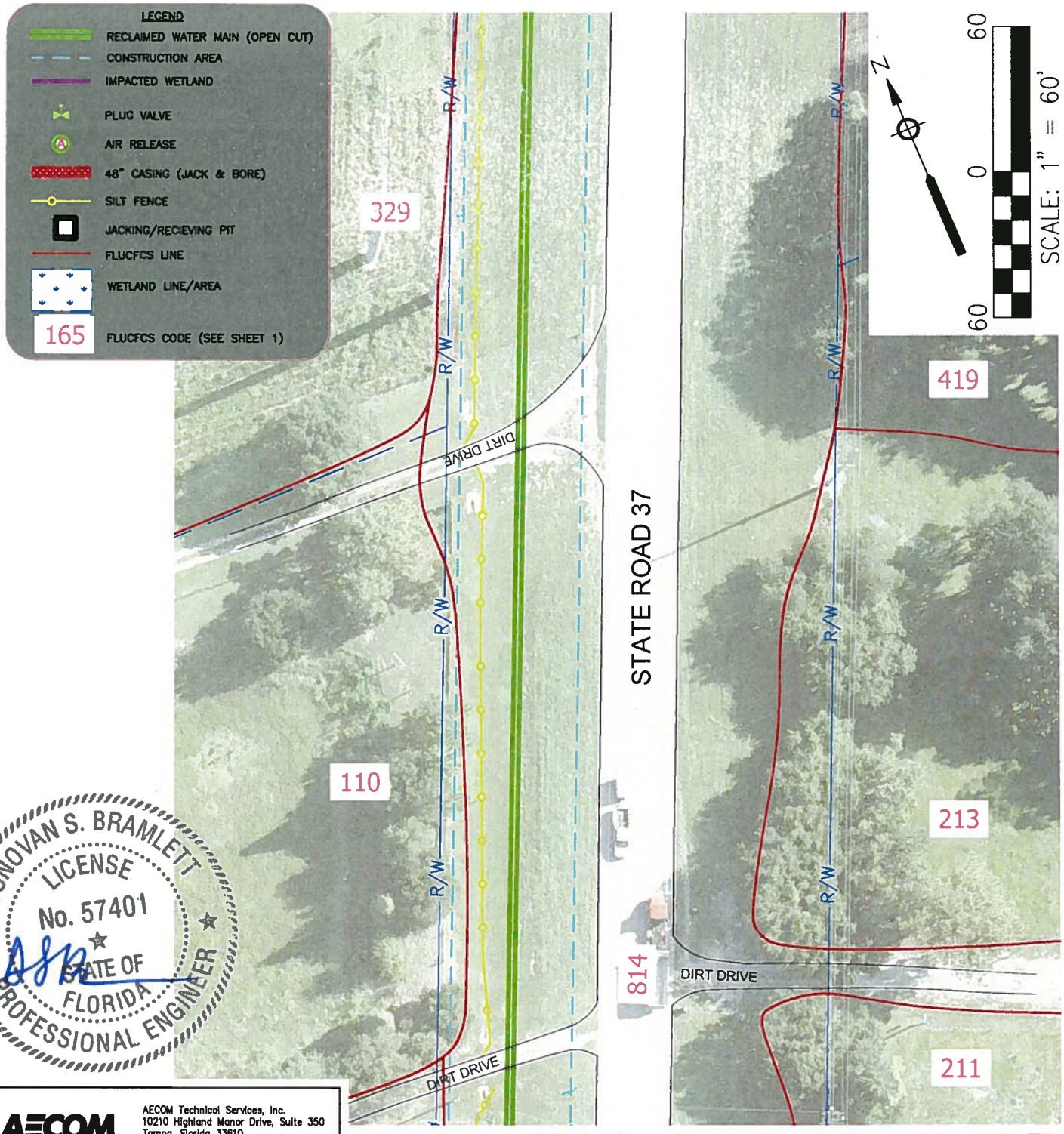
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

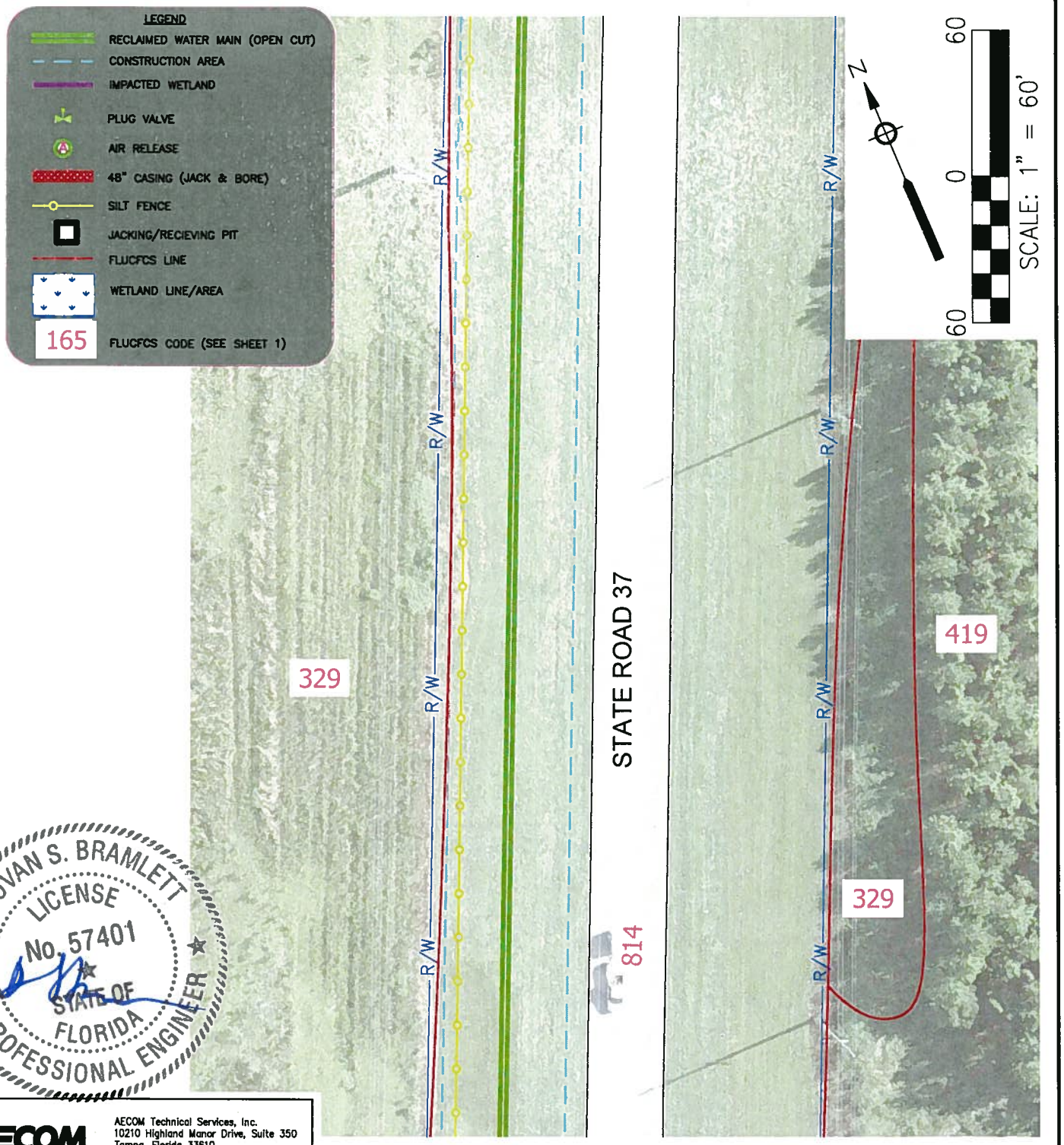
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB--38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

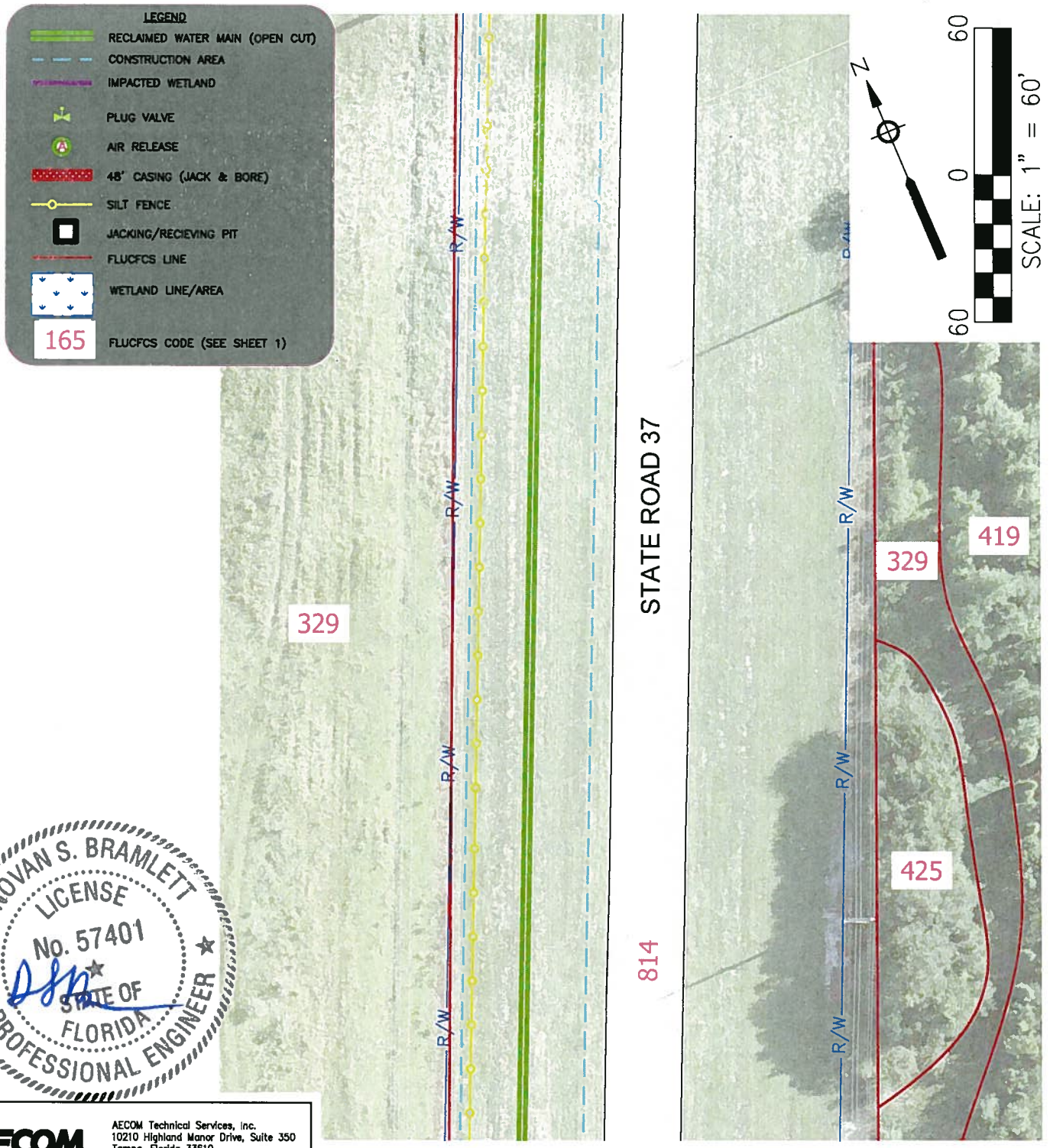
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

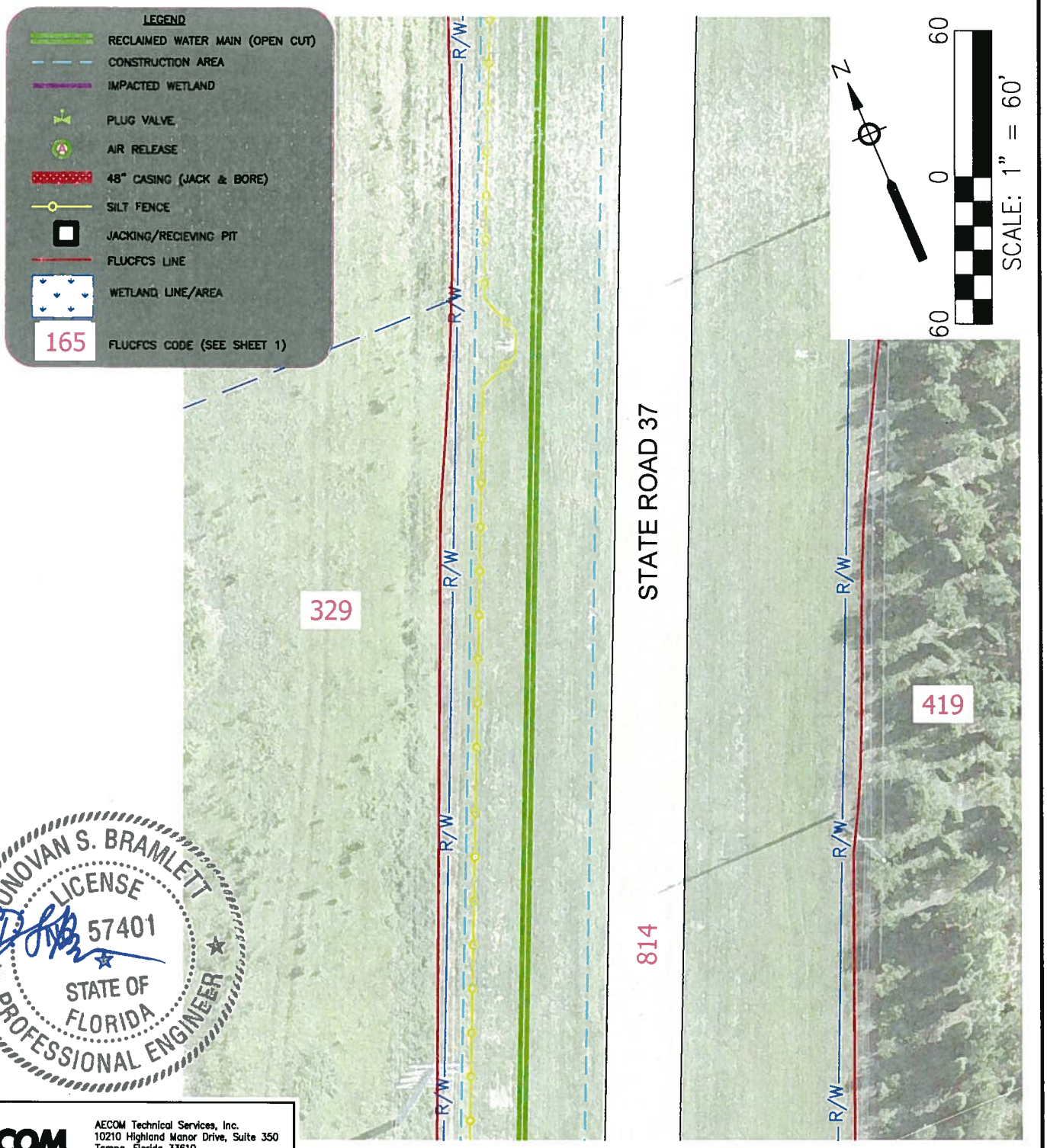
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

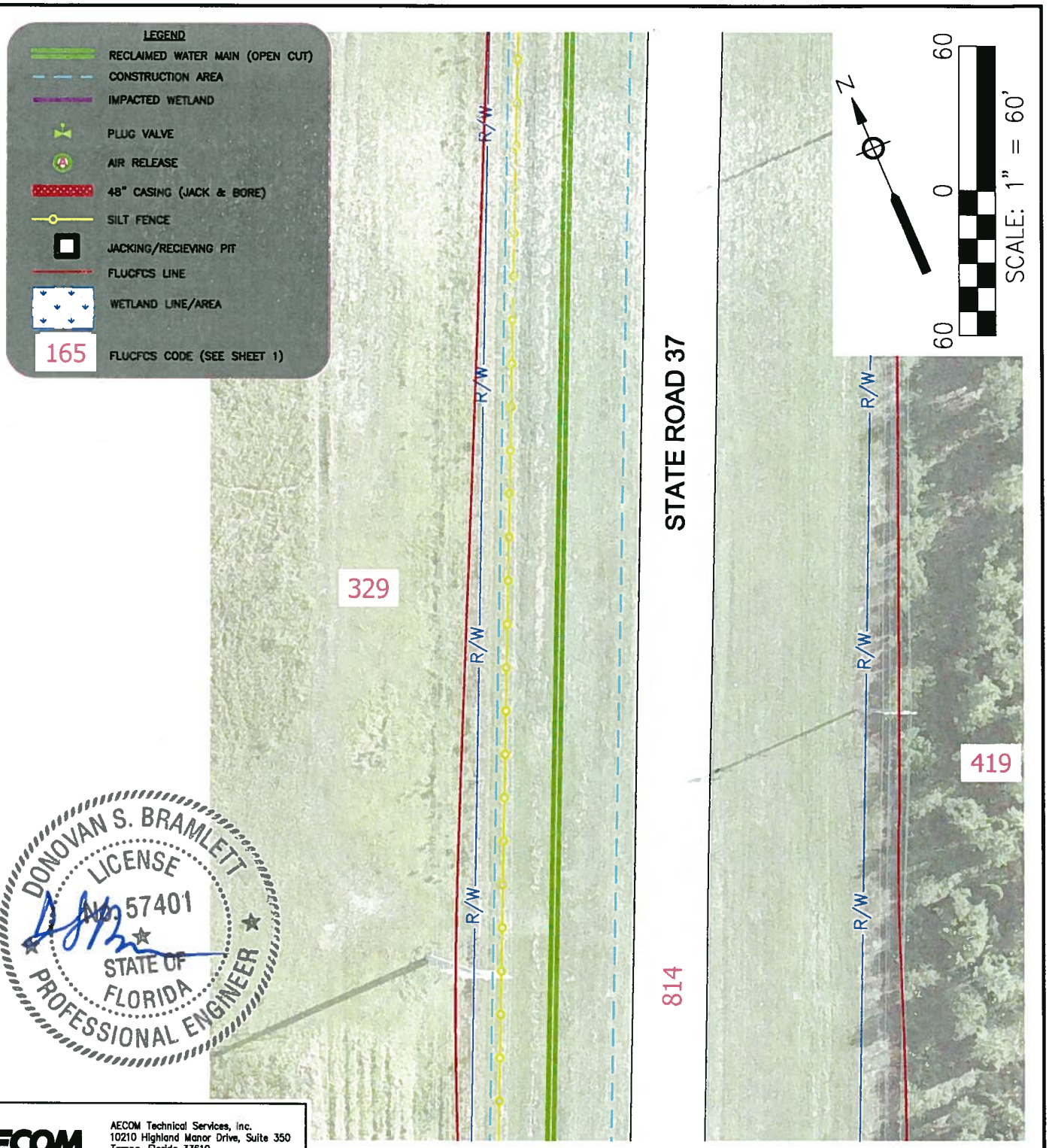
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
NO. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

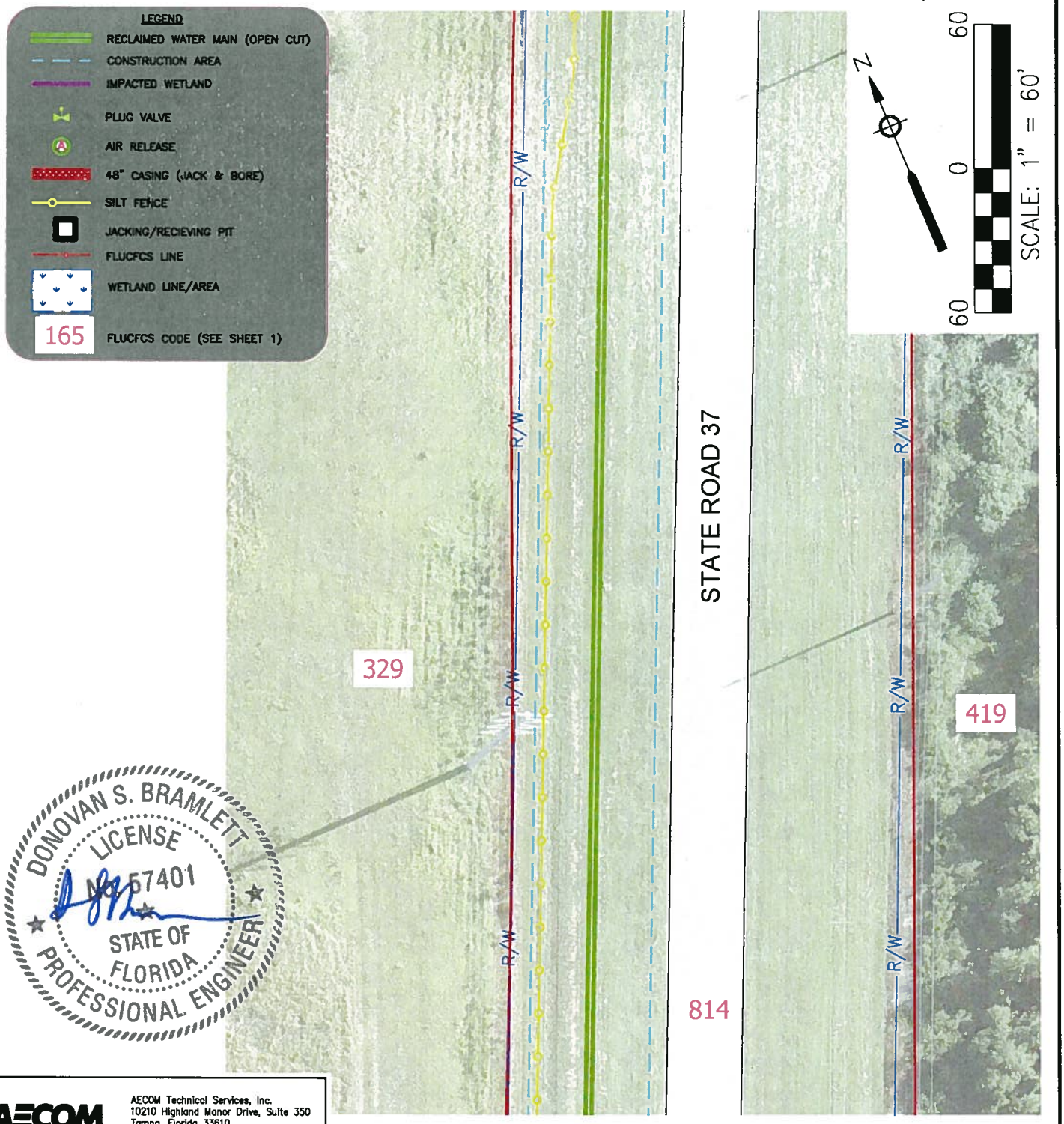
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_71-80.DWG	60218603
FILE NAME	PROJECT NUMBER

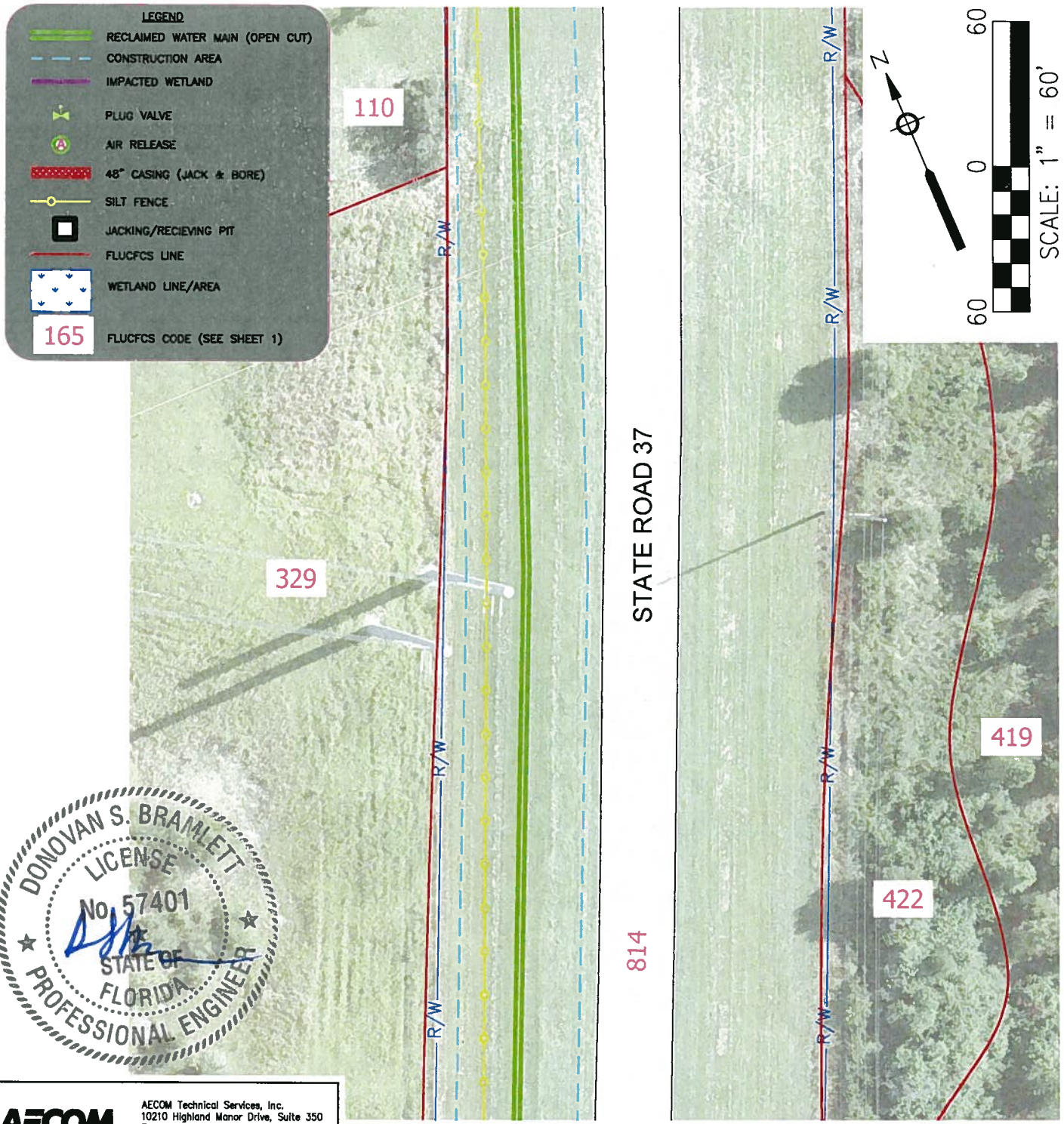
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

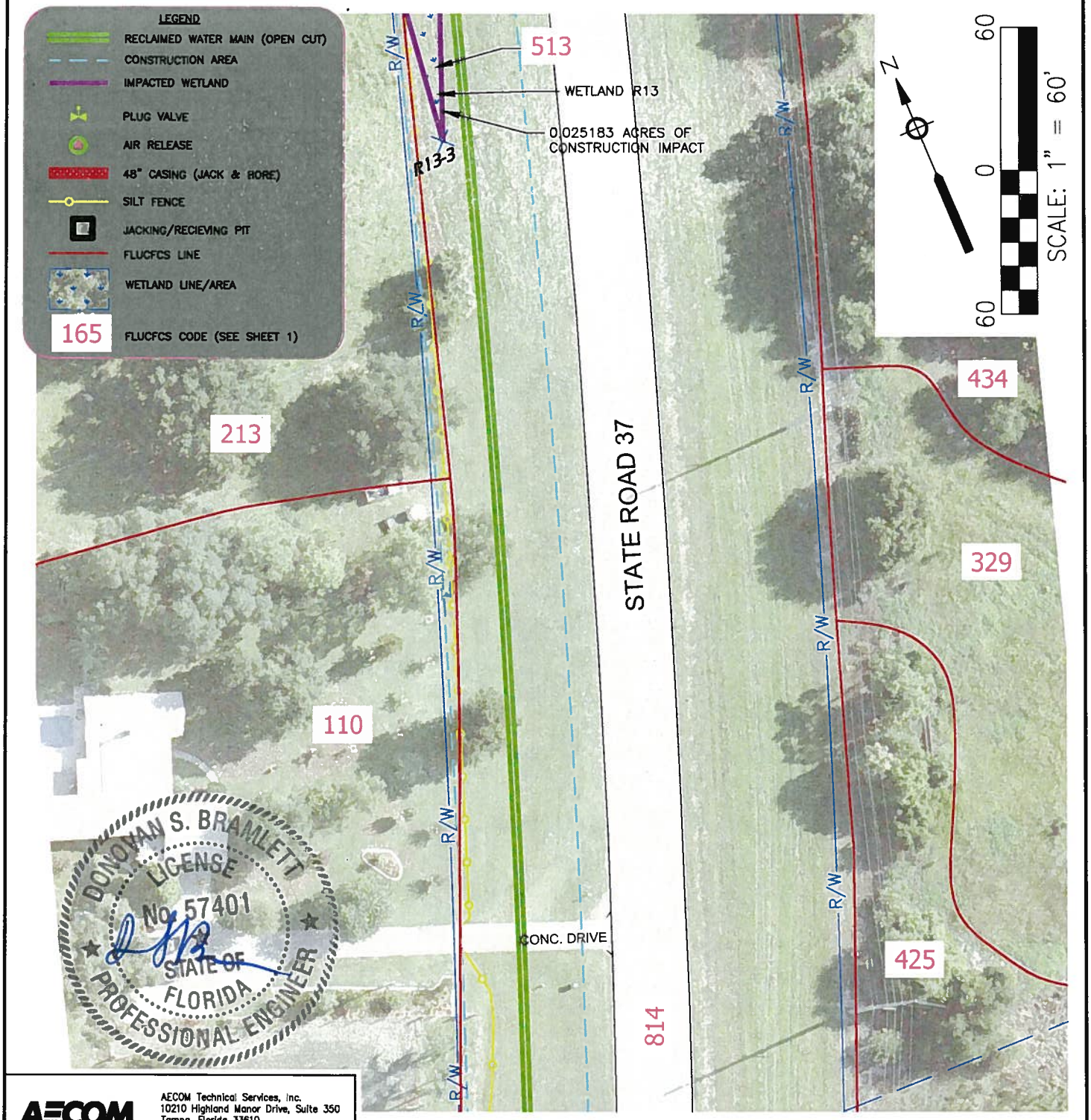
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

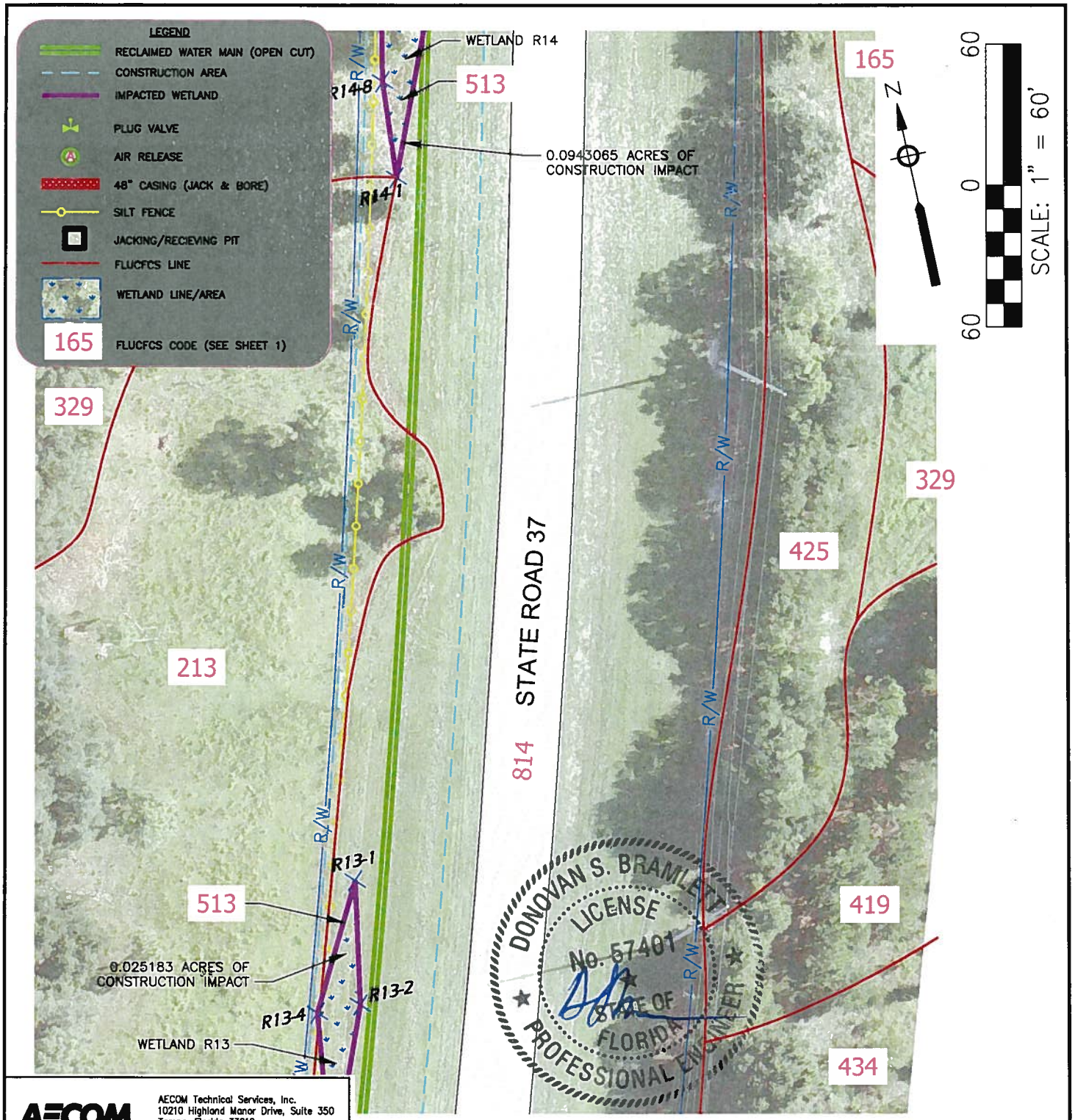
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

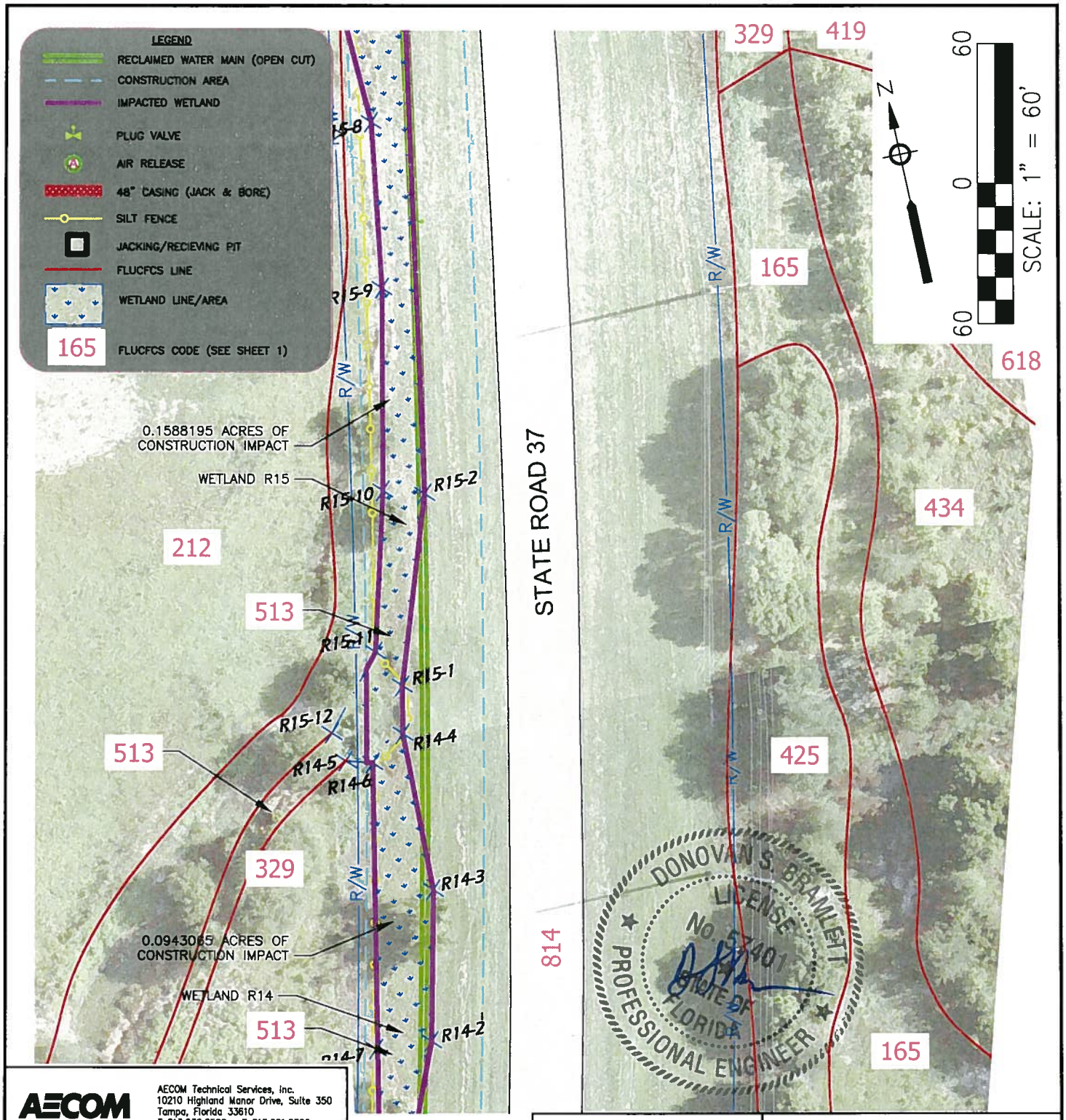
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION					
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE

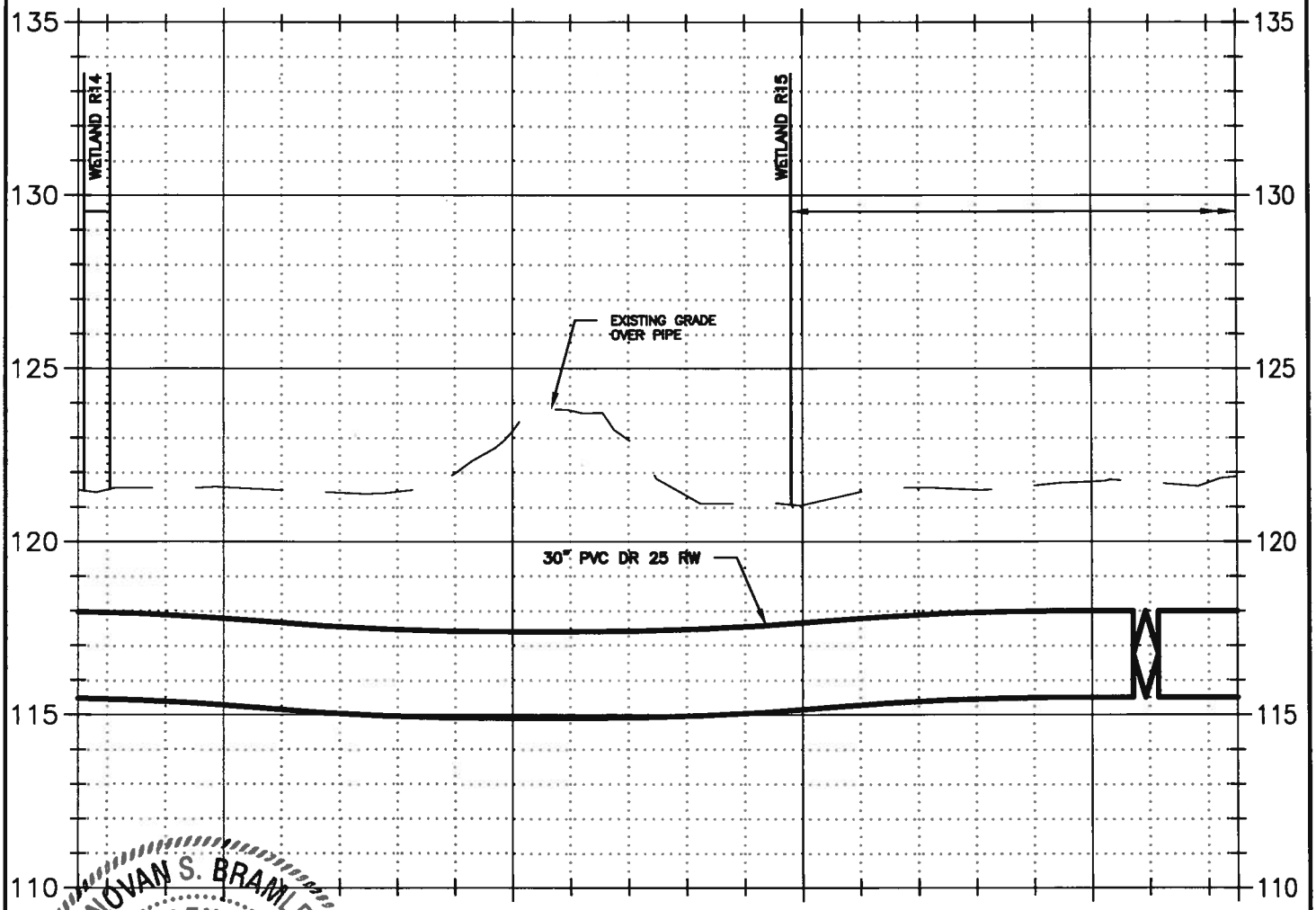
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 84 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

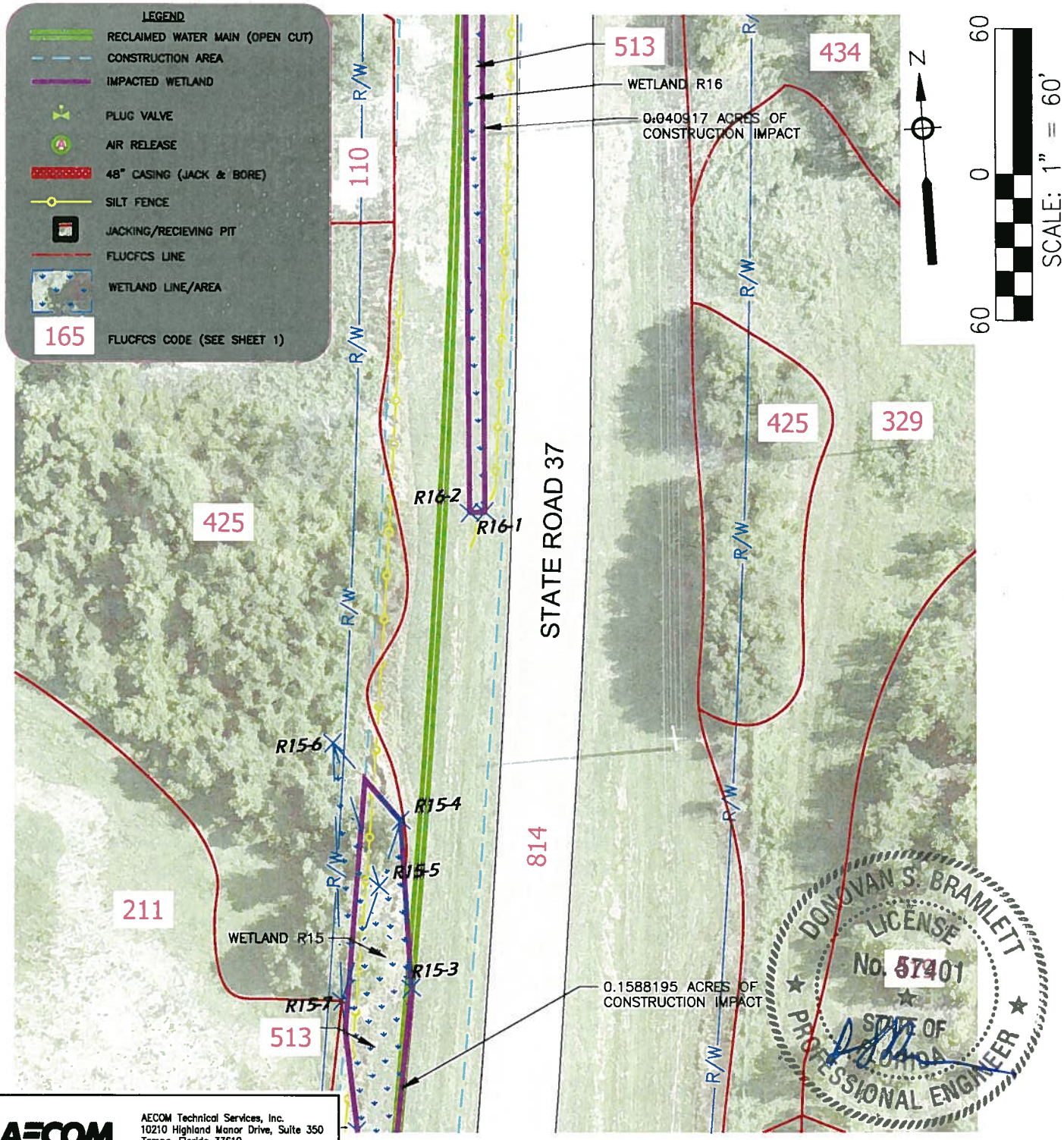
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 84
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

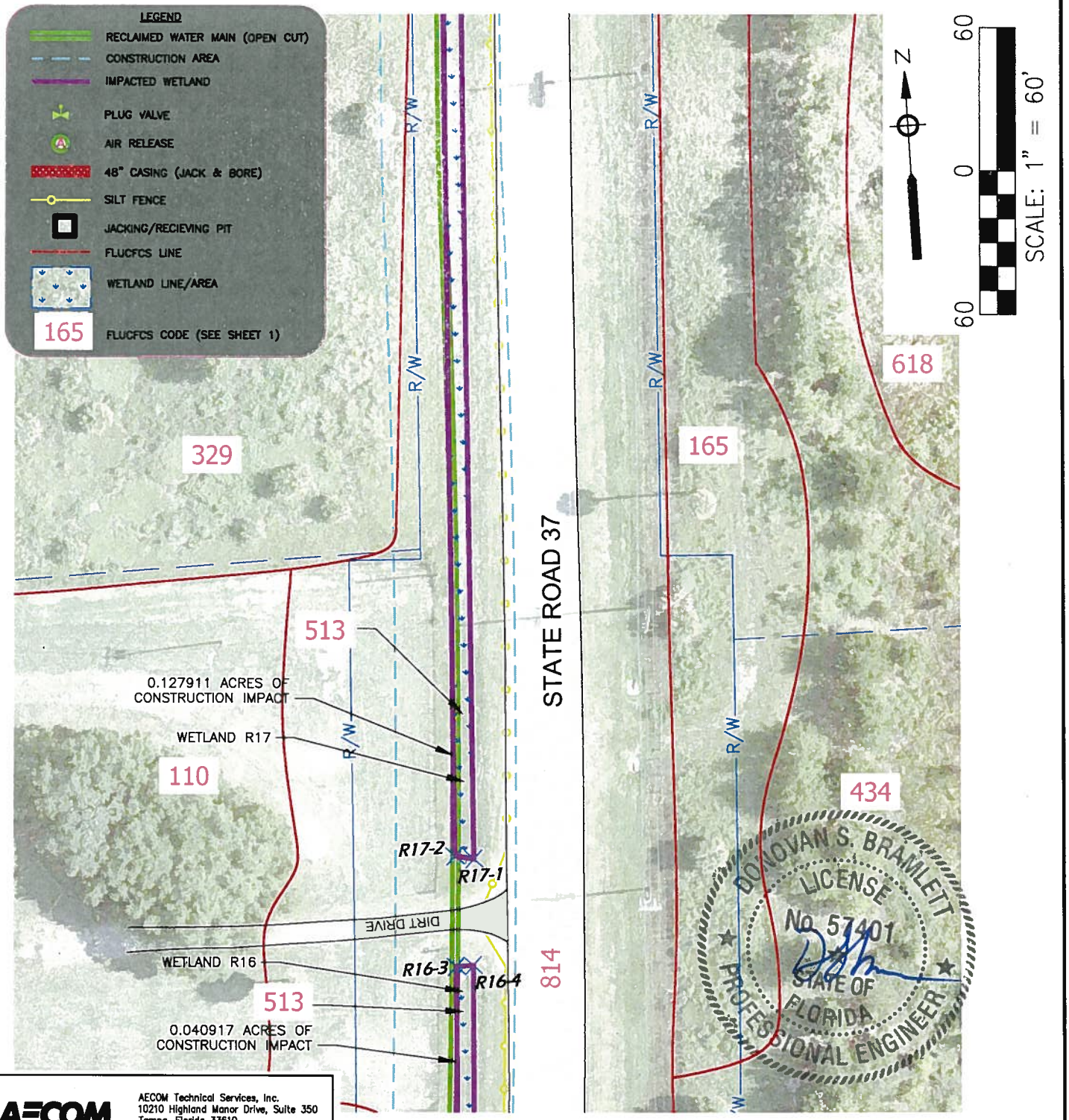
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 86
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

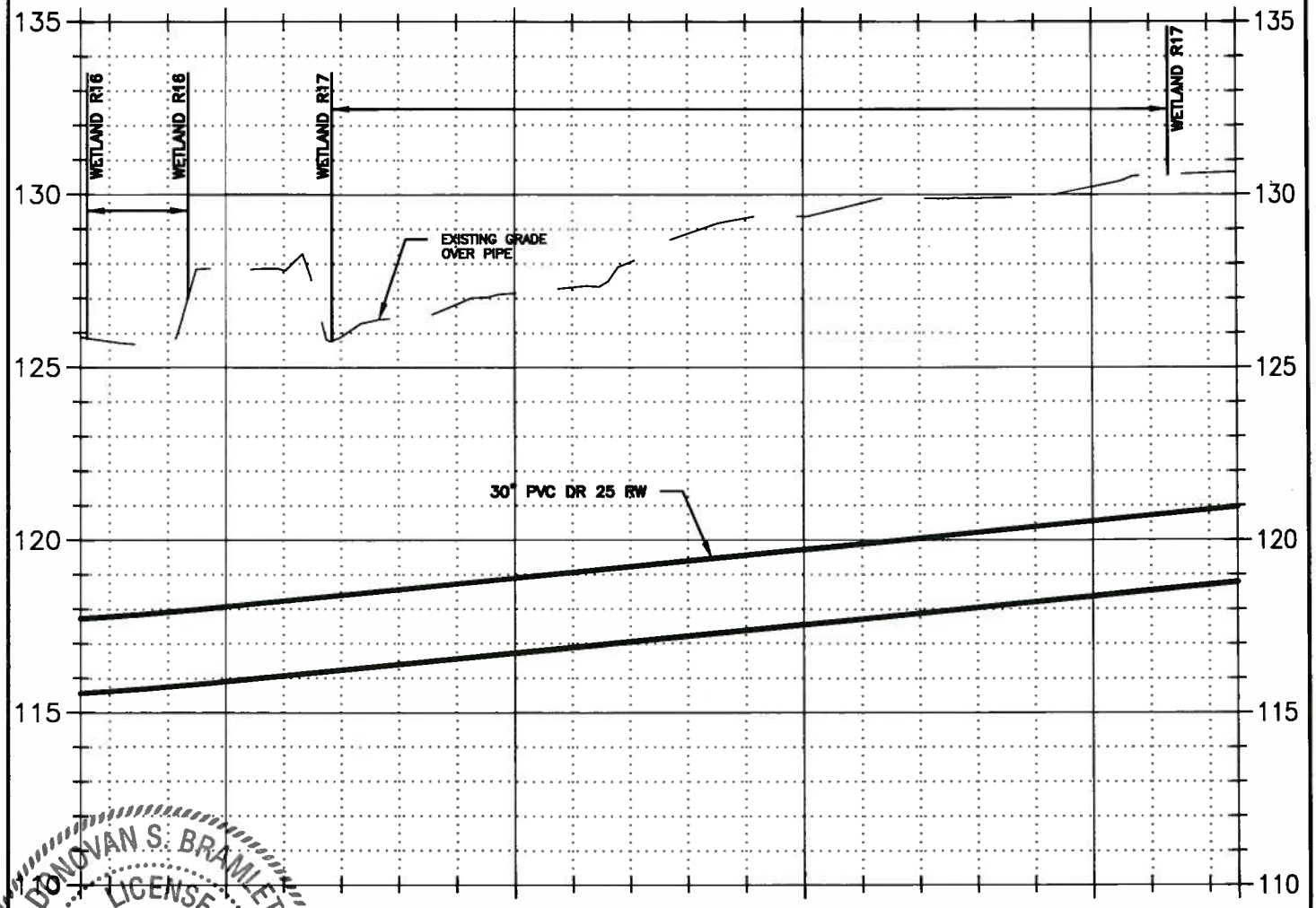
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

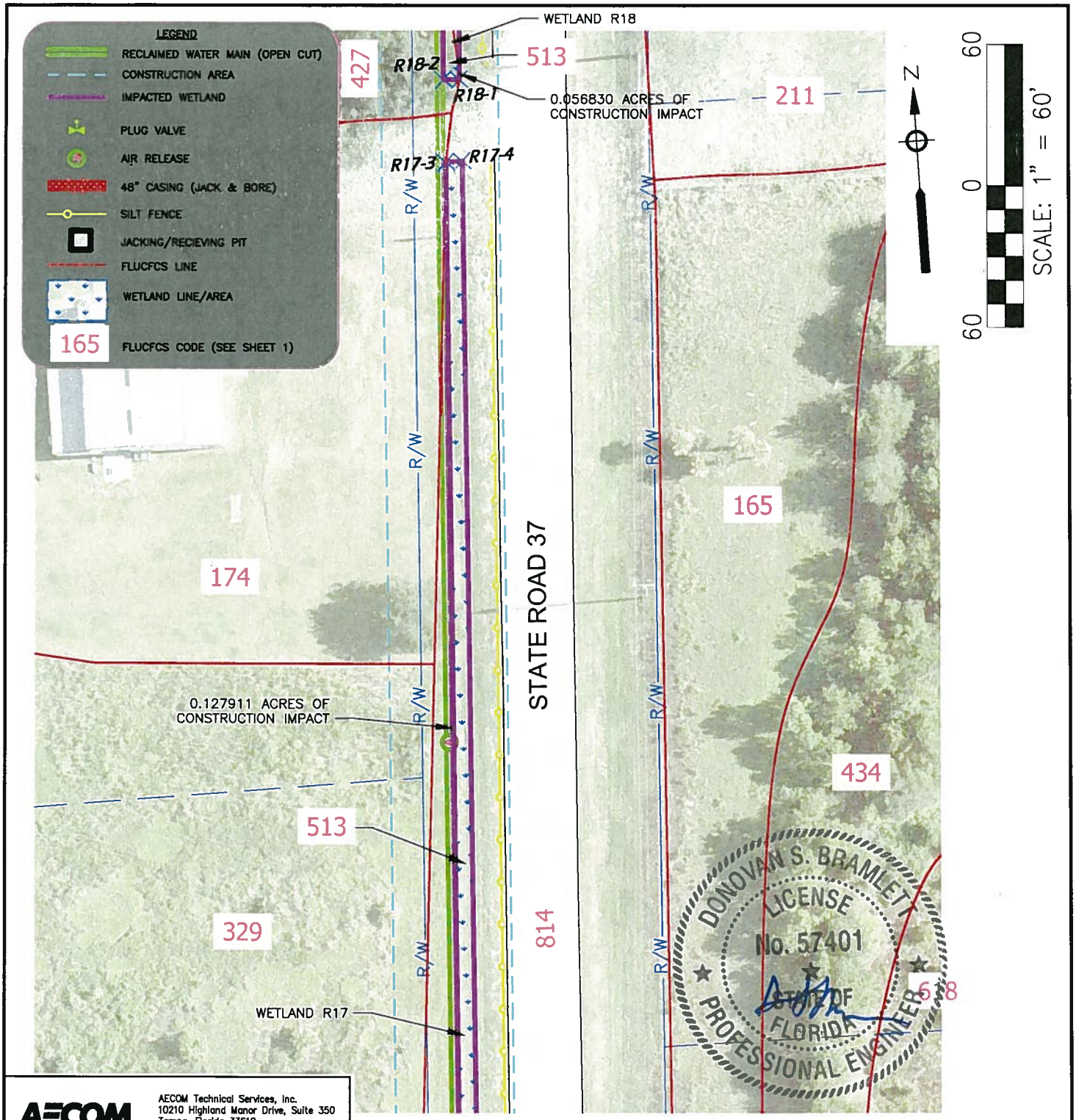
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 88
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

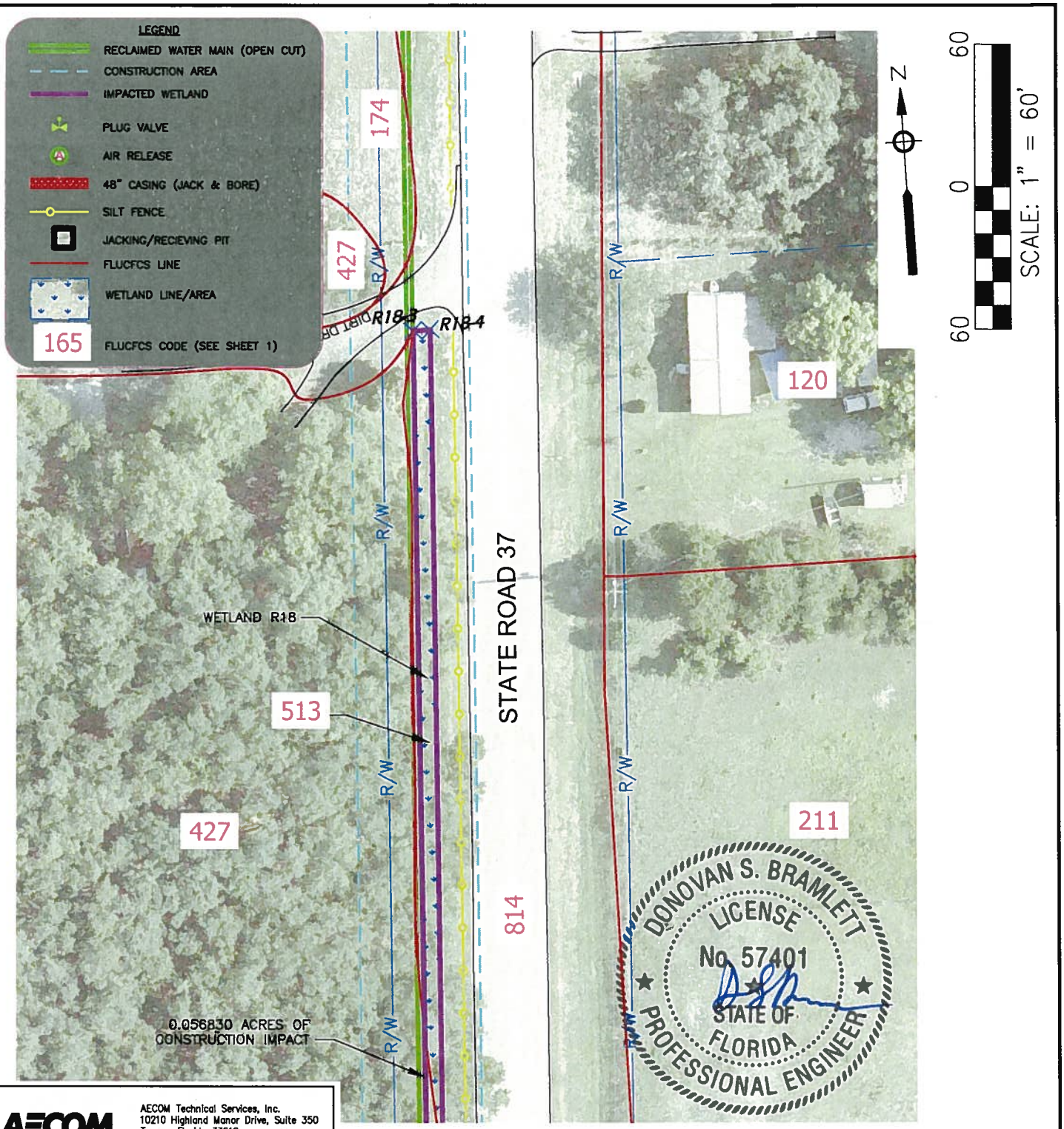
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 90 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

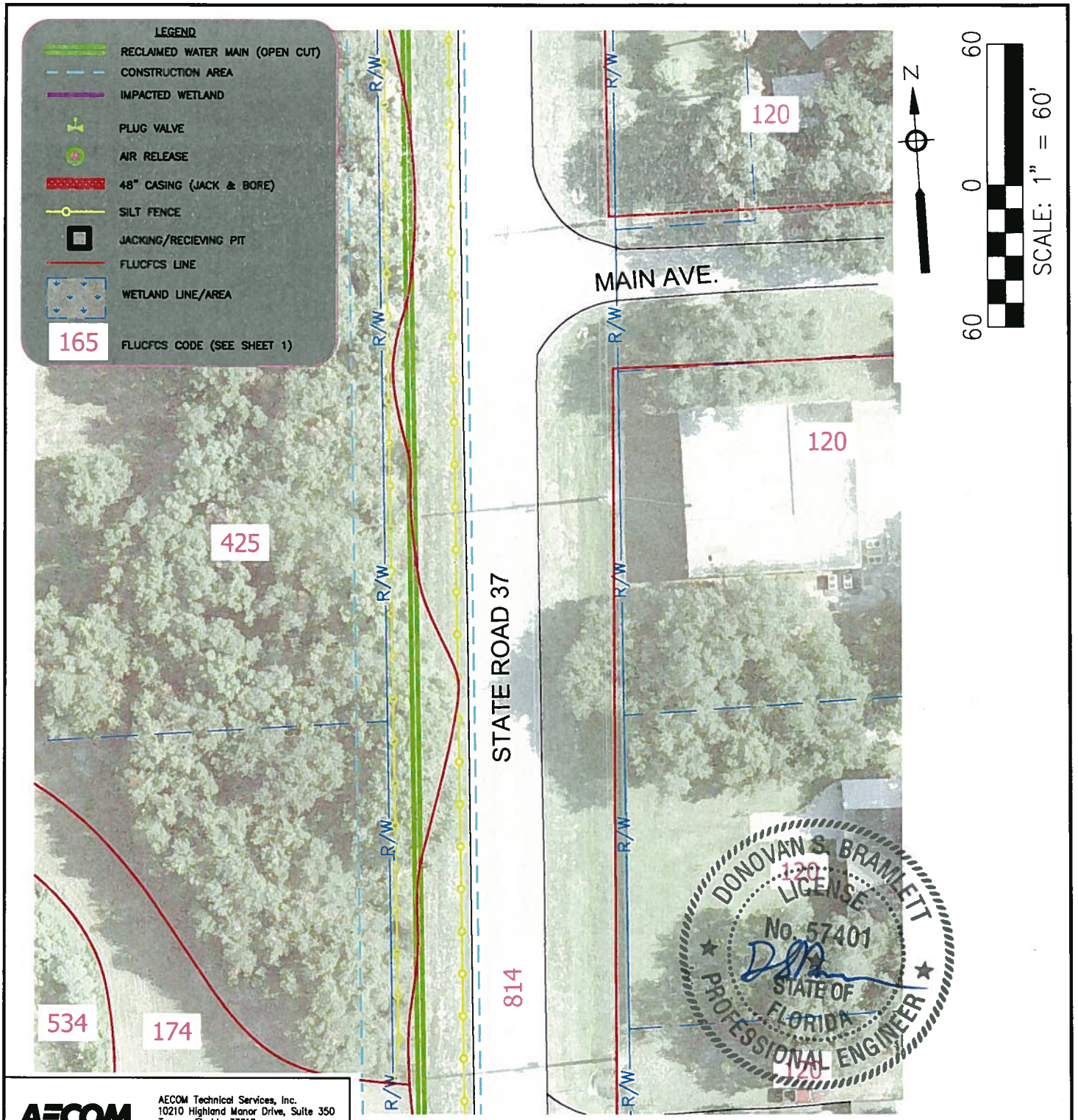
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

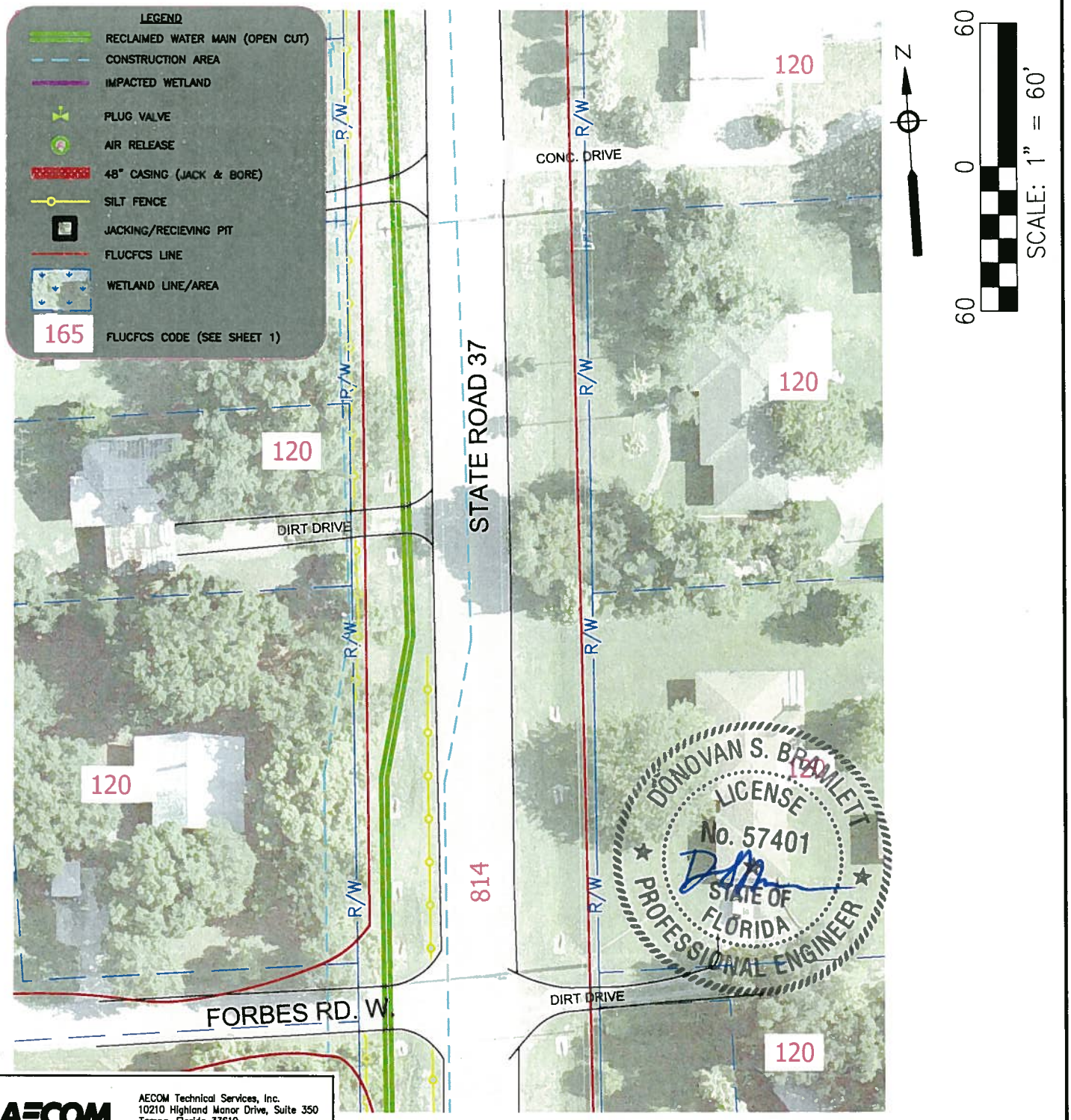
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_81-93.DWG	60218603
FILE NAME	PROJECT NUMBER

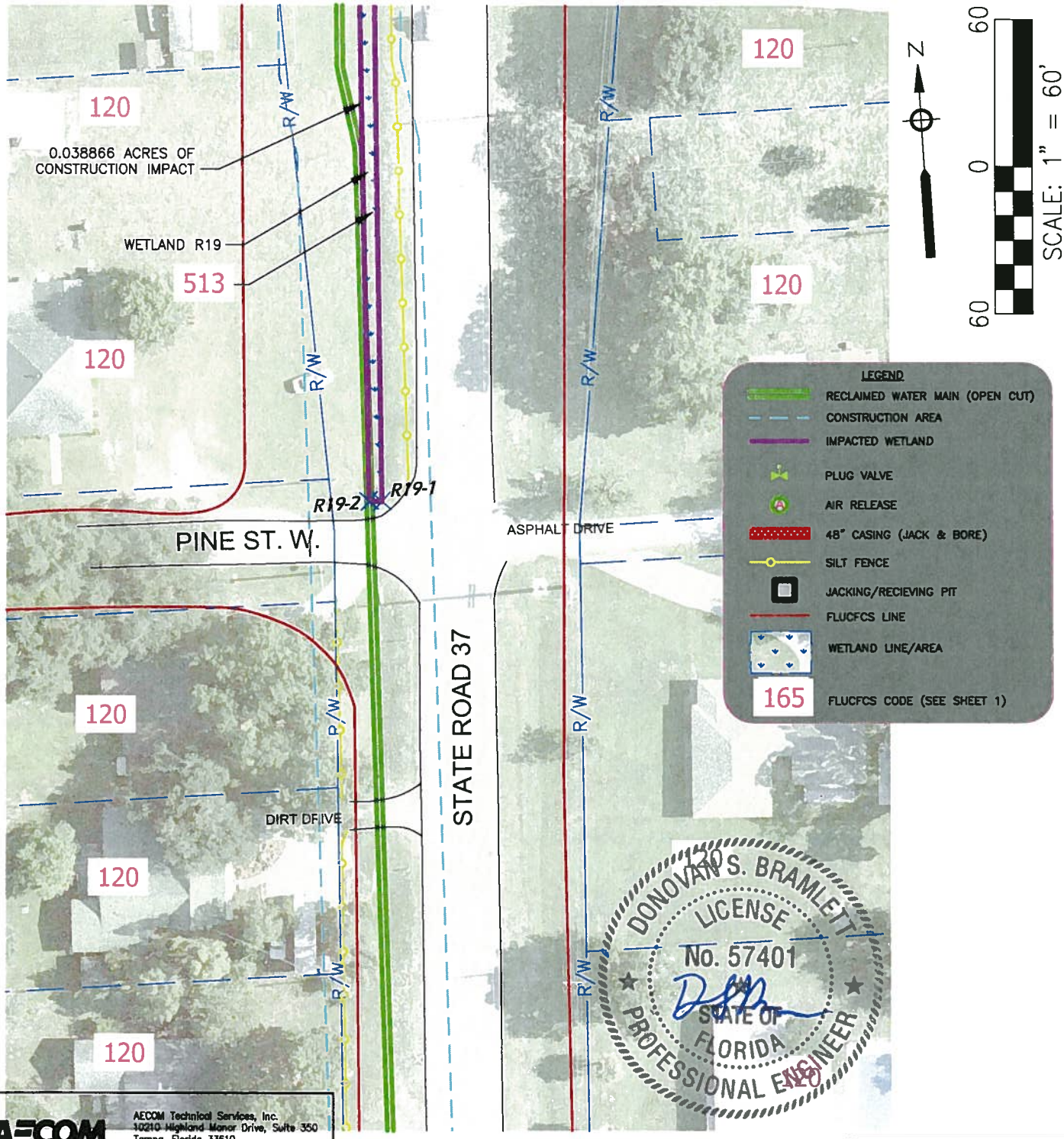
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

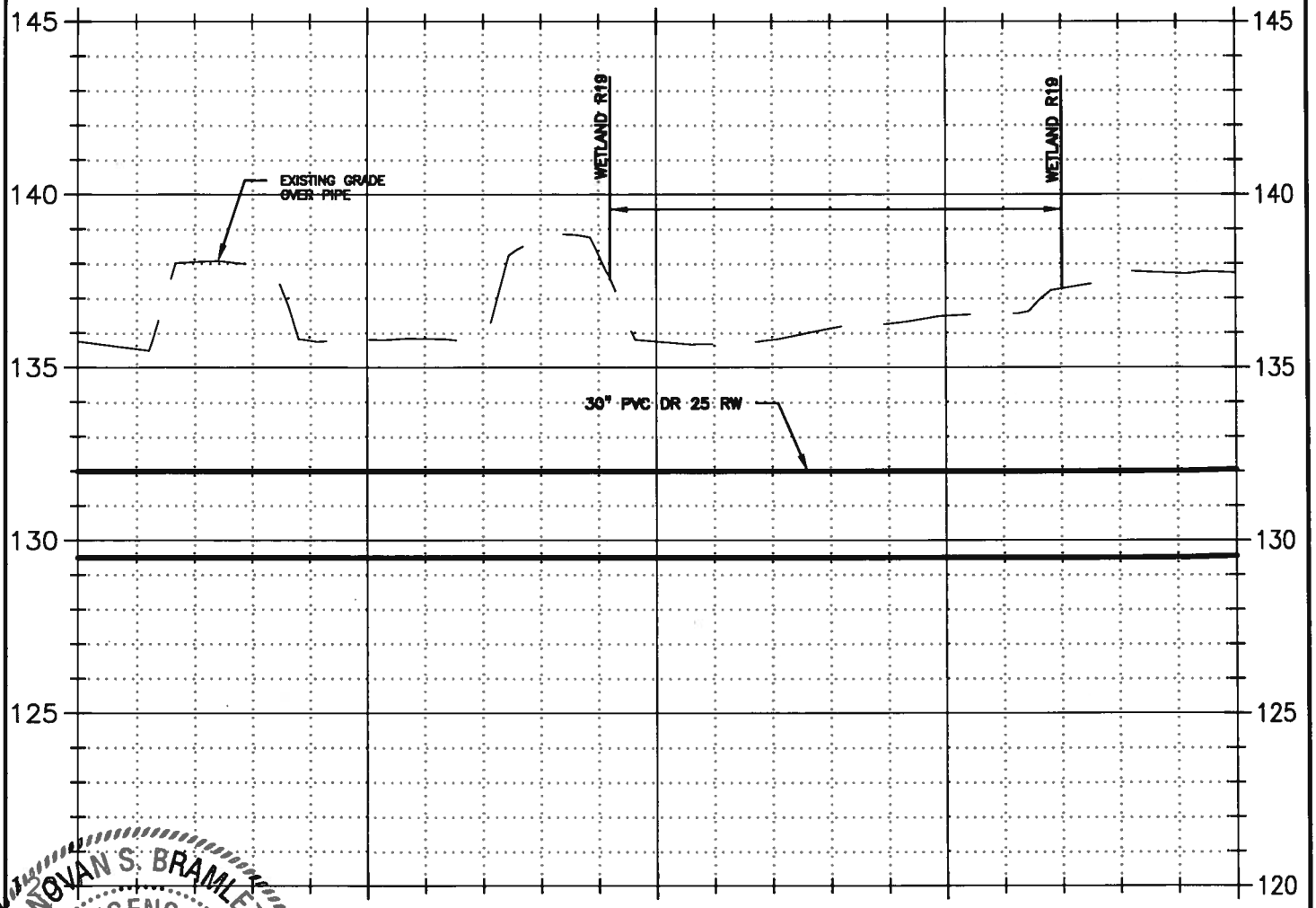
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

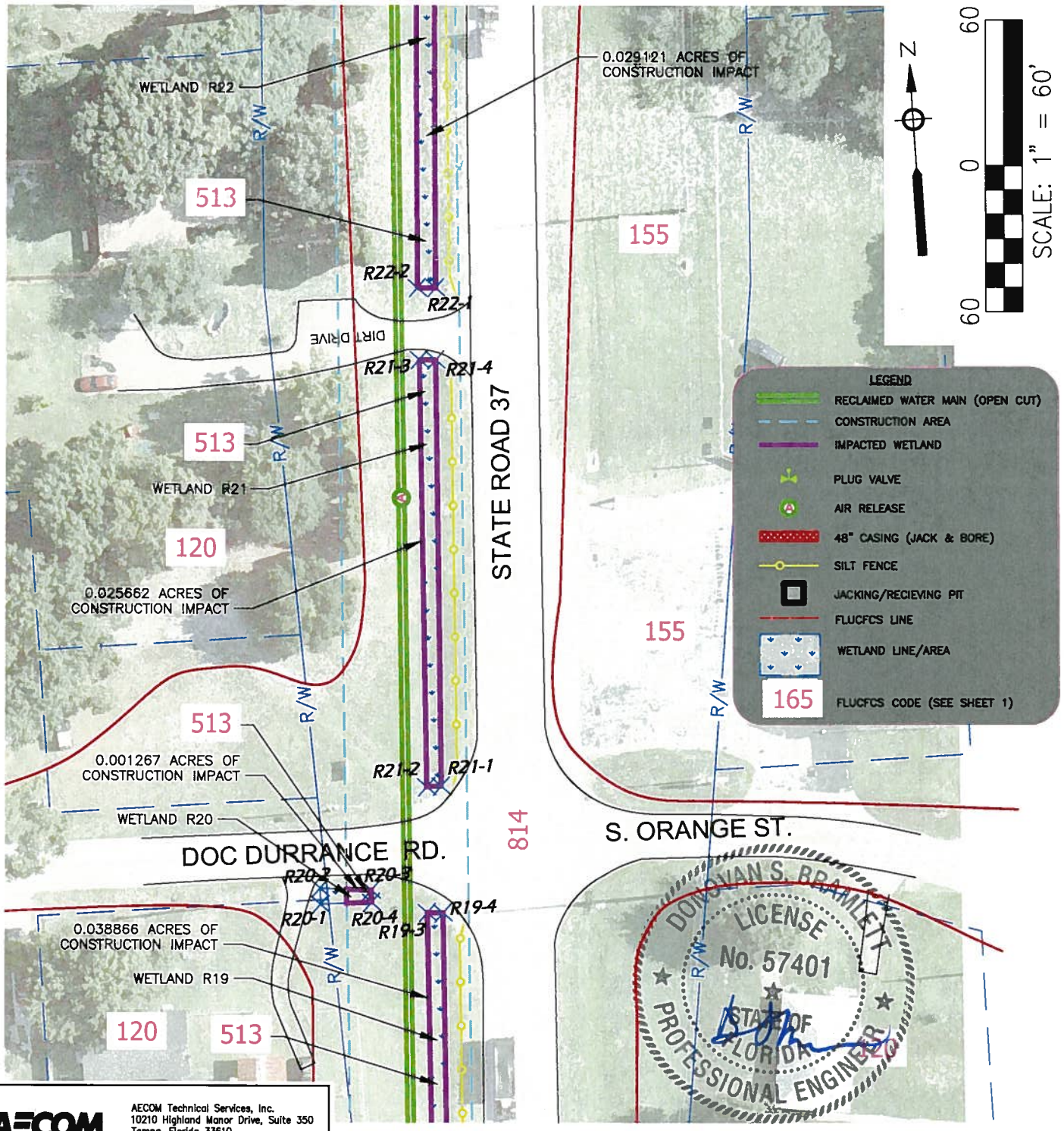
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 94
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

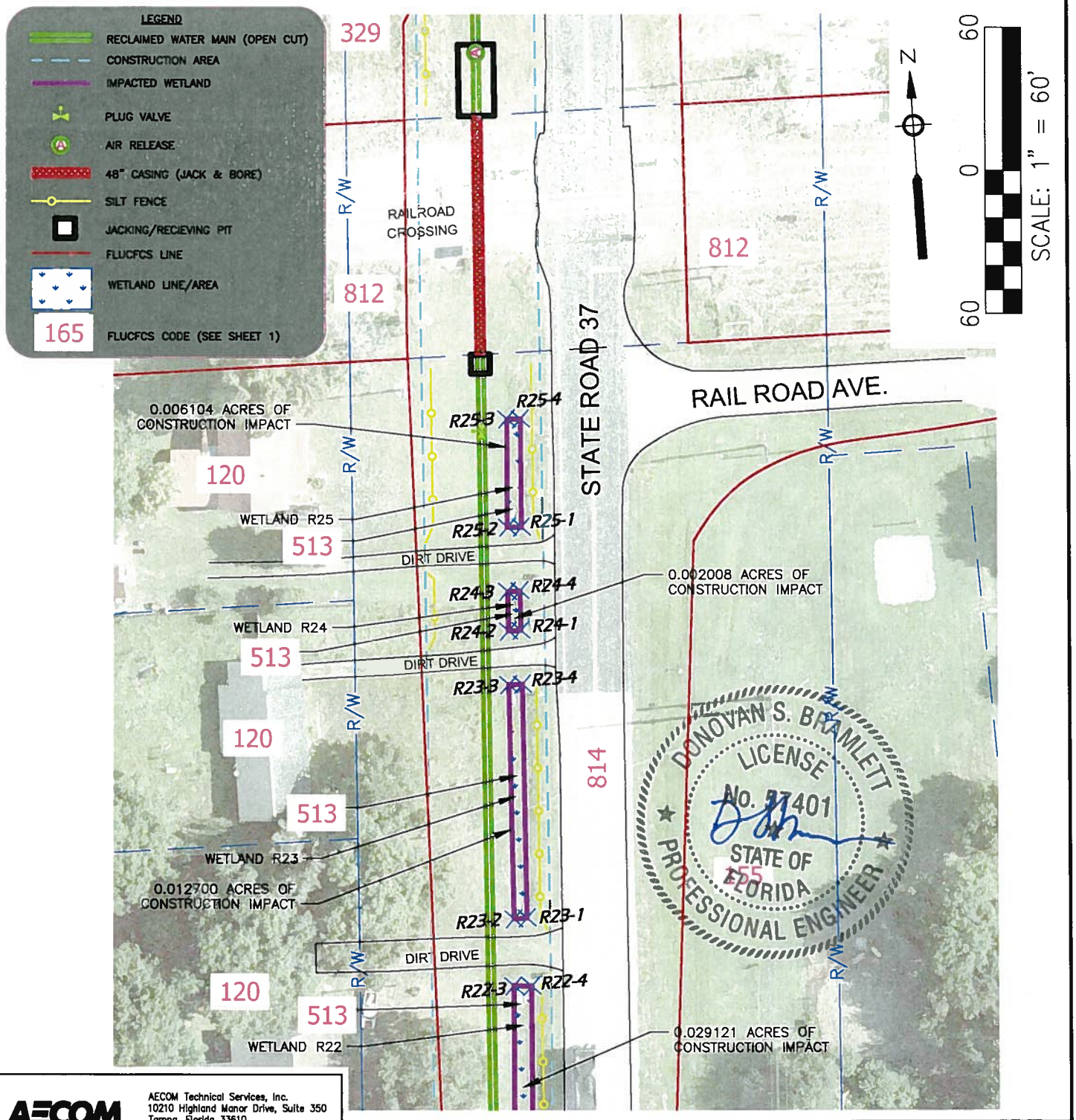
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

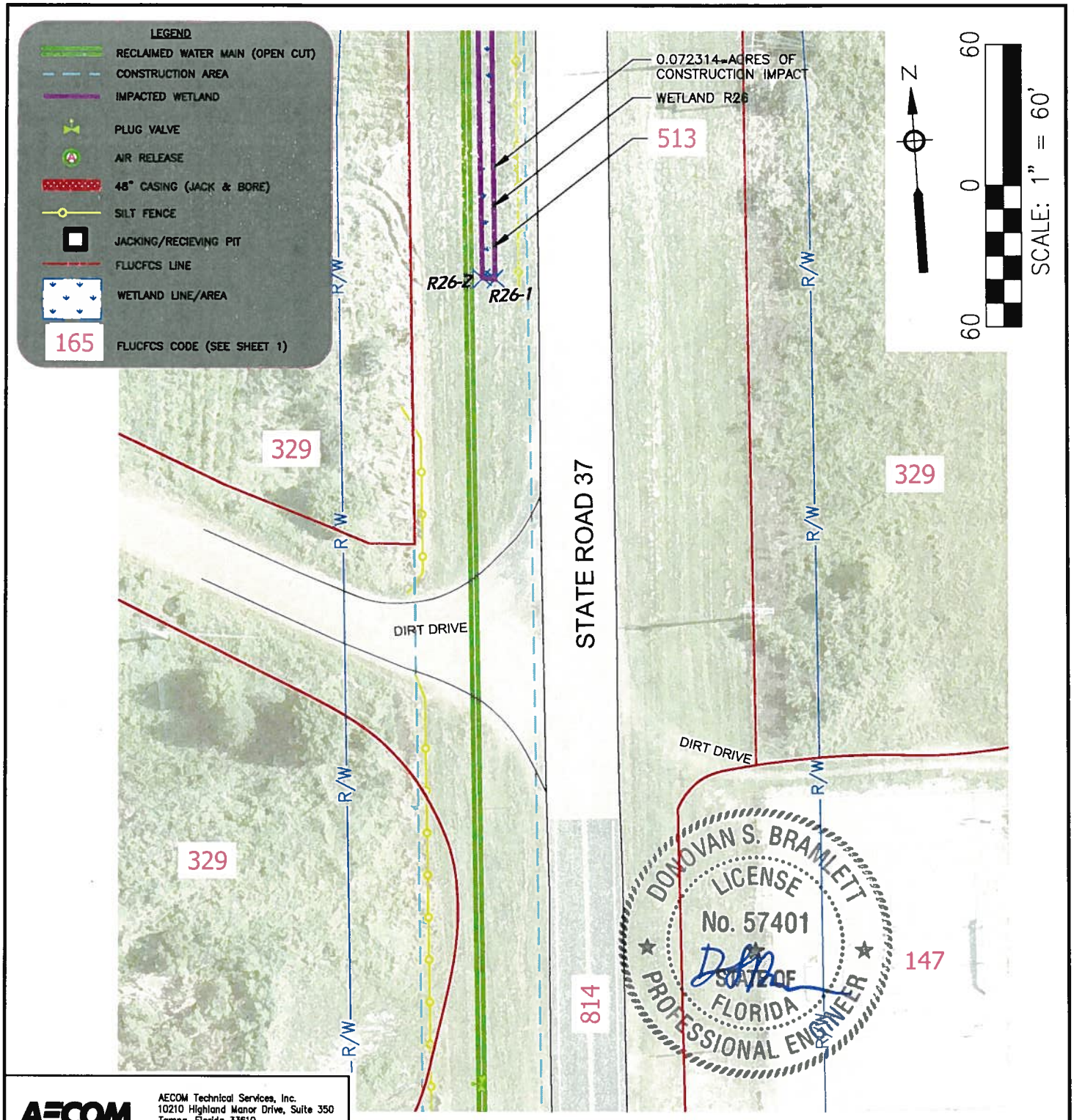
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

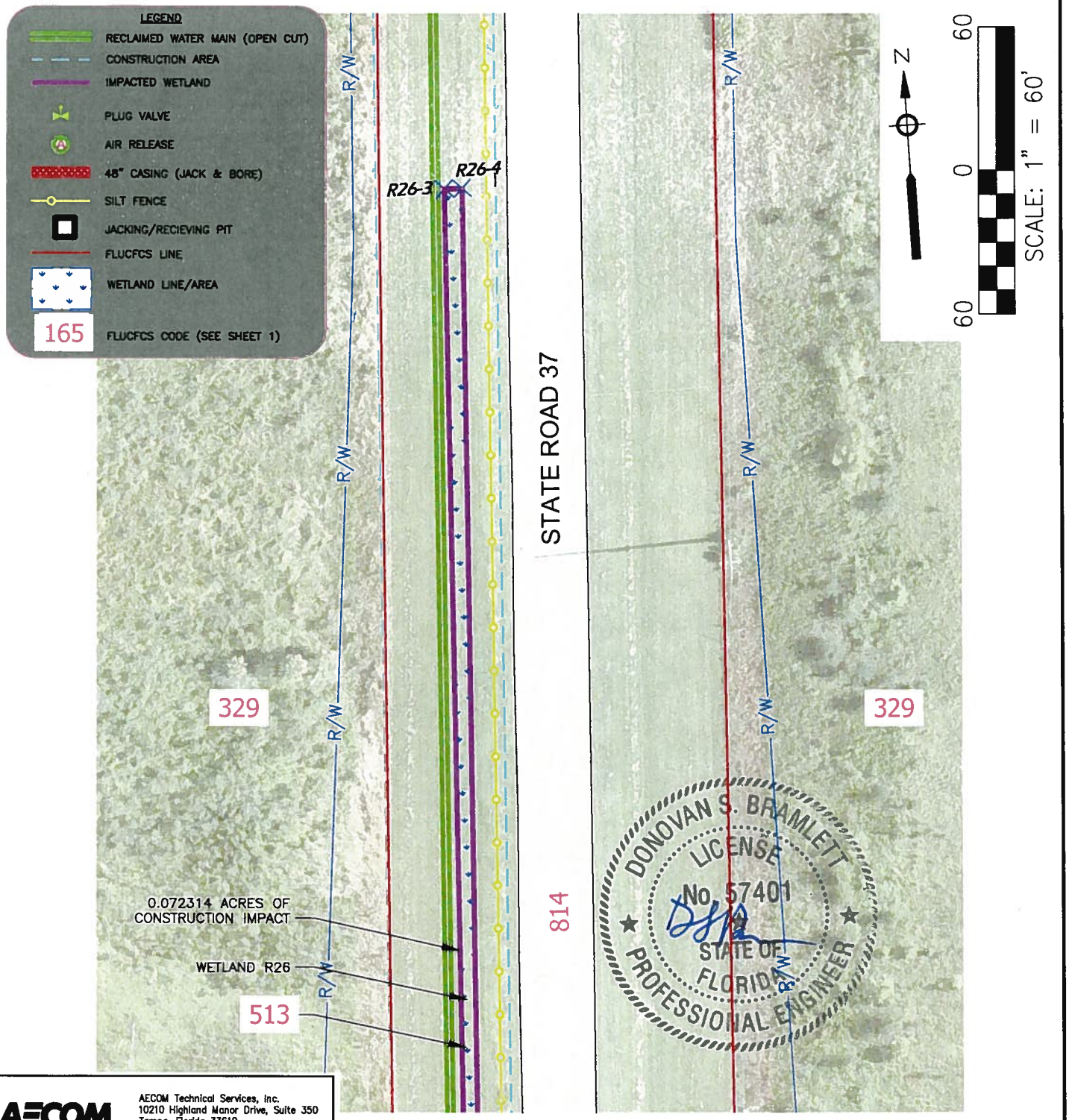
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

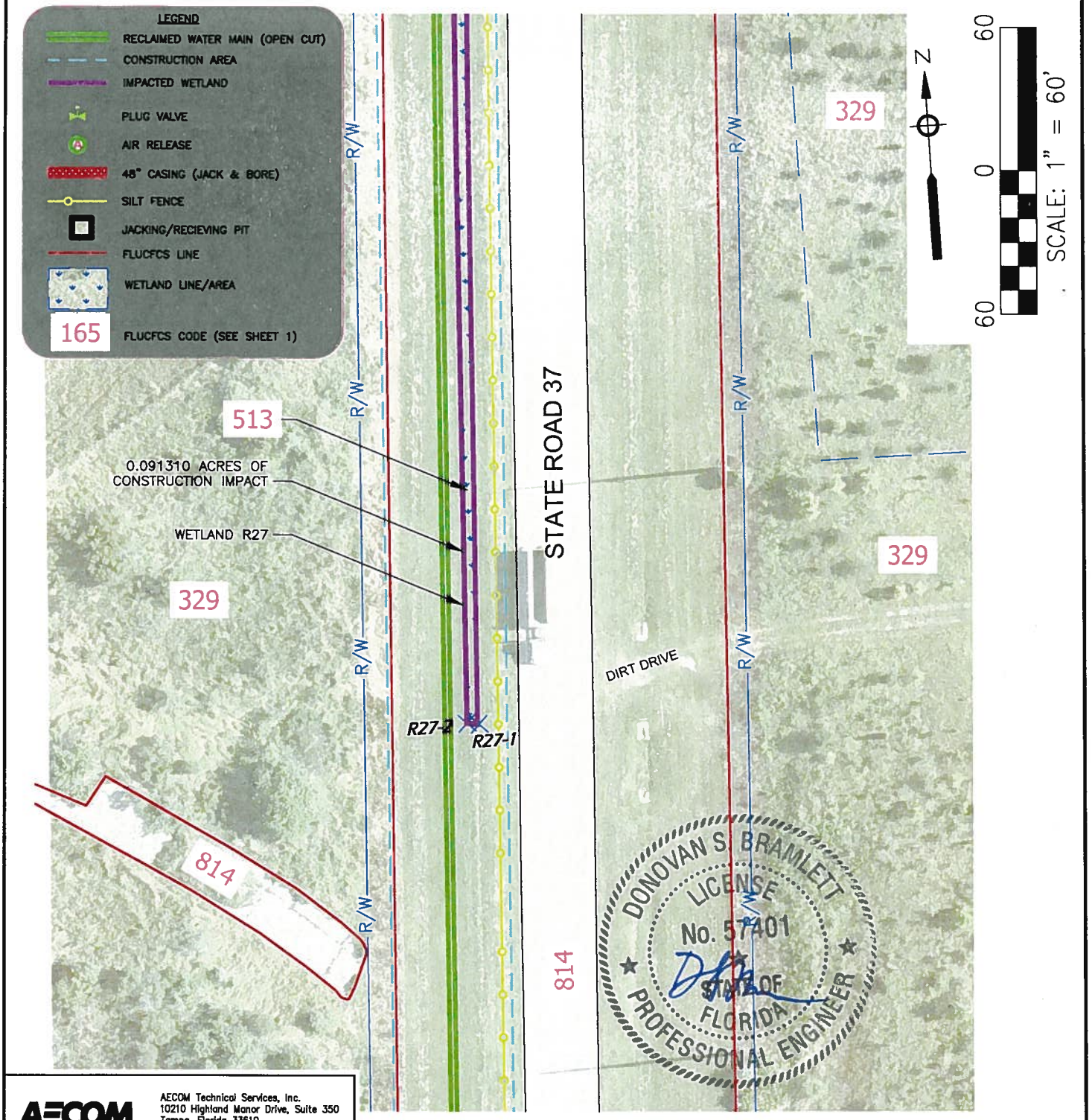
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

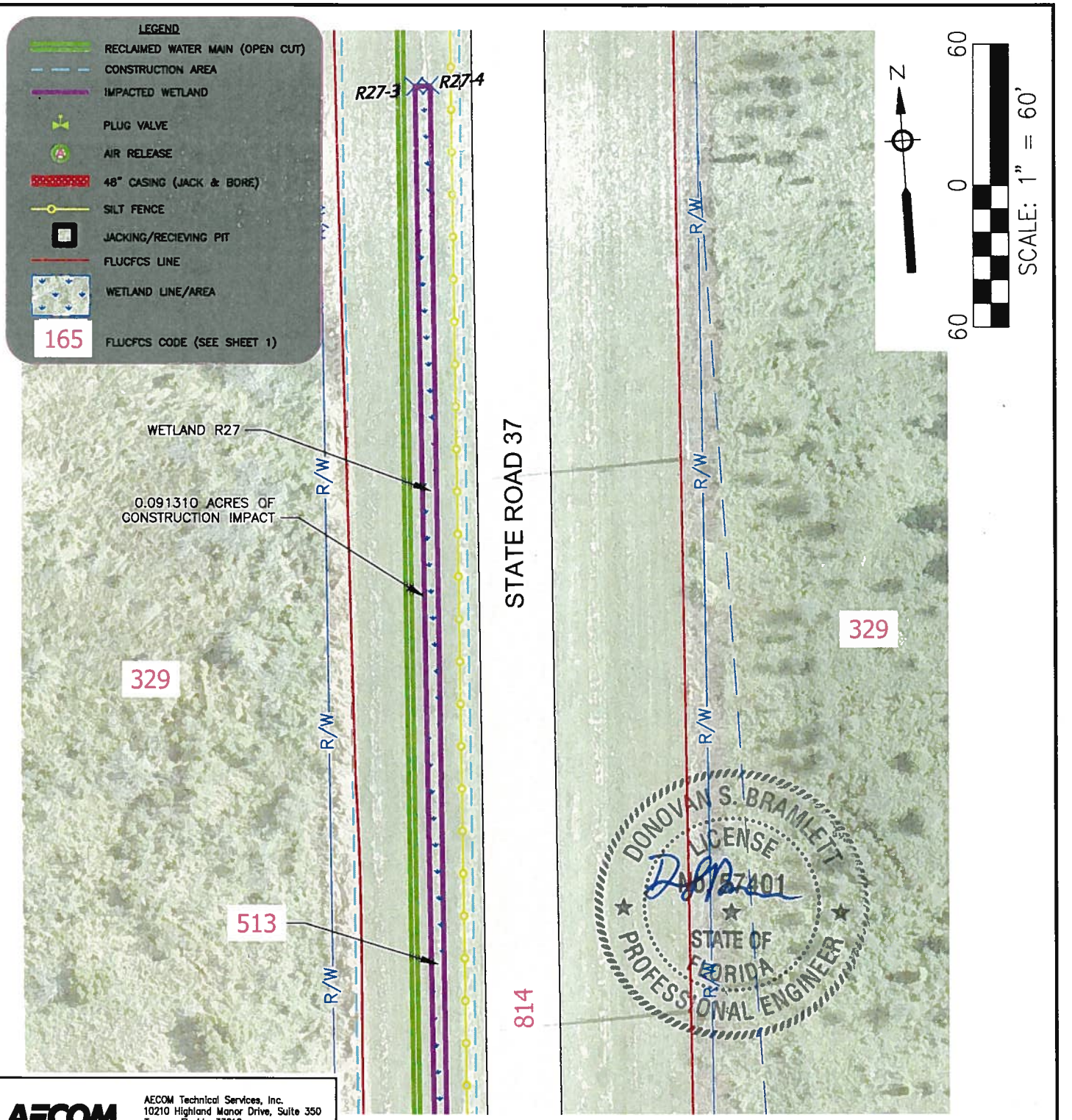
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

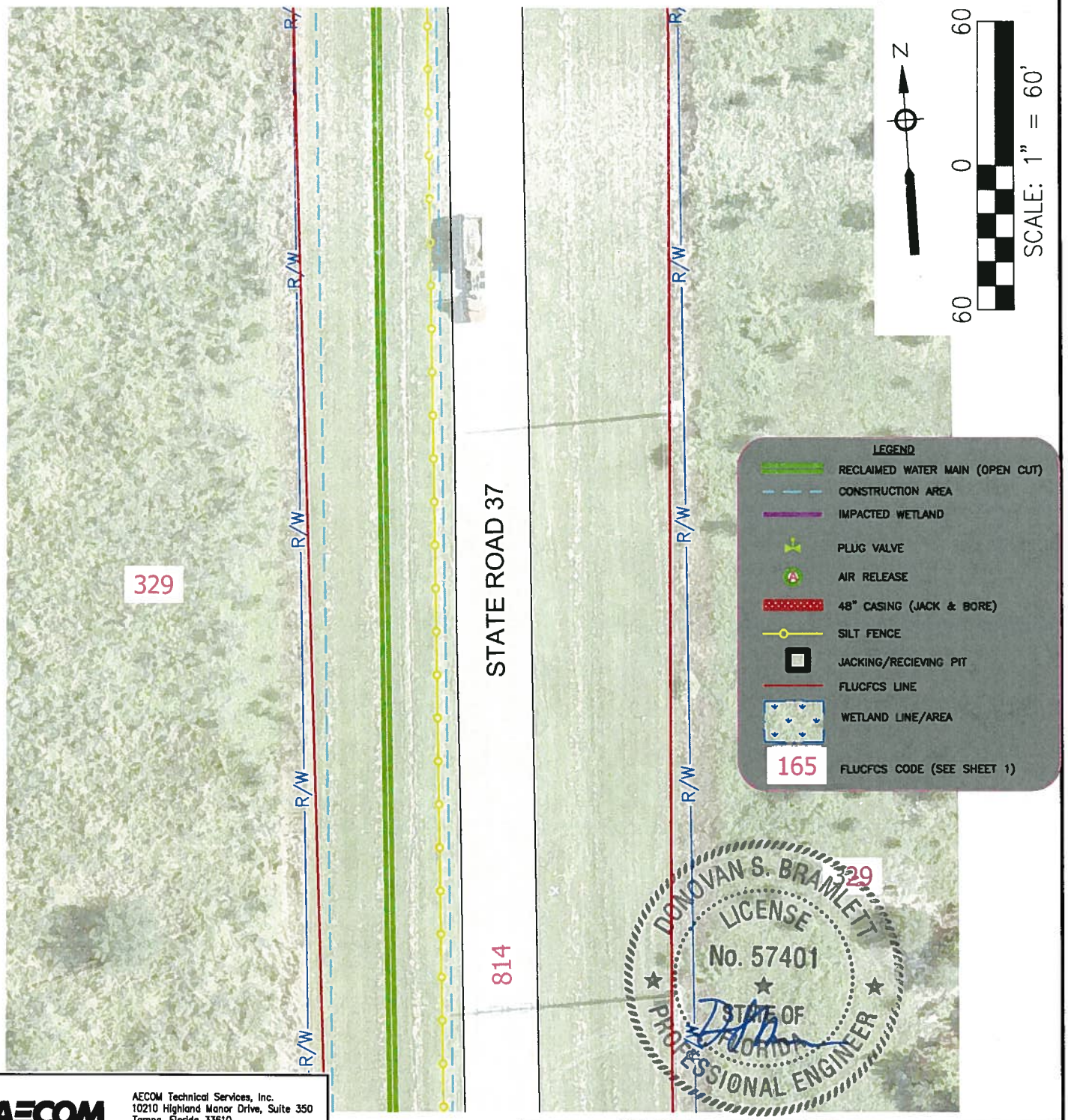
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

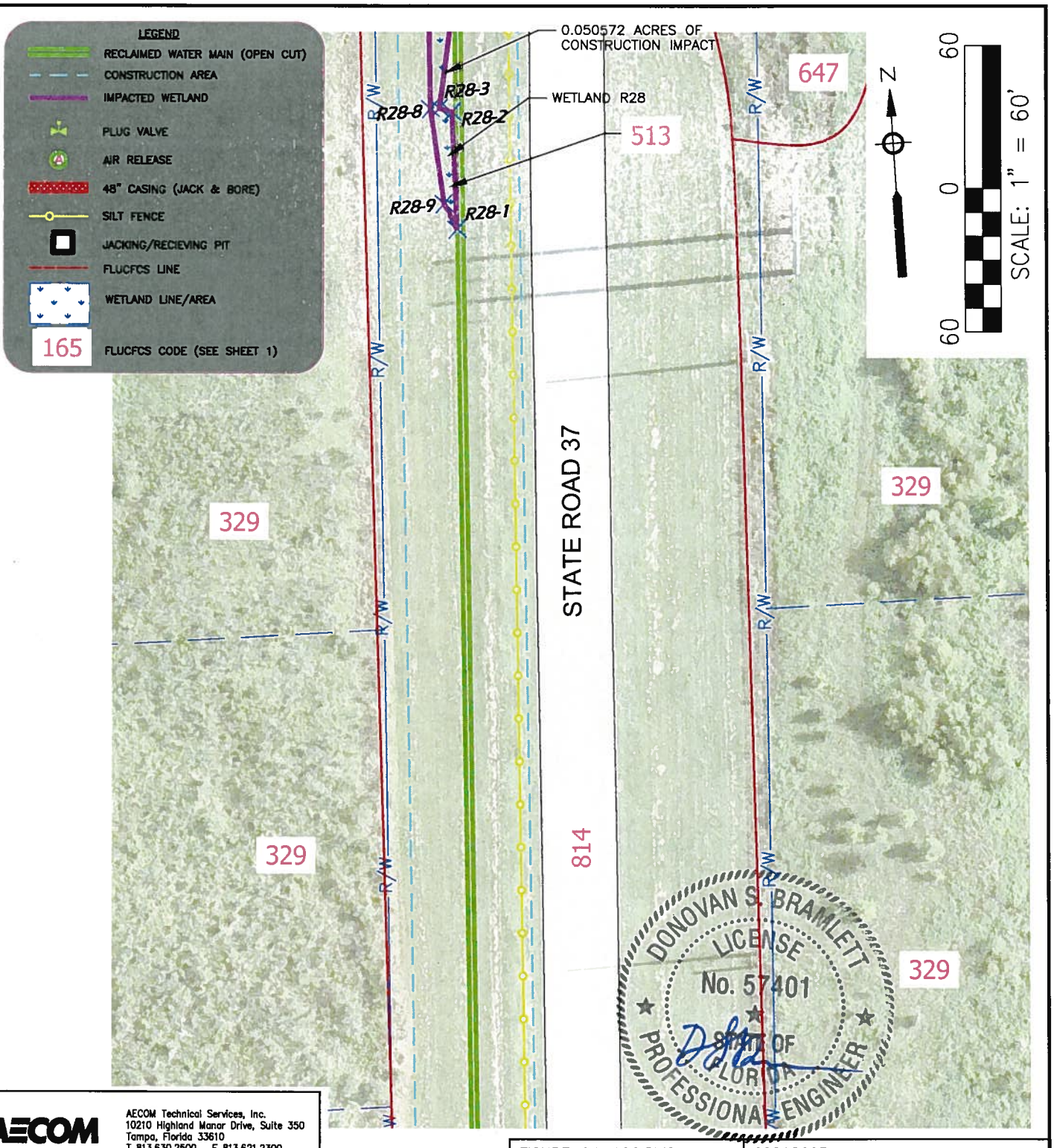
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

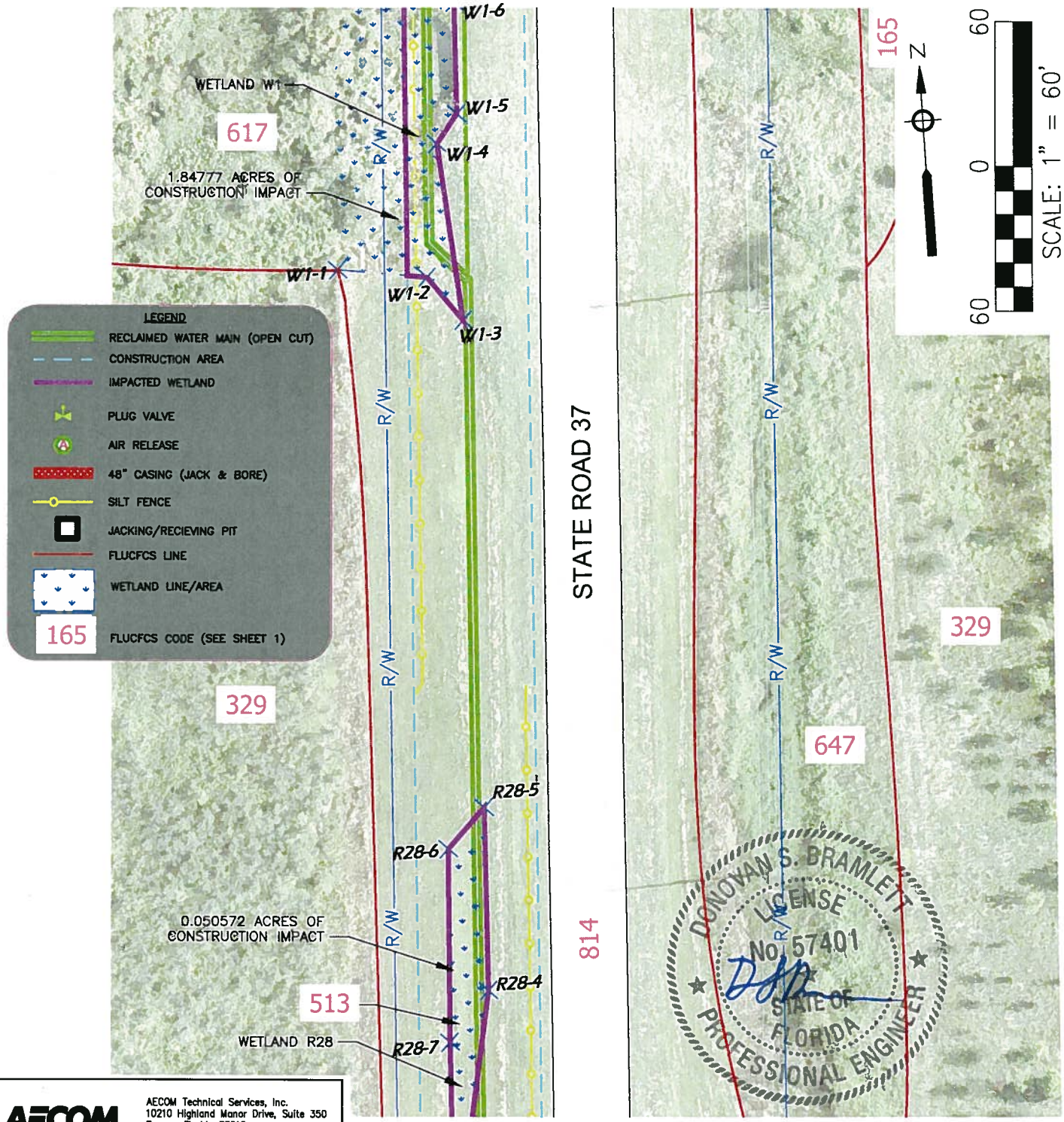
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 103 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

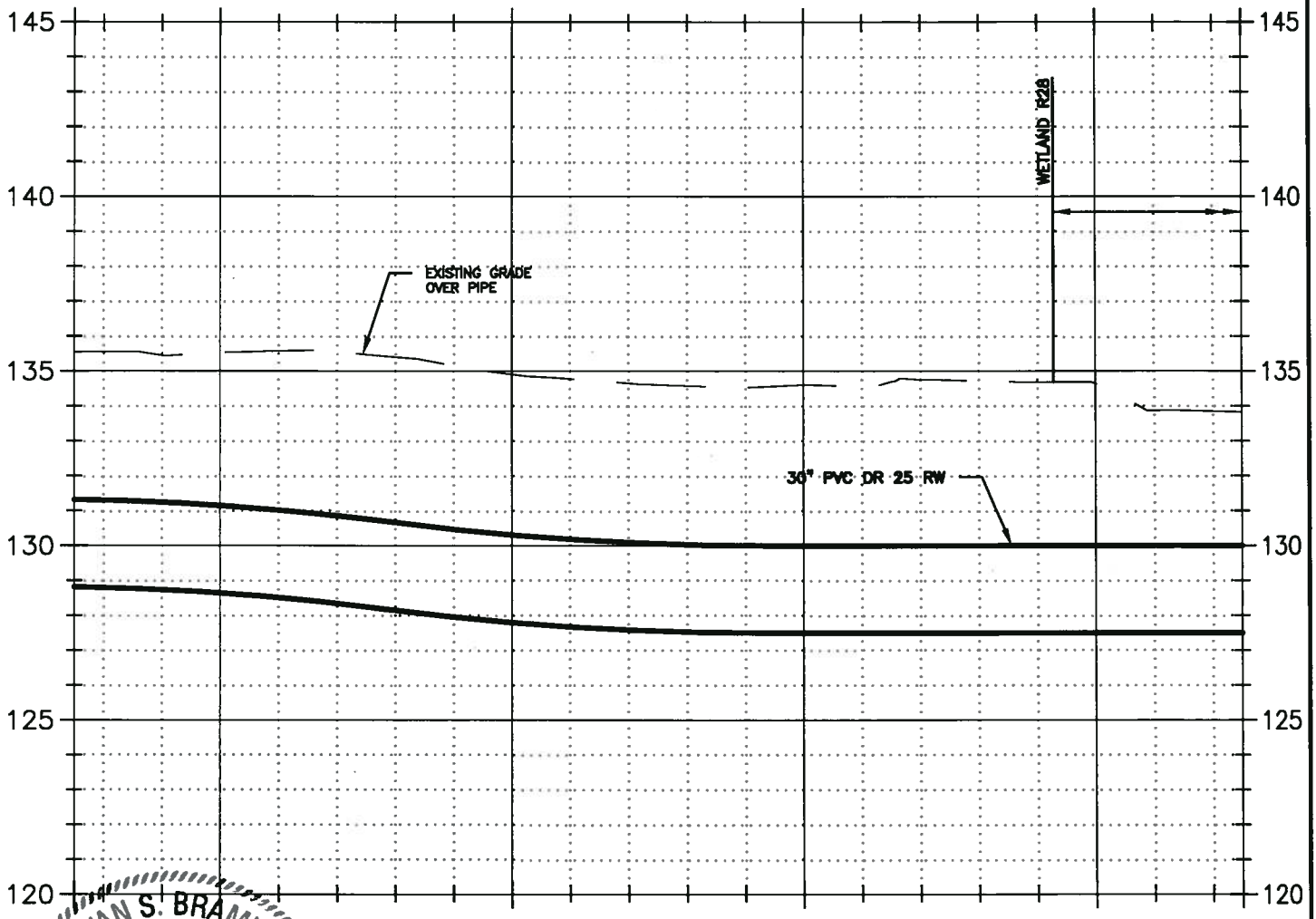
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

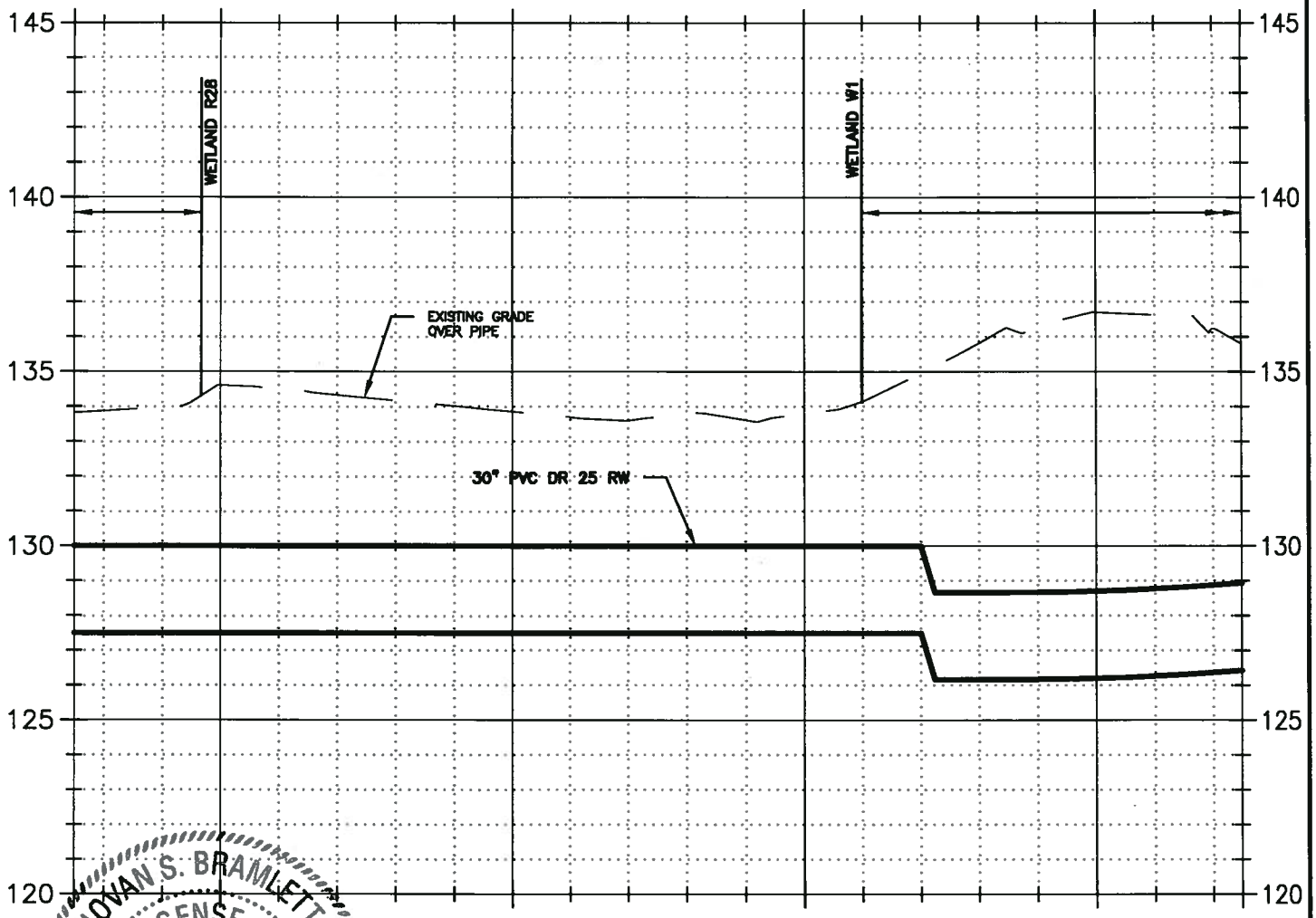
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 104
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 105 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_94-106.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

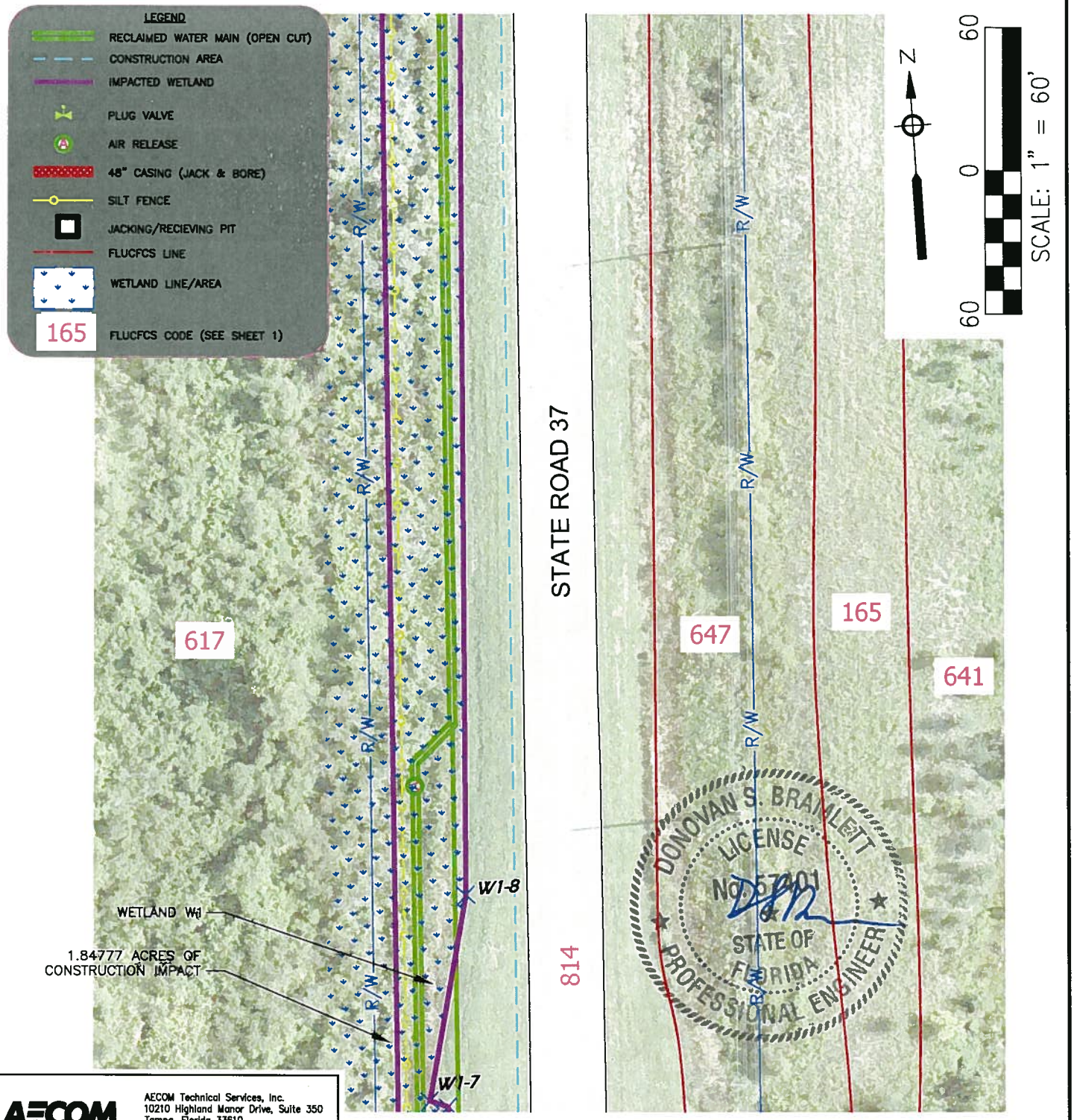
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 104
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 106 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

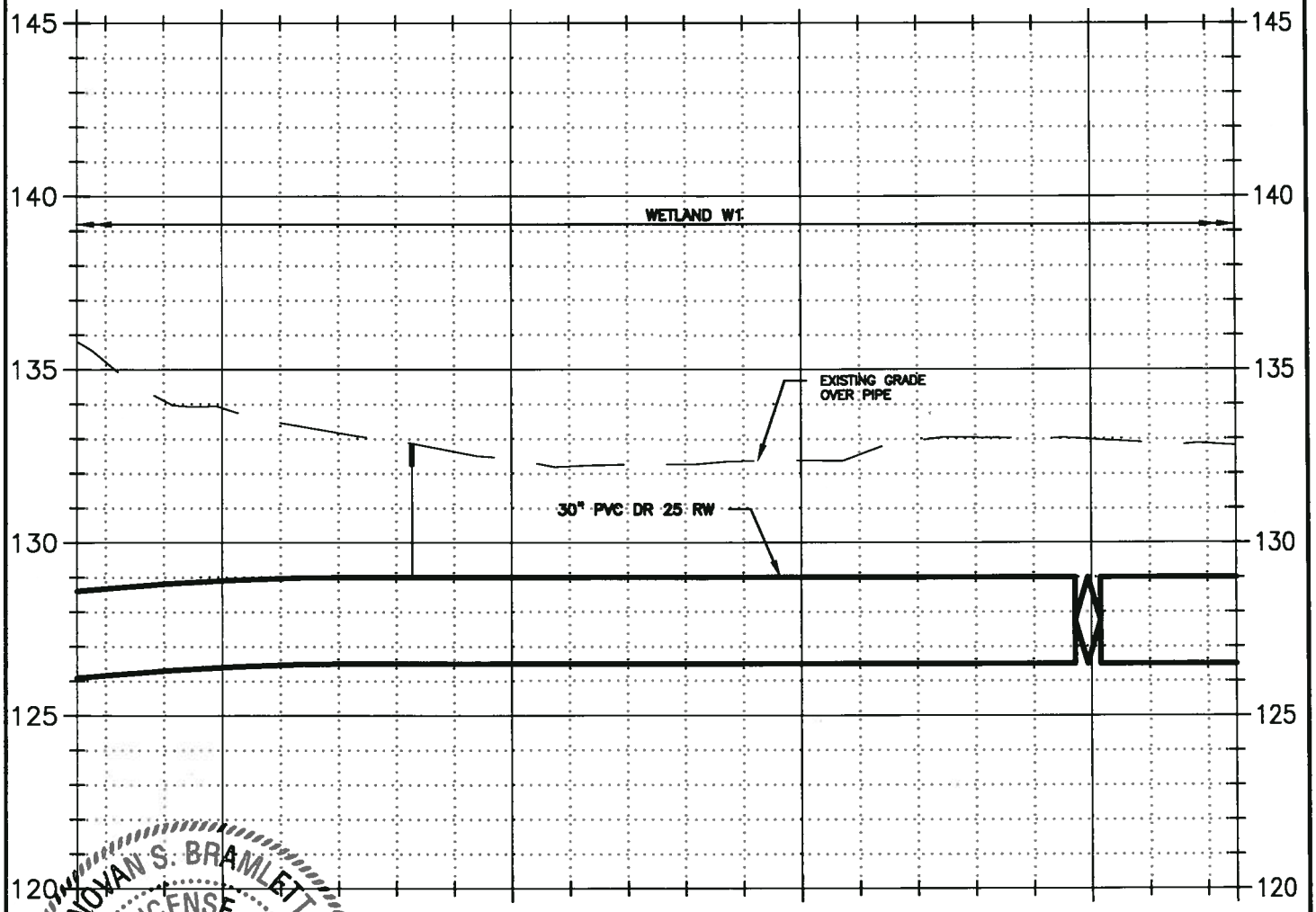
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

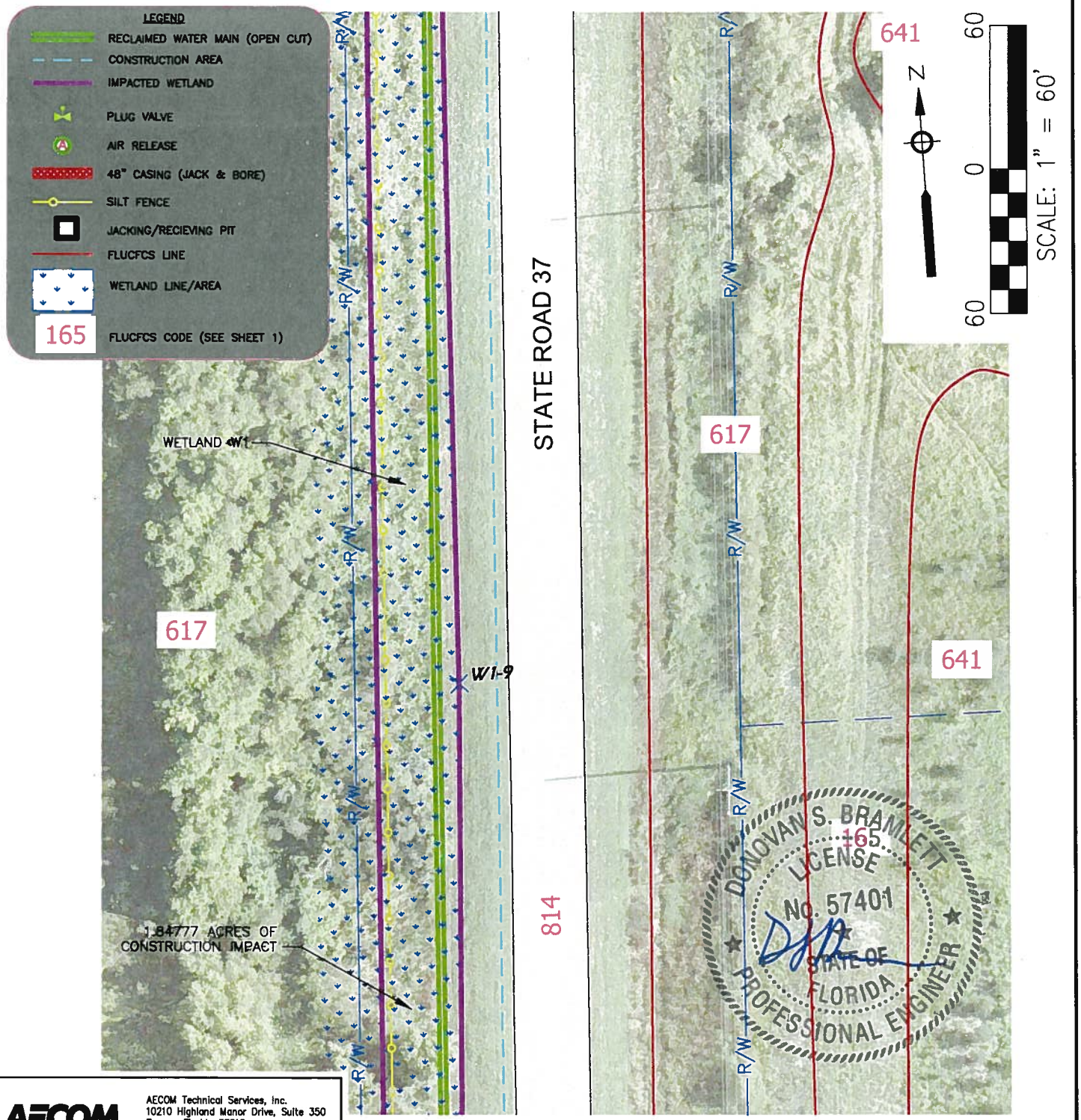
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 107
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 108 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

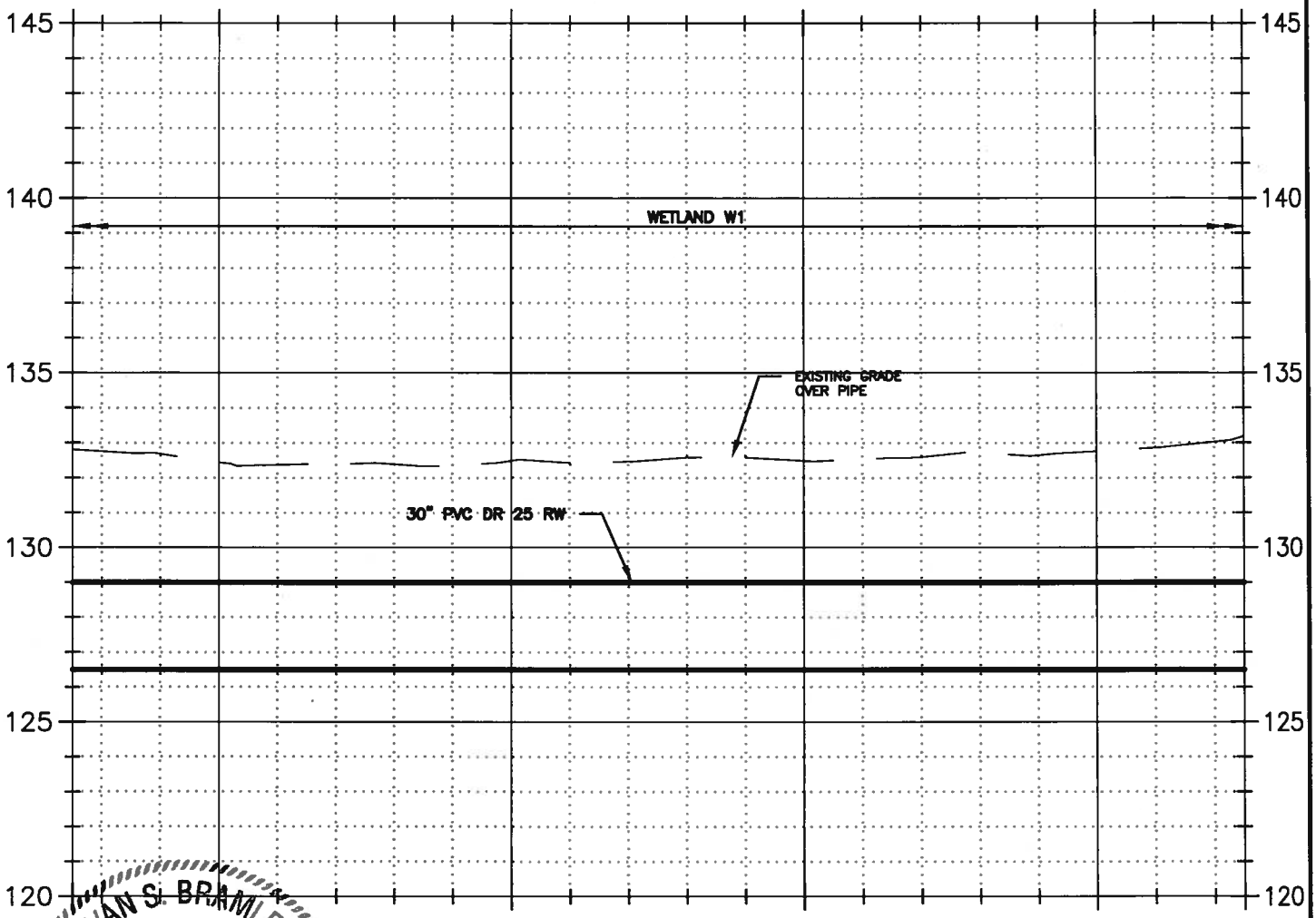
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

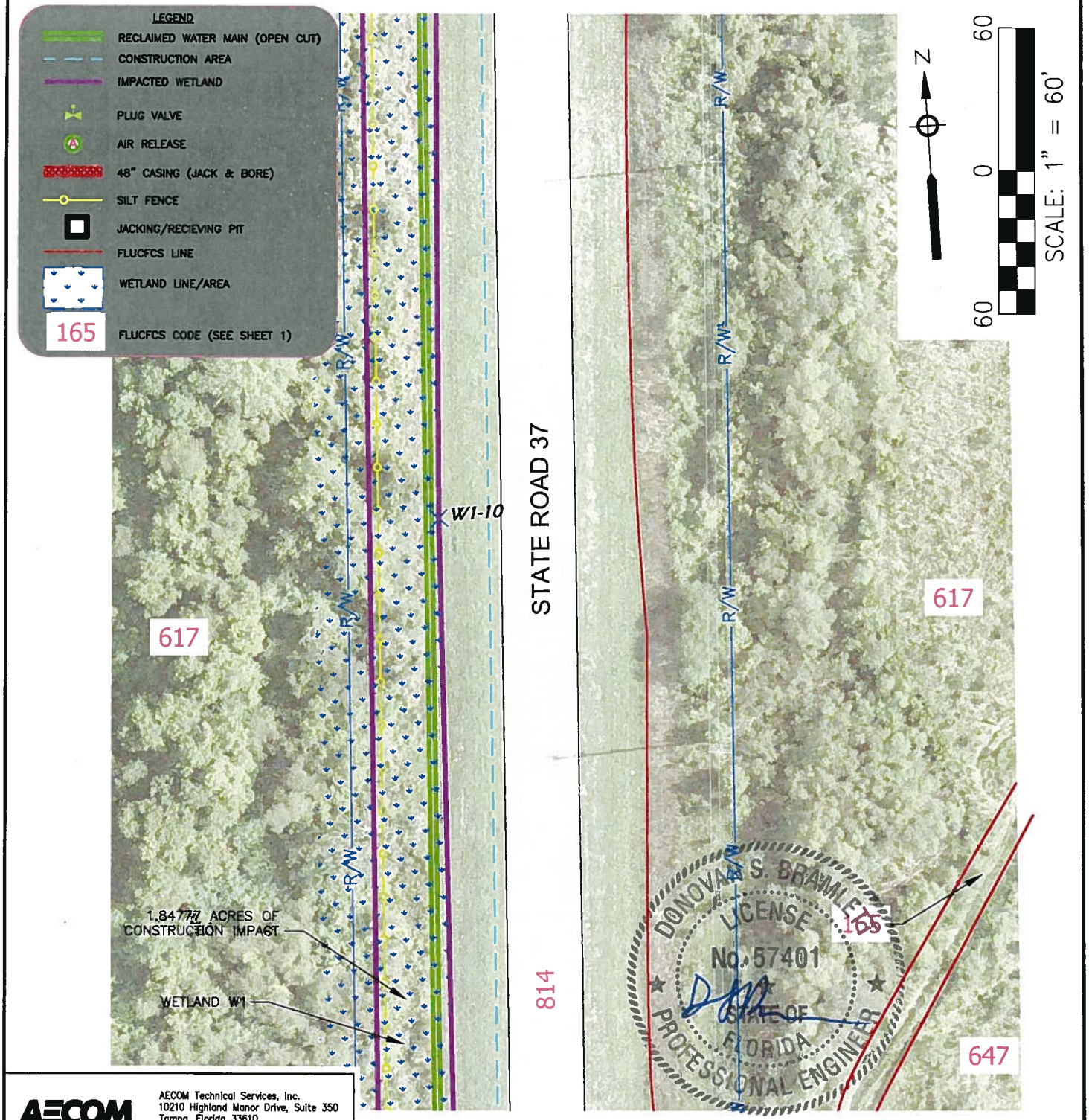
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 109
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

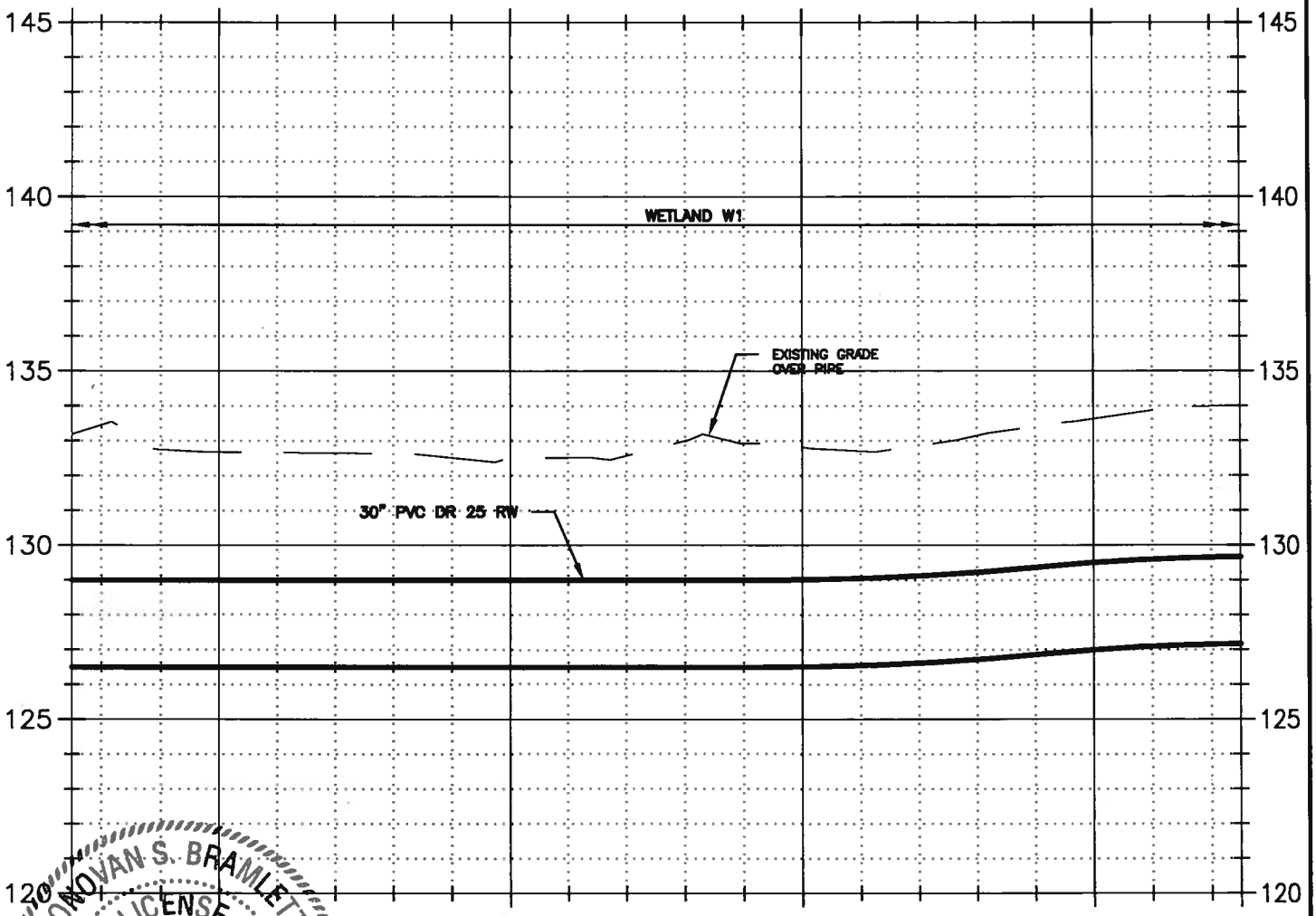
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

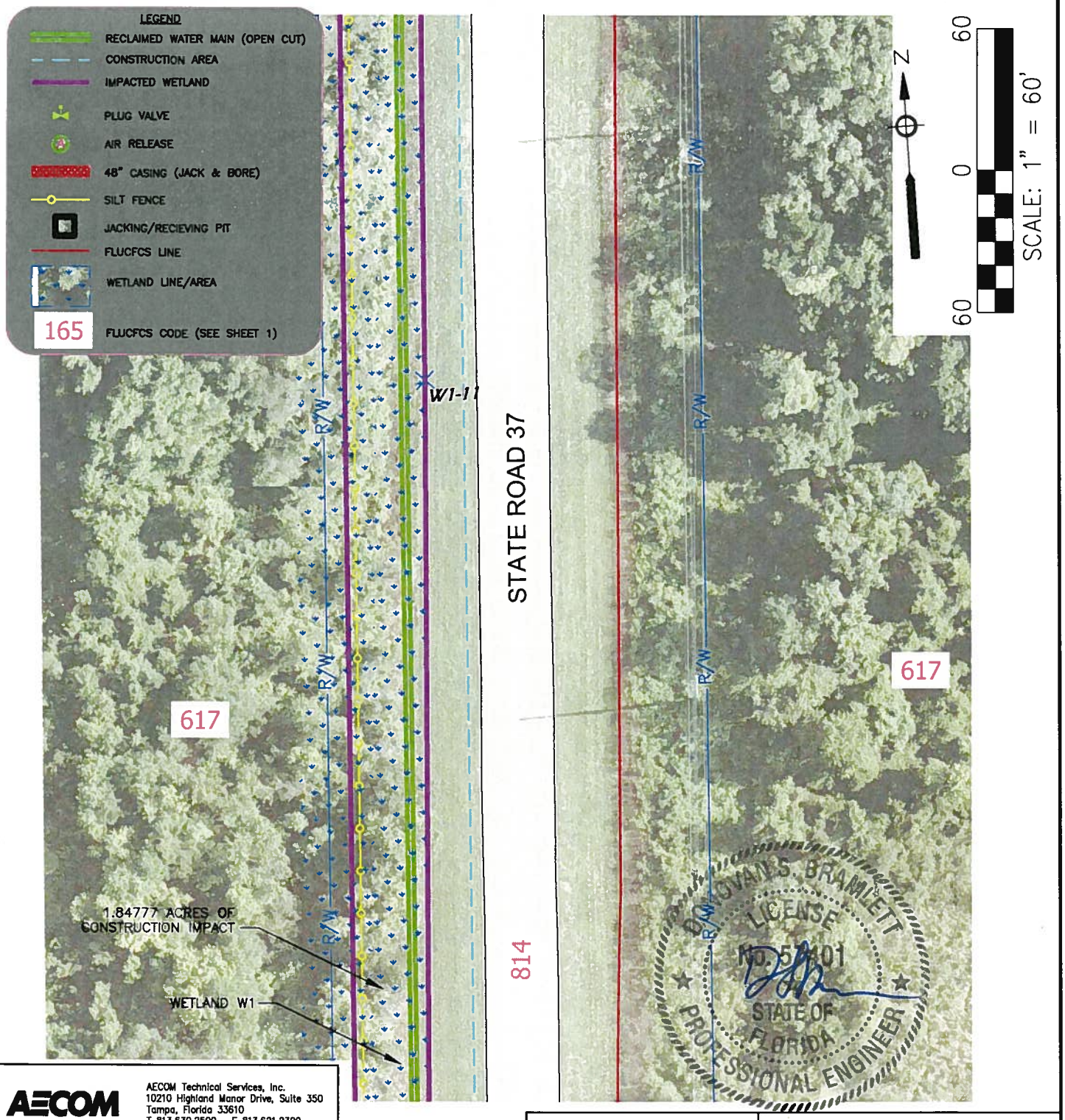
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 111
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 112 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_107-121.DWG	60218603

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

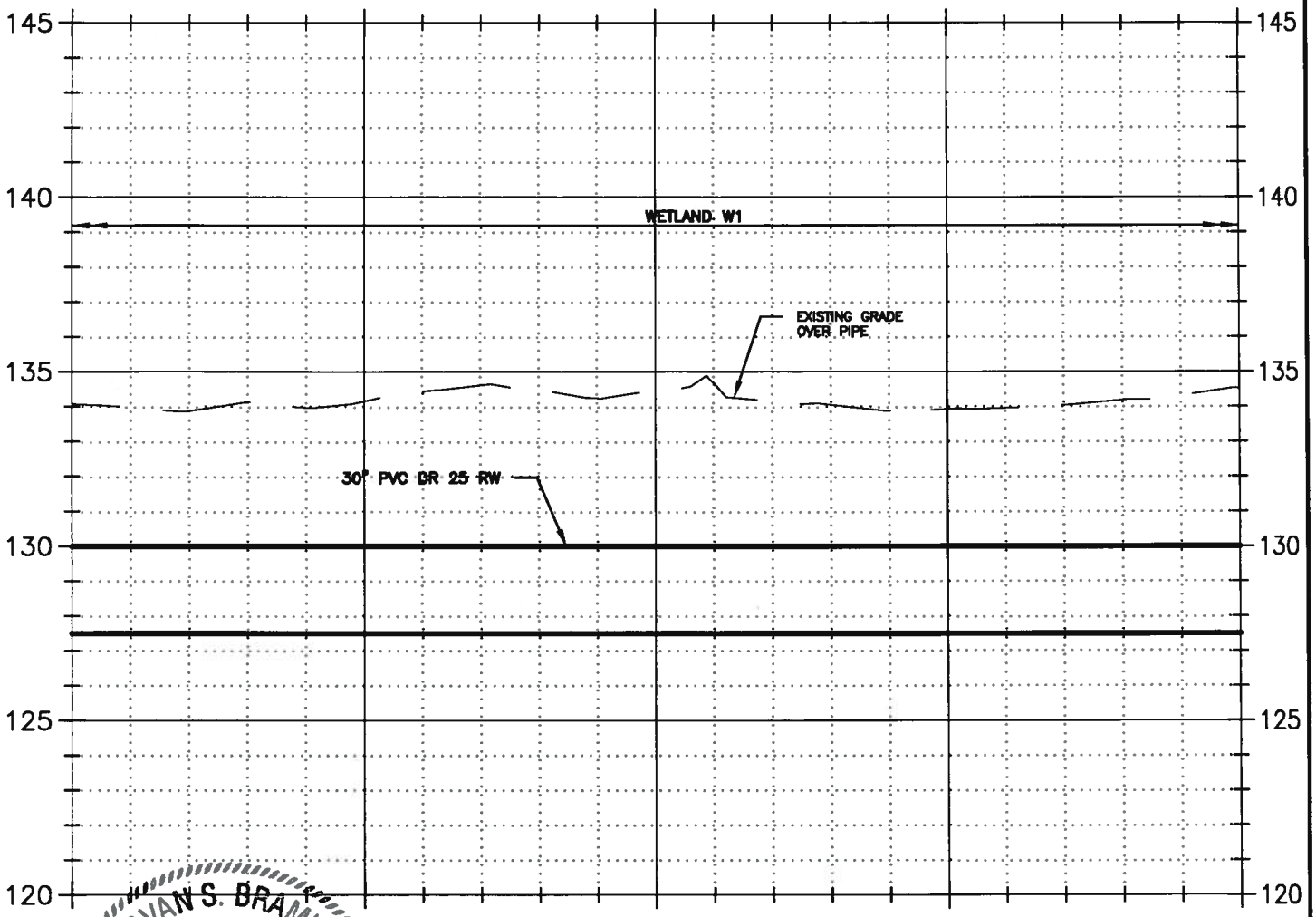
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

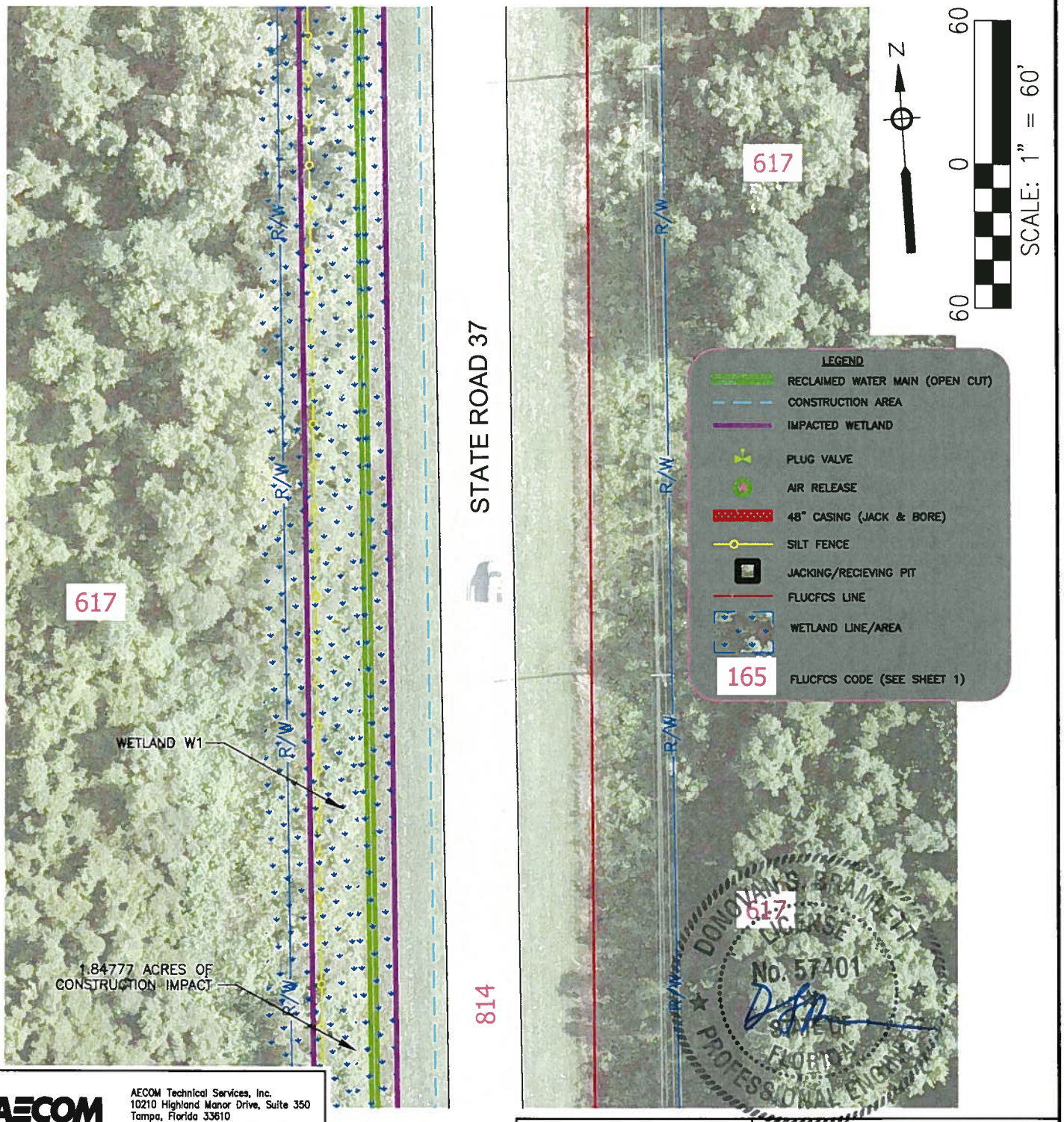
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 113
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

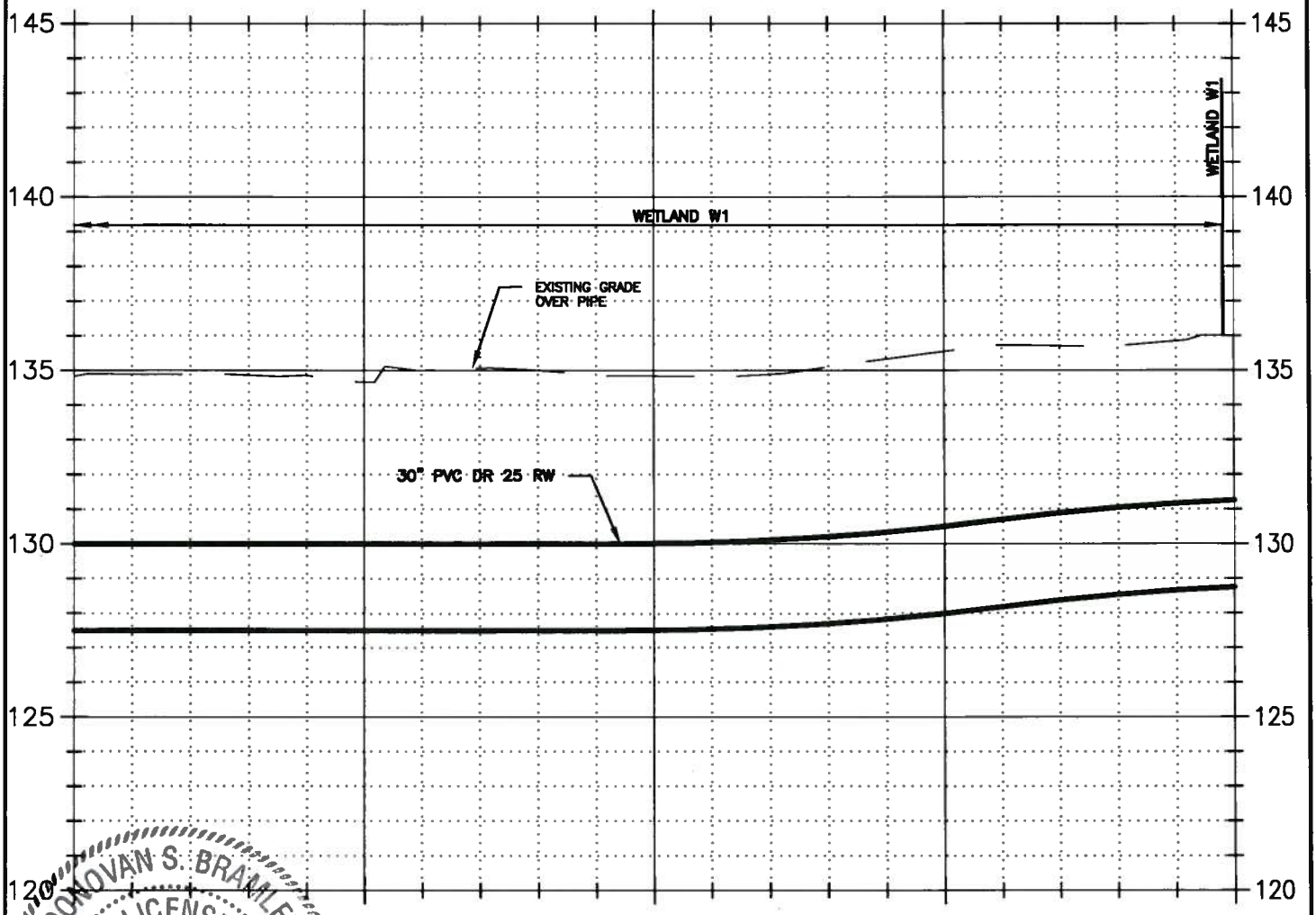
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRANNLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

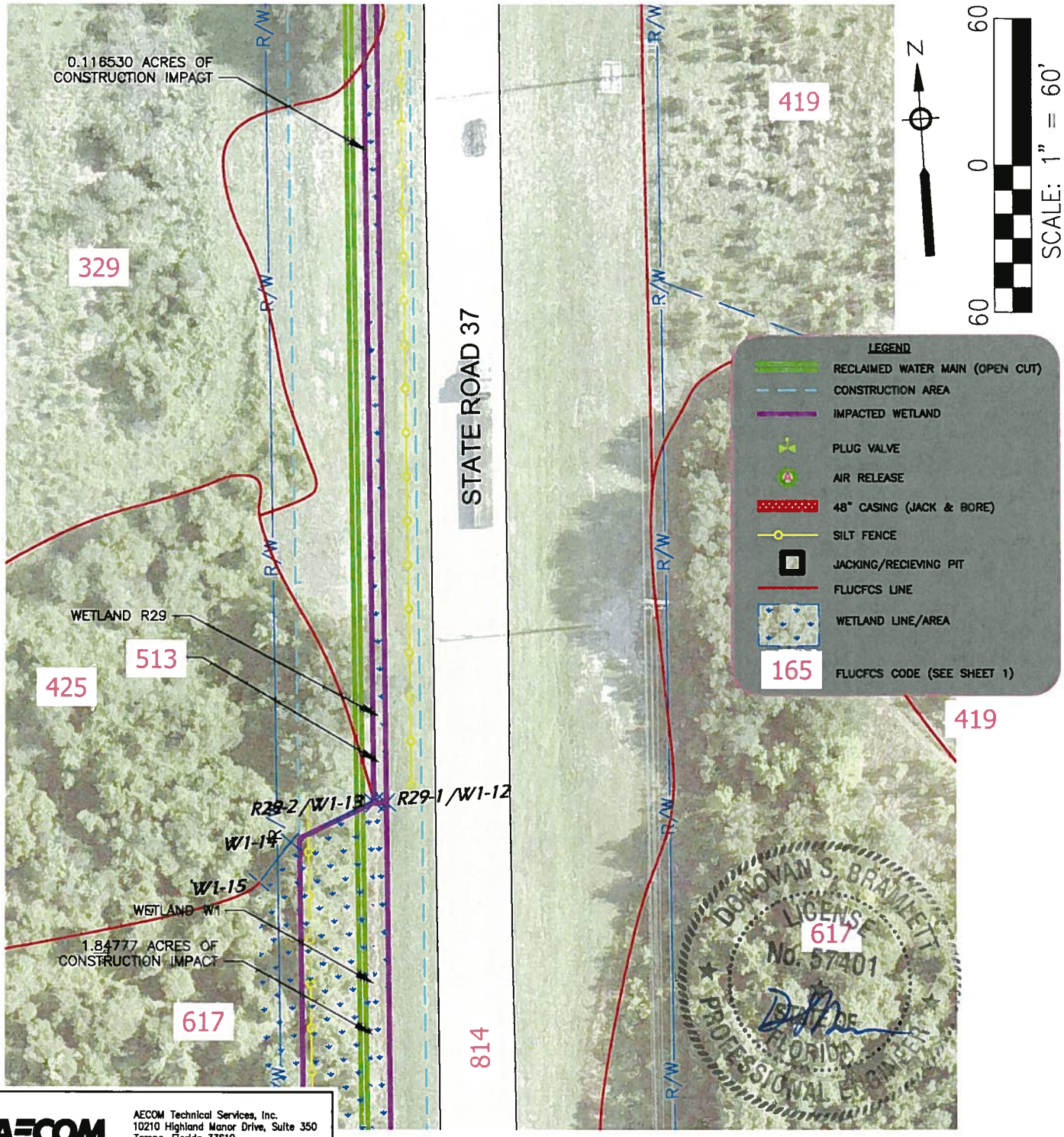
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 115
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 116 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

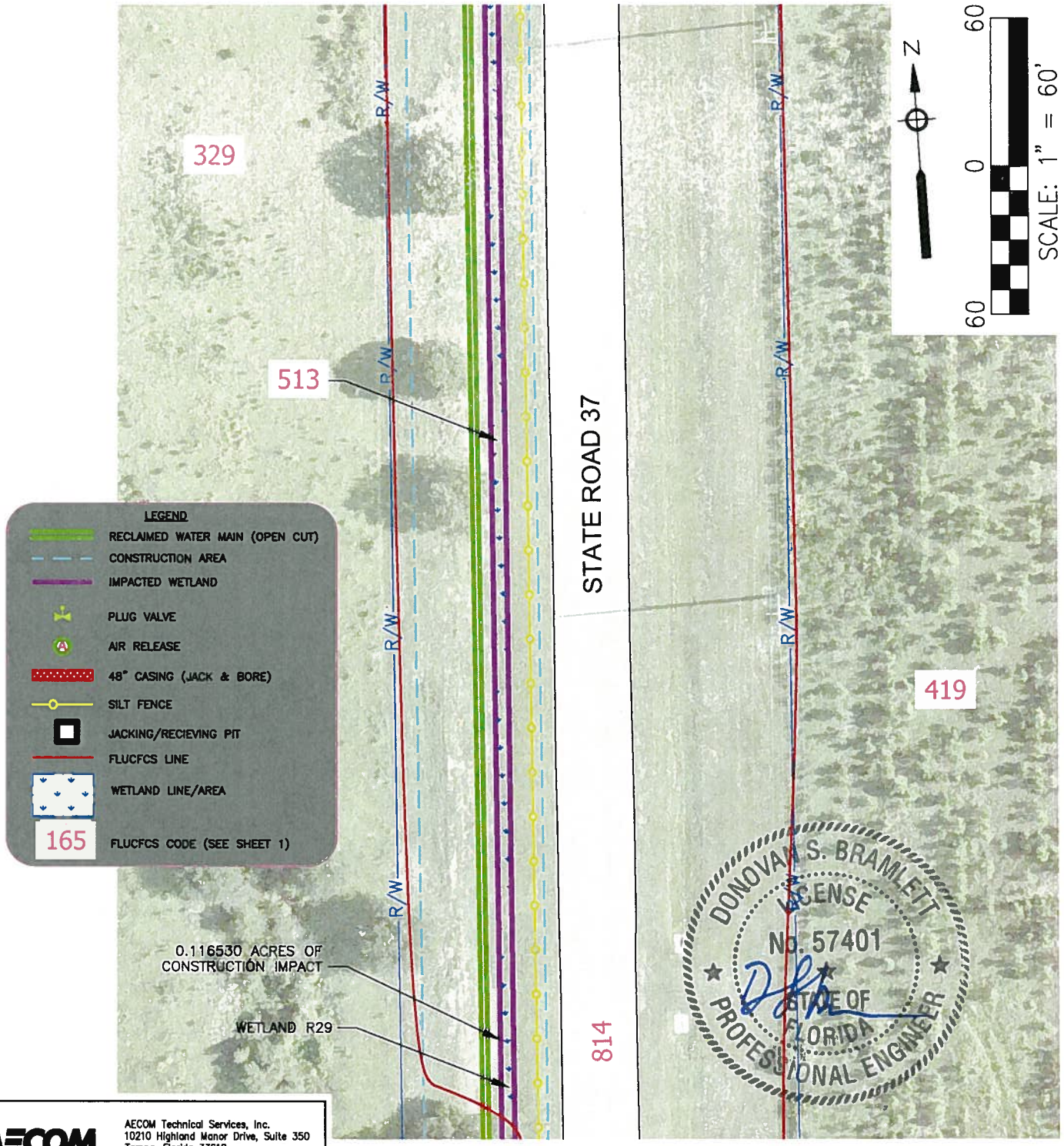
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

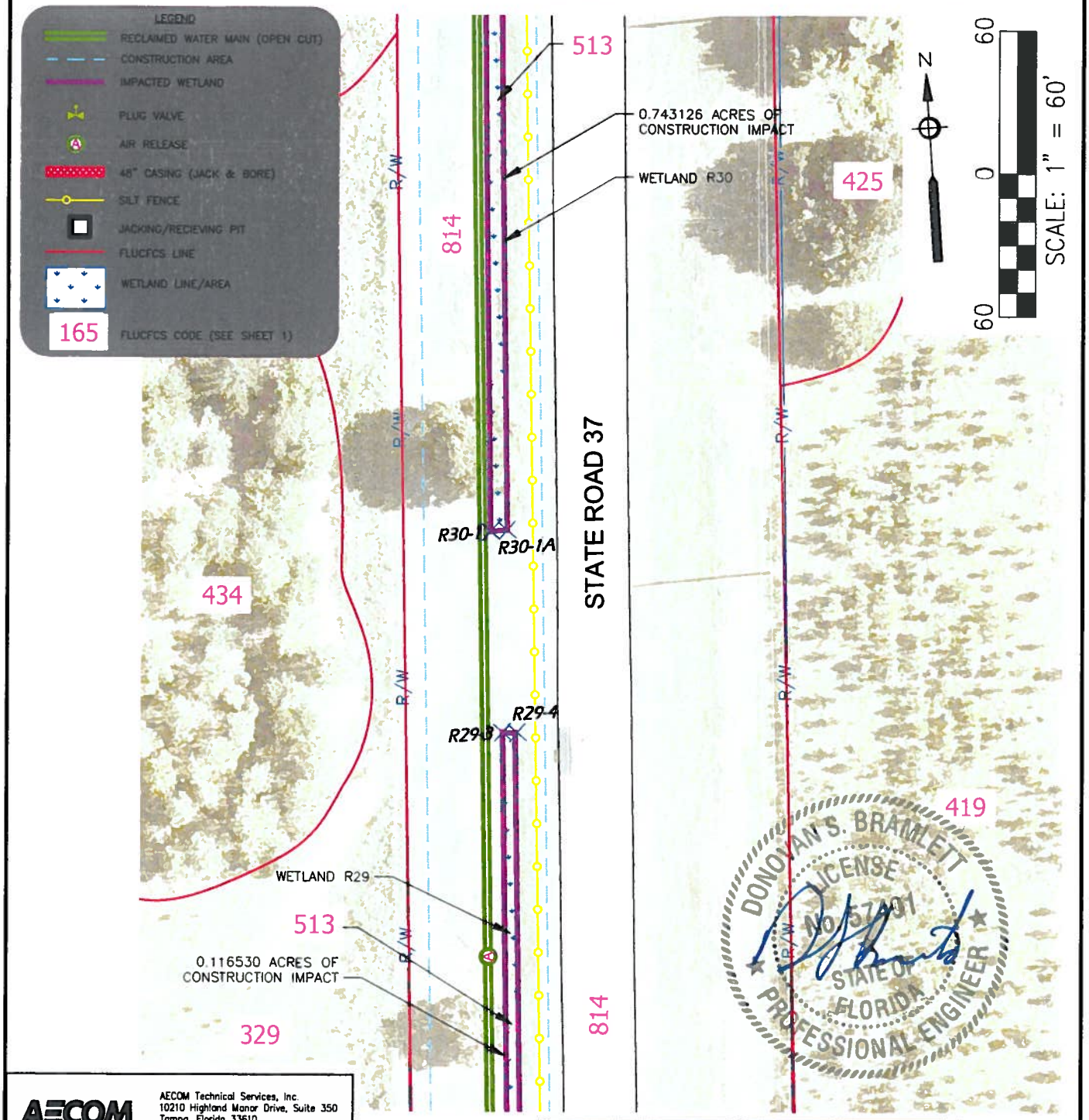
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 118 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

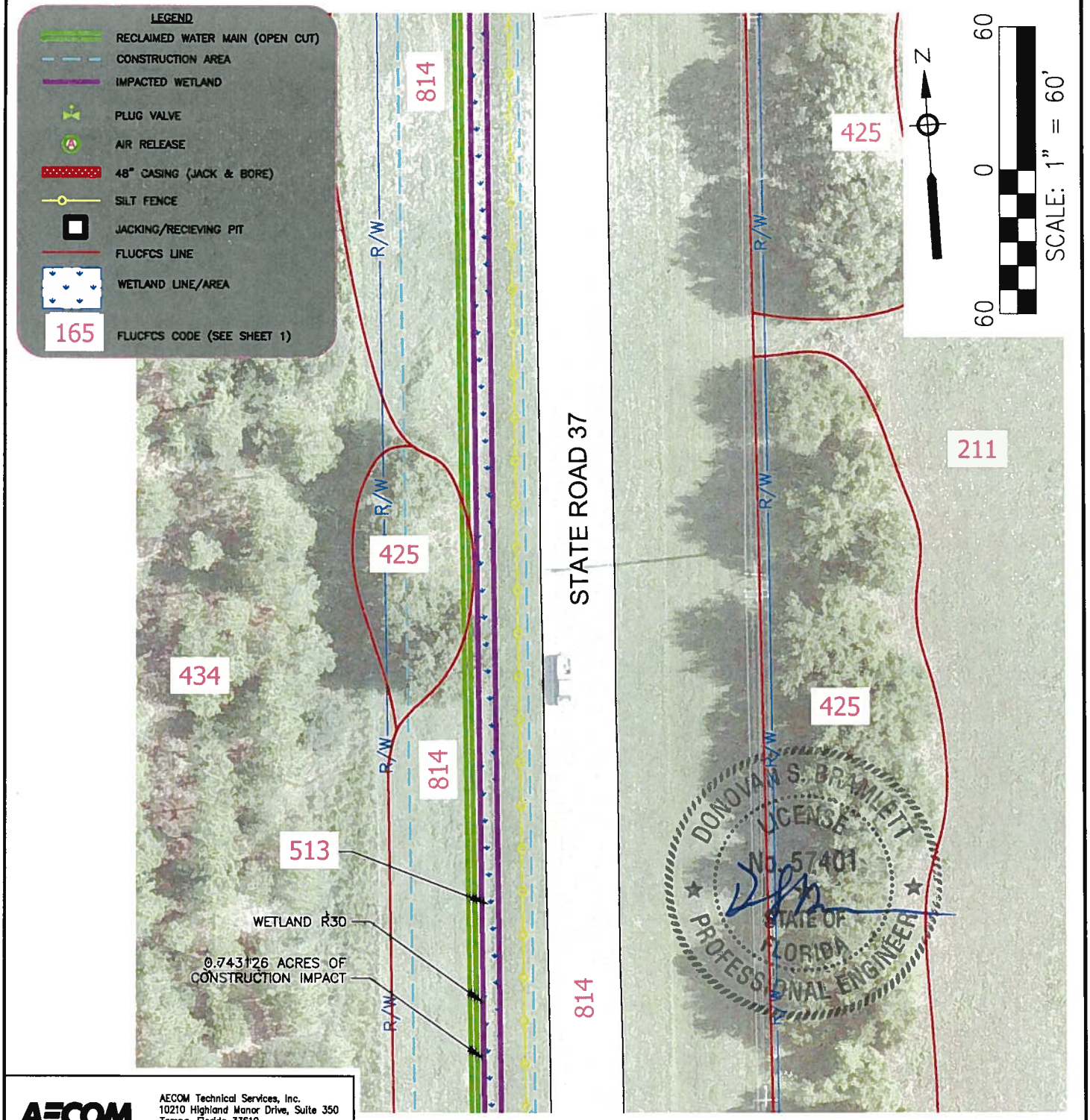
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

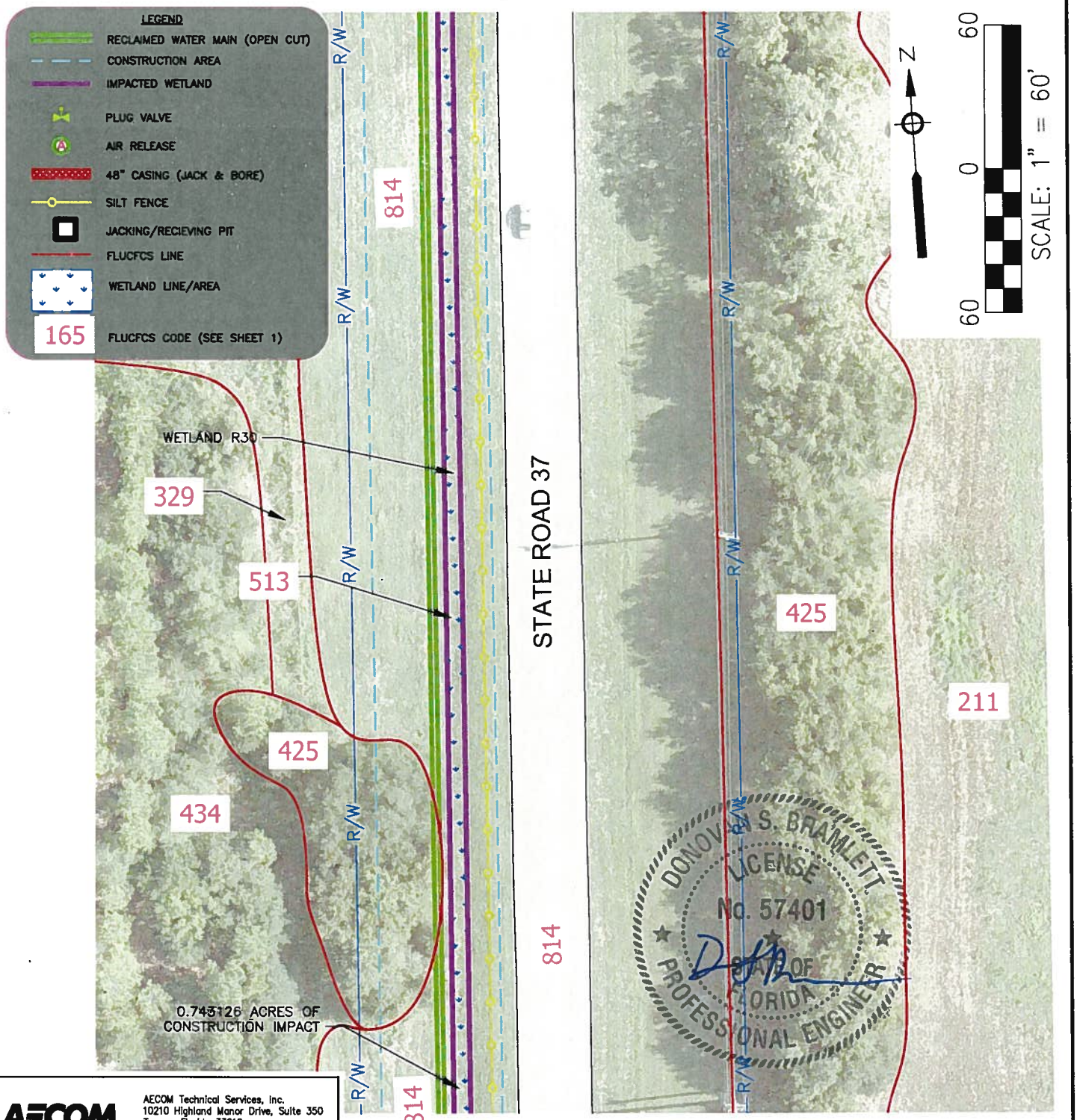
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_107-121.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

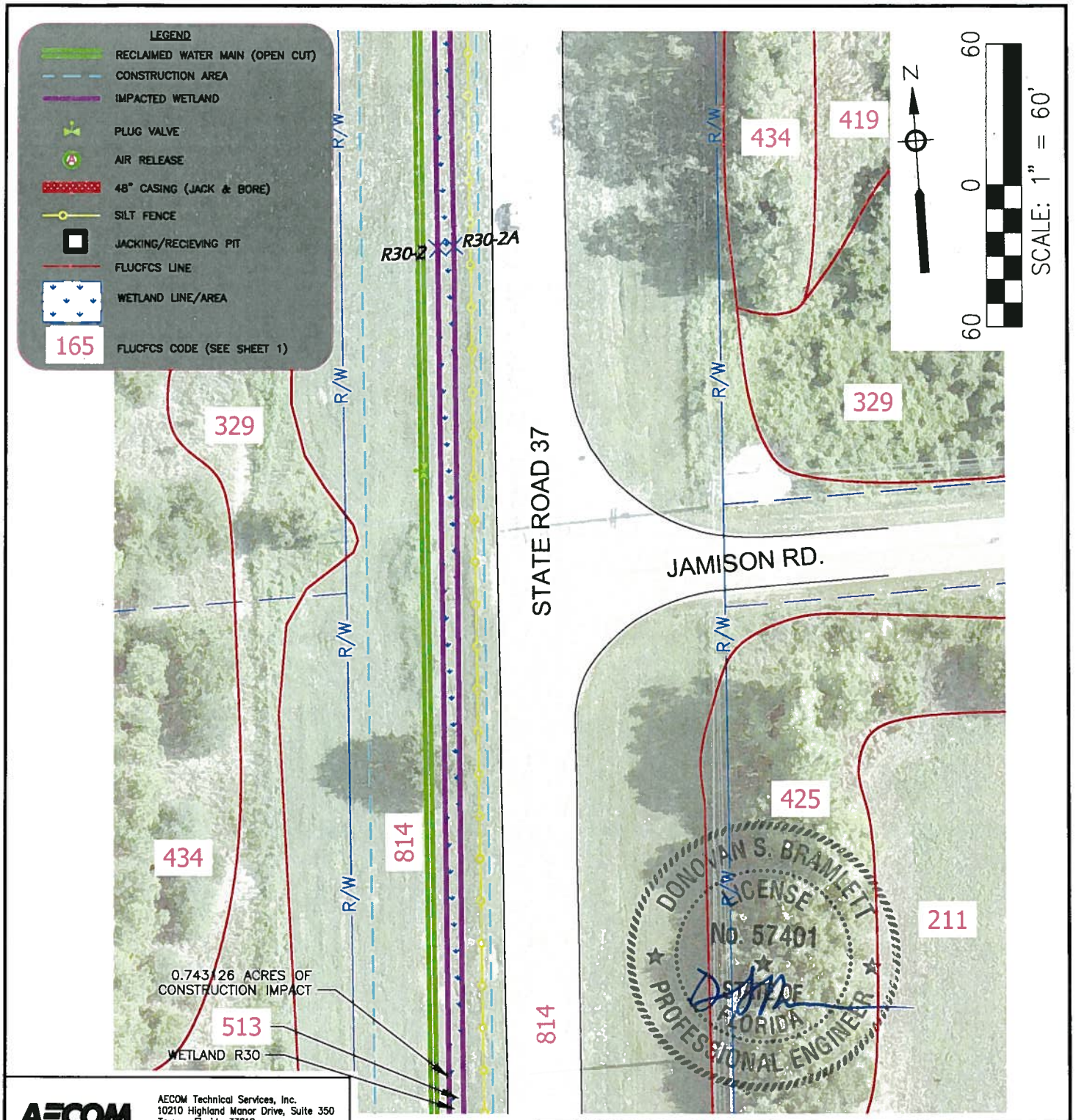
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 121 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

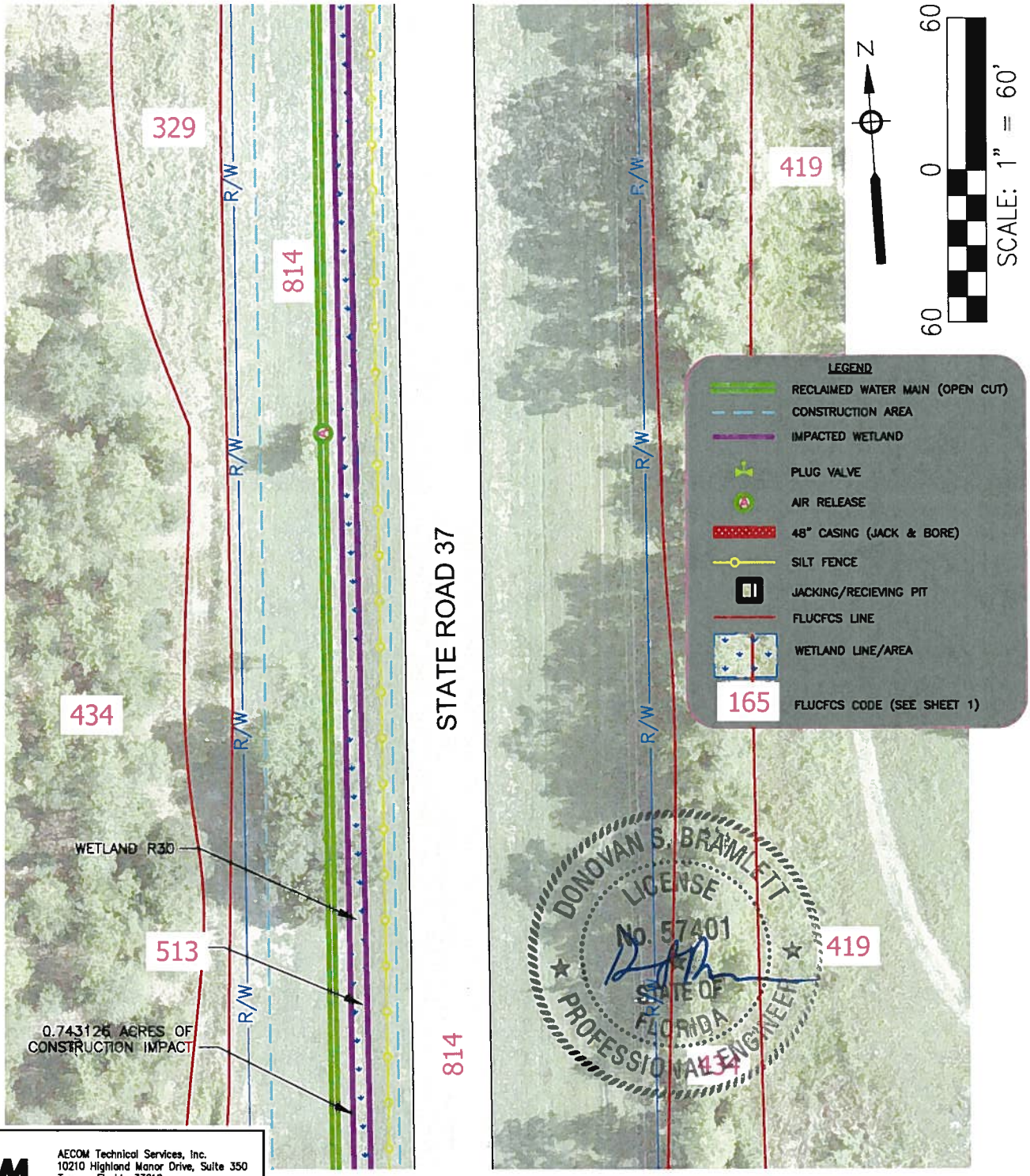
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

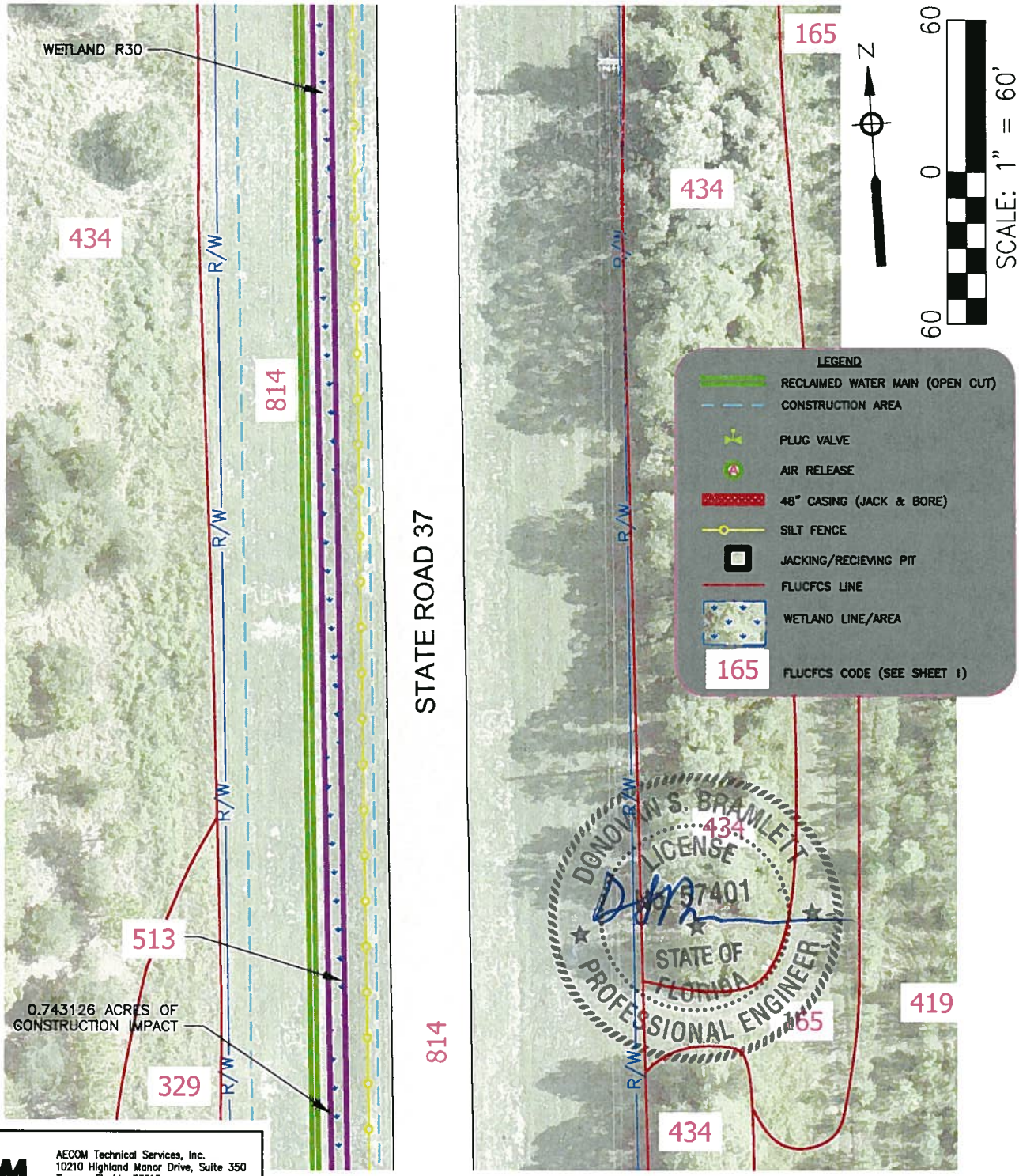
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

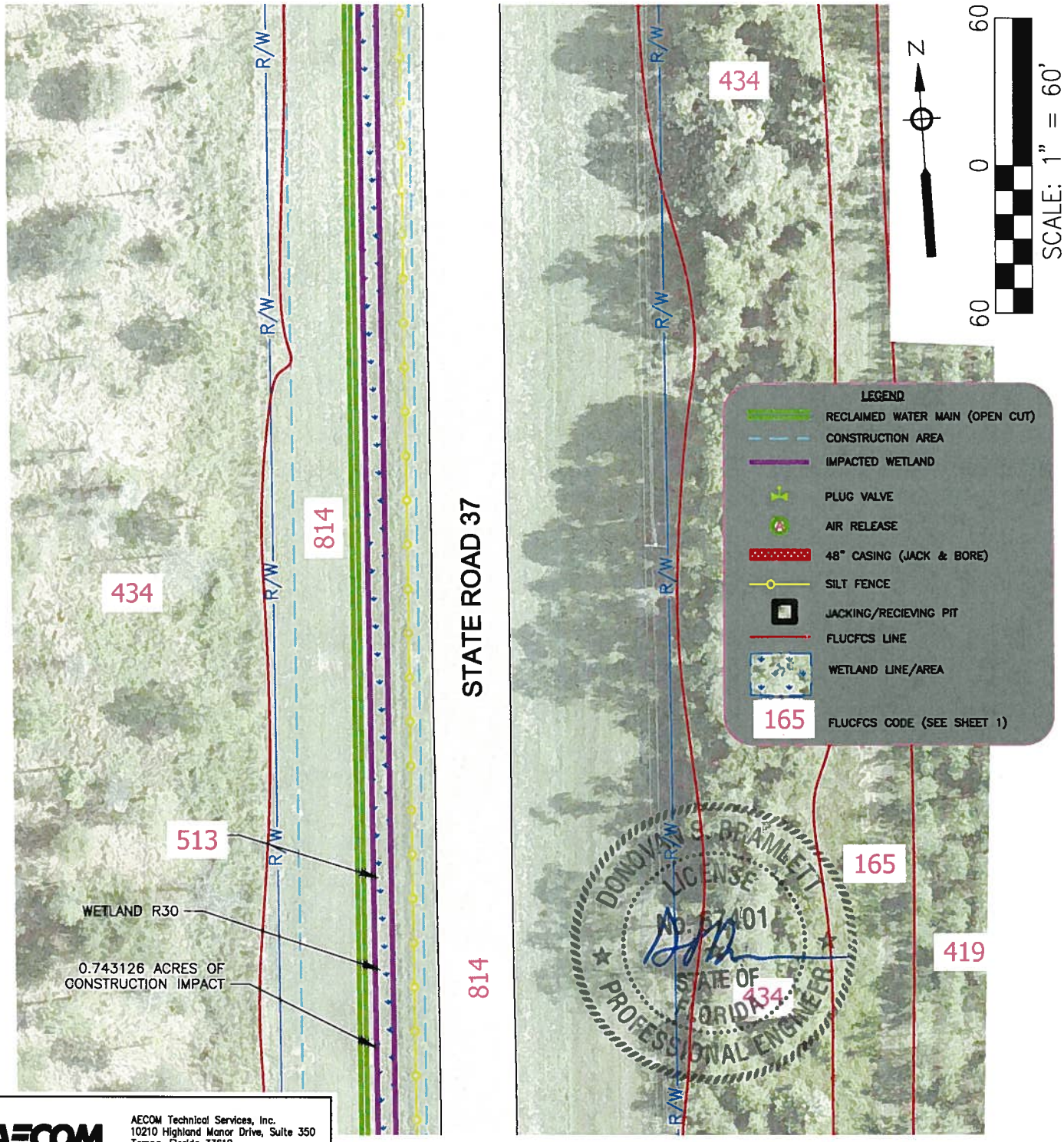
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

FILE NAME	PROJECT NUMBER
FIGURE_122-132.DWG	60218603

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

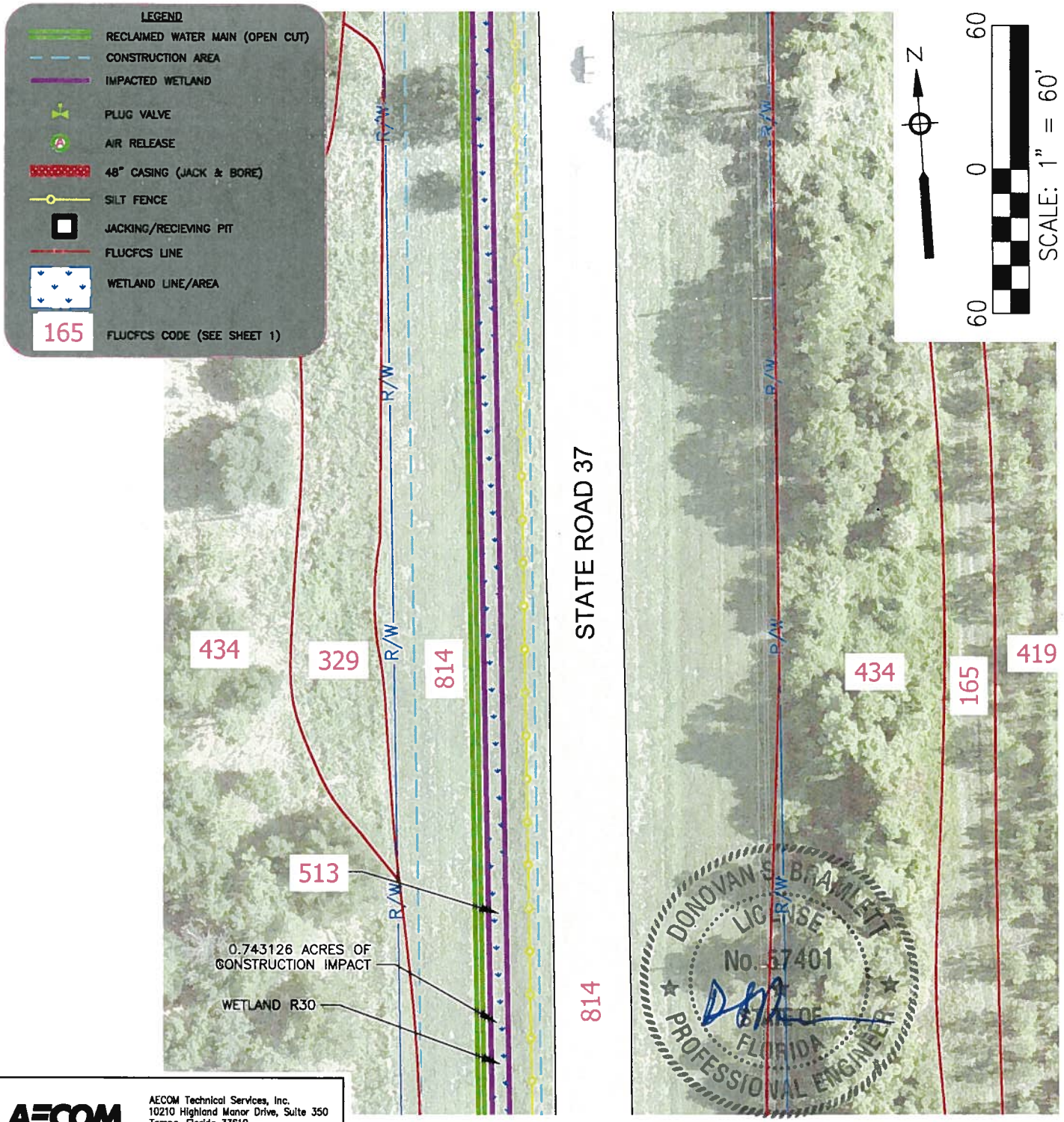
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

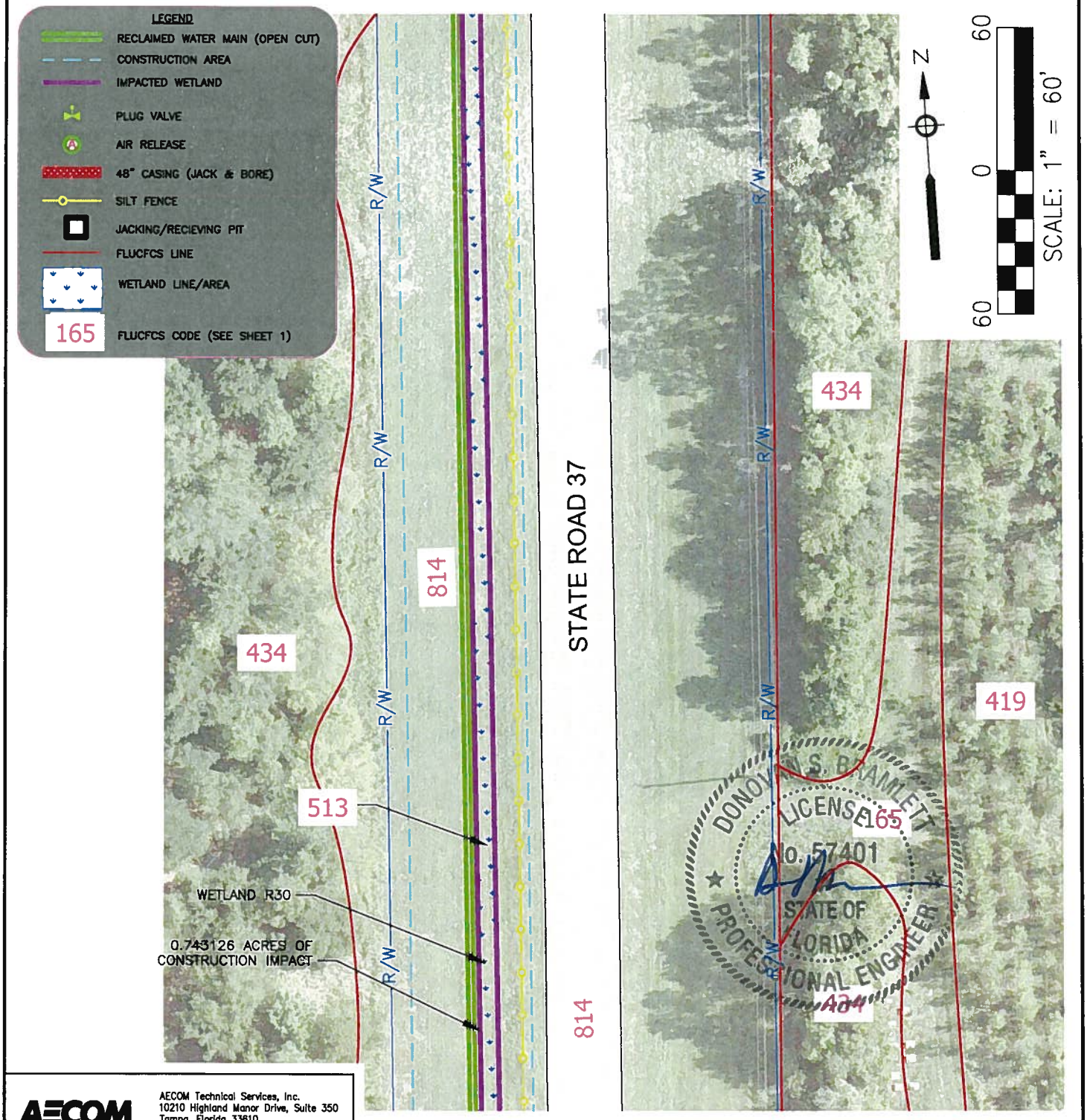
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 126 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

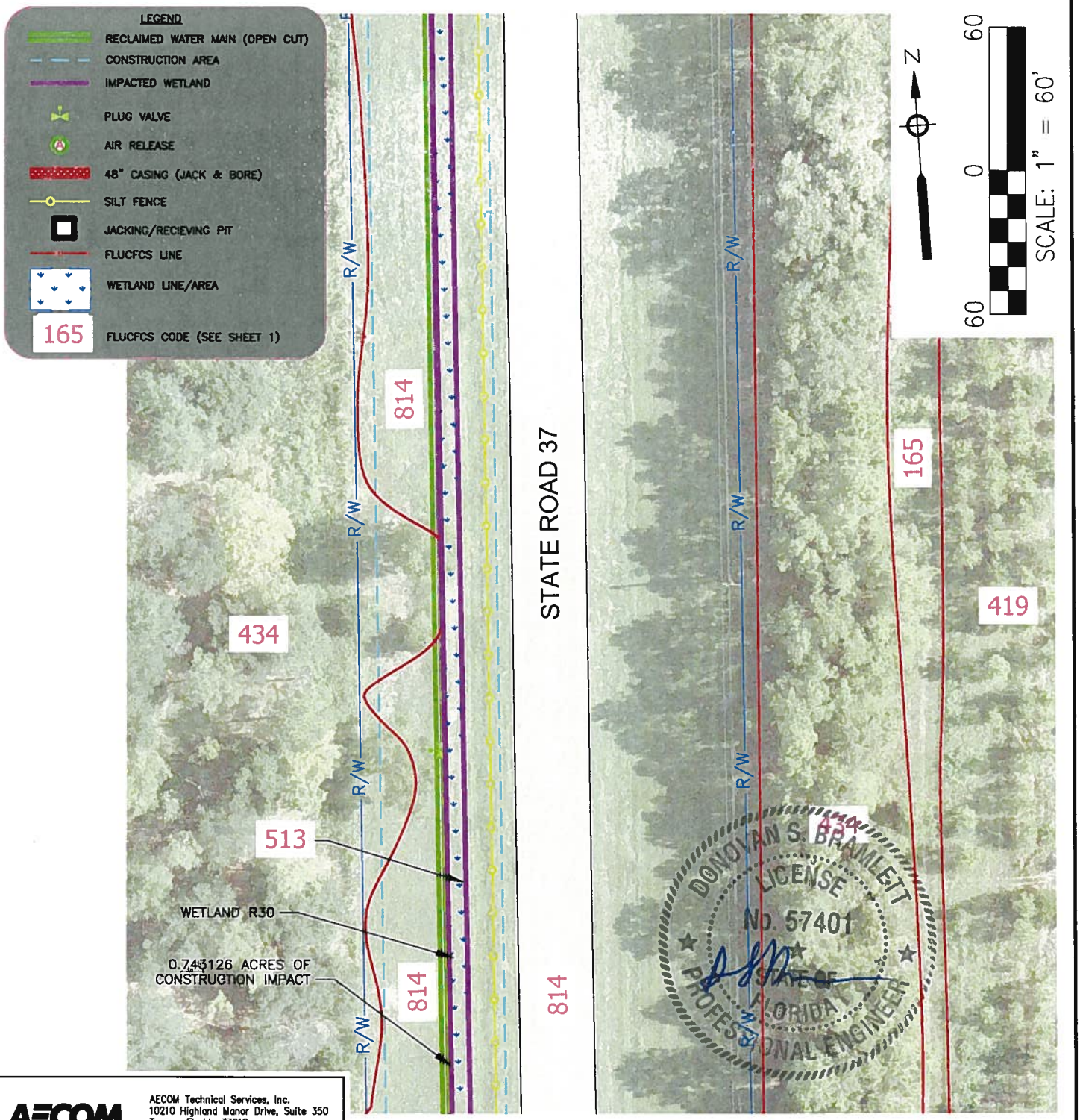
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

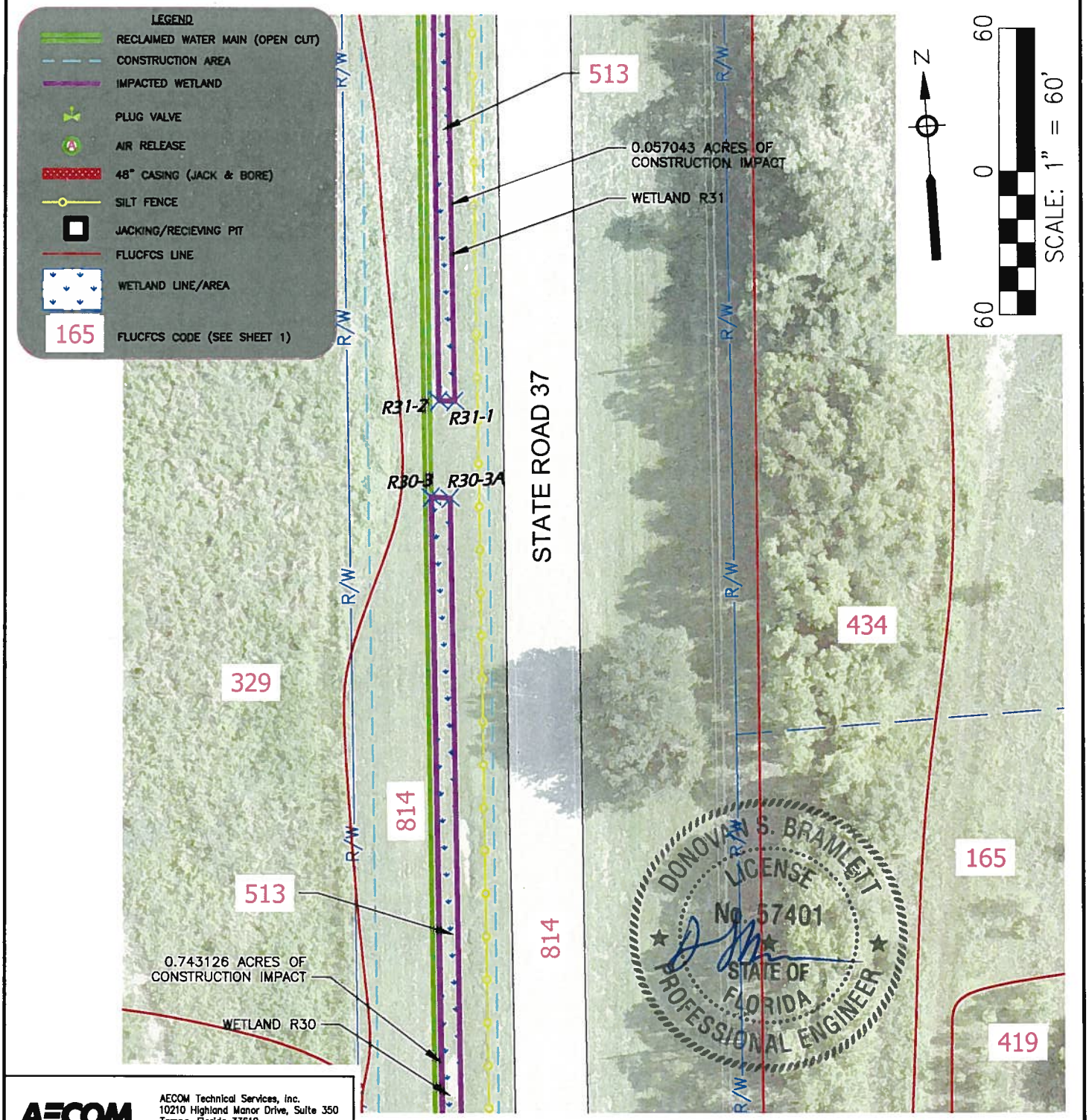
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

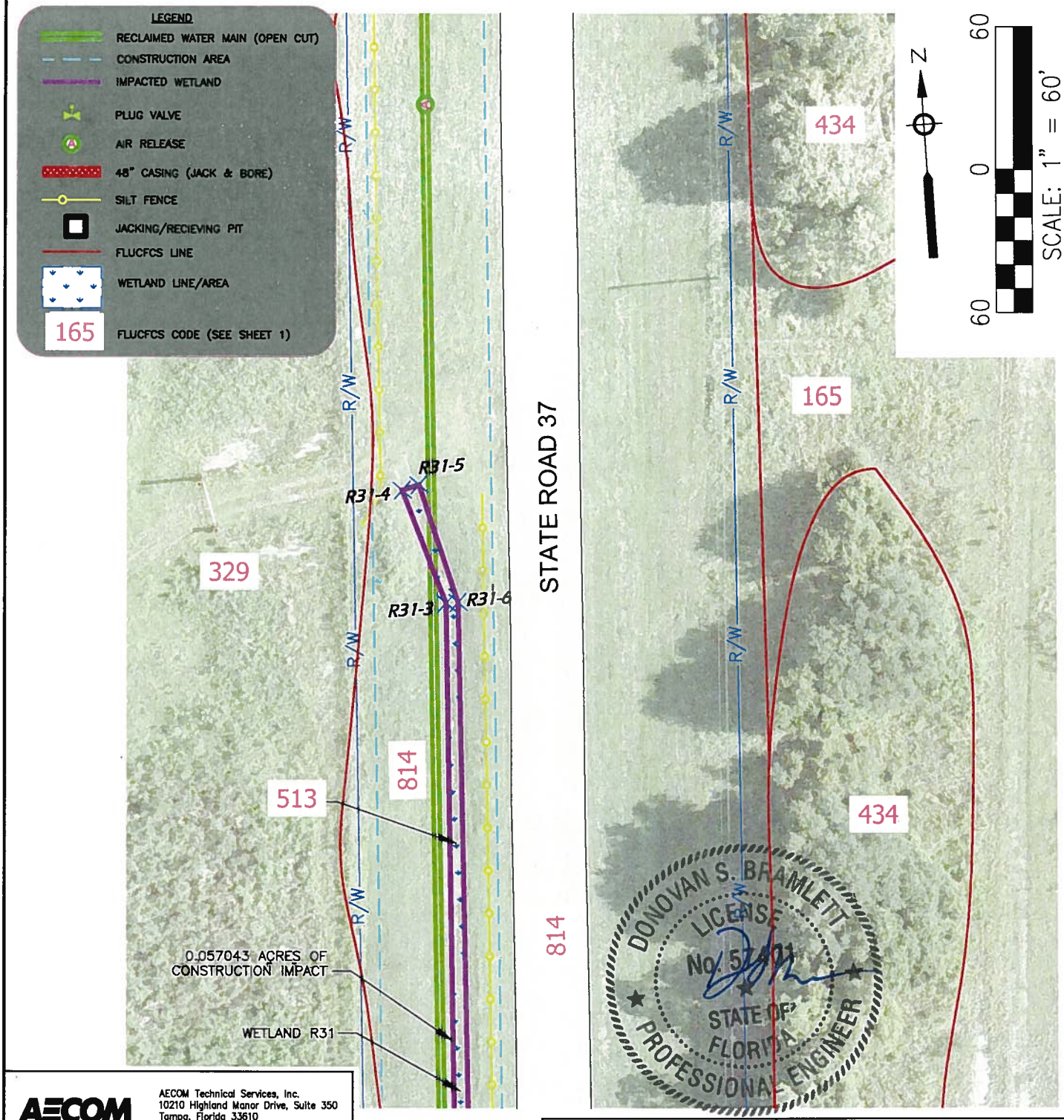
PLAN VIEW

POLK COUNTY, FLORIDA

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 129 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

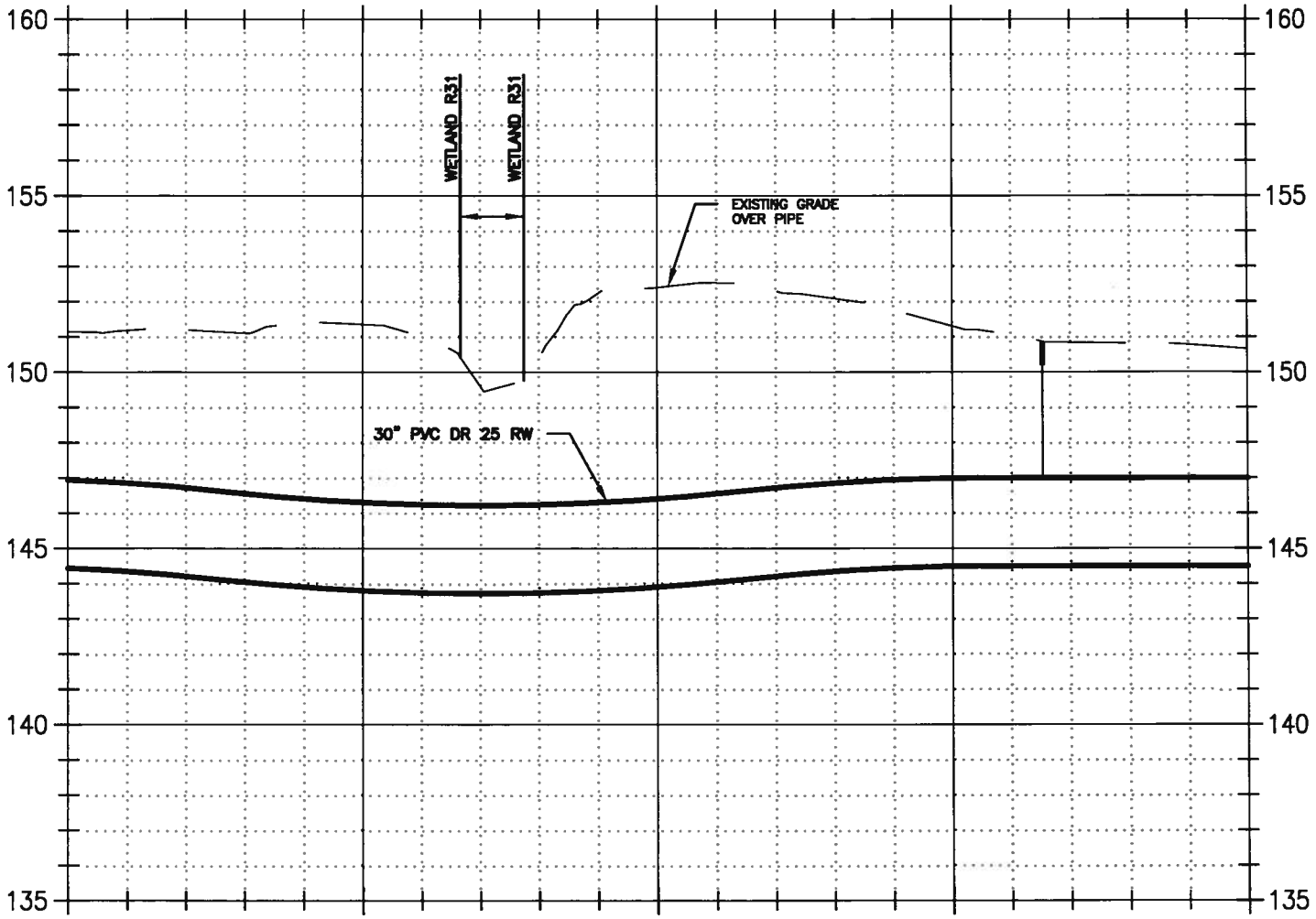
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

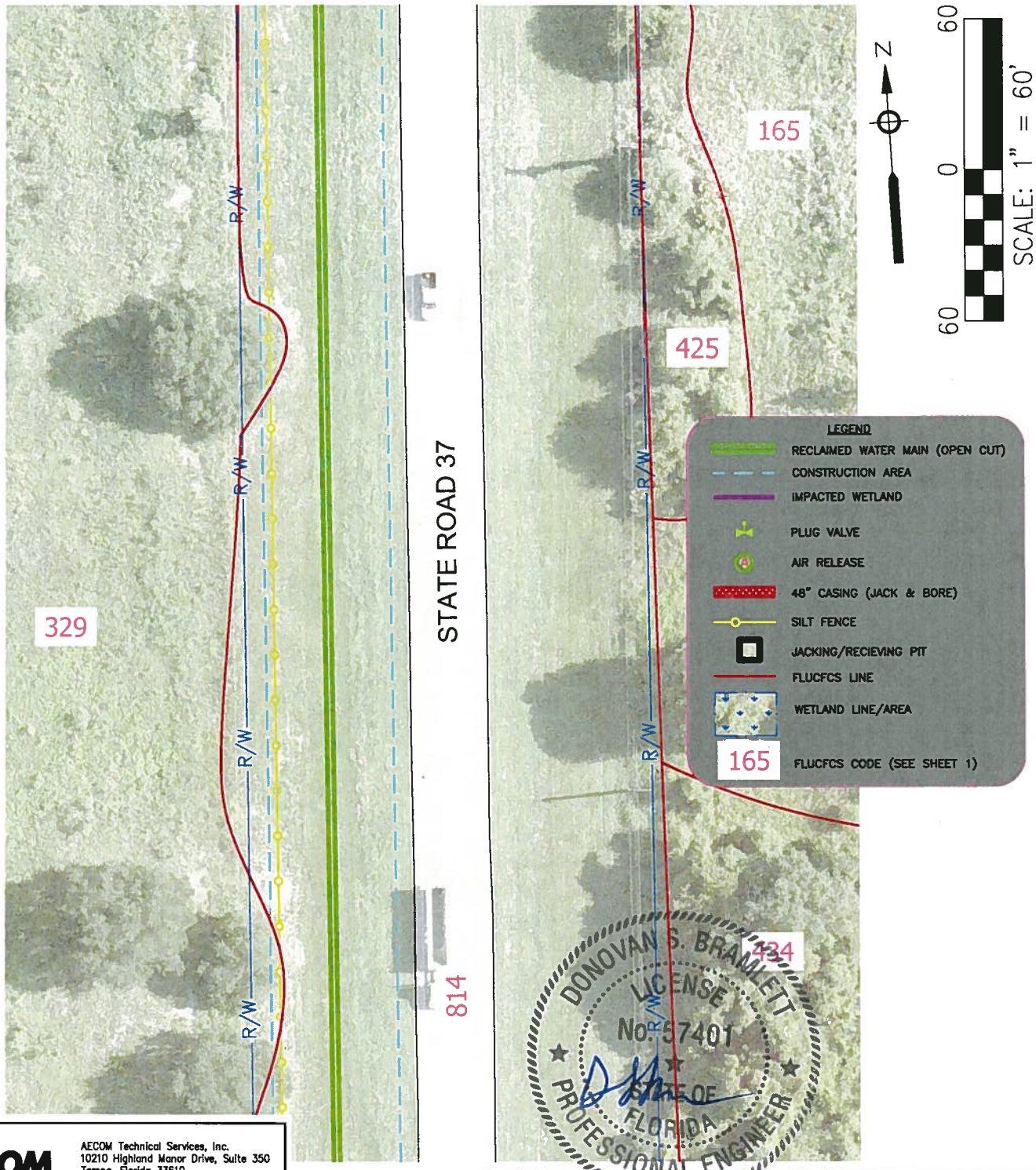
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 130
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 131 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

FIGURE_122-132.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

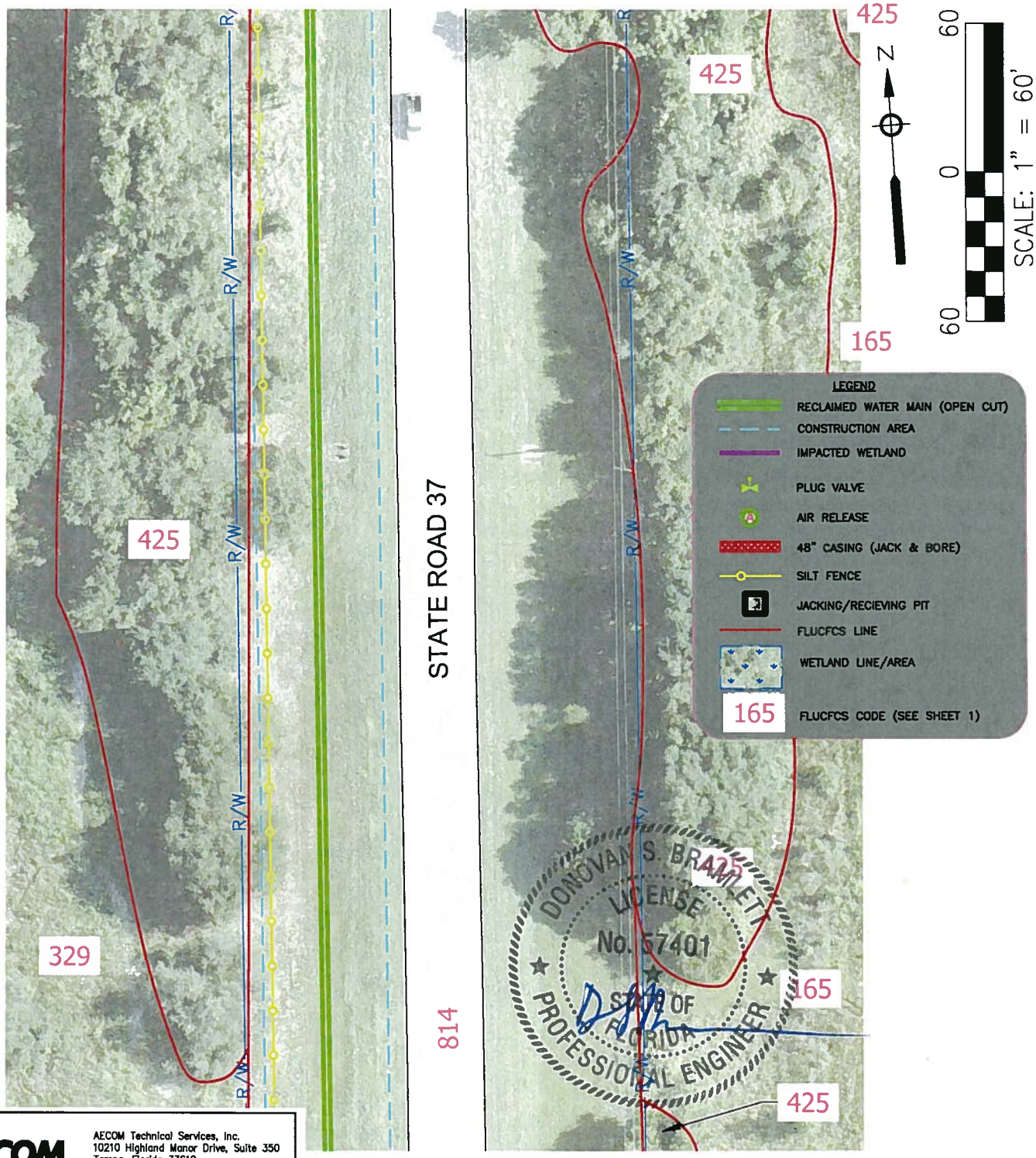
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 132 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

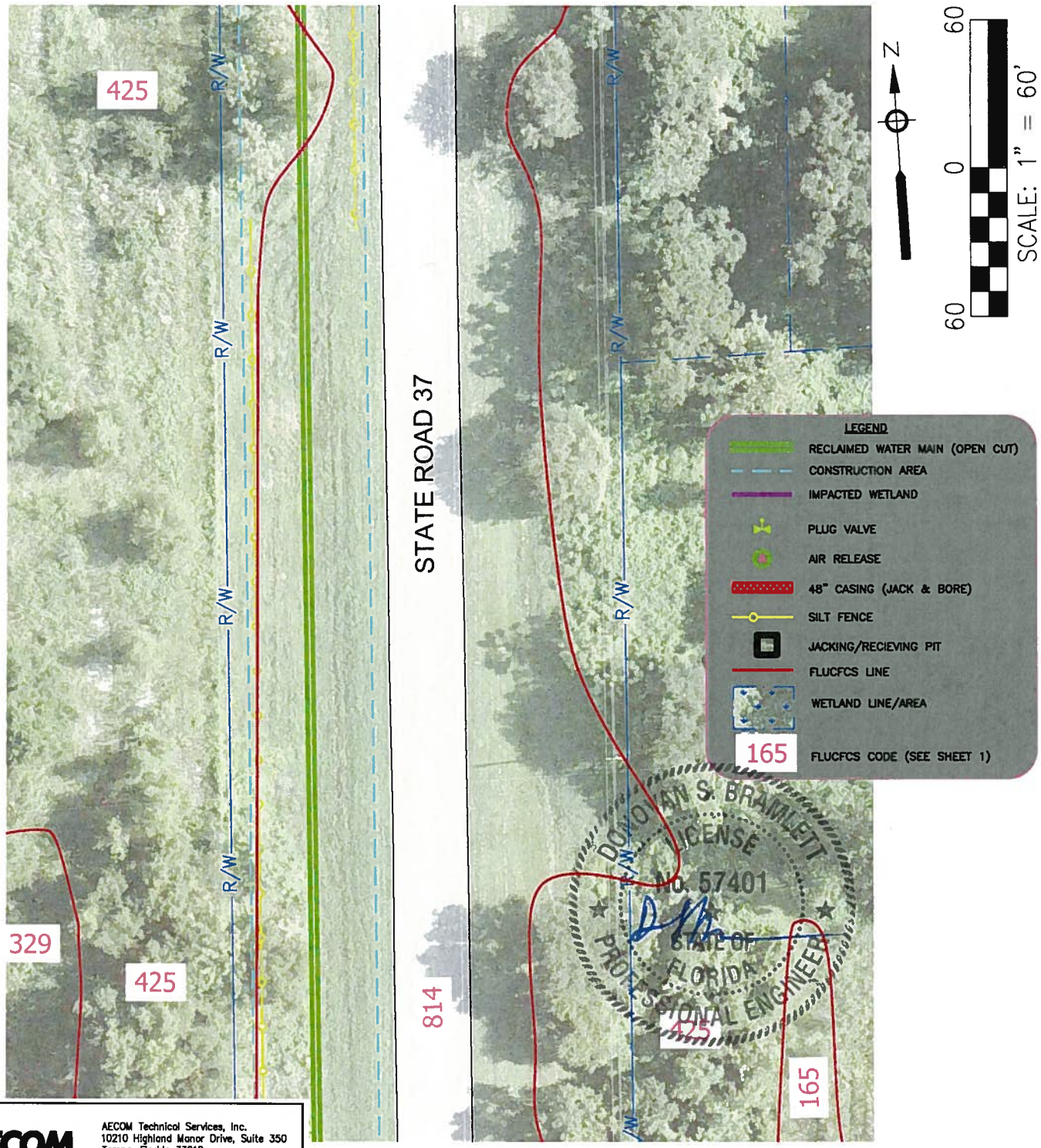
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 133 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

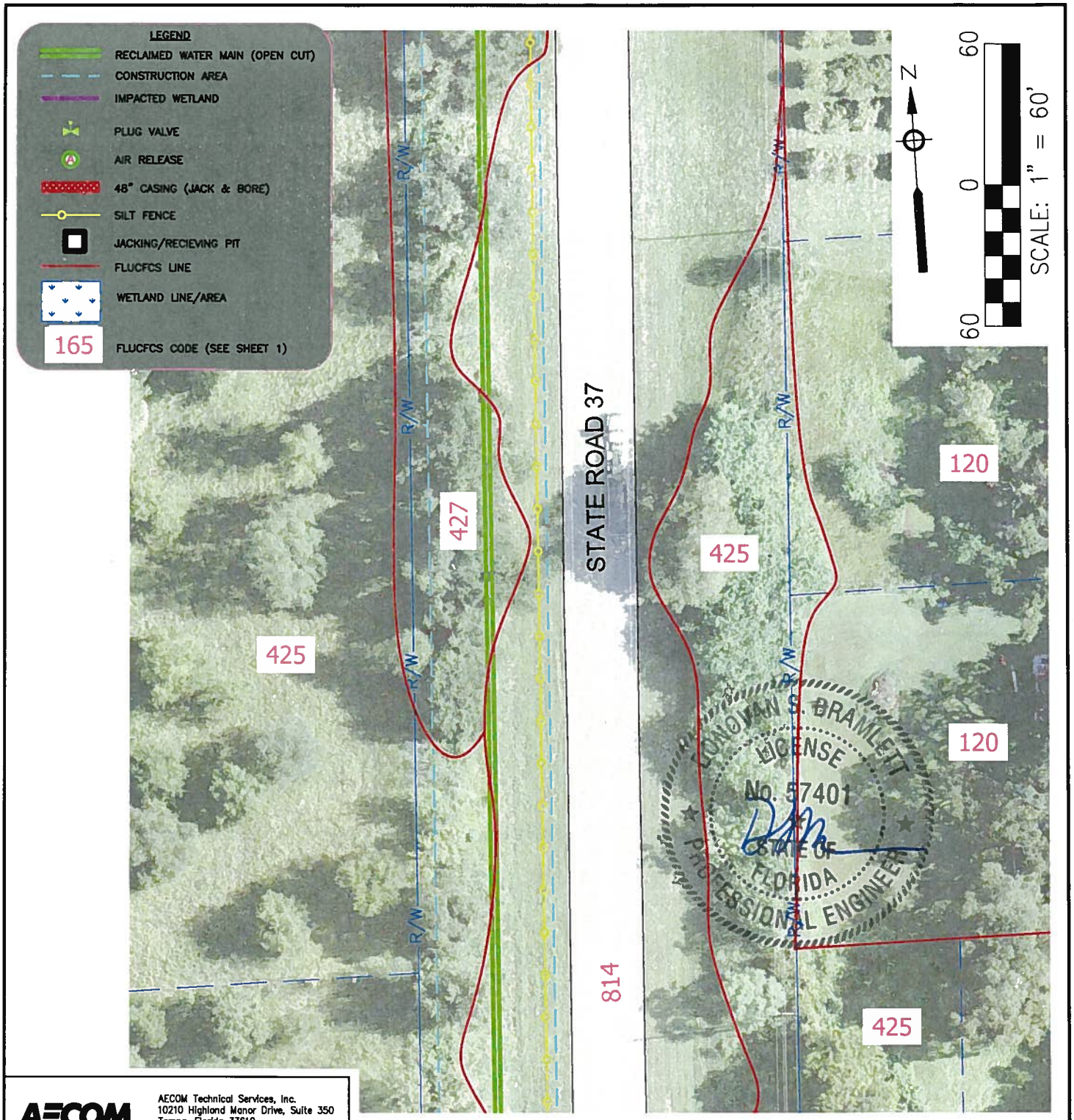
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

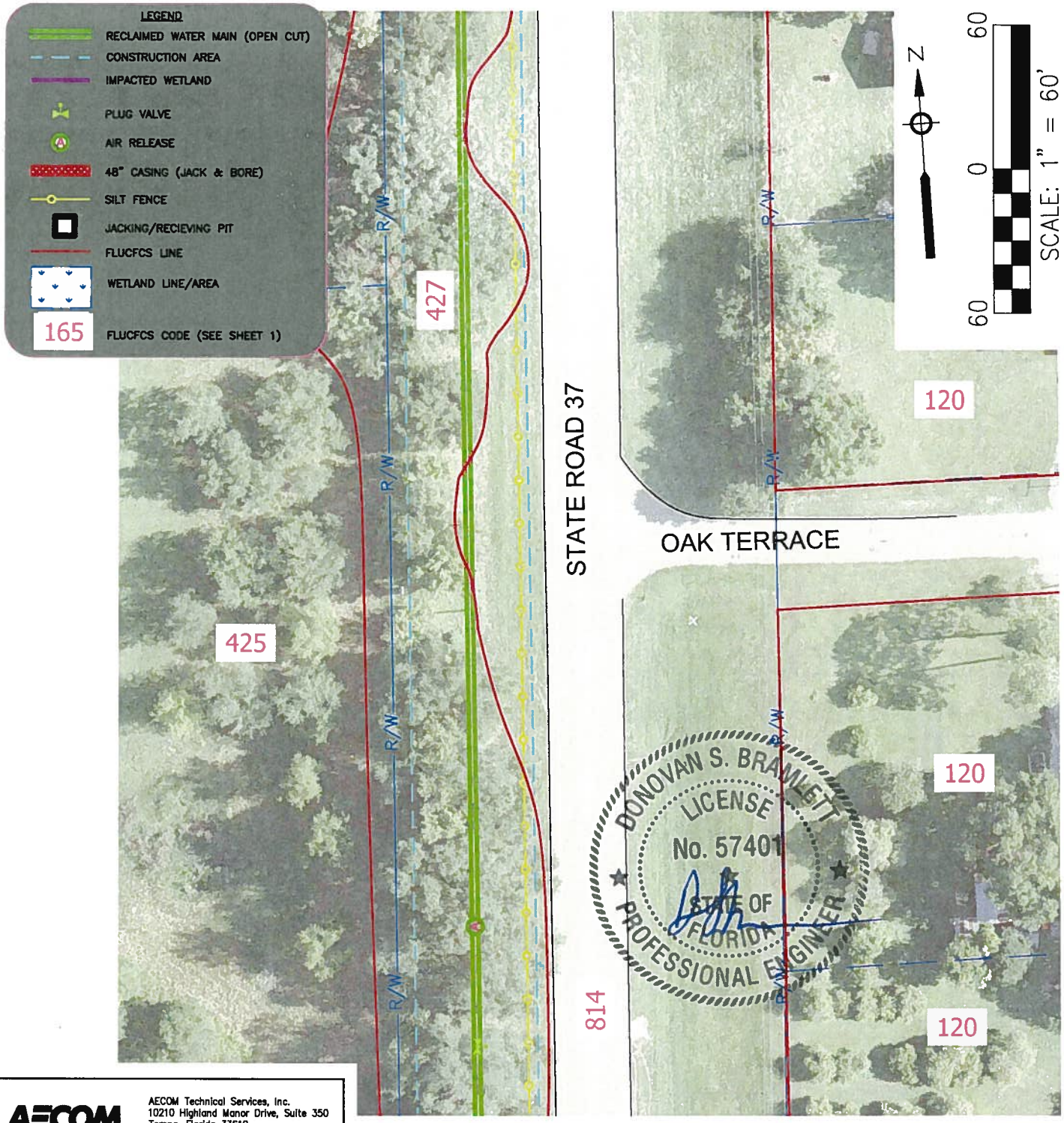
TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

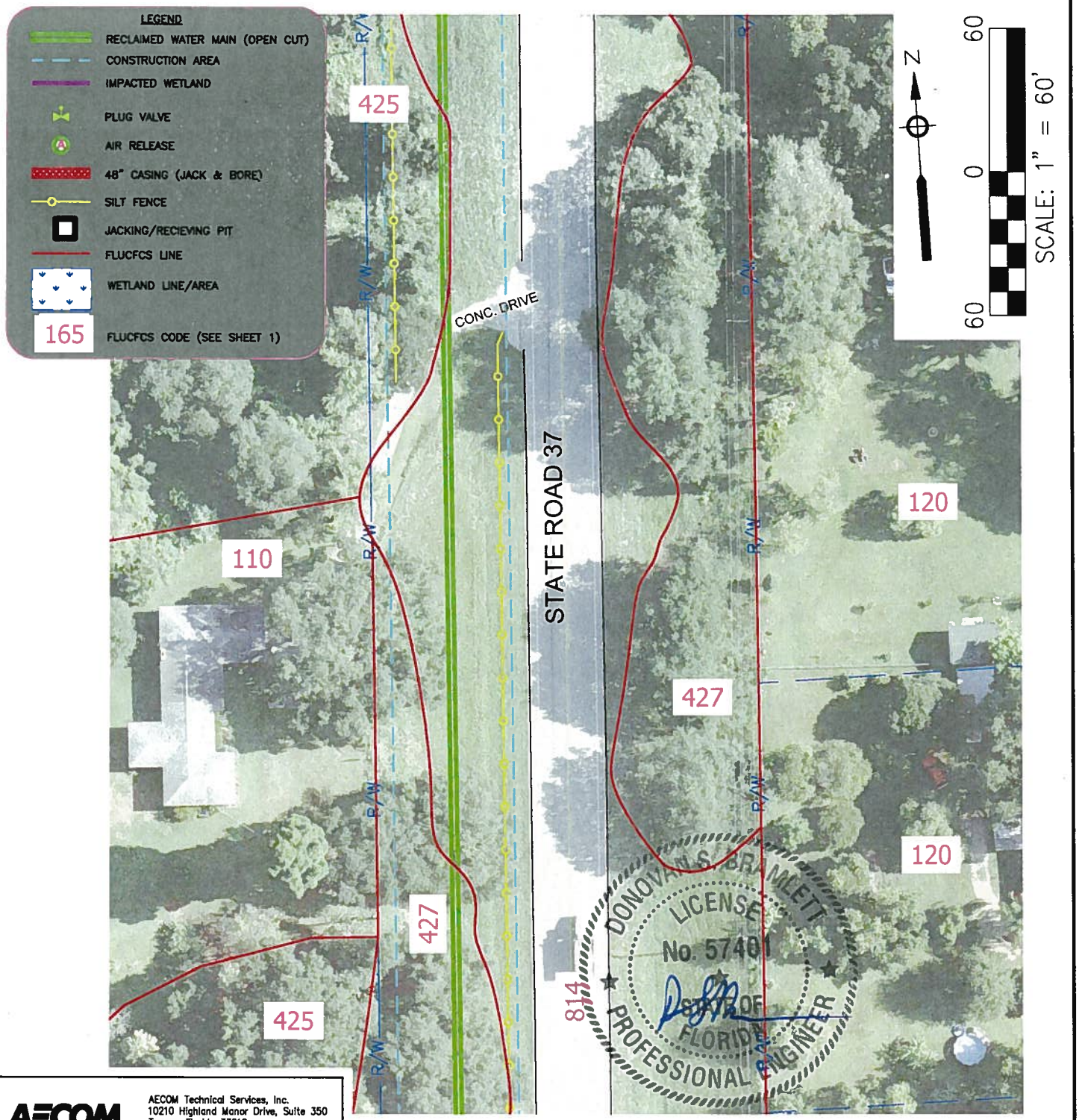
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

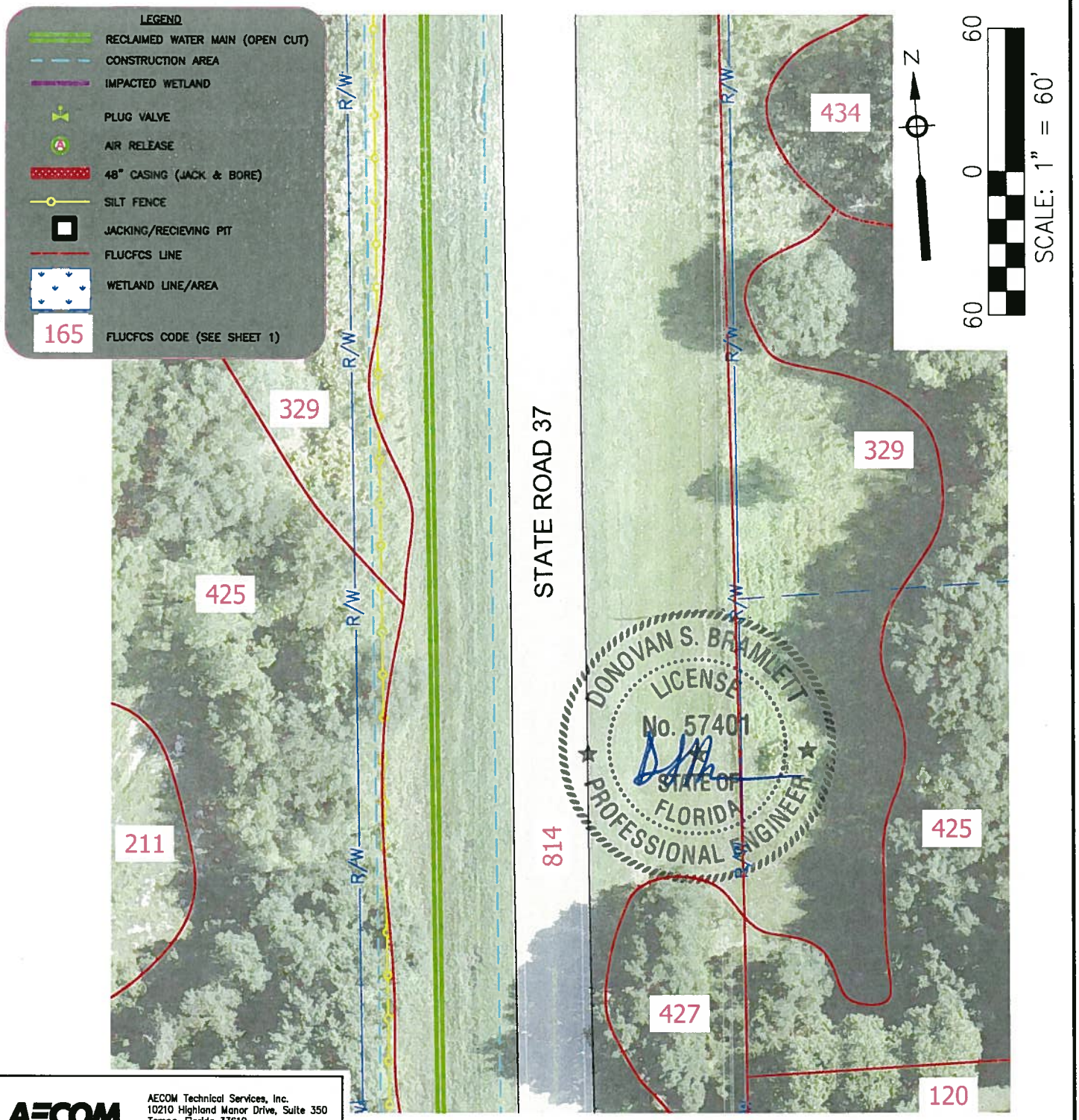
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 137 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

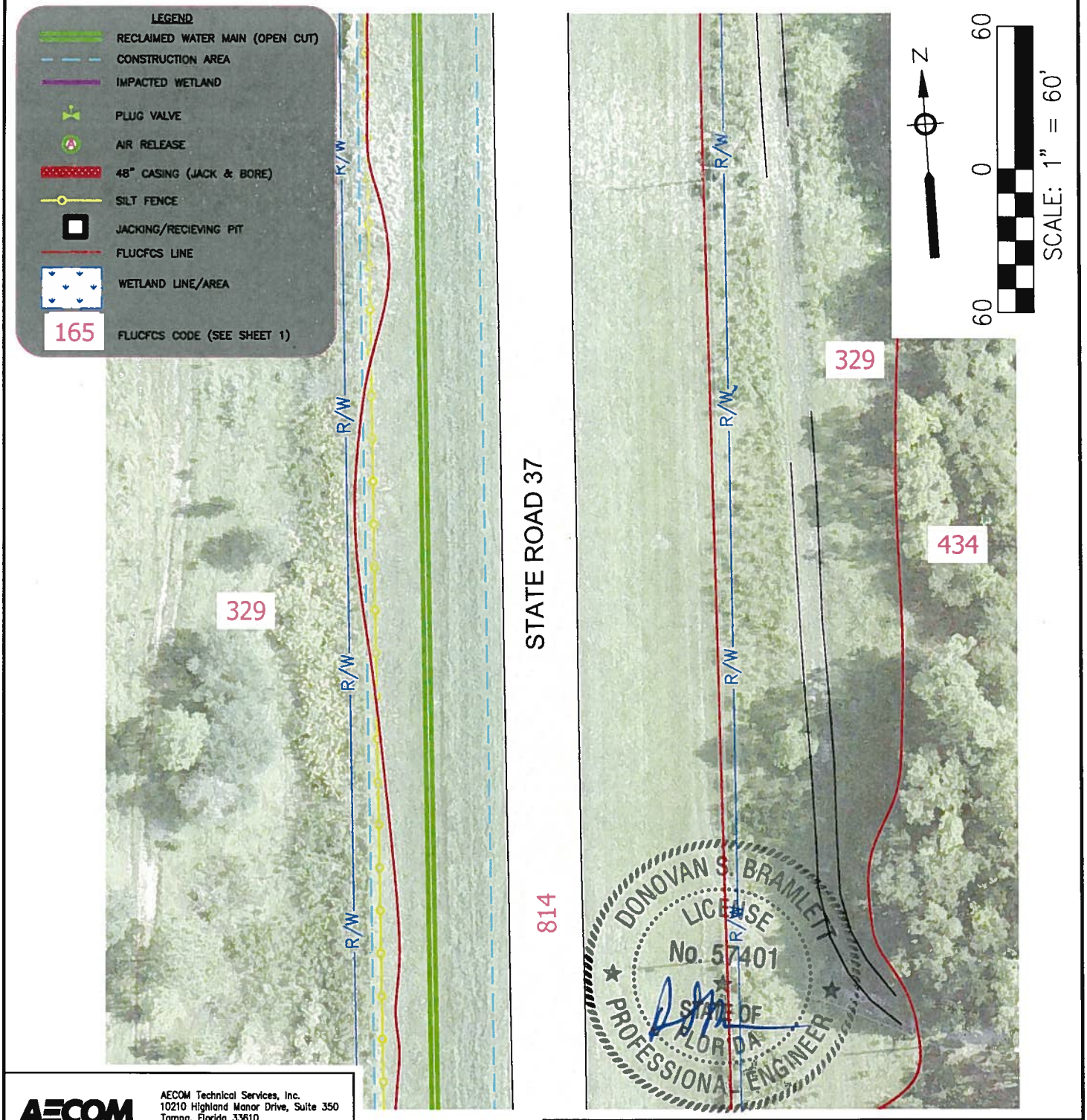
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

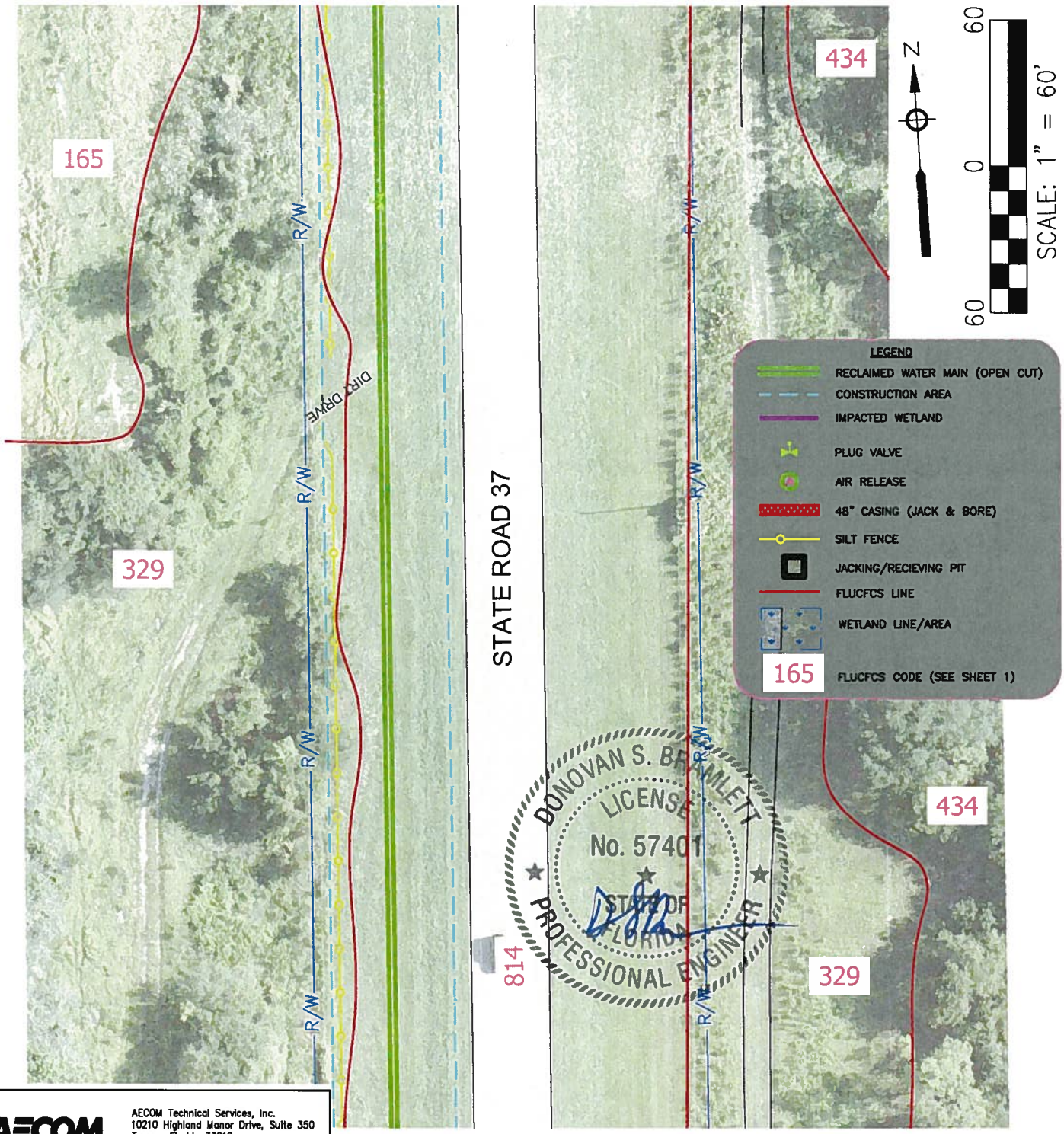
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

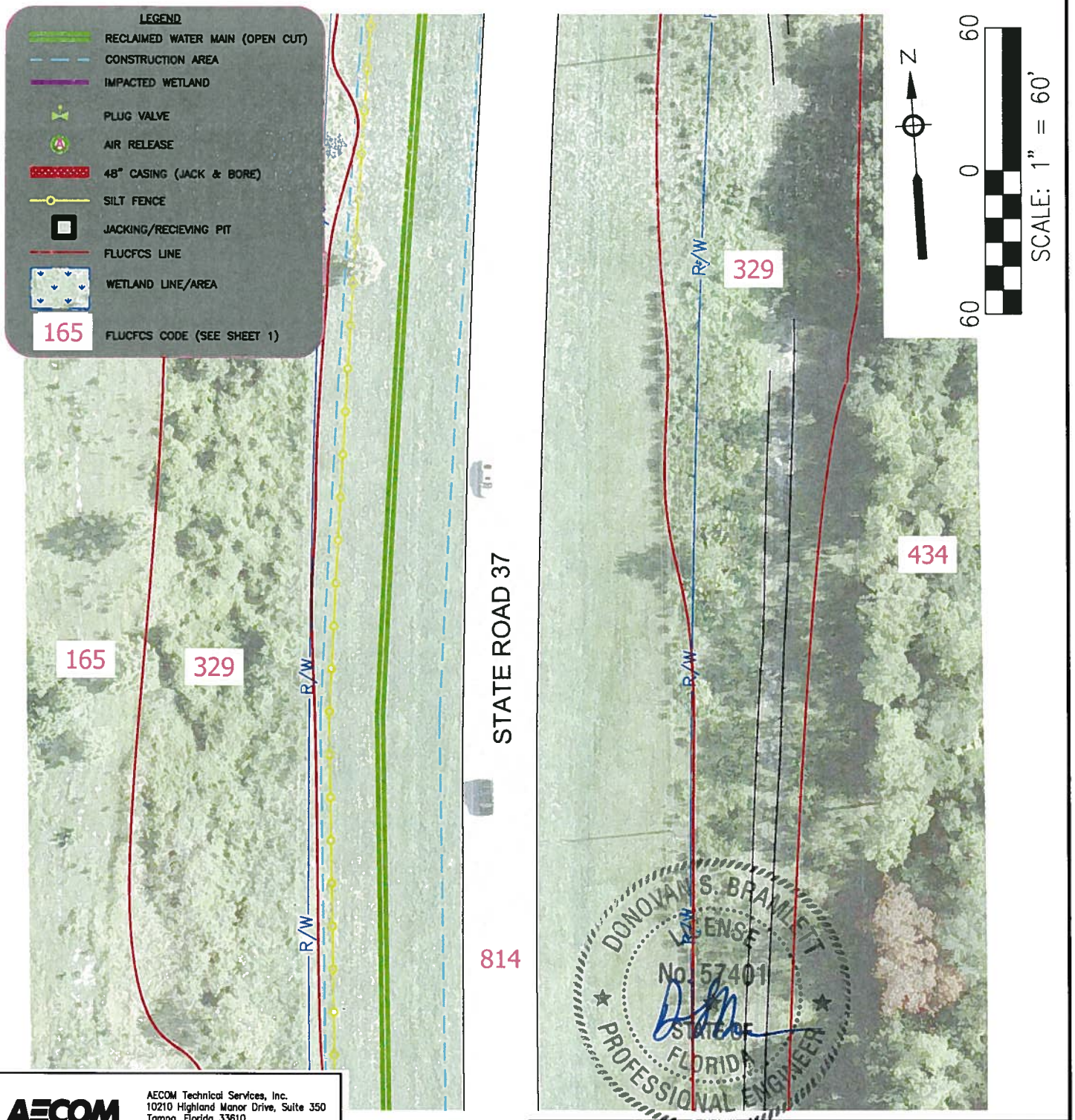
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

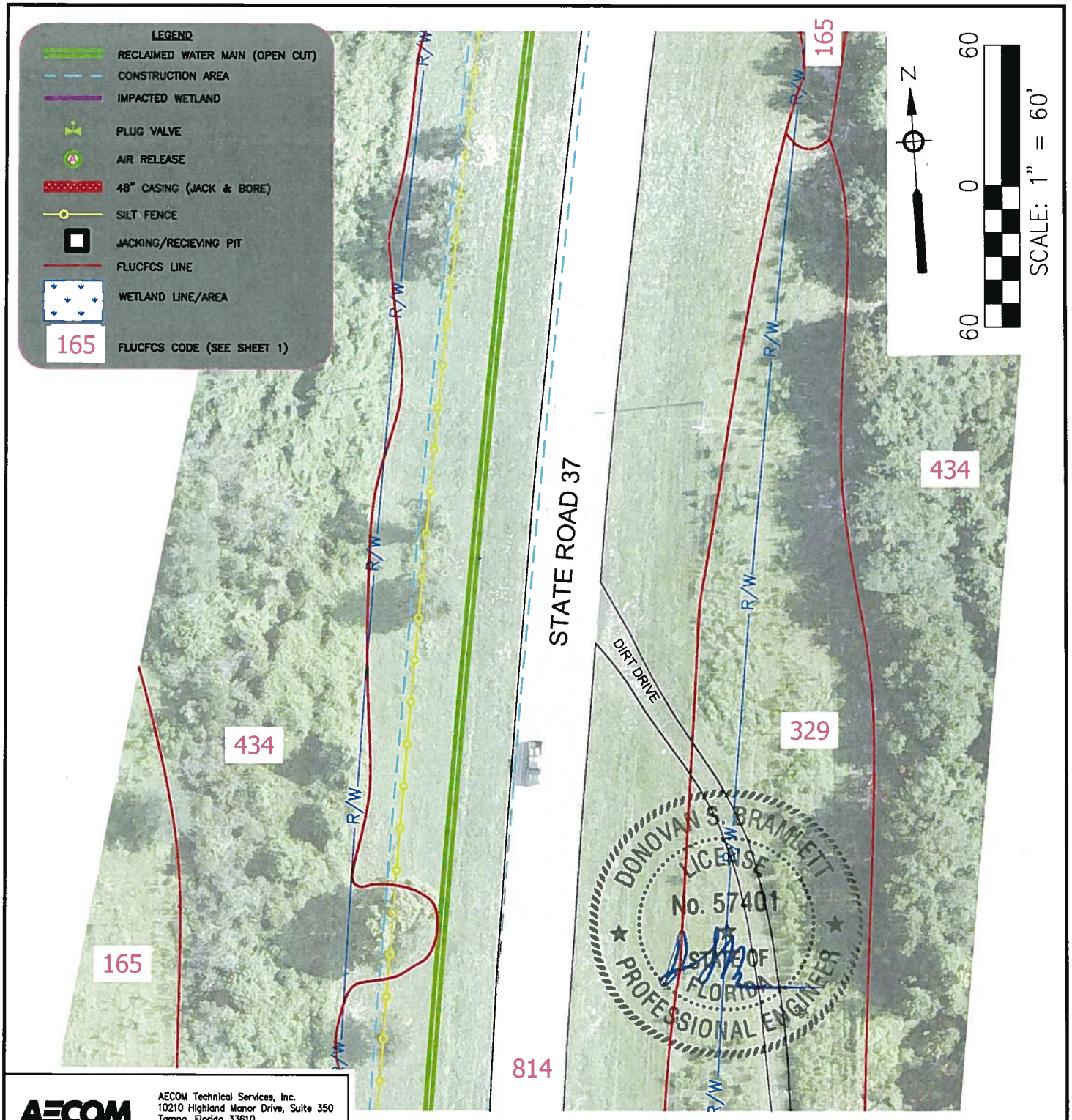
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 141 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_133-142.DWG	60218603
FILE NAME	PROJECT NUMBER

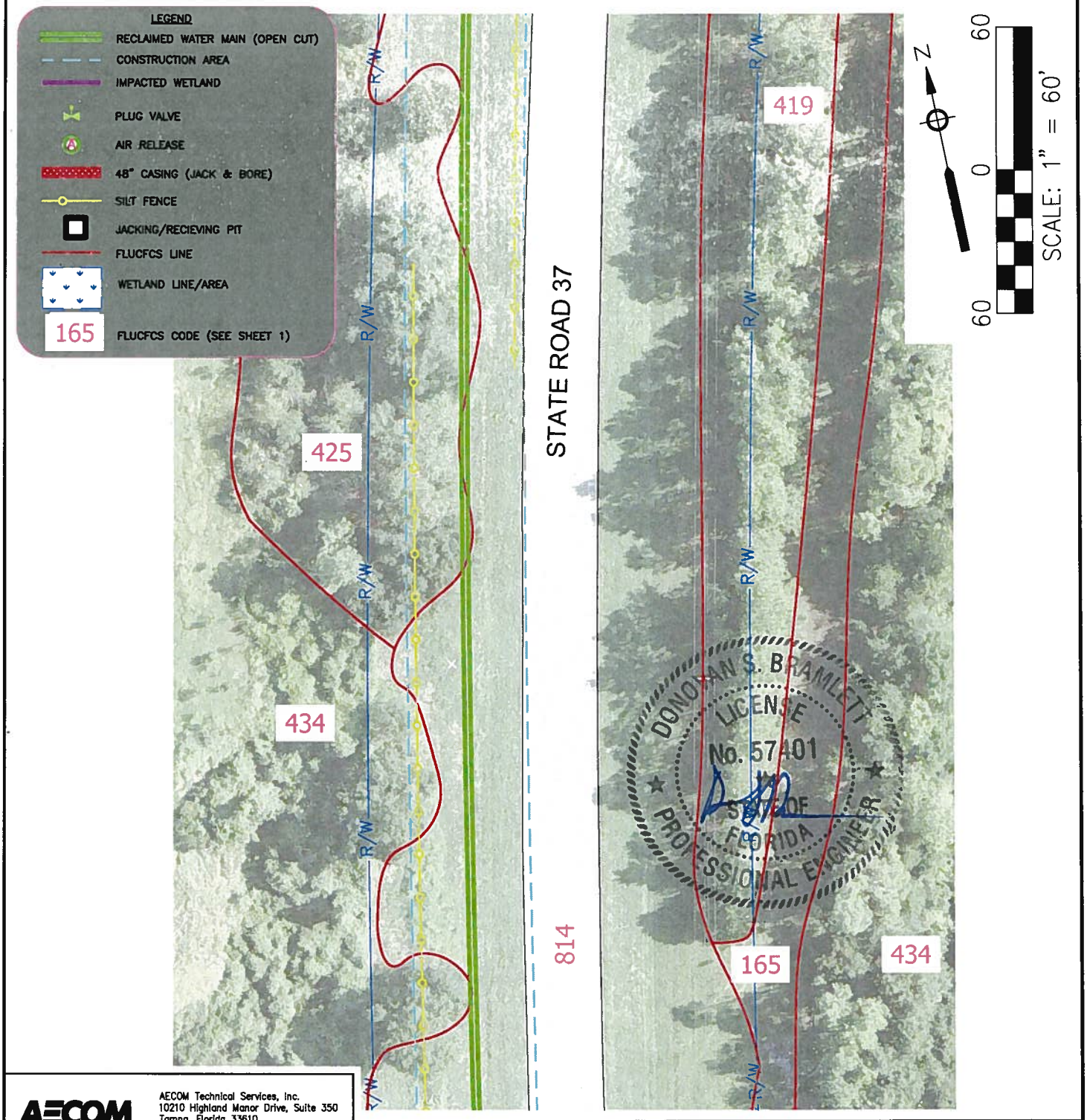
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

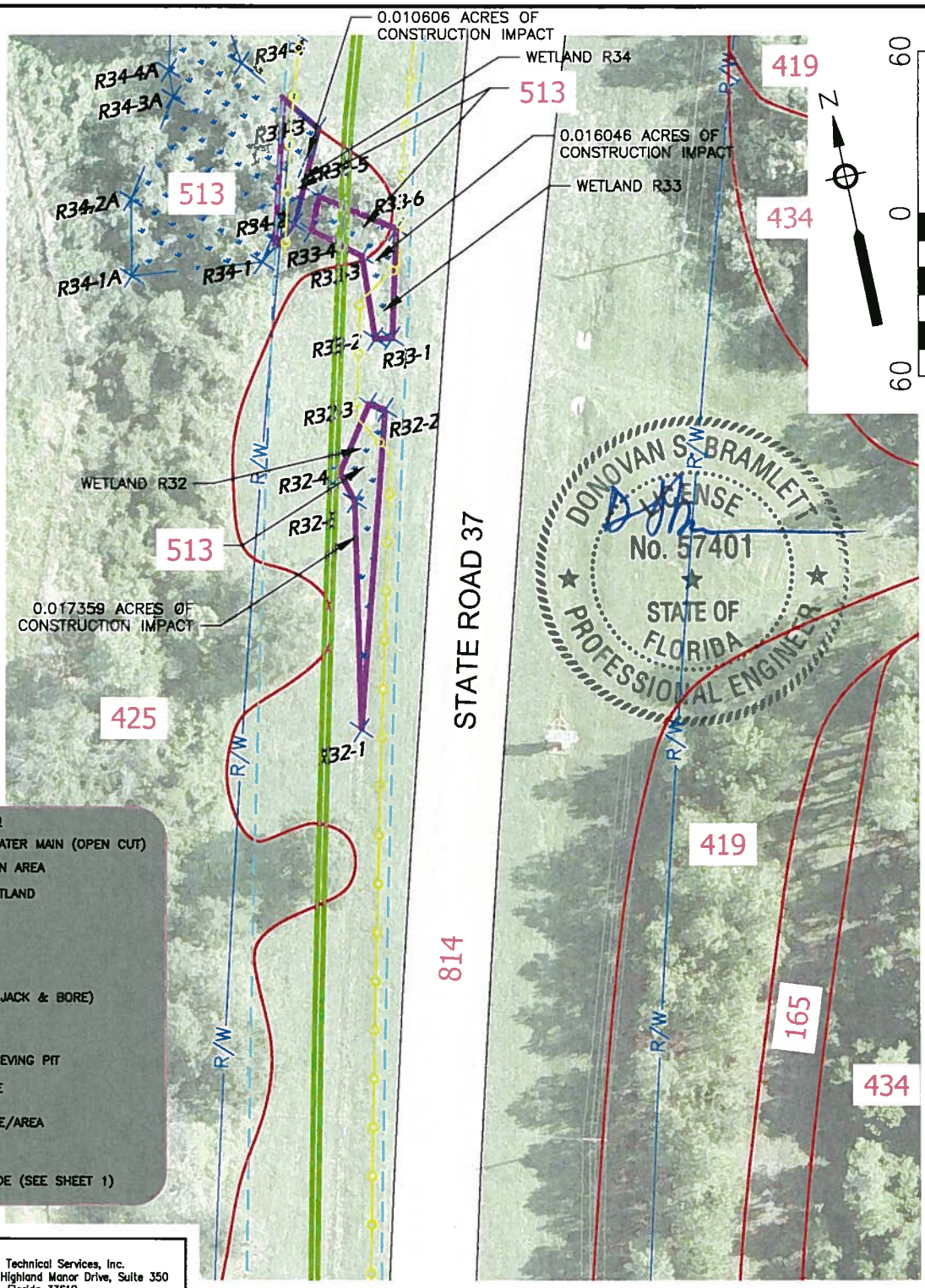
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

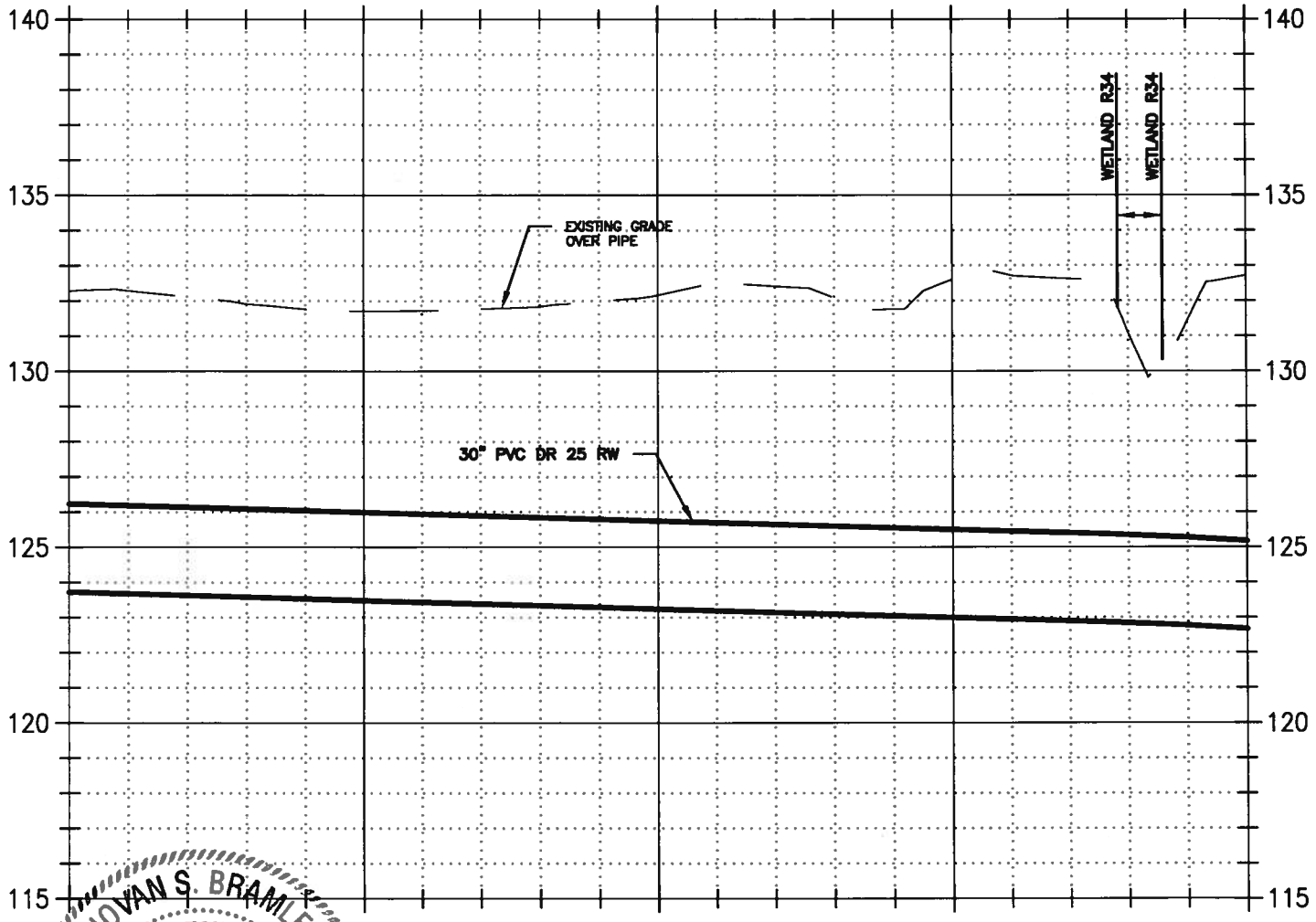
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

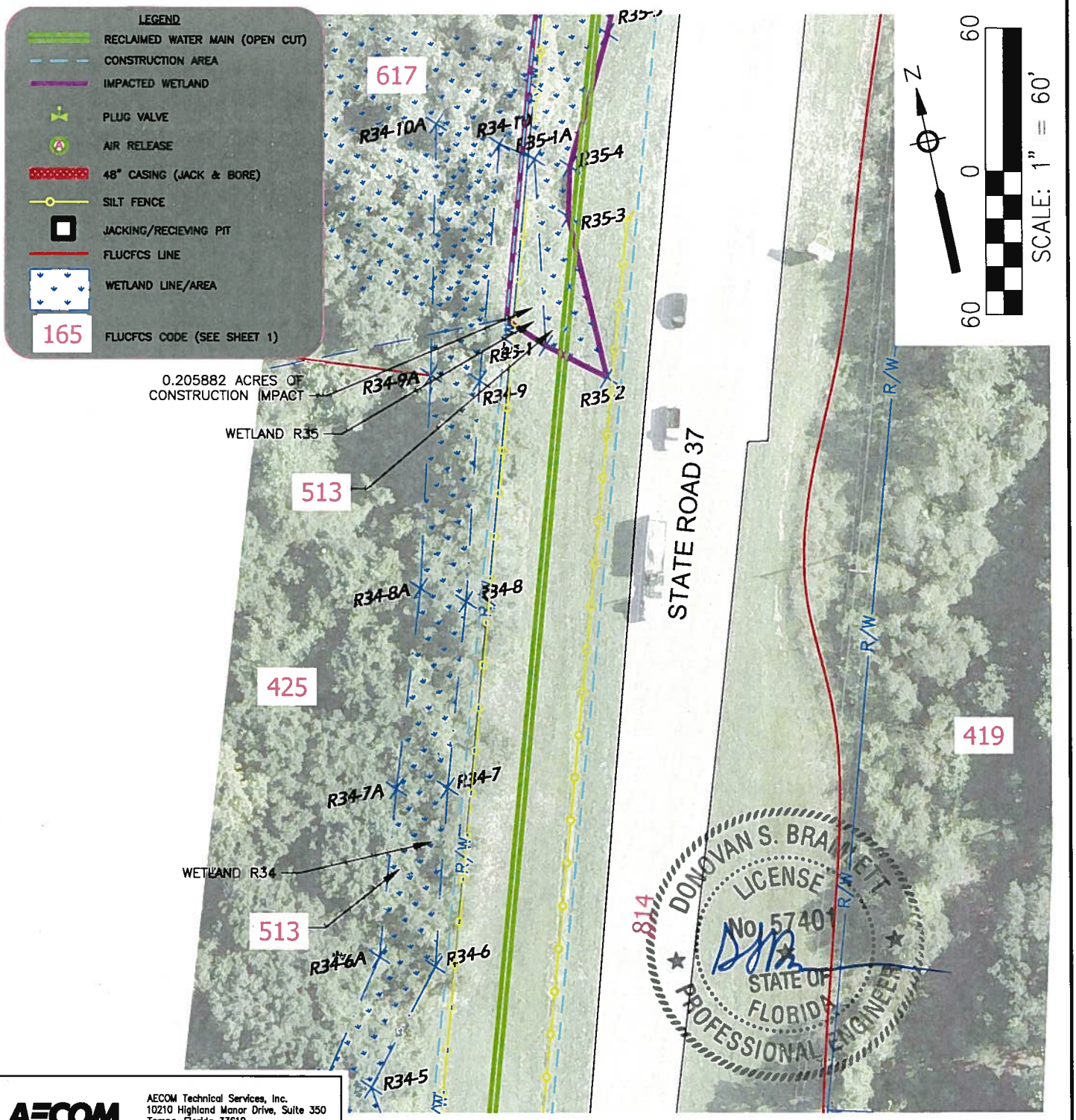
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 144
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 145 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

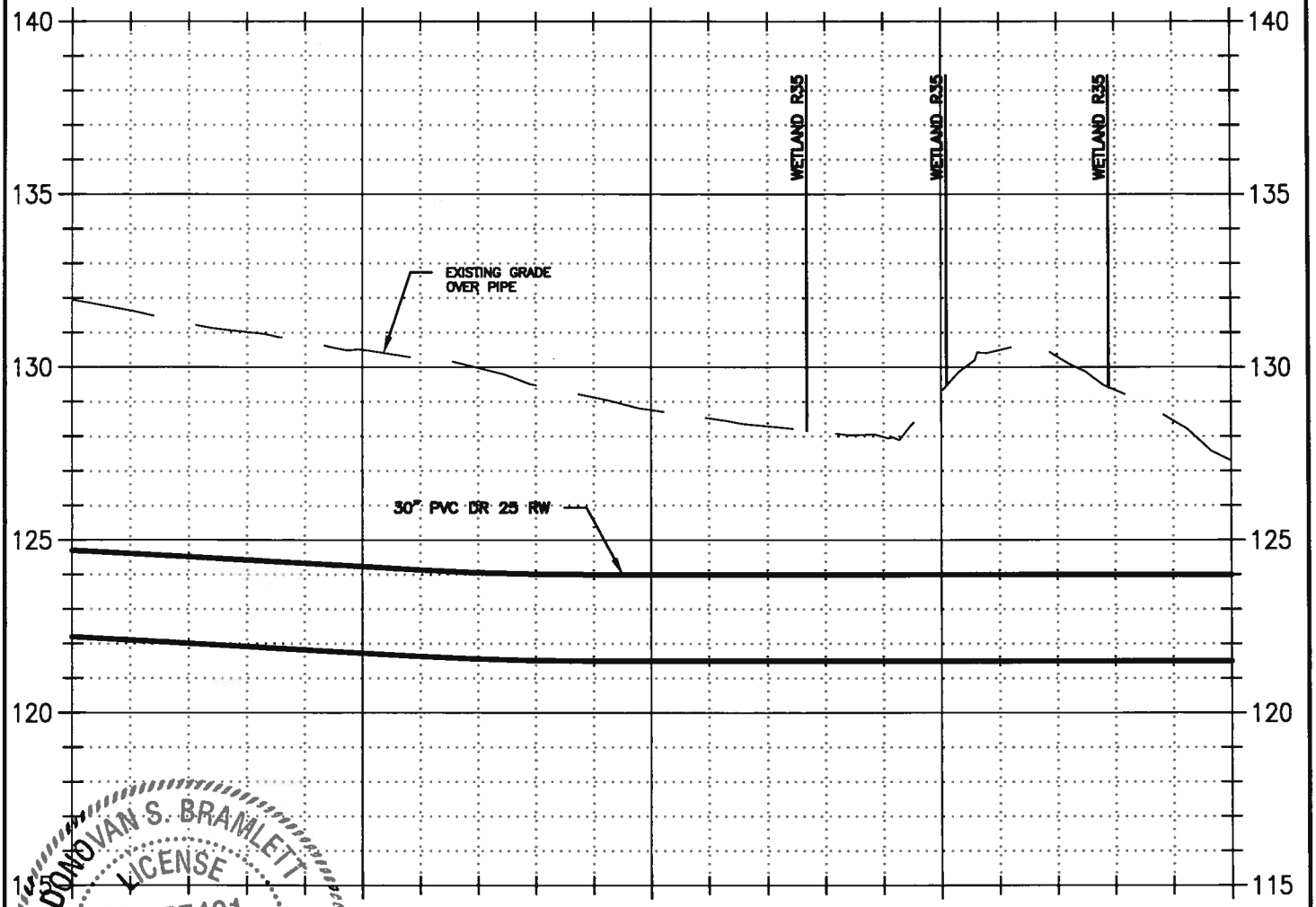
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

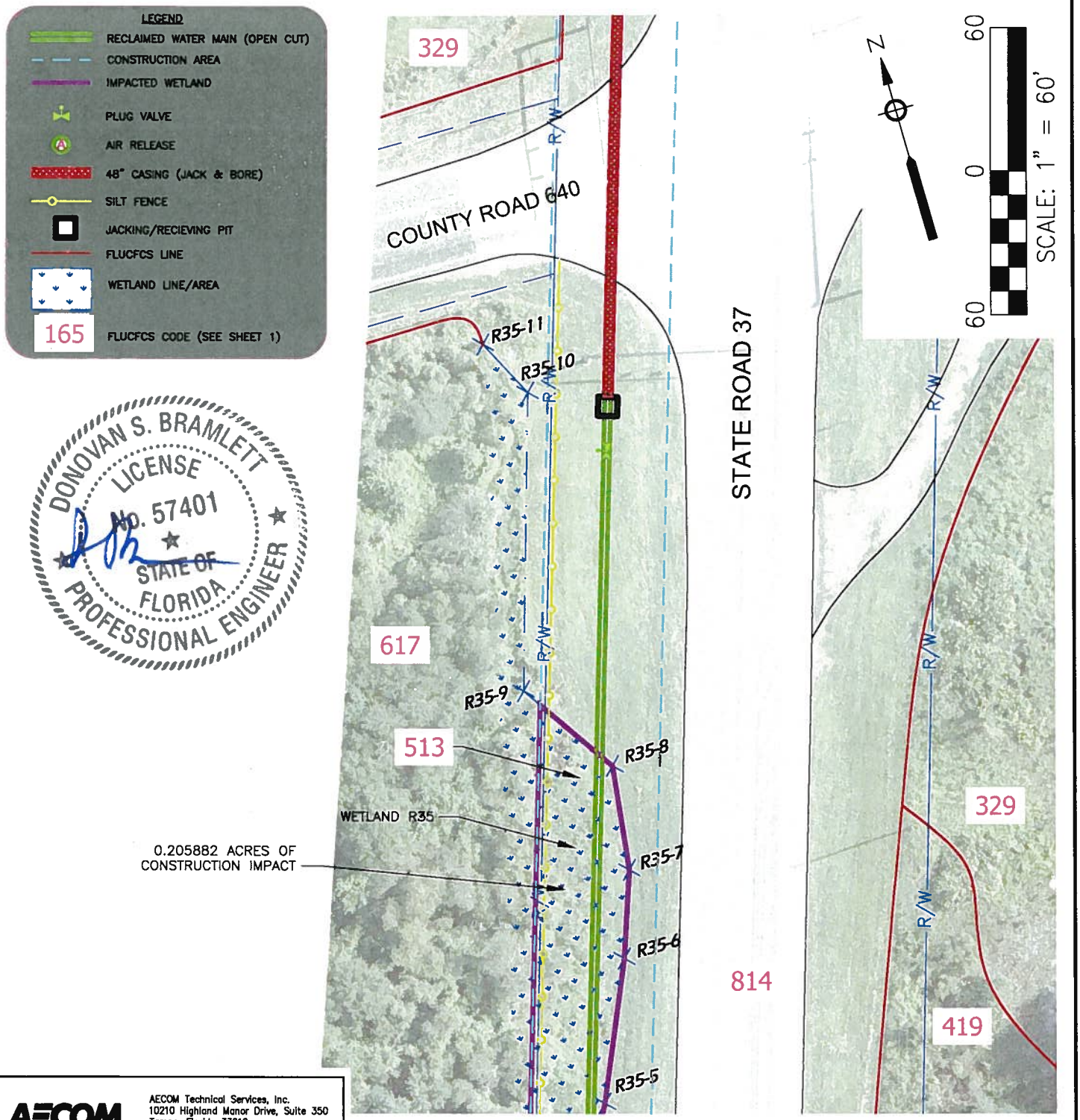
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 146
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

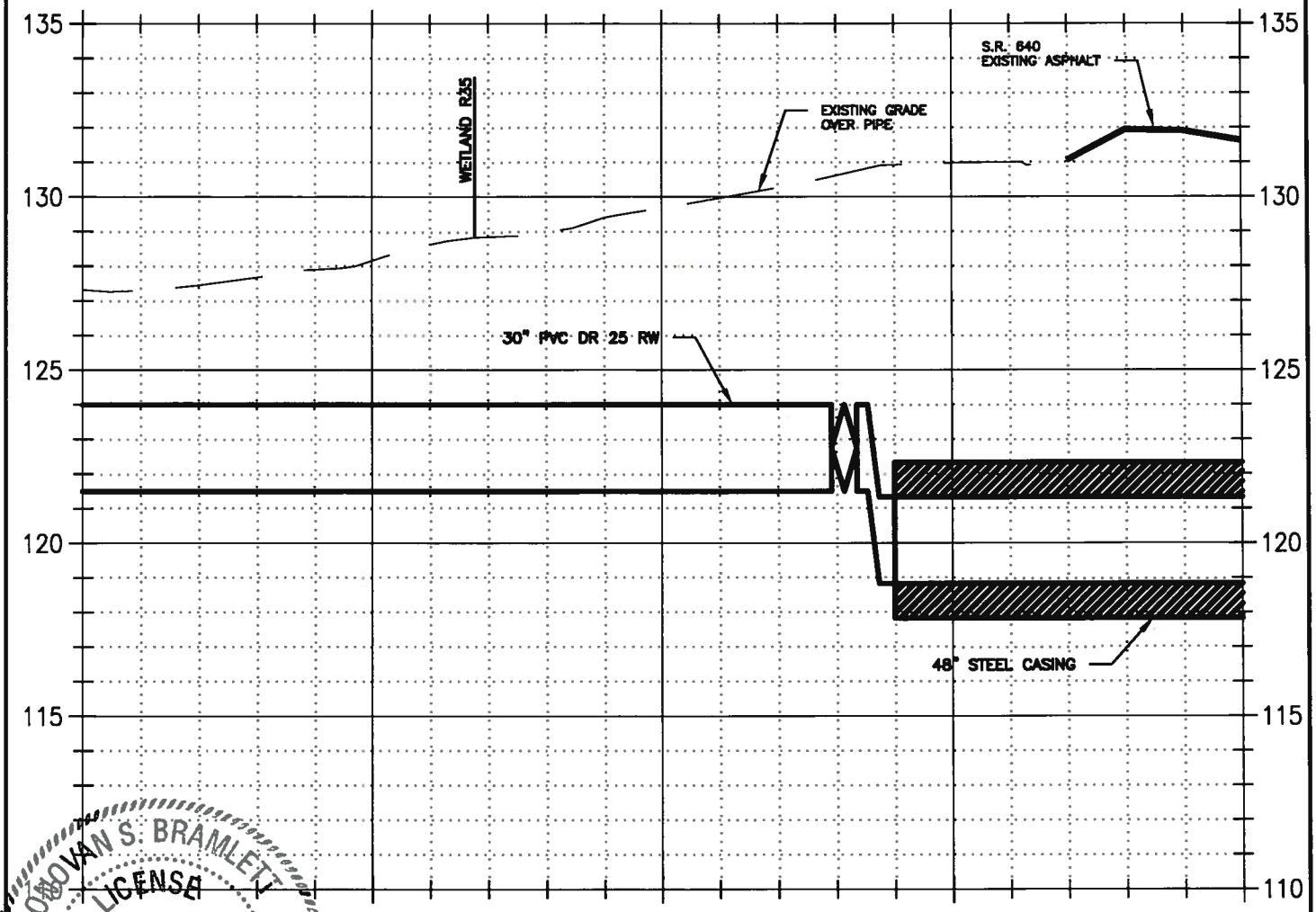
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 148 OF 221 | 0



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

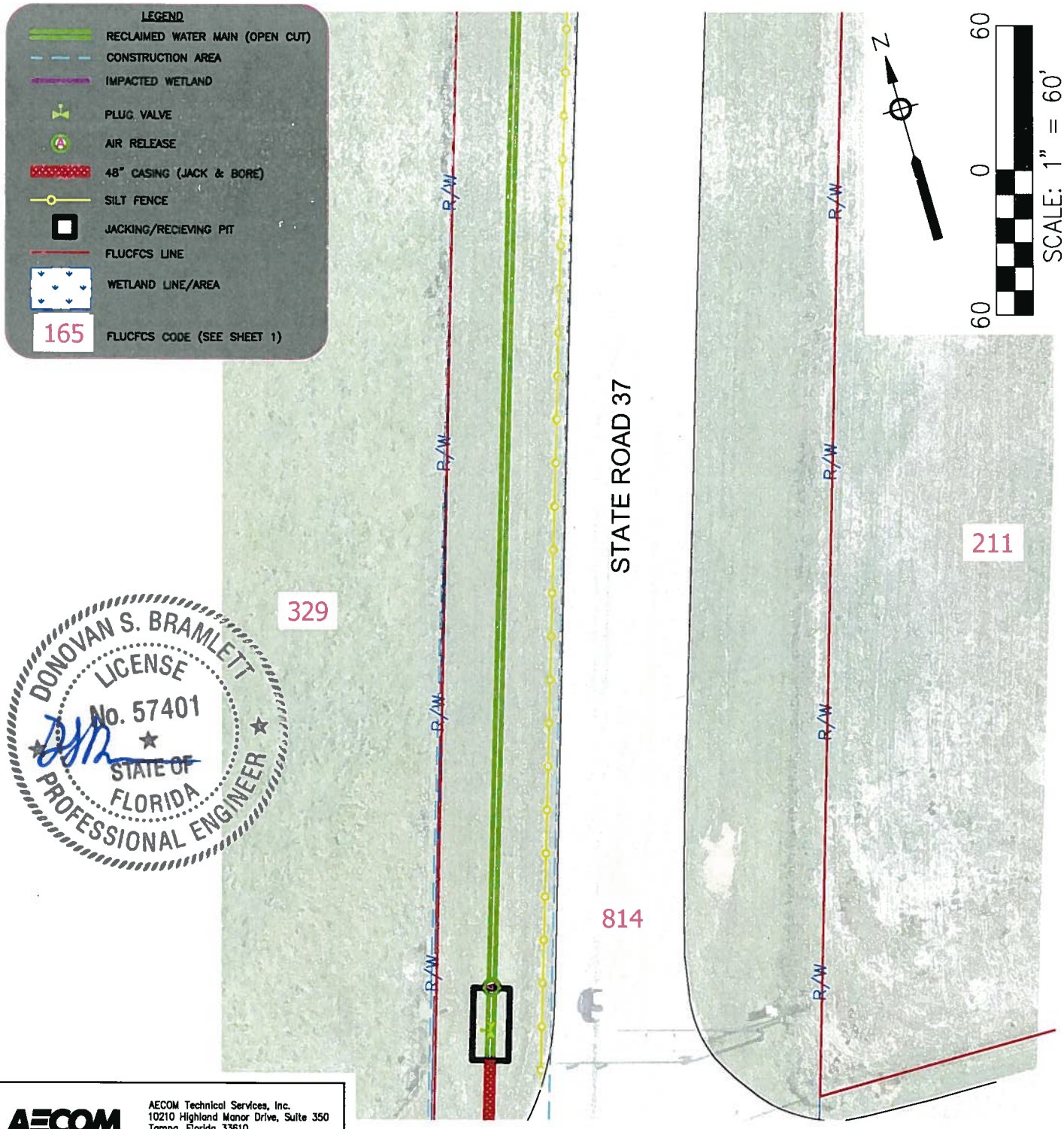
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 147
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

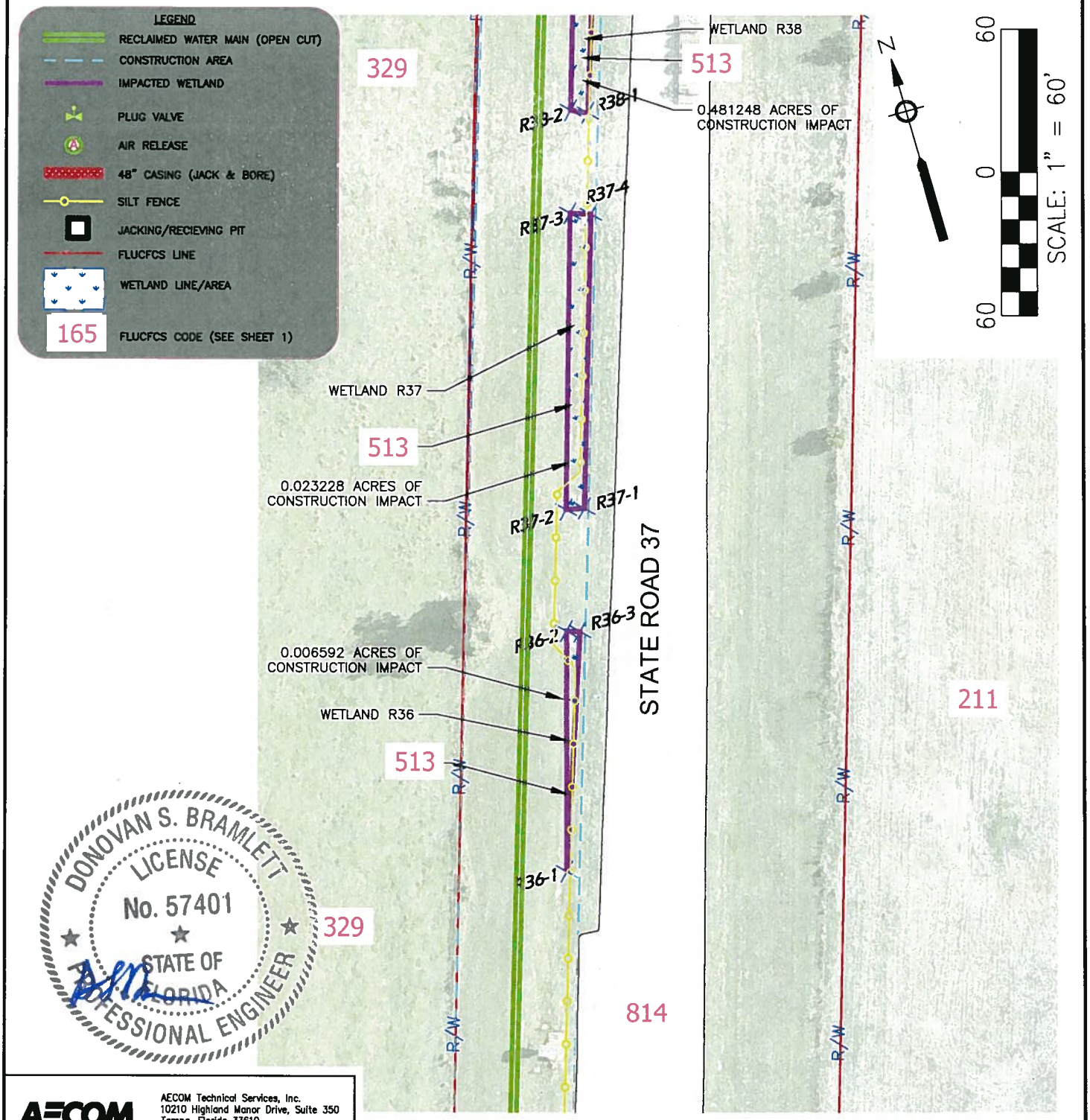
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

B



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

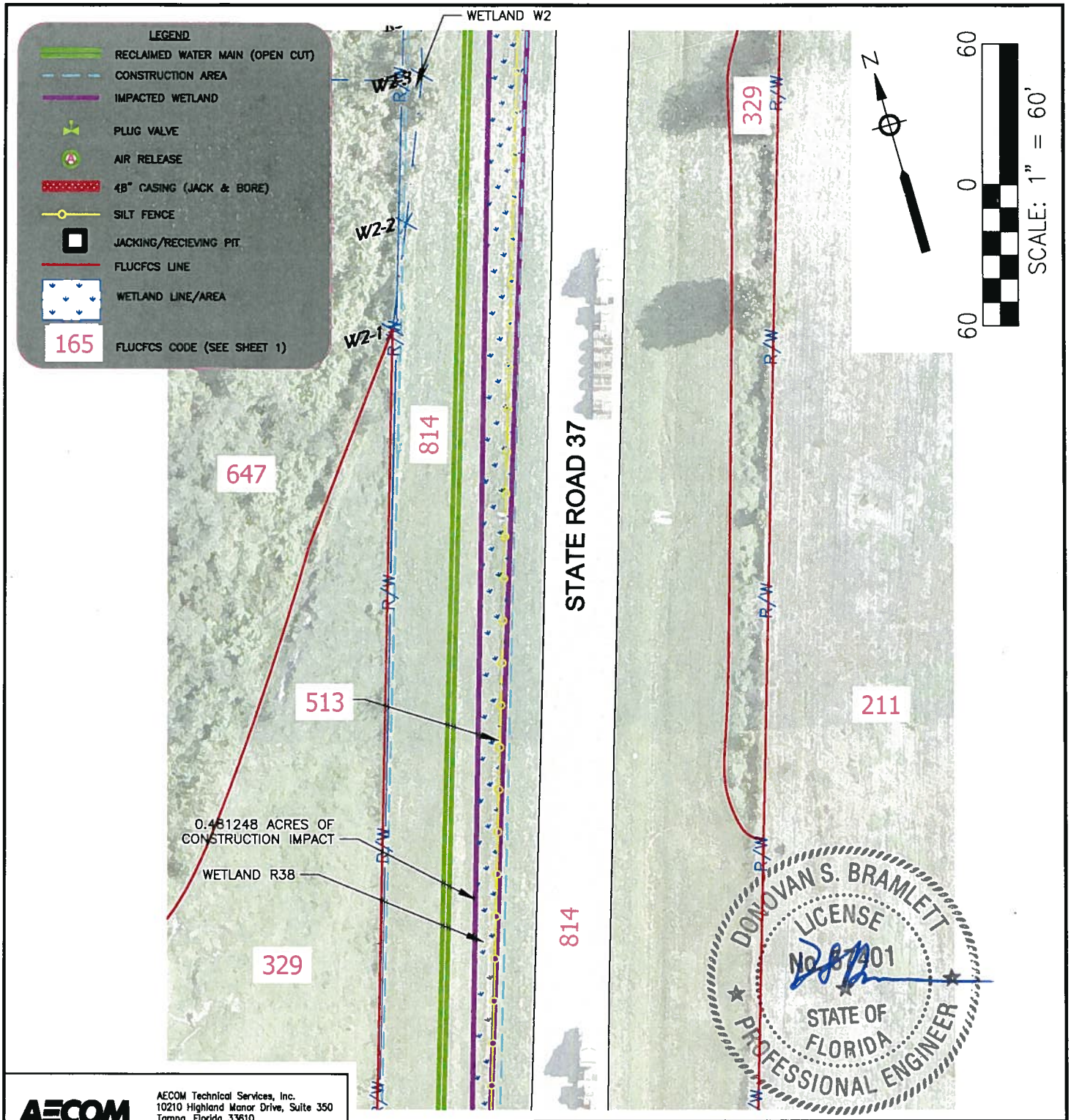
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 87401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

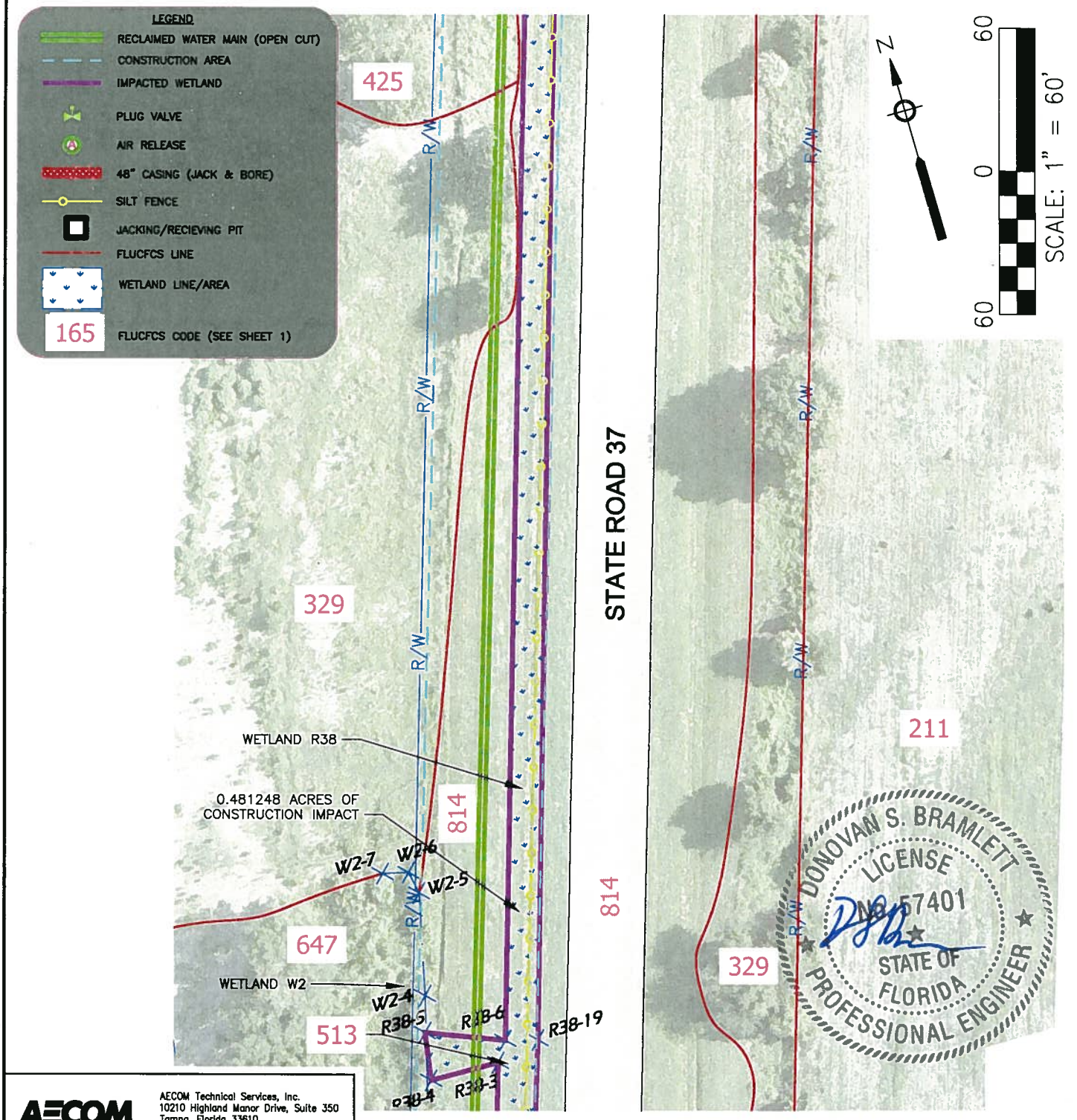
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

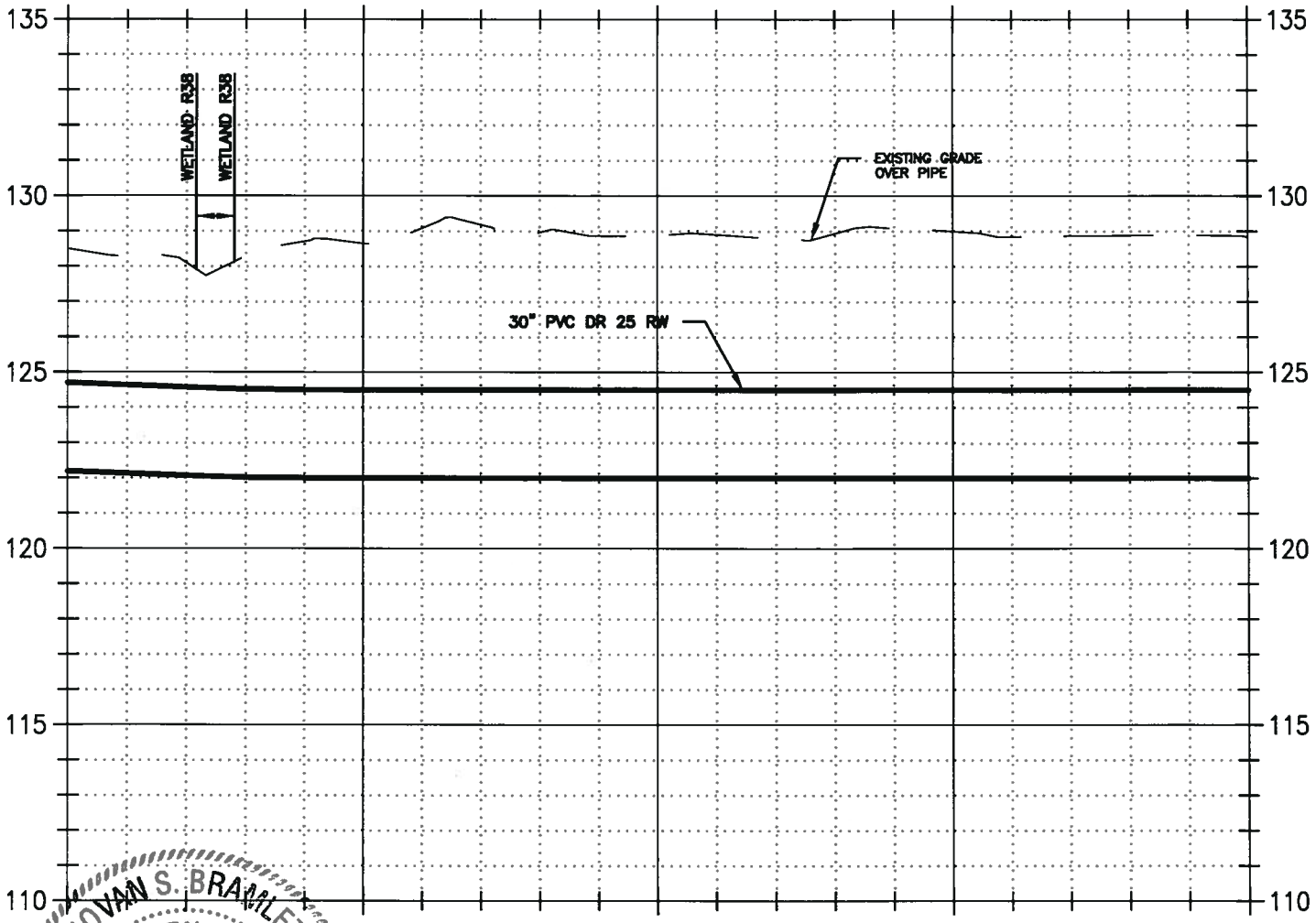
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

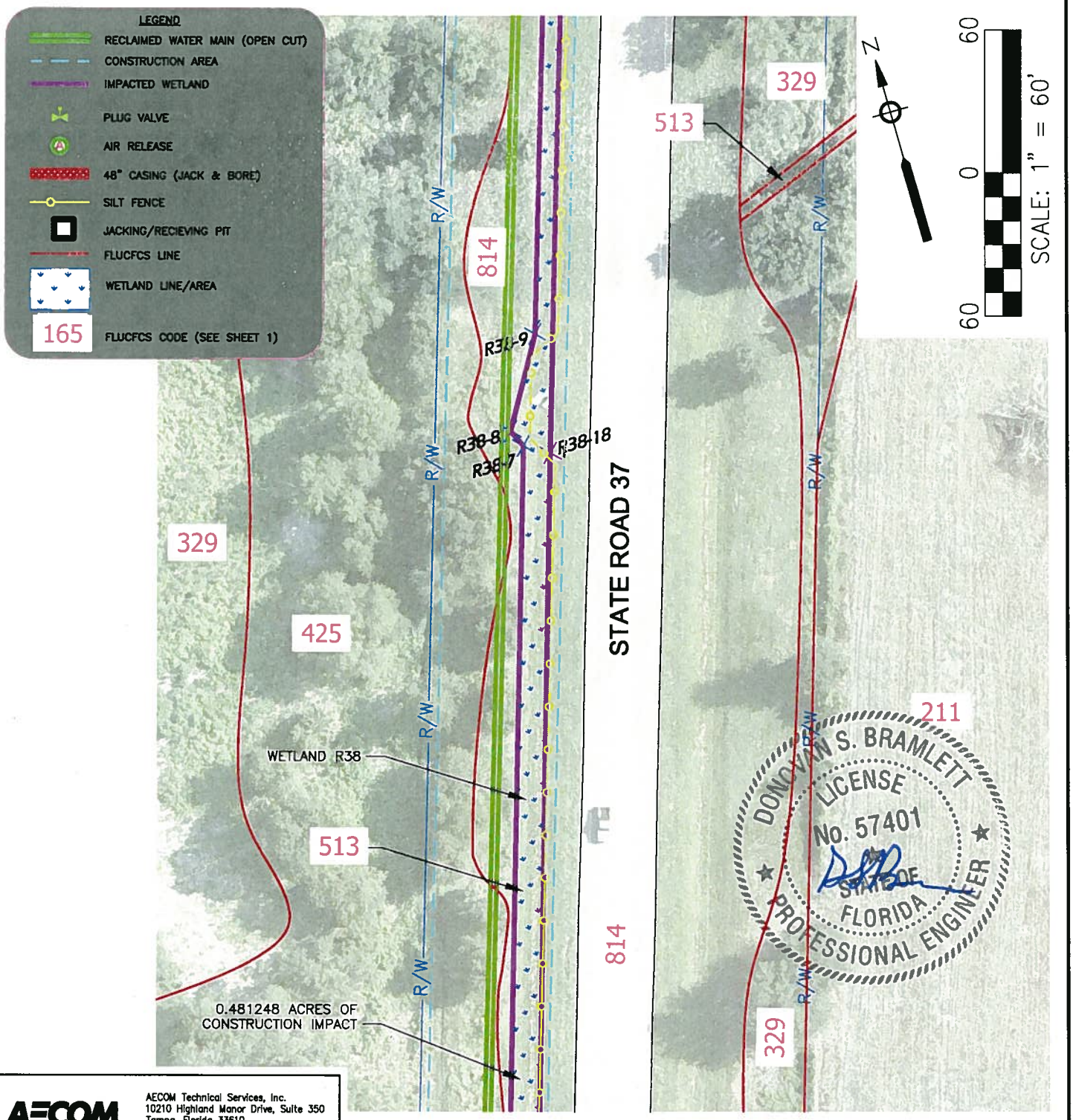
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 153
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

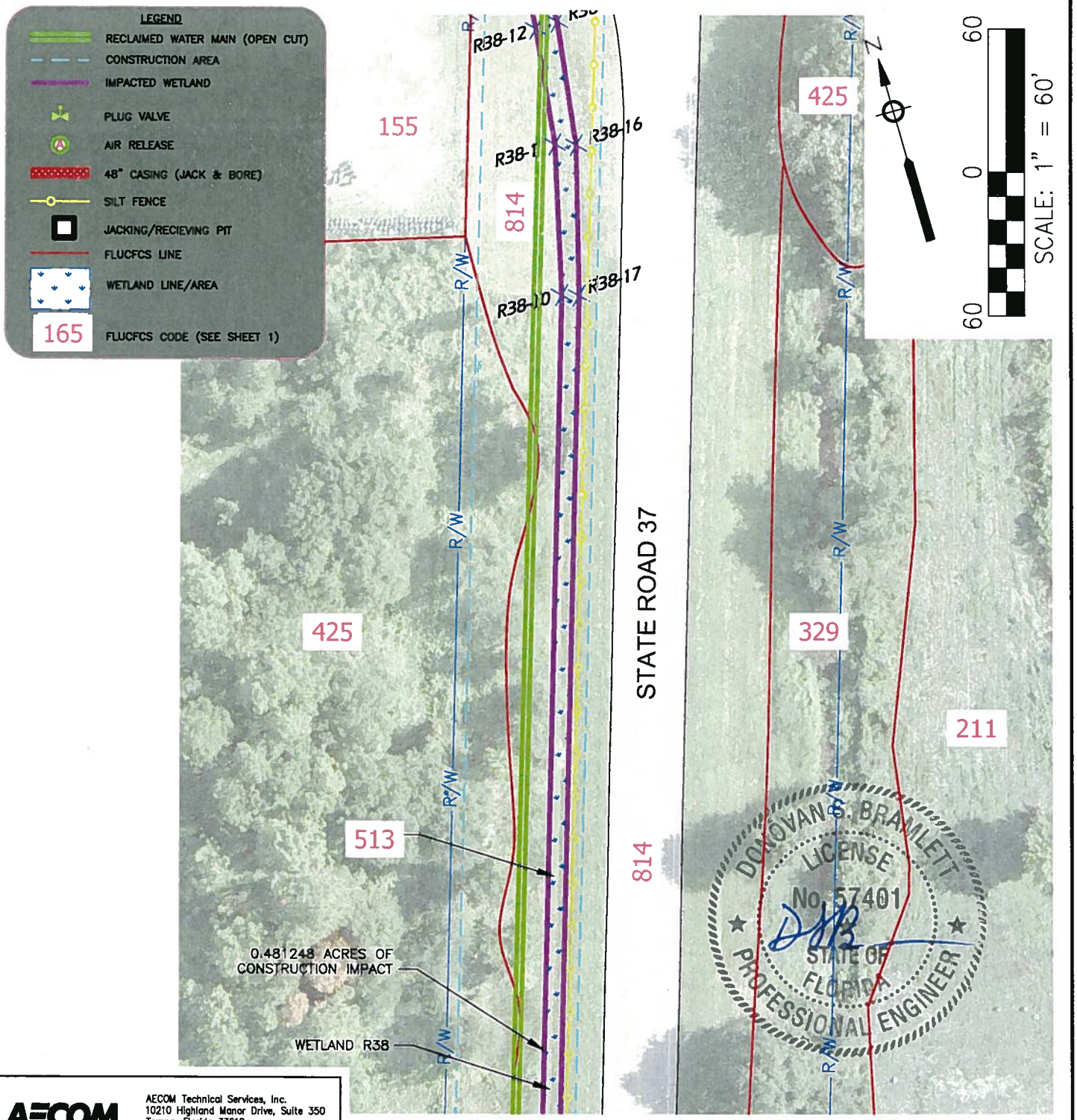
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_143-157.DWG	60218603
FILE NAME	PROJECT NUMBER

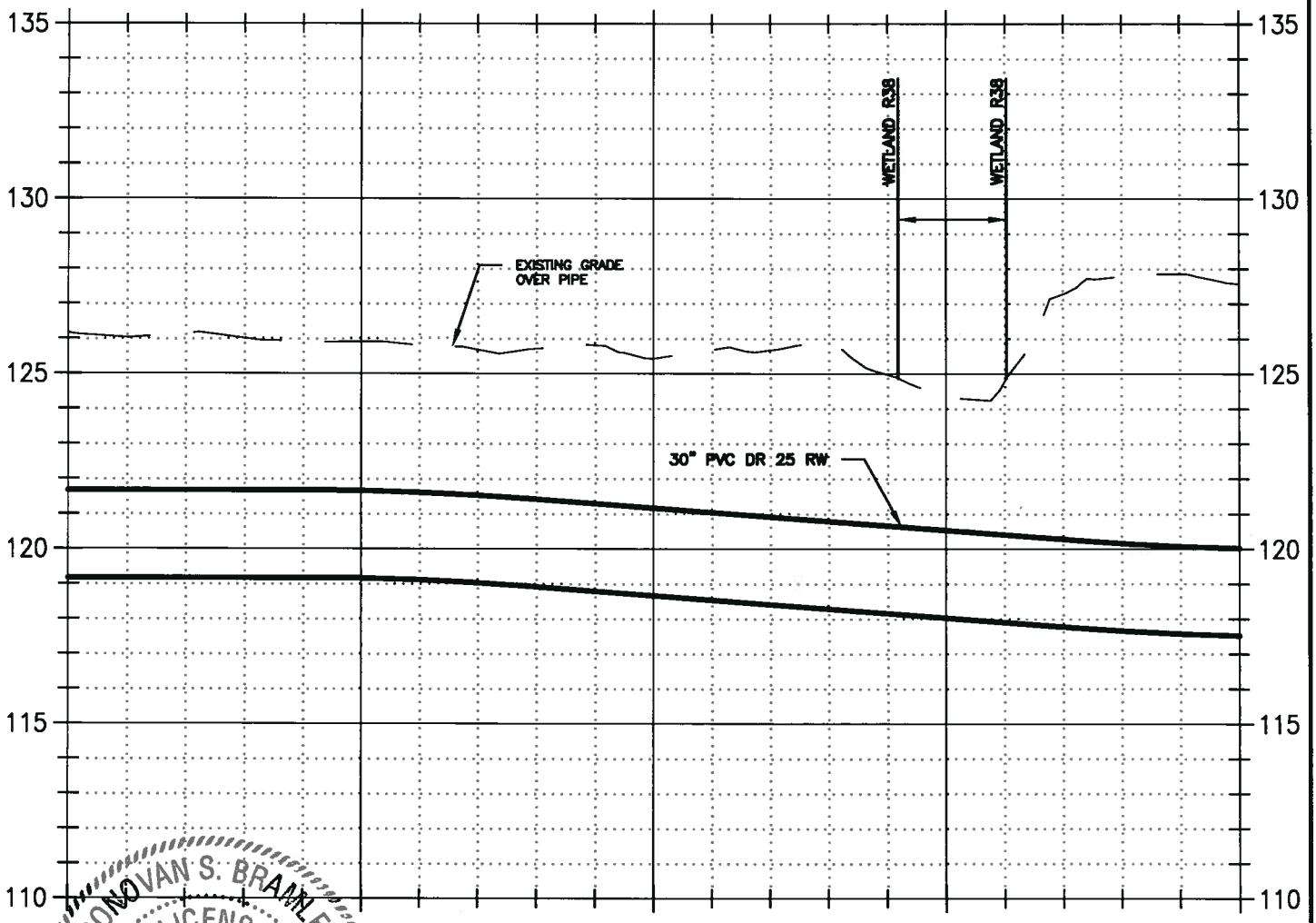
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

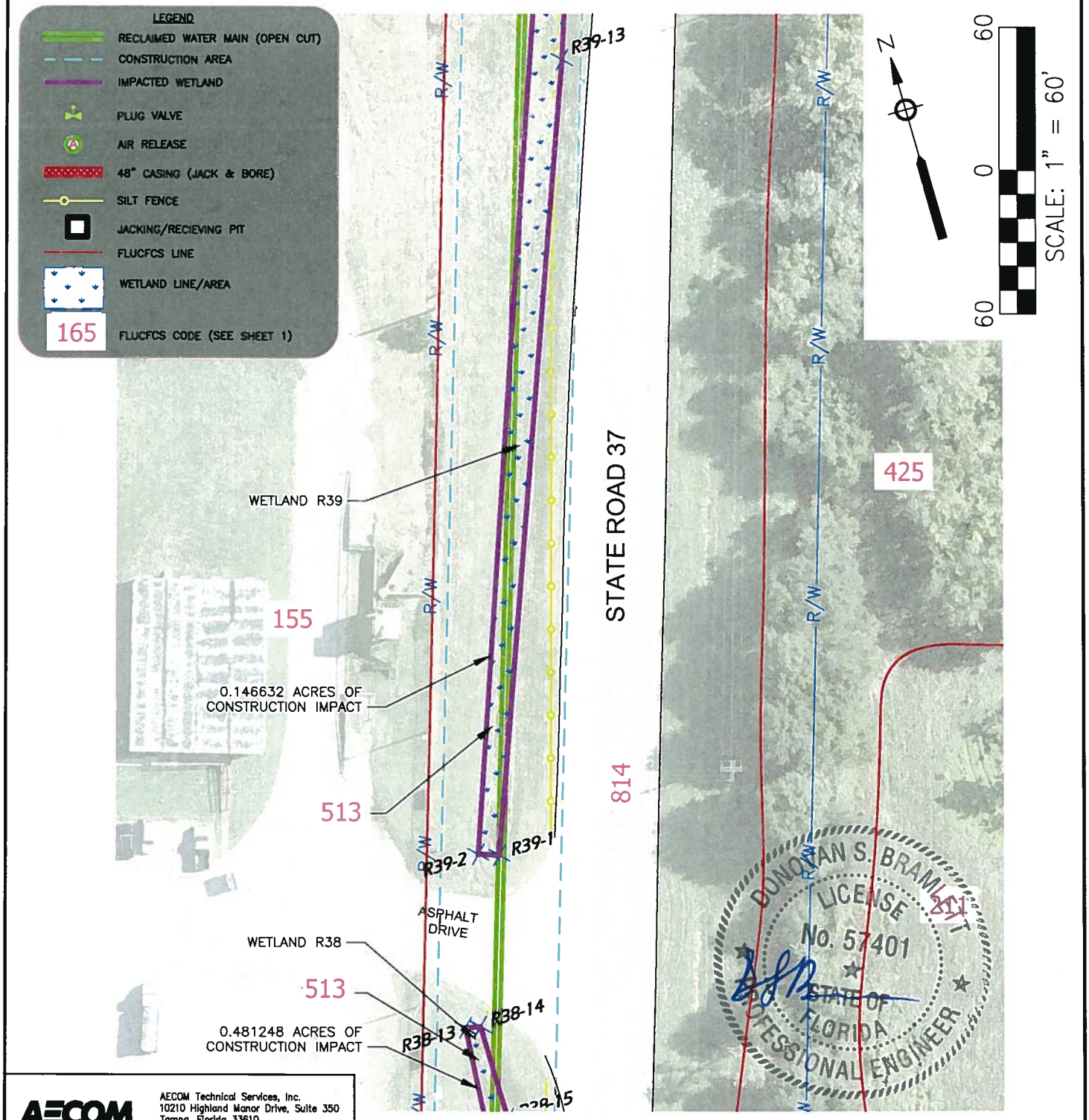
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

FILE NAME	PROJECT NUMBER
FIGURE_143-157.DWG	60218603

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 156
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

DUNCAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

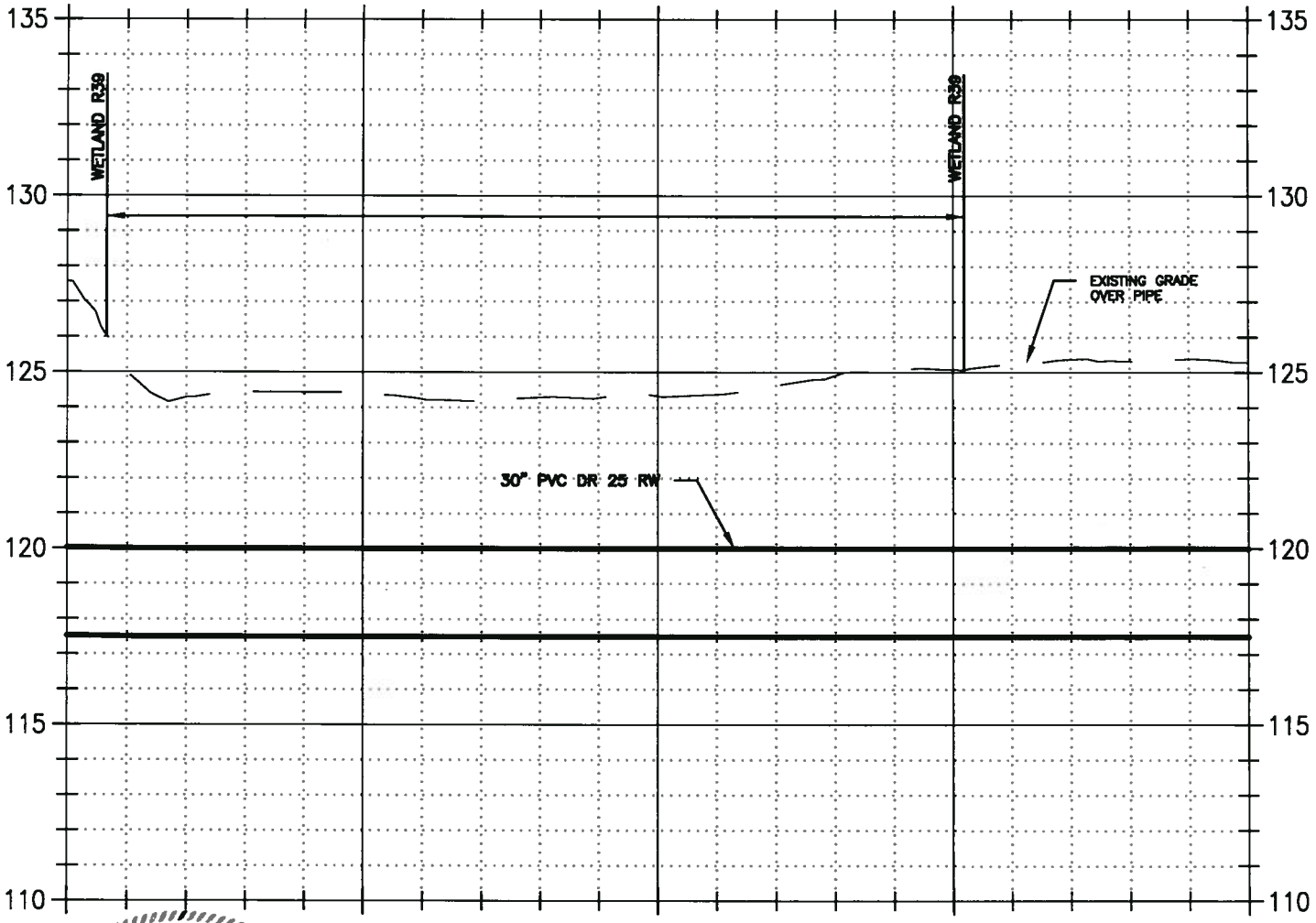
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

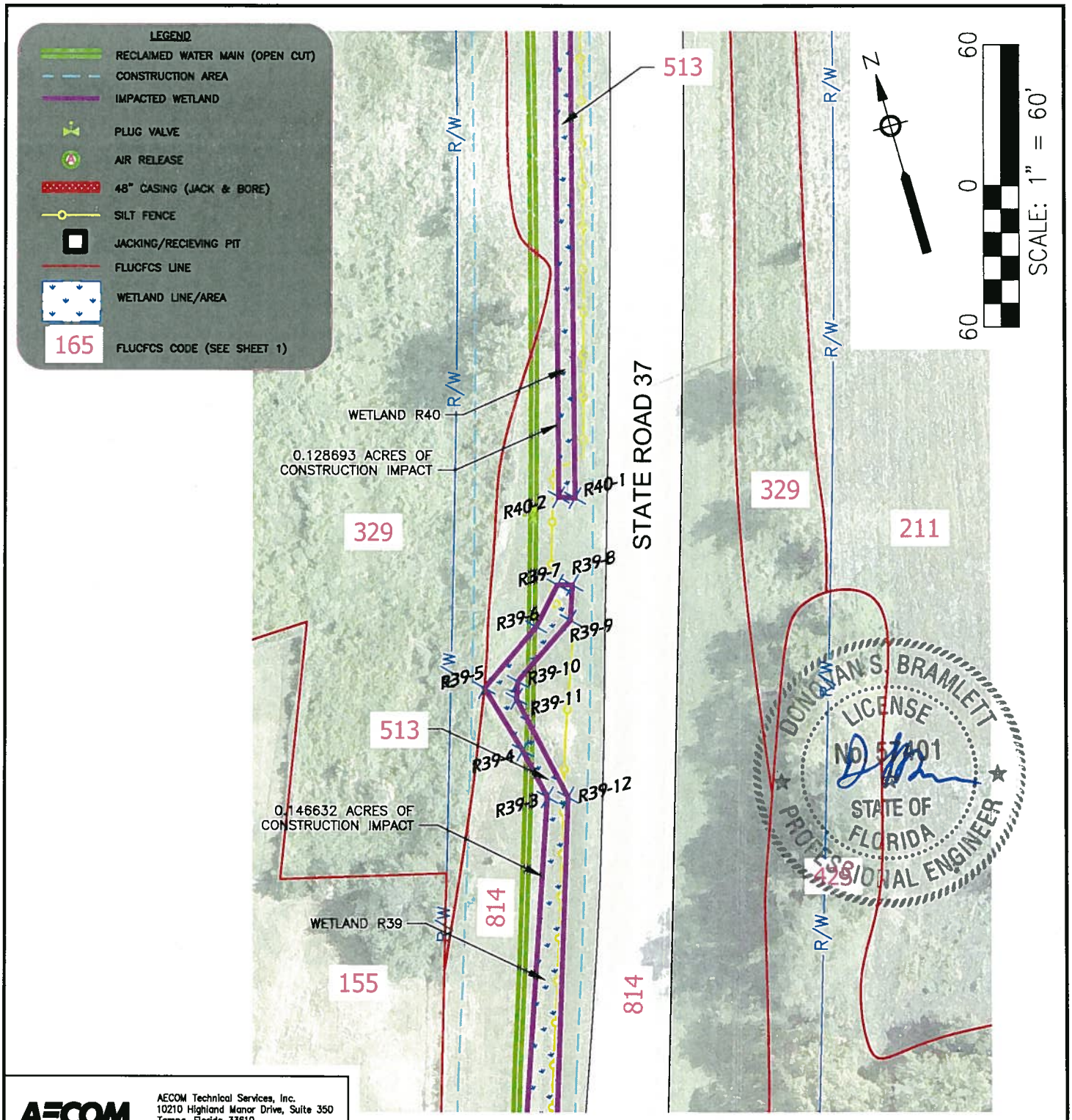
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

FILE NAME	PROJECT NUMBER
FIGURE_158-170.DWG	60218603

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 158
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

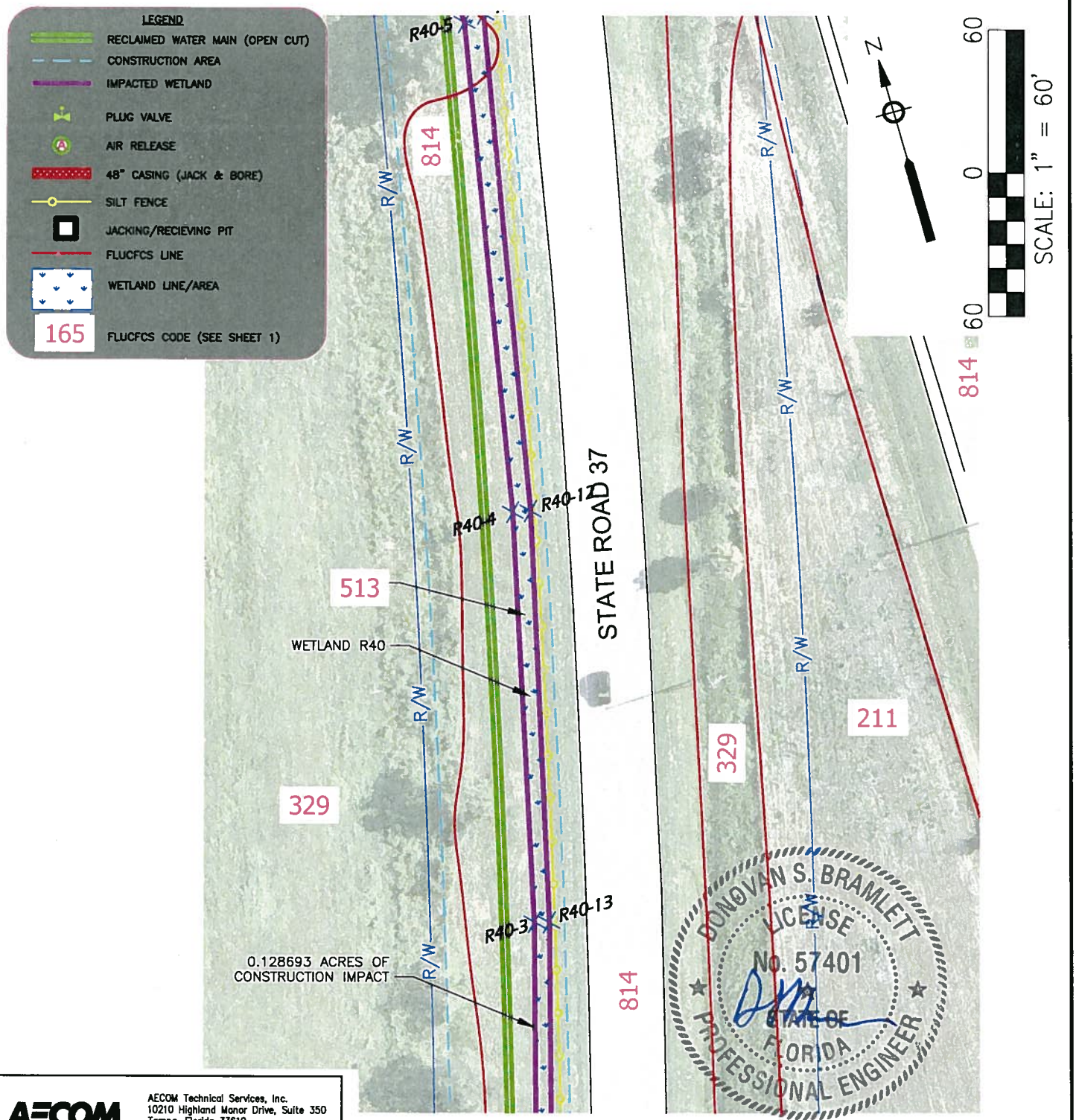
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 160
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

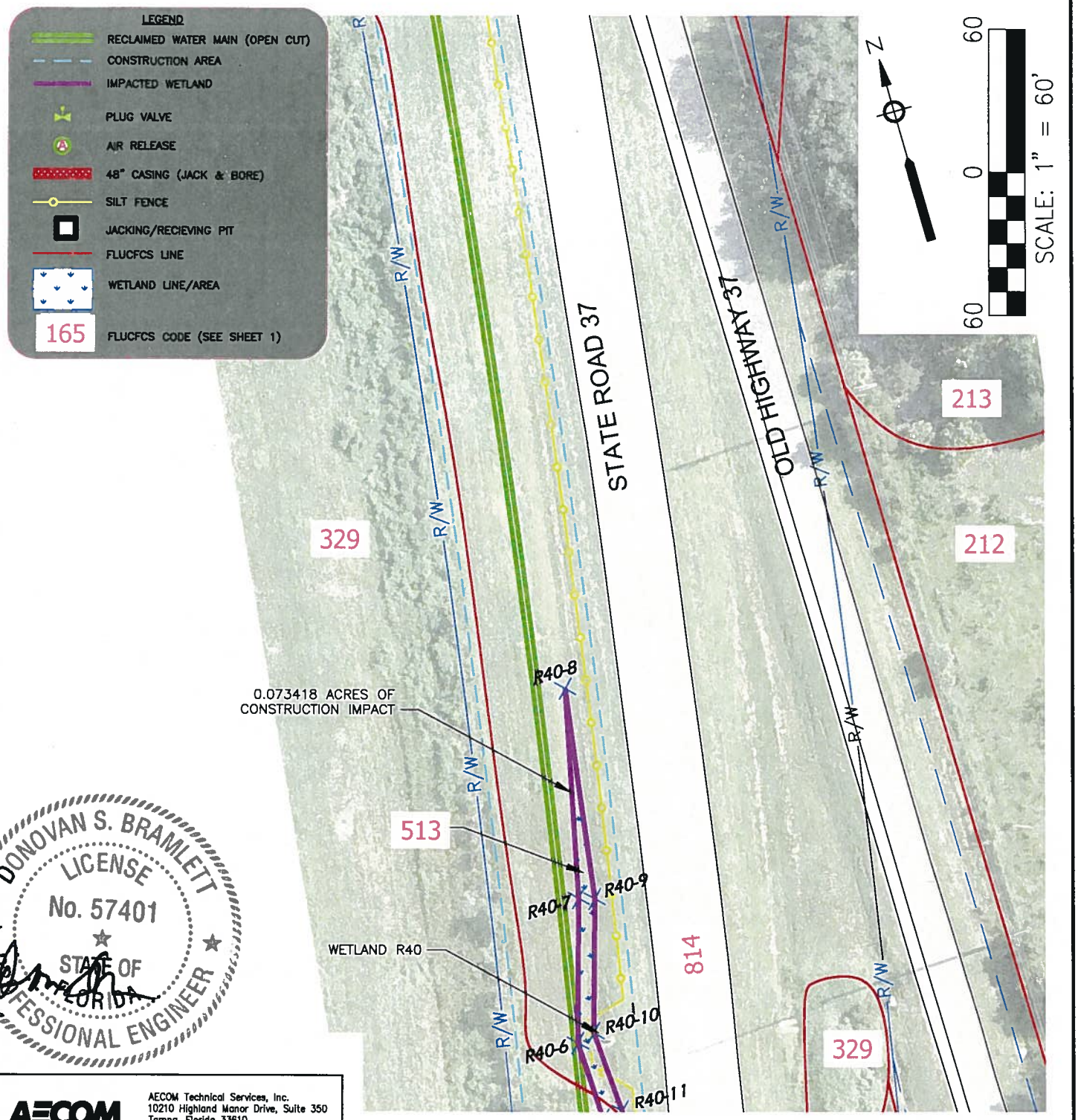
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

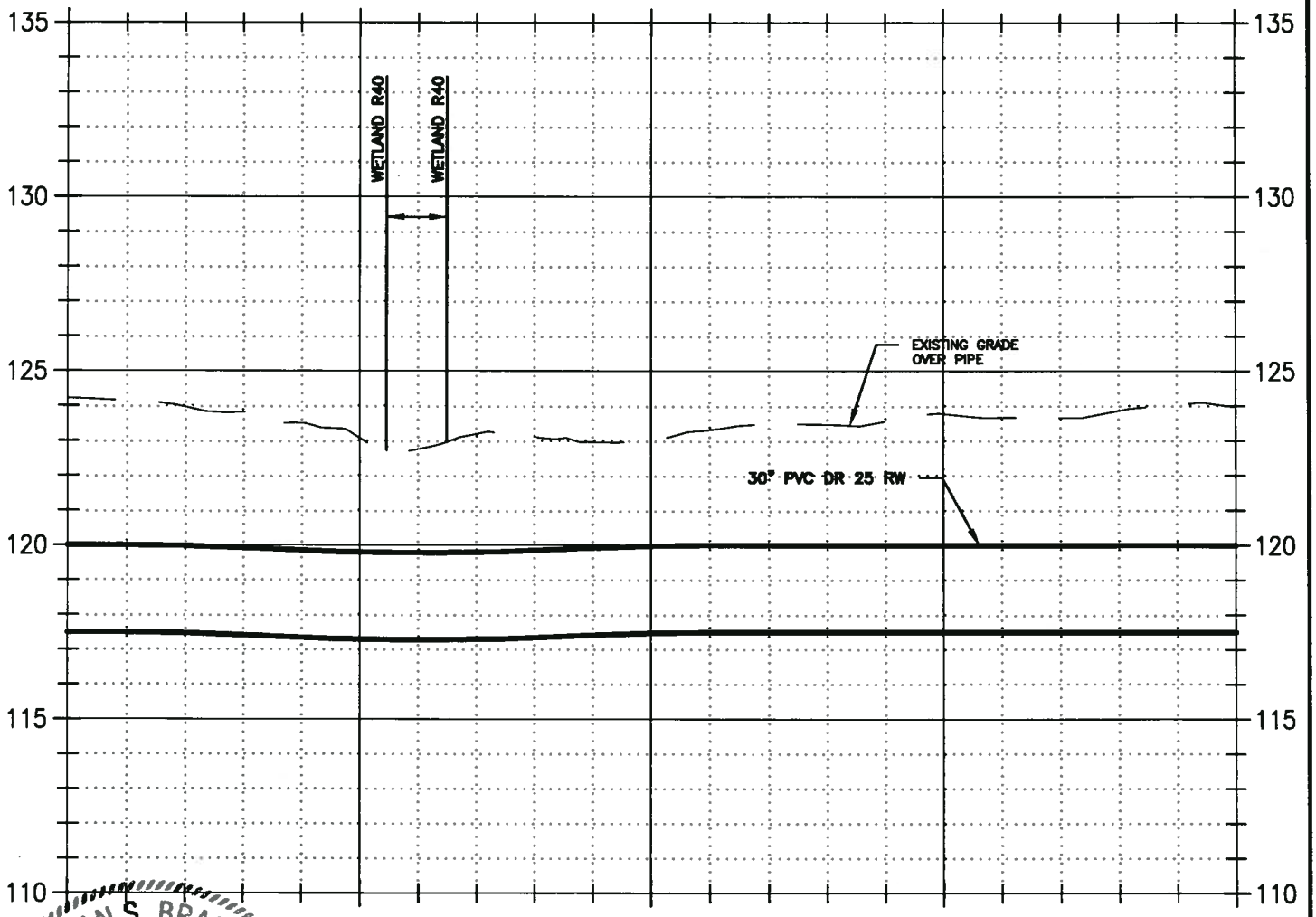
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 163 OF 221 | 0



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

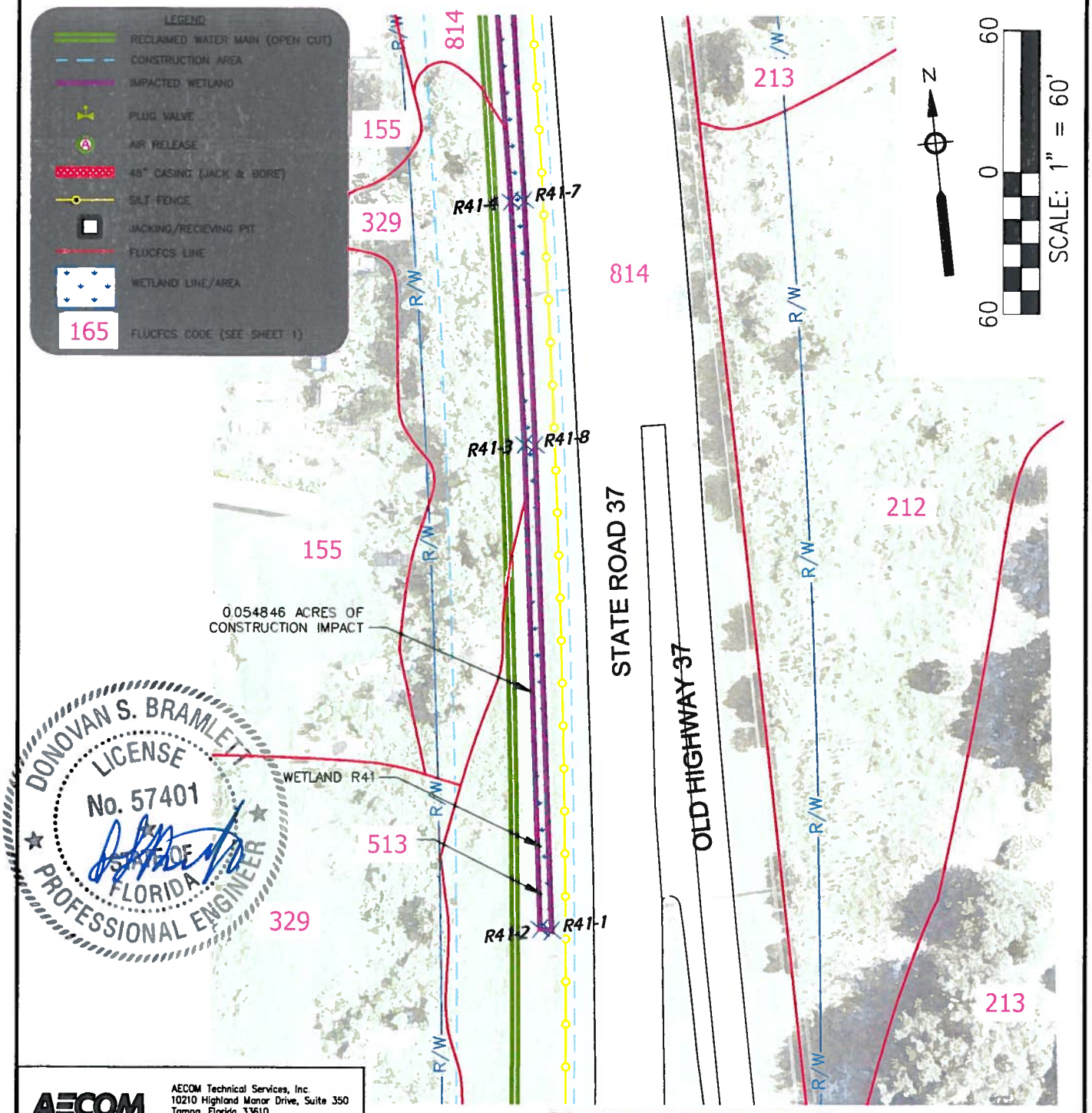
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 163
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

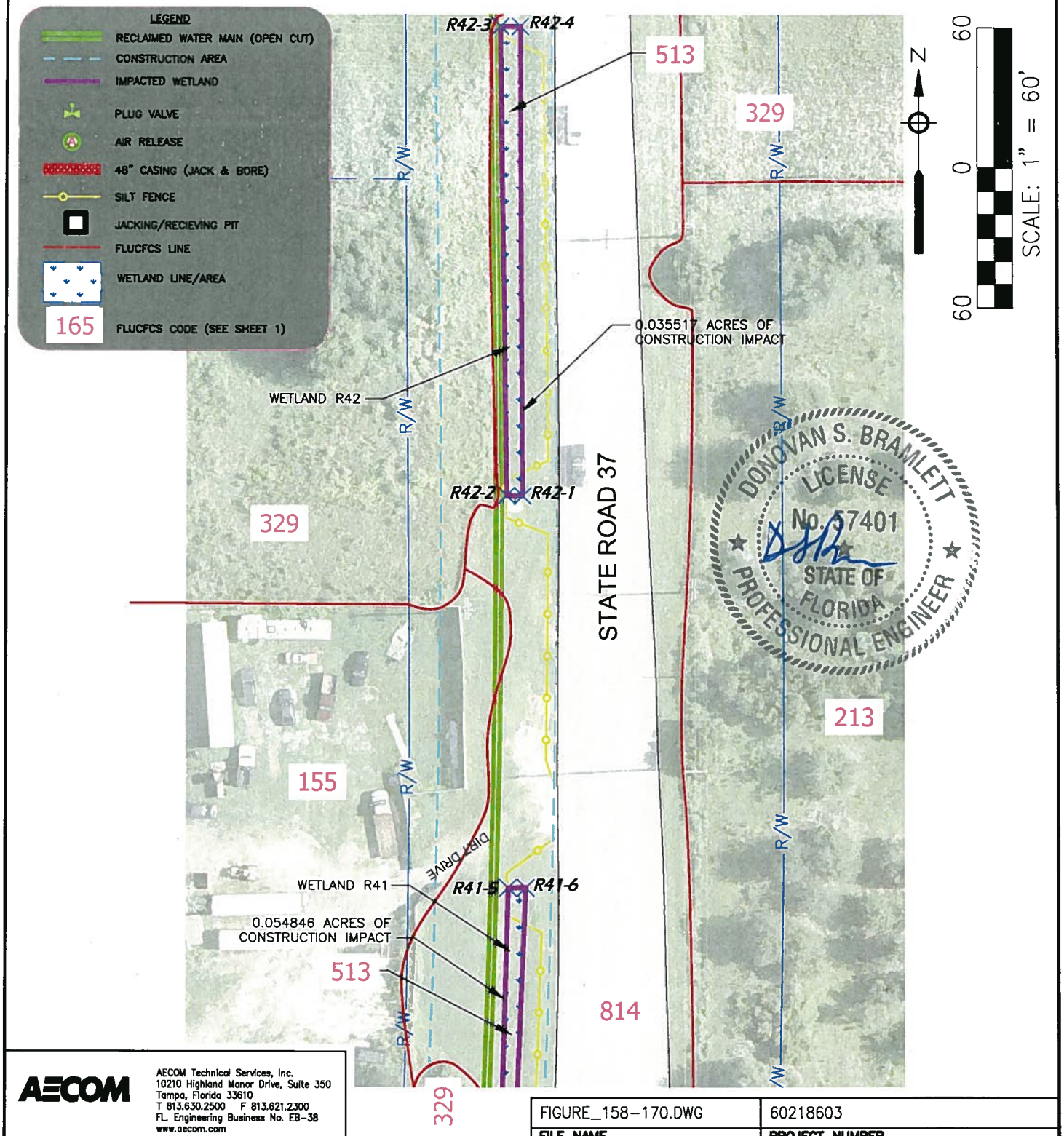
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

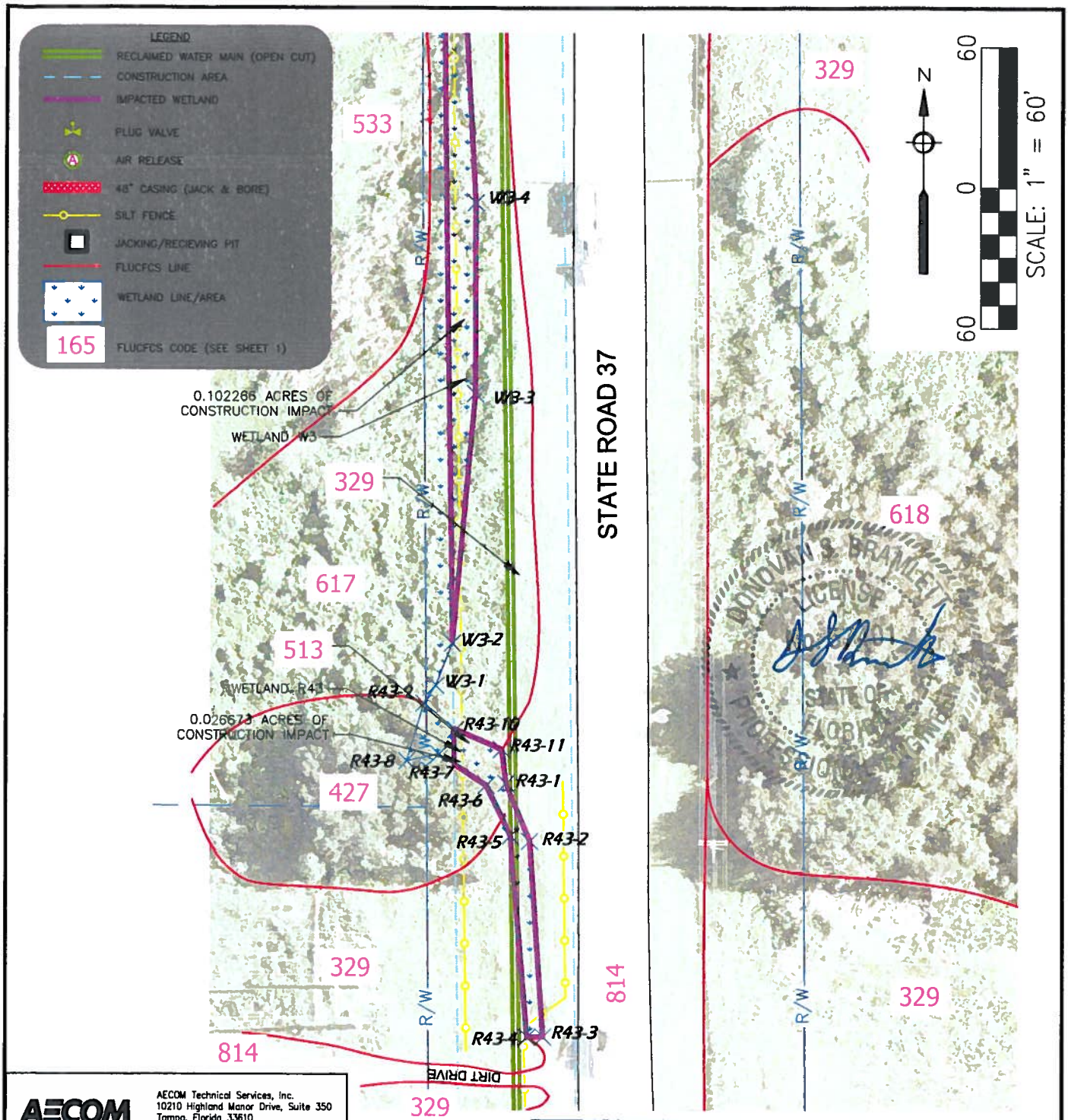
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

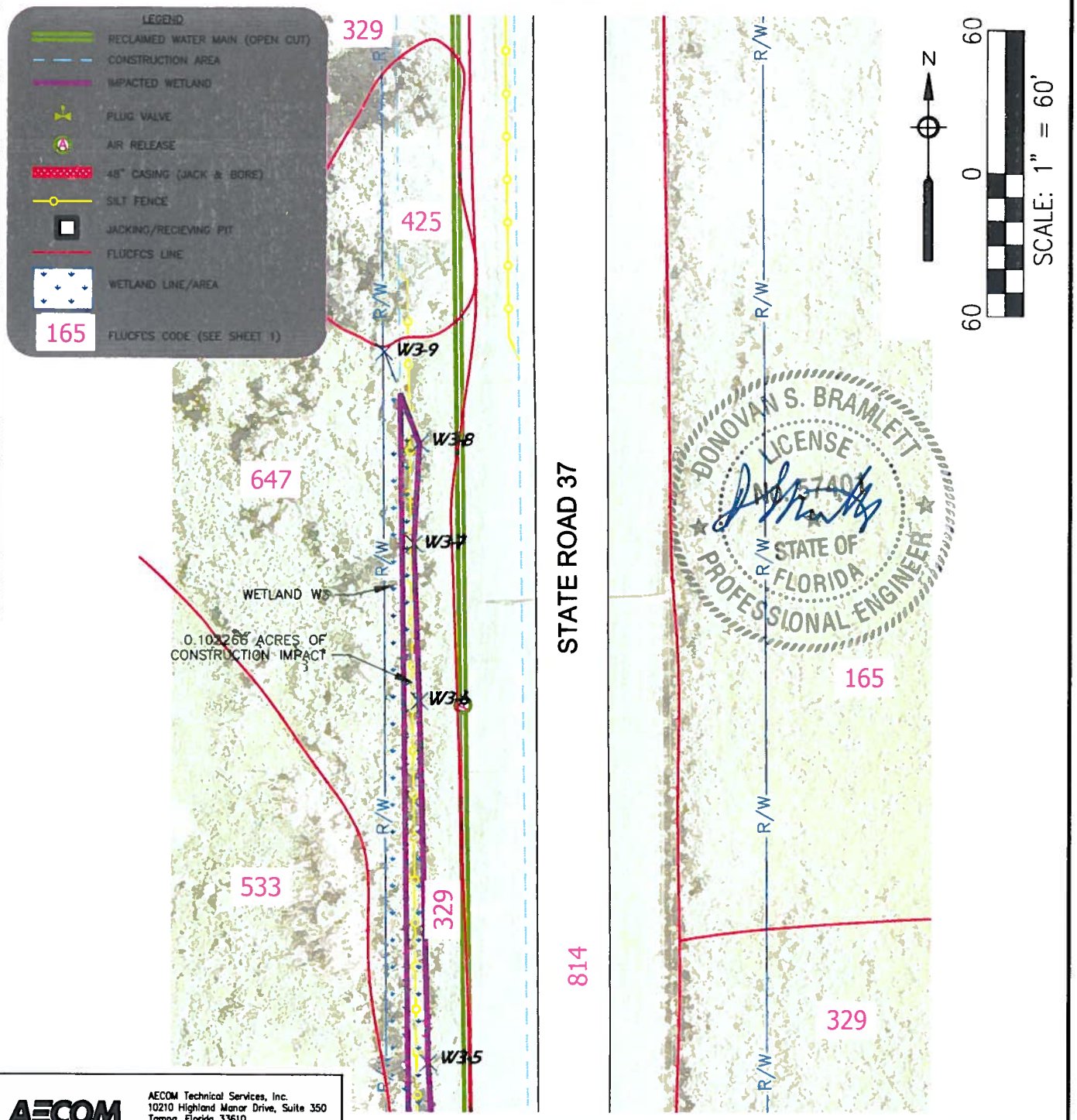
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

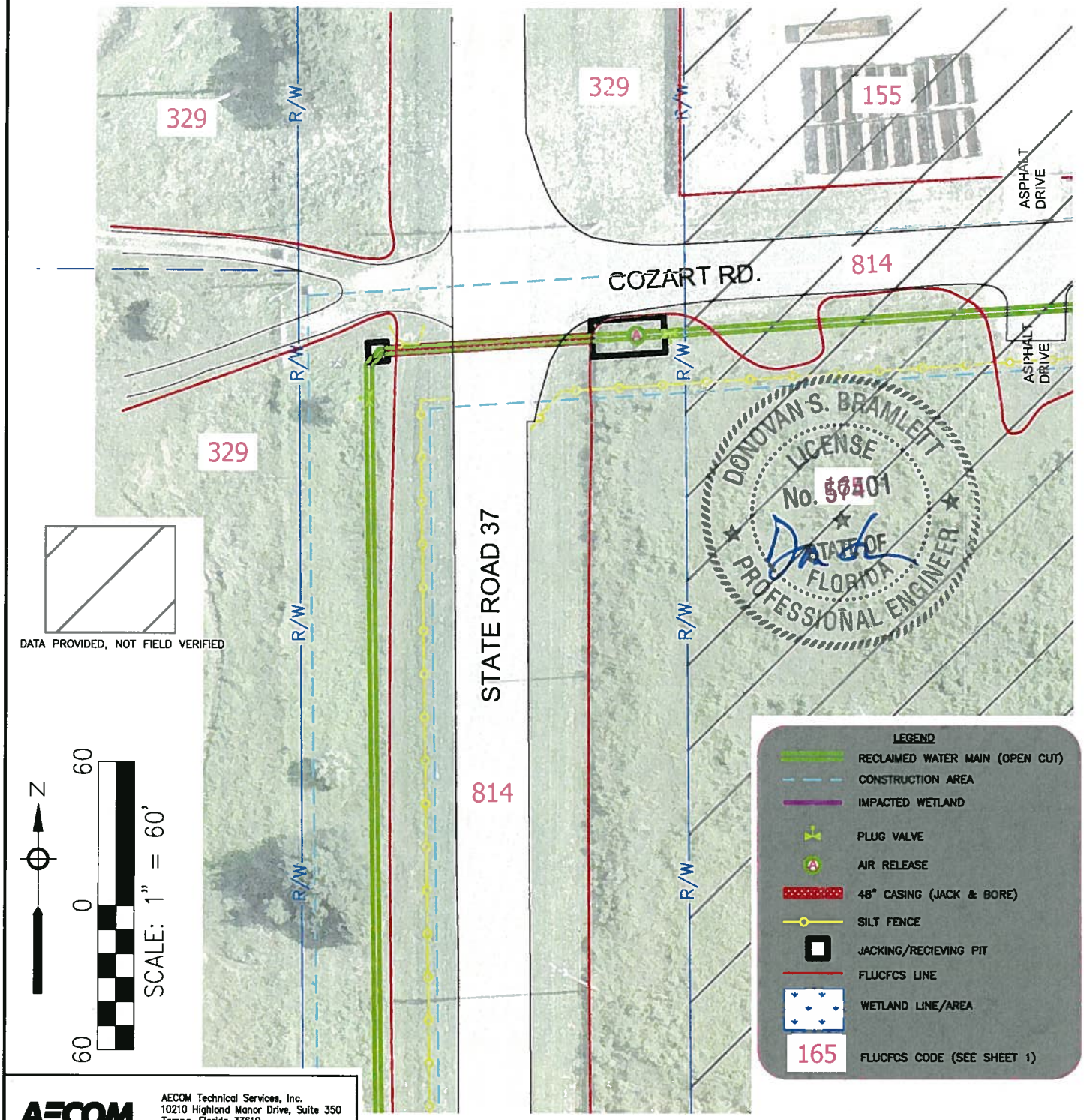
FILE NAME	PROJECT NUMBER
FIGURE_158-170.DWG	60218603

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

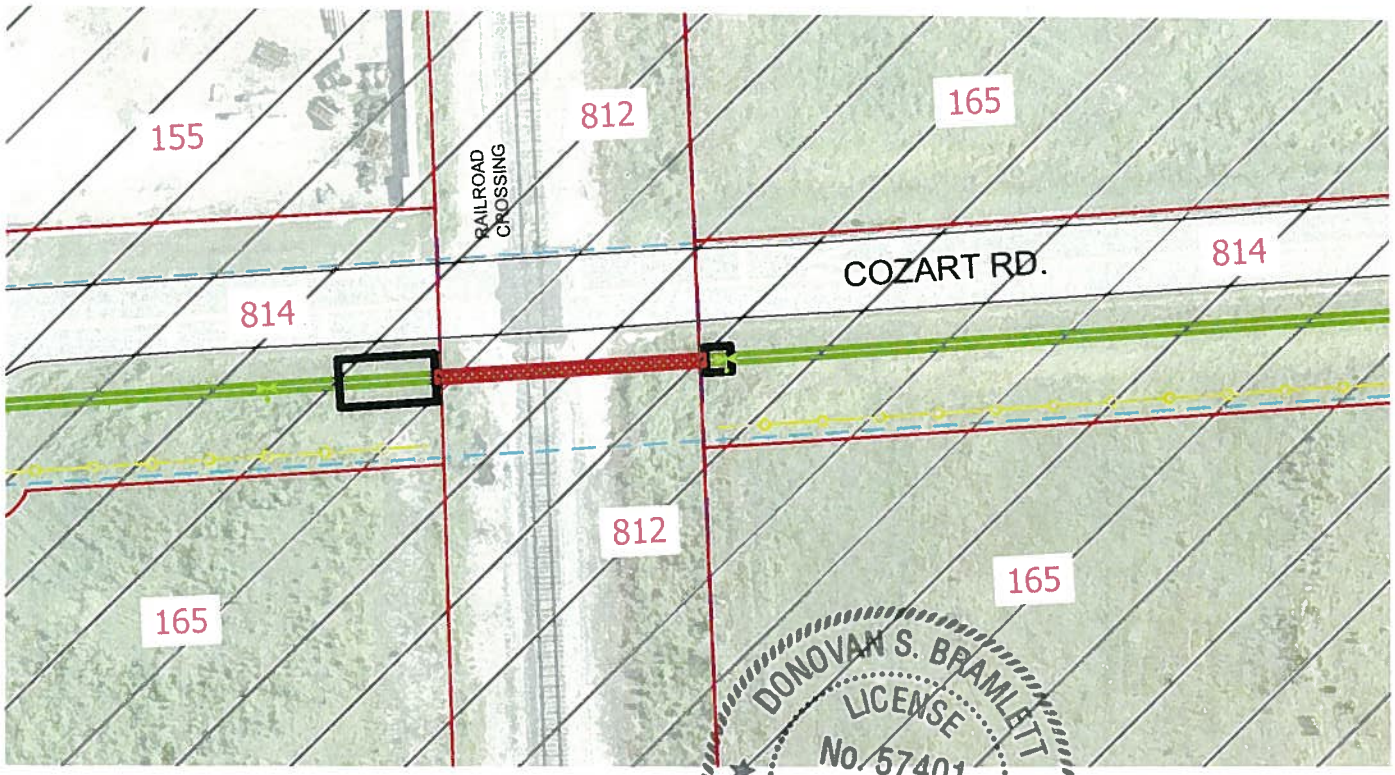
LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)

DATA PROVIDED, NOT FIELD VERIFIED

N

SCALE: 1" = 60'



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_158-170.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

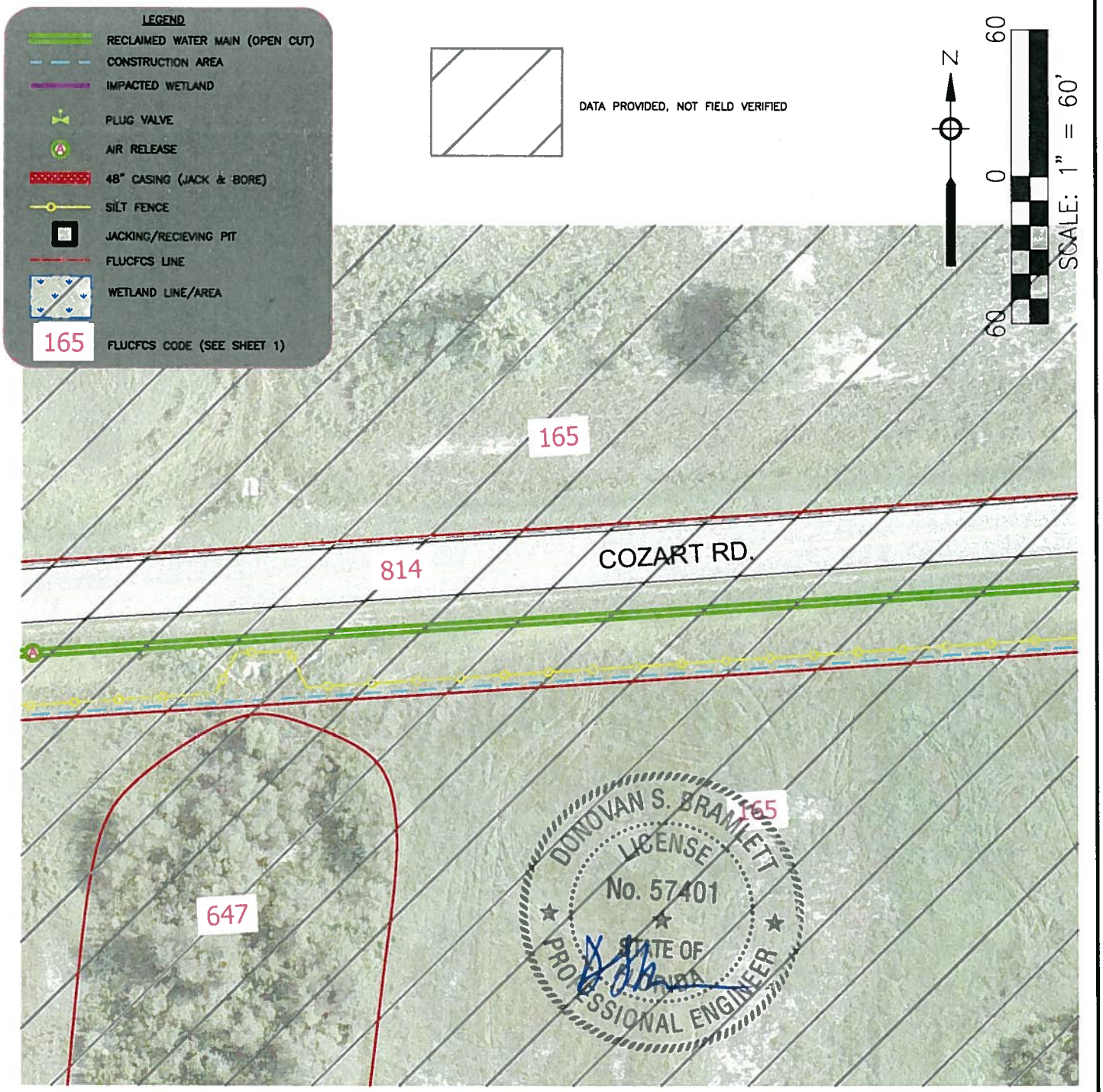
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

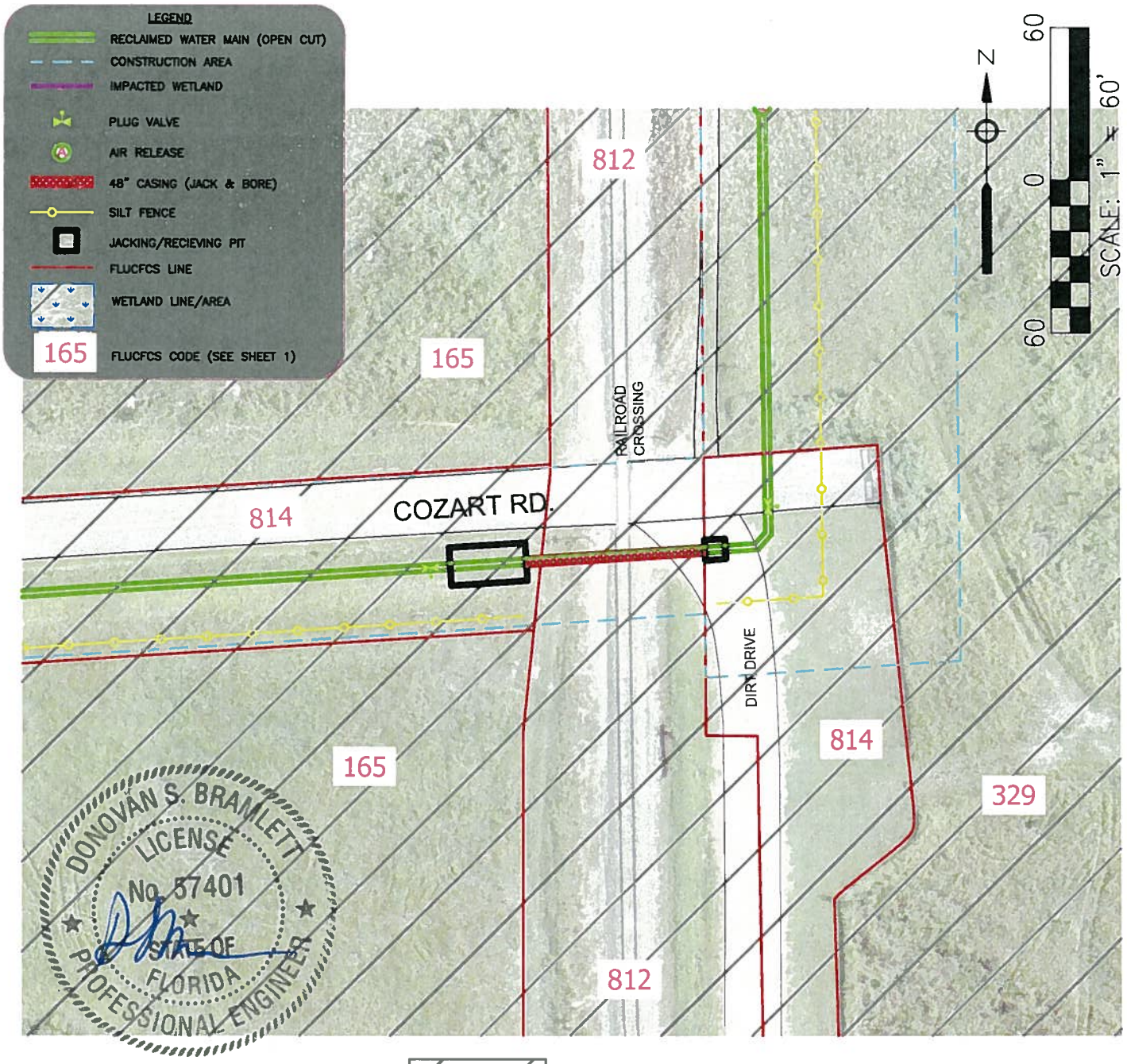
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DATA PROVIDED, NOT FIELD VERIFIED

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

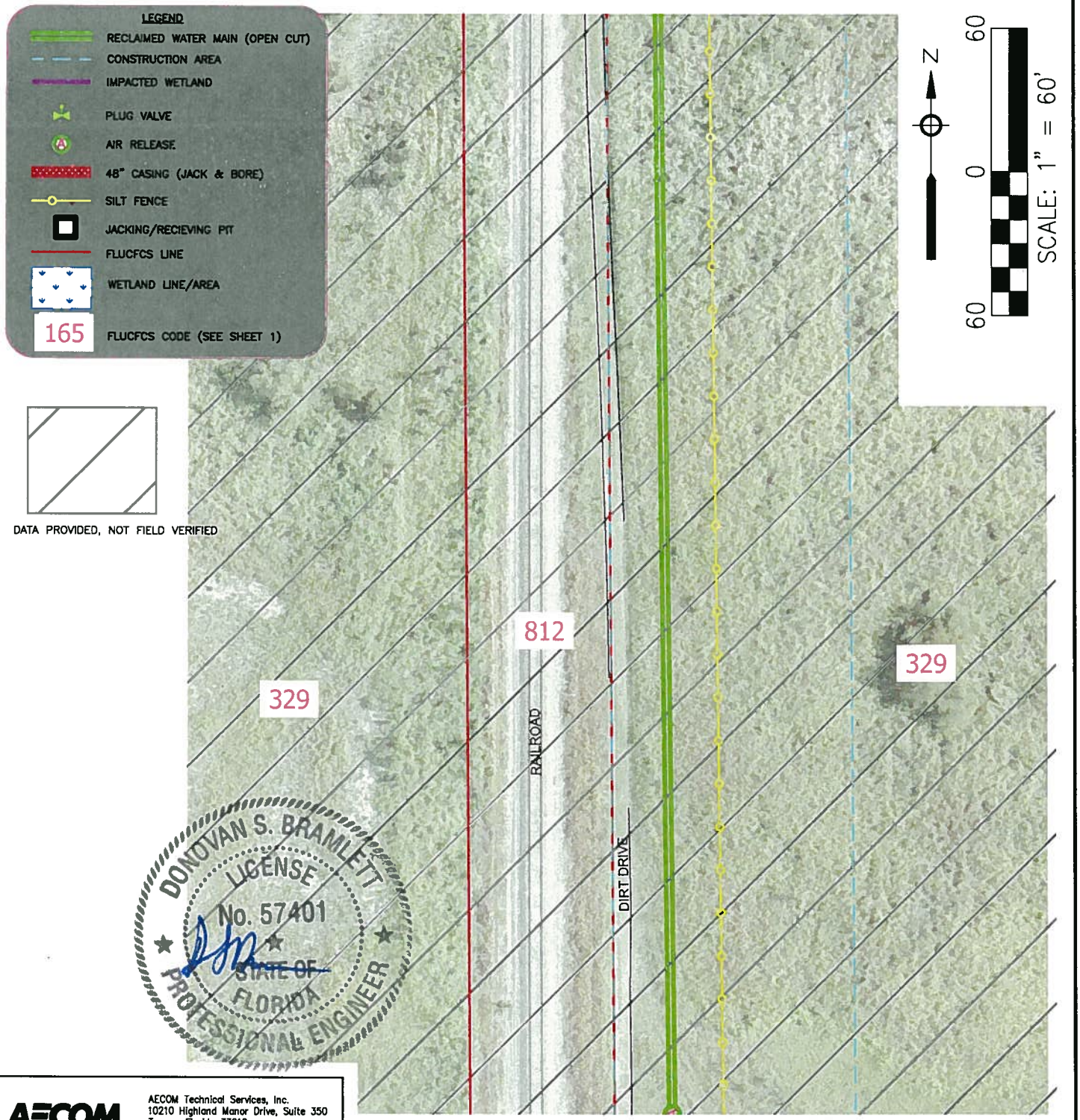
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

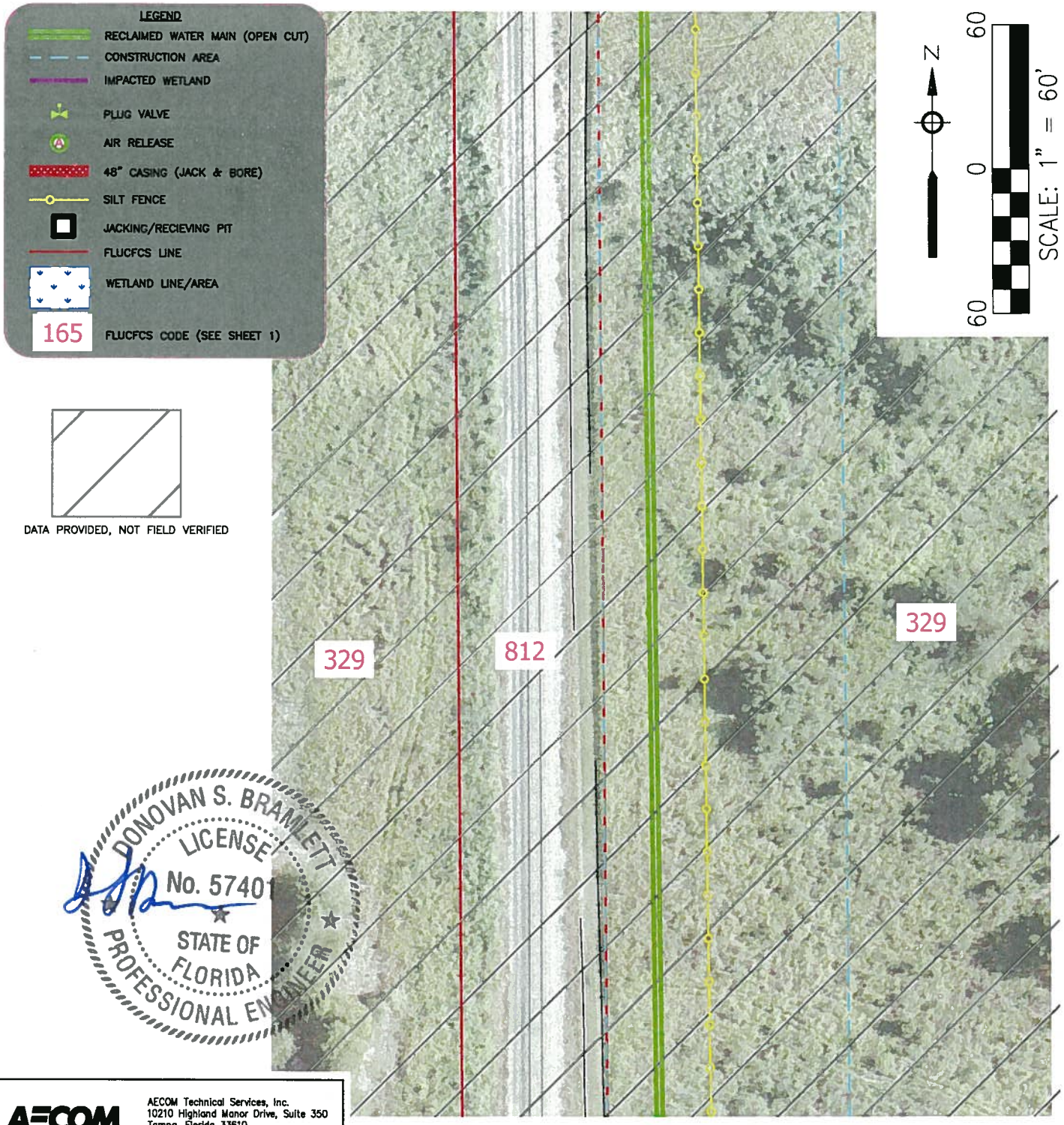
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

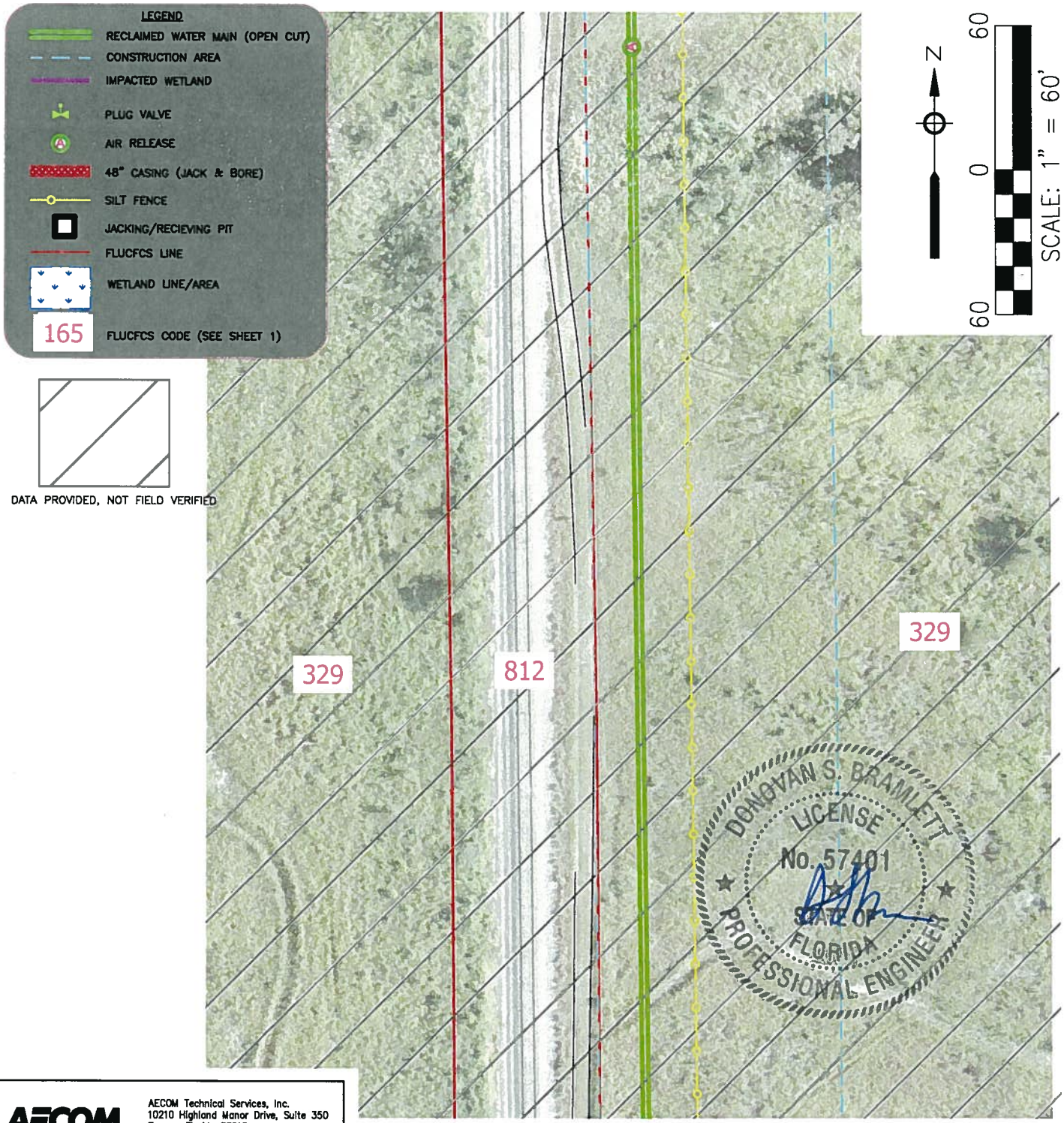
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

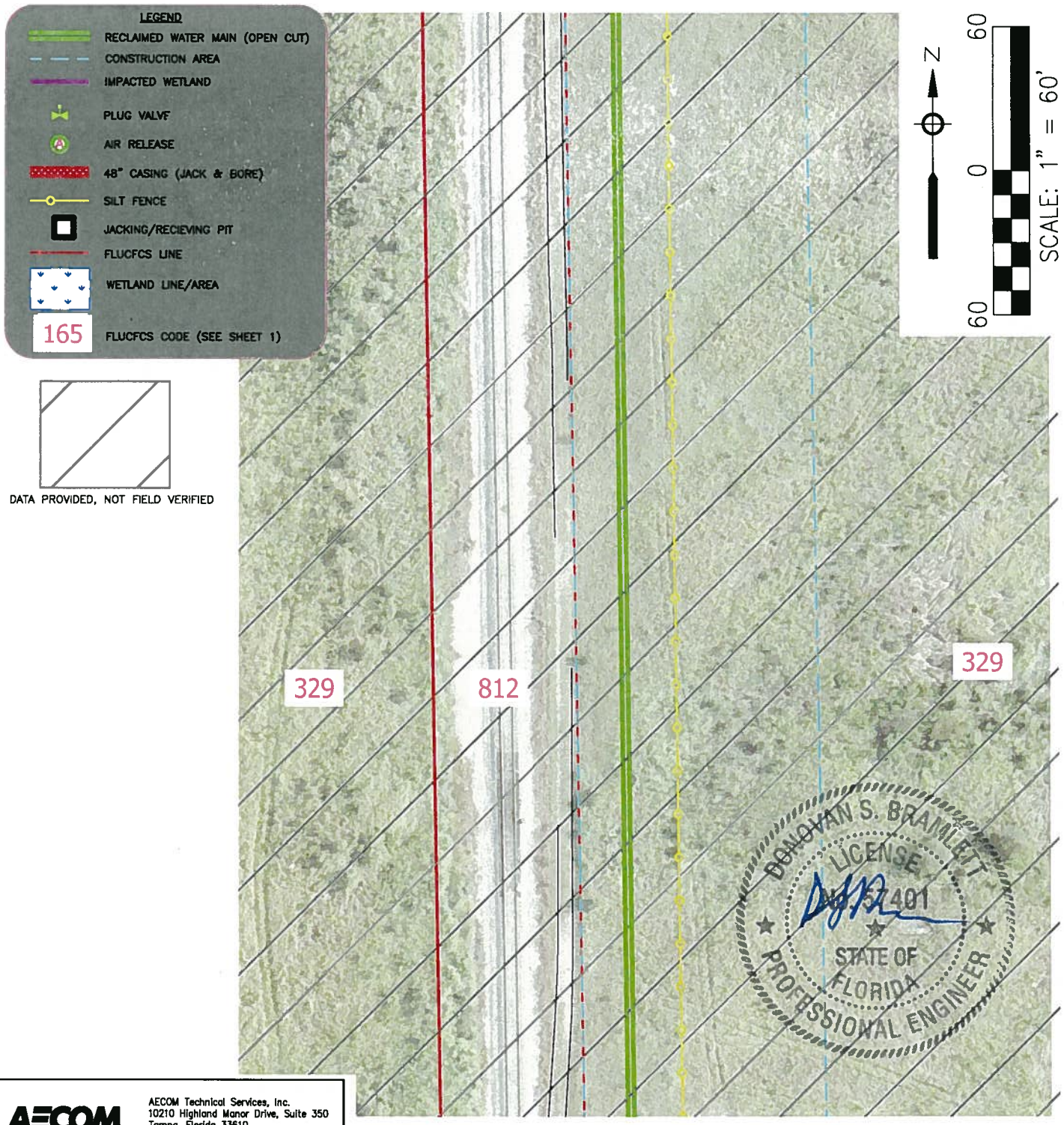
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

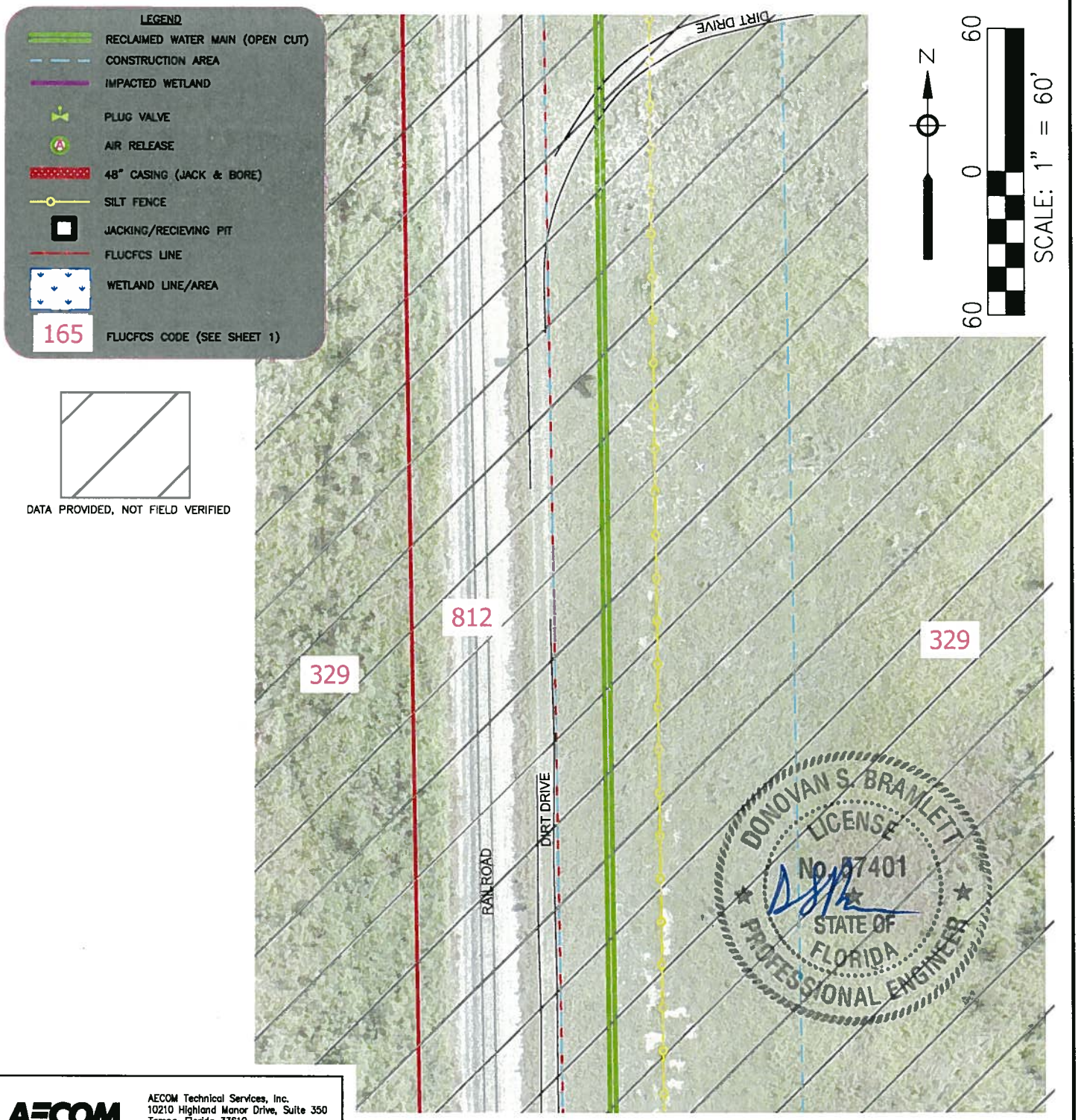
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

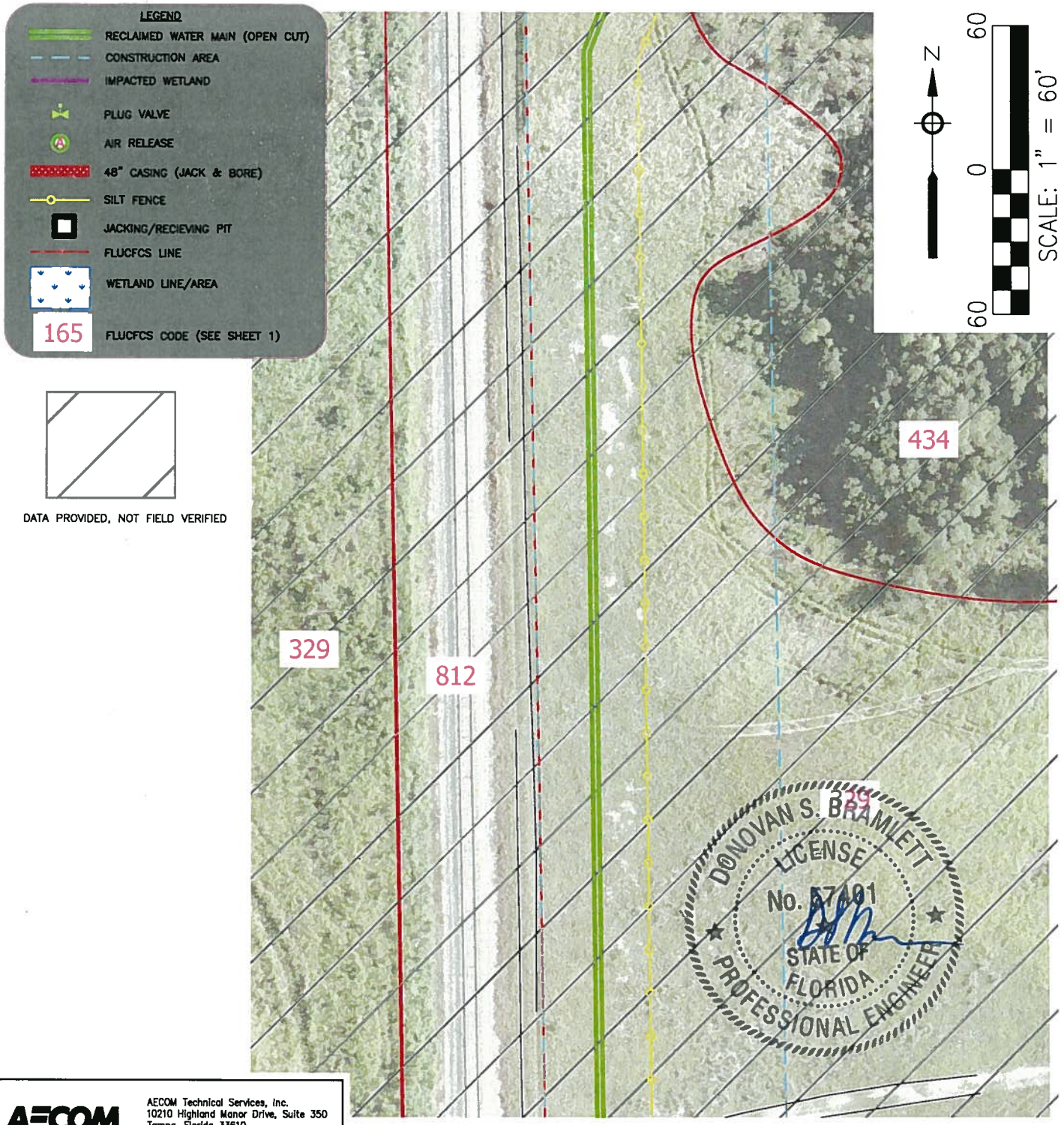
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FILE NAME	PROJECT NUMBER
FIGURE_171-180.DWG	60218603

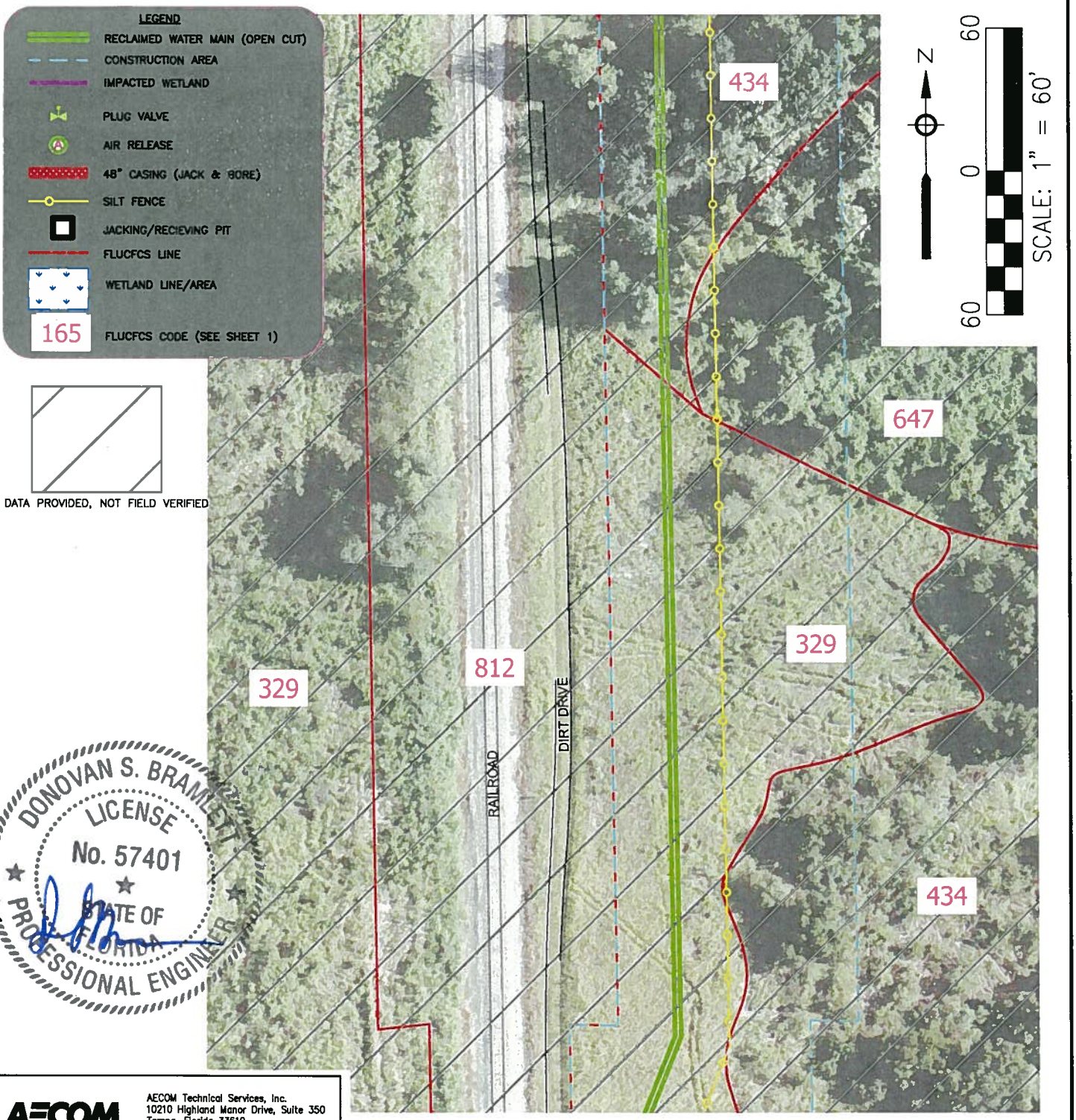
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

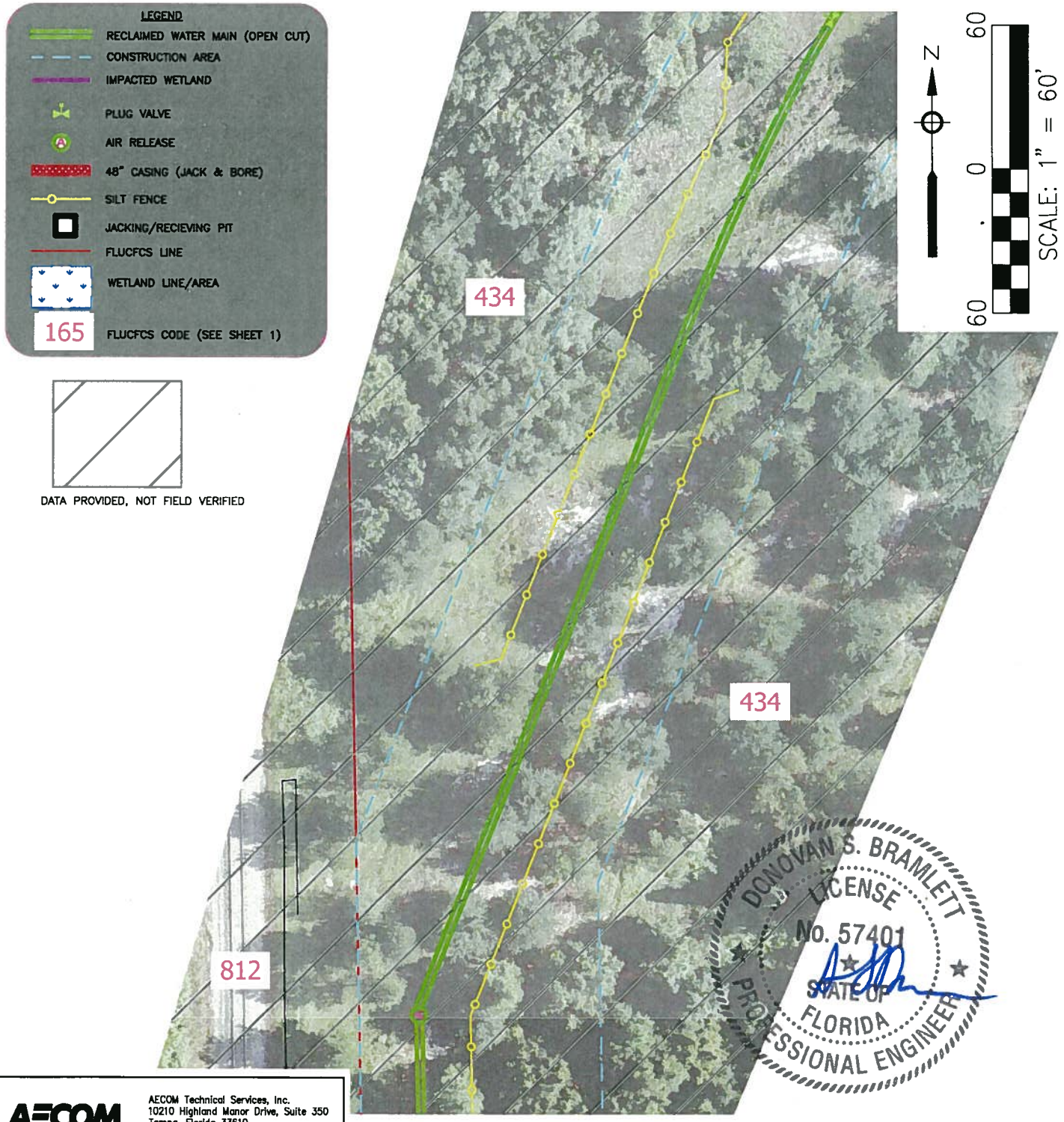
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_171-180.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- HORIZONTAL DIRECTIONAL DRILL
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)

DATA PROVIDED, NOT FIELD VERIFIED



N

60 0 60

SCALE: 1" = 60'

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

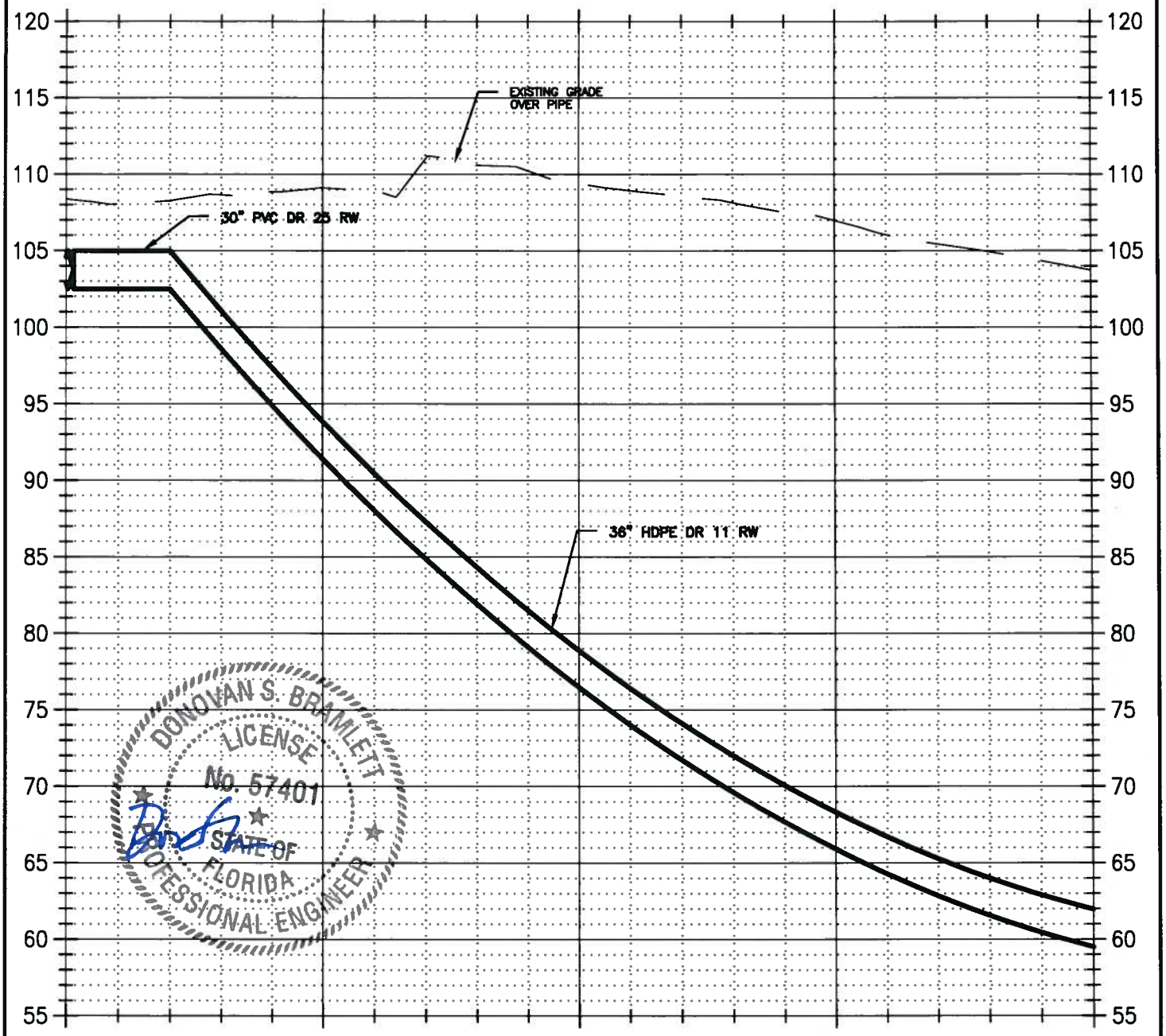
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=10'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

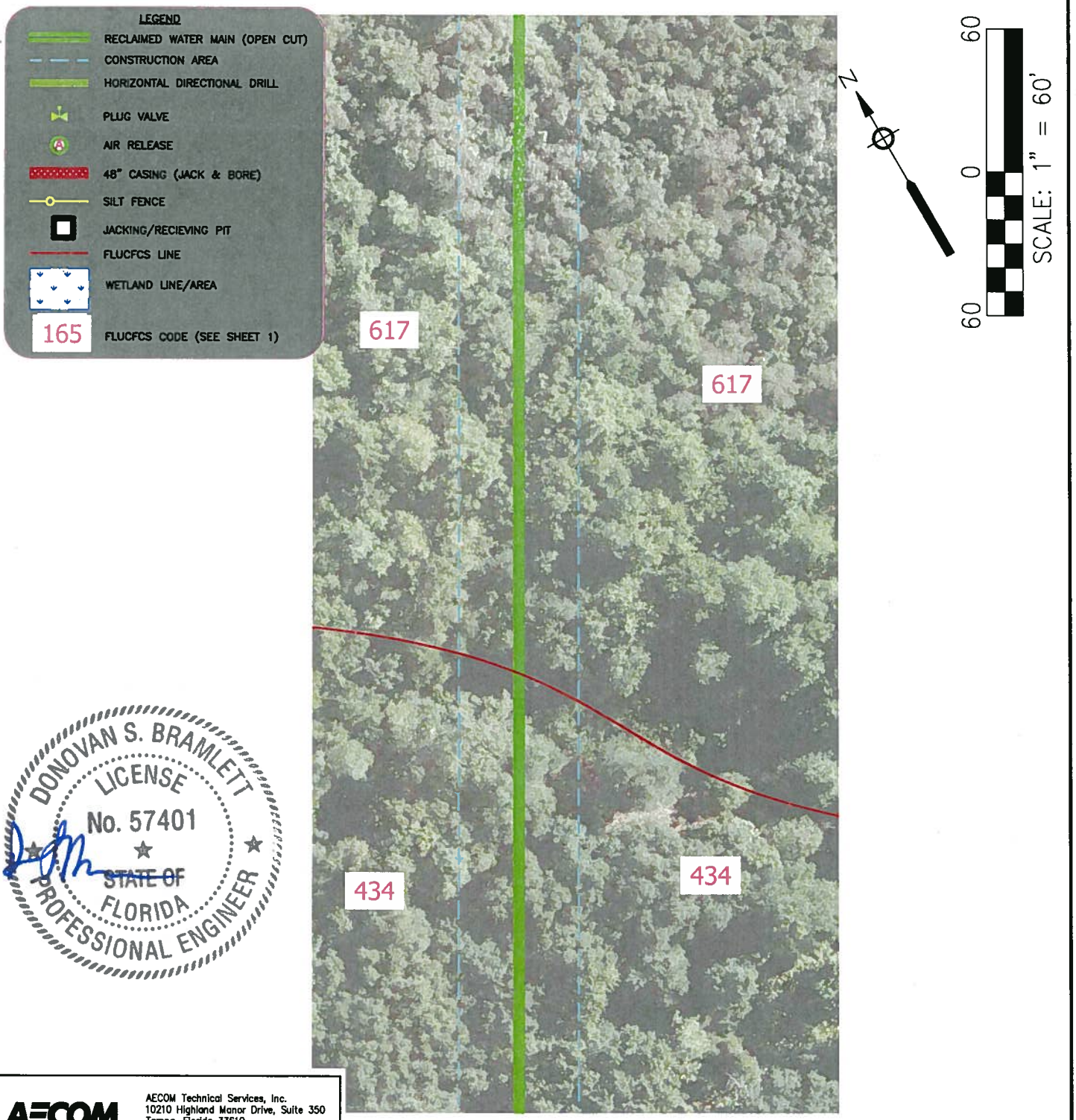
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 181
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

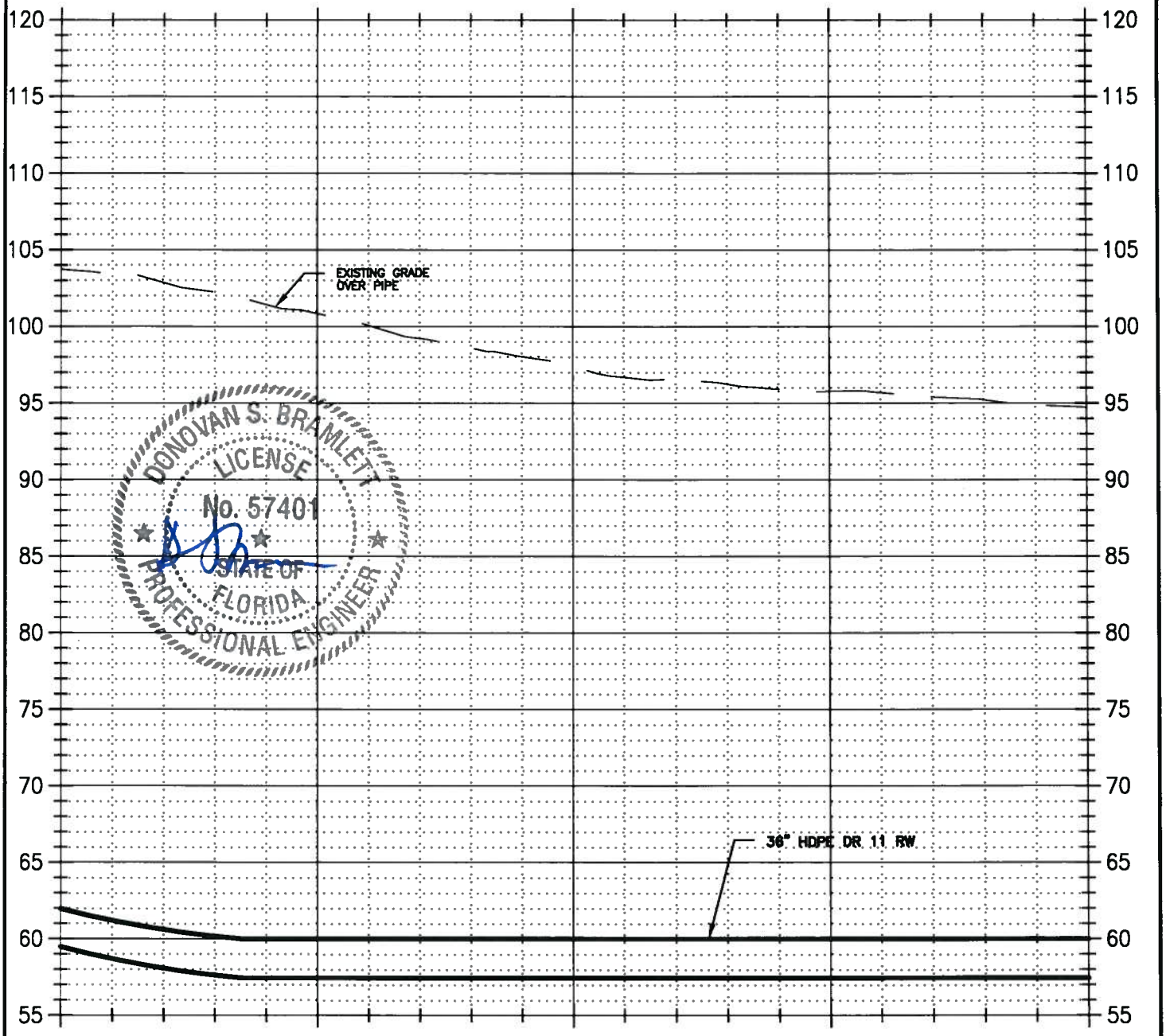
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=10'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

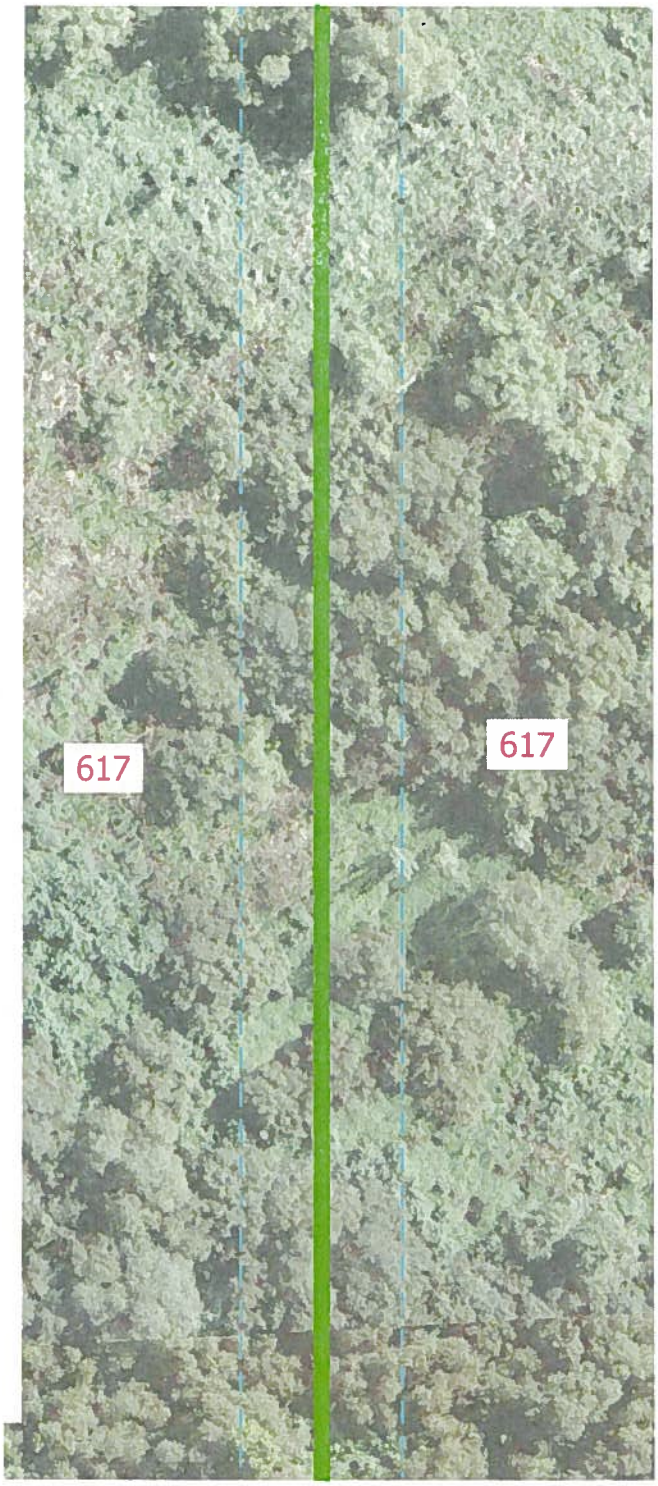
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 183
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- HORIZONTAL DIRECTIONAL DRILL
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)



N

60 0 60

SCALE: 1" = 60'

DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

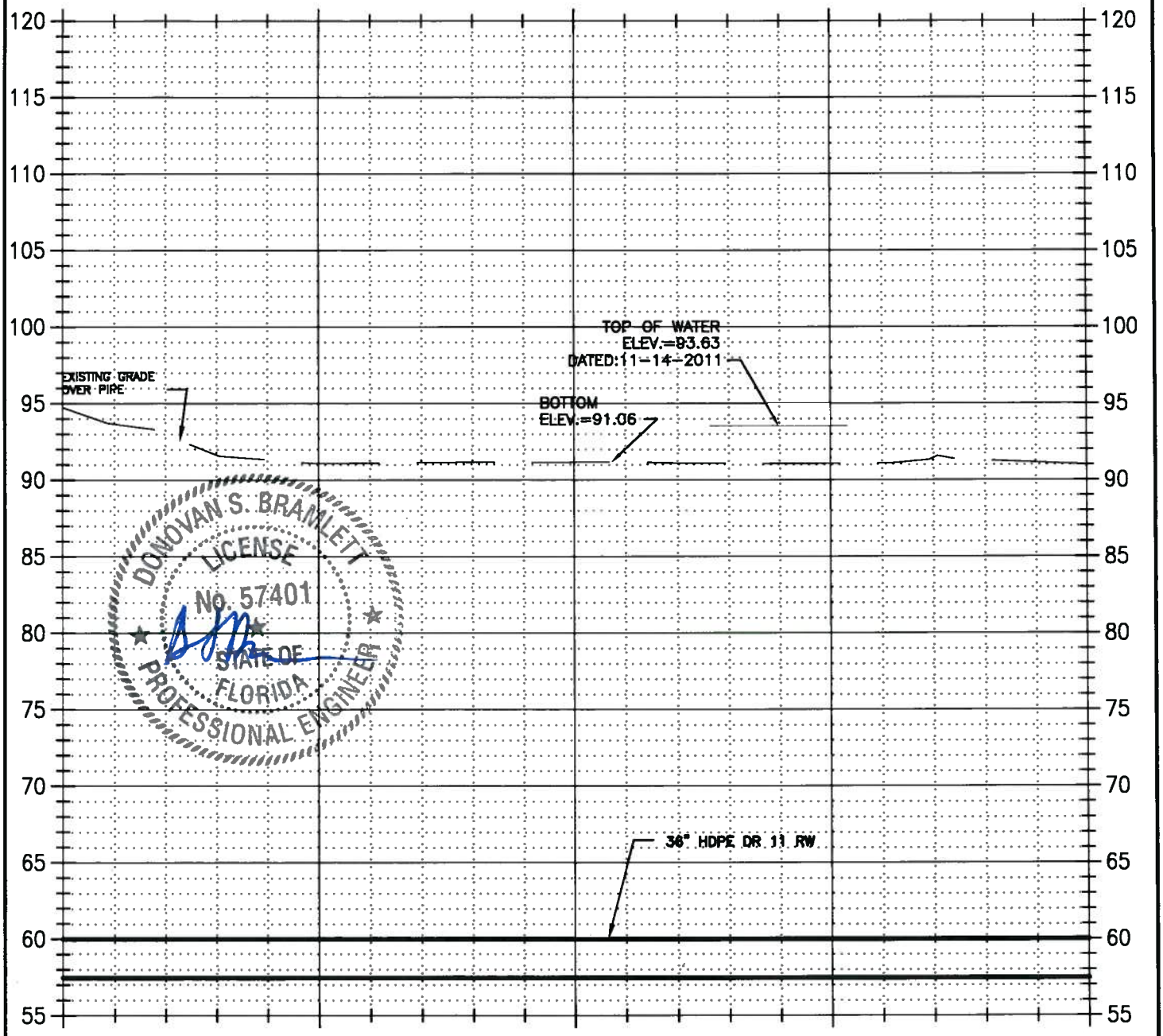
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=10'

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

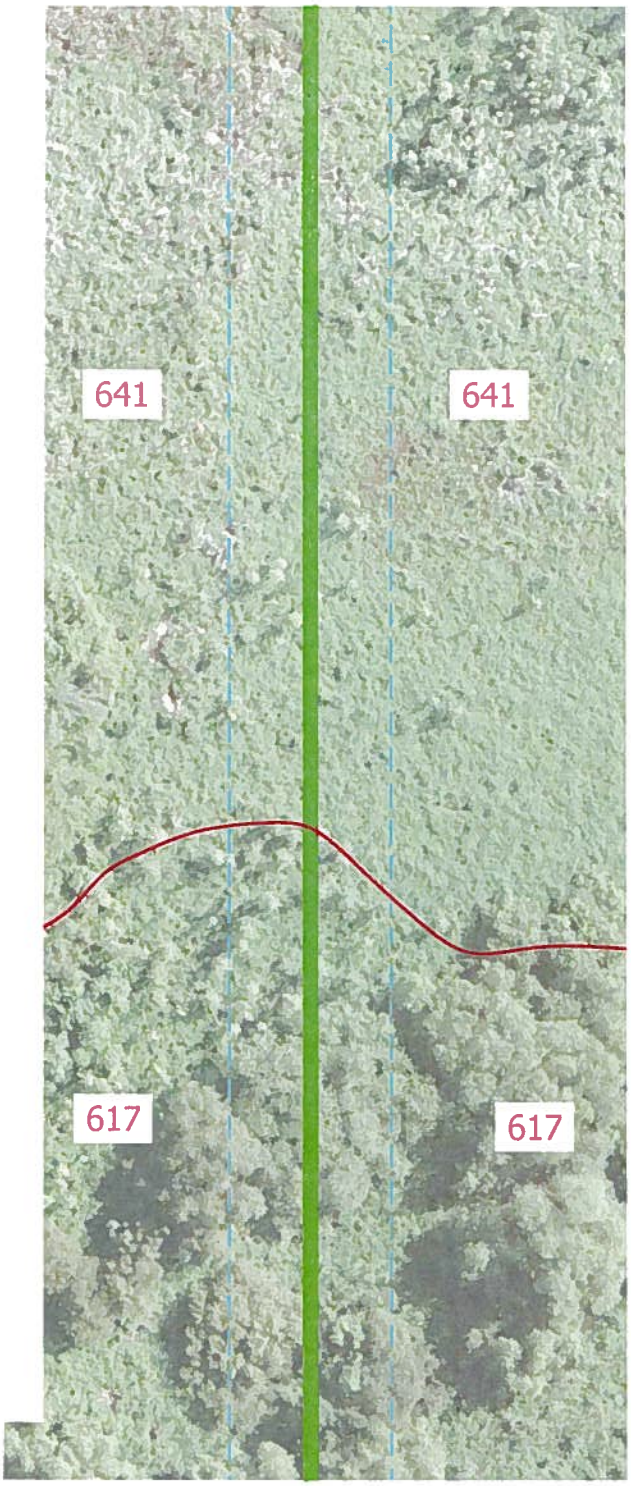
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 185
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 186 OF 221 | 0

LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- HORIZONTAL DIRECTIONAL DRILL
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)



N

SCALE: 1" = 60'

60 0 60

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

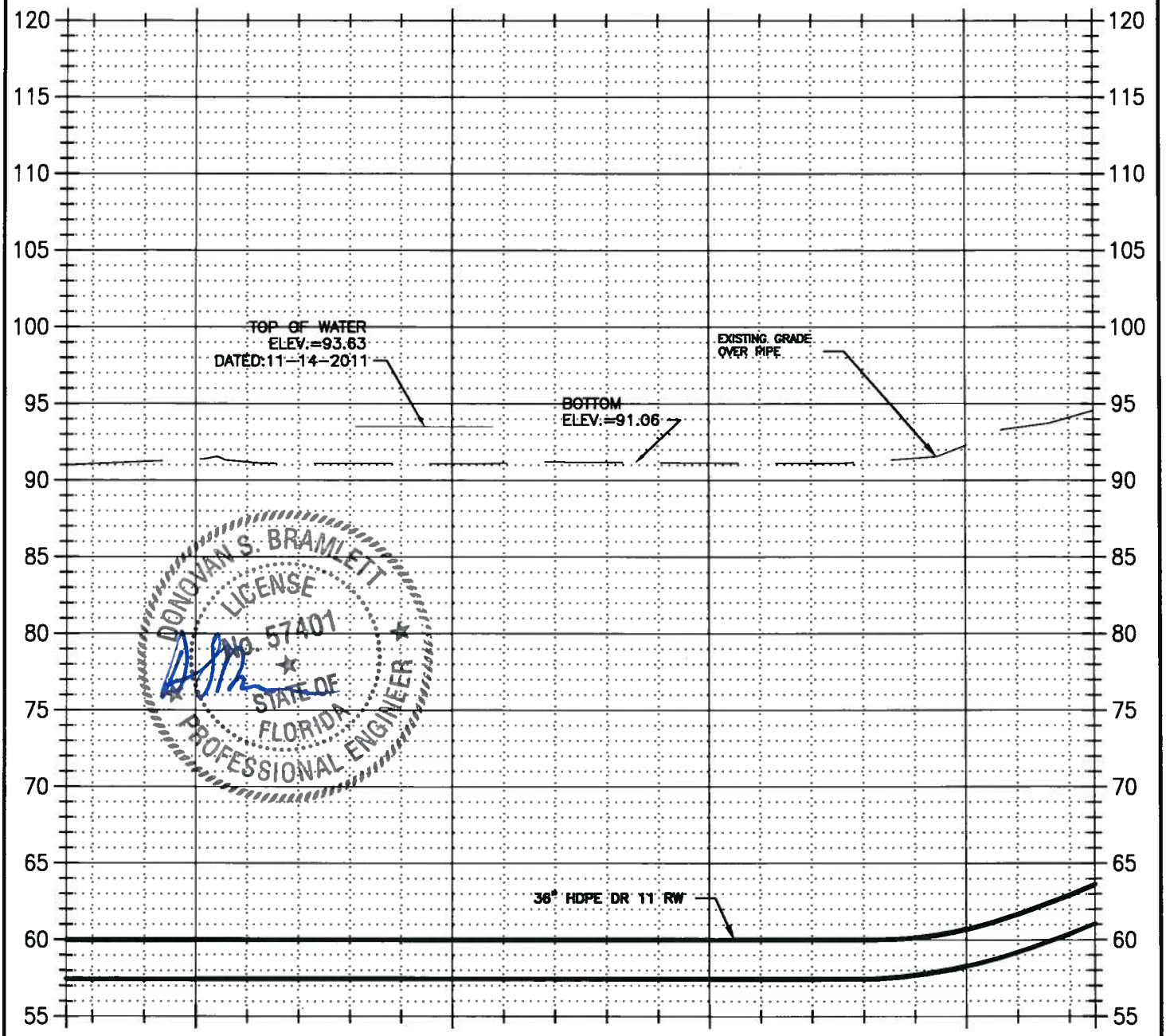
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=10'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

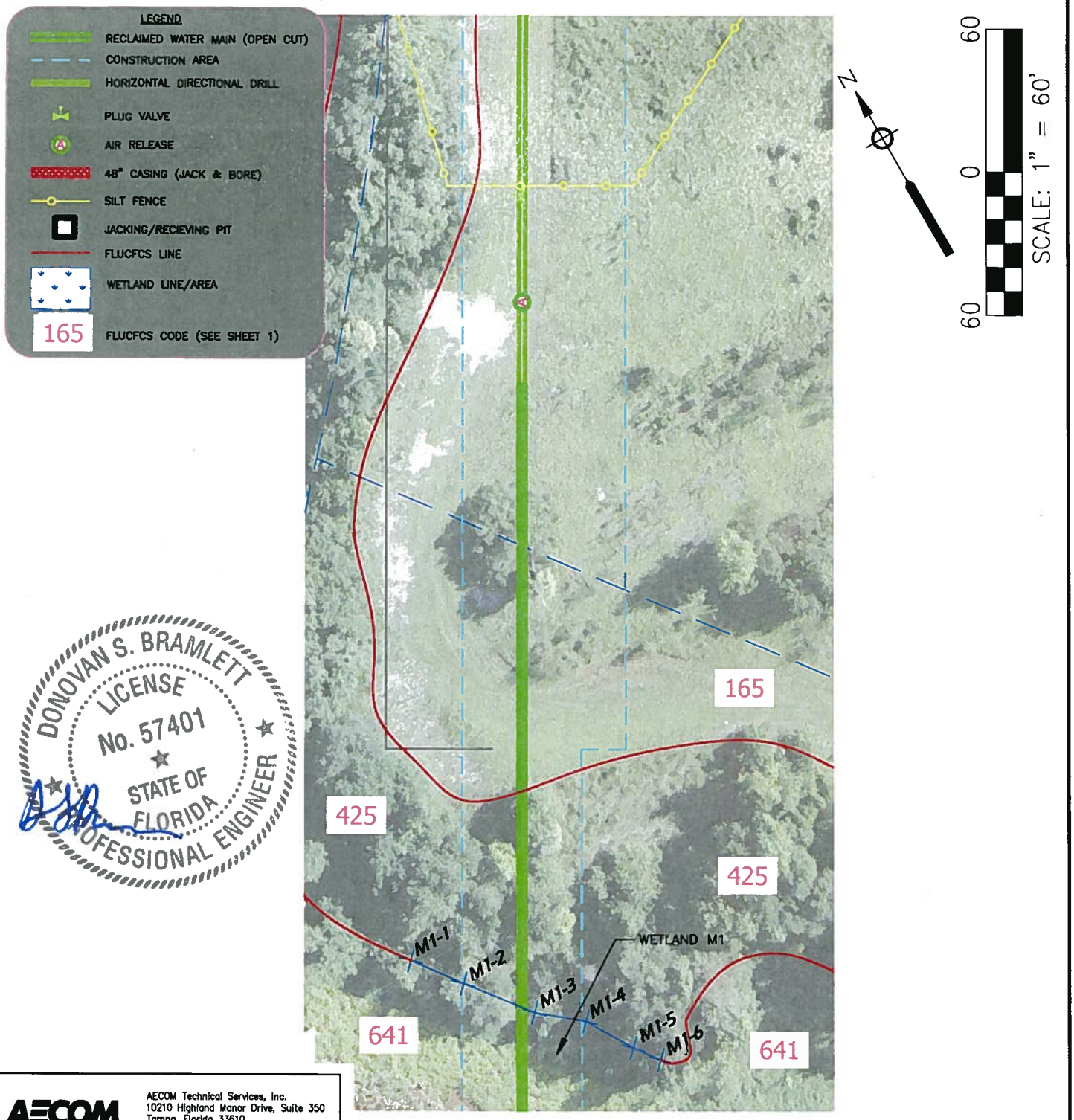
TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 187
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

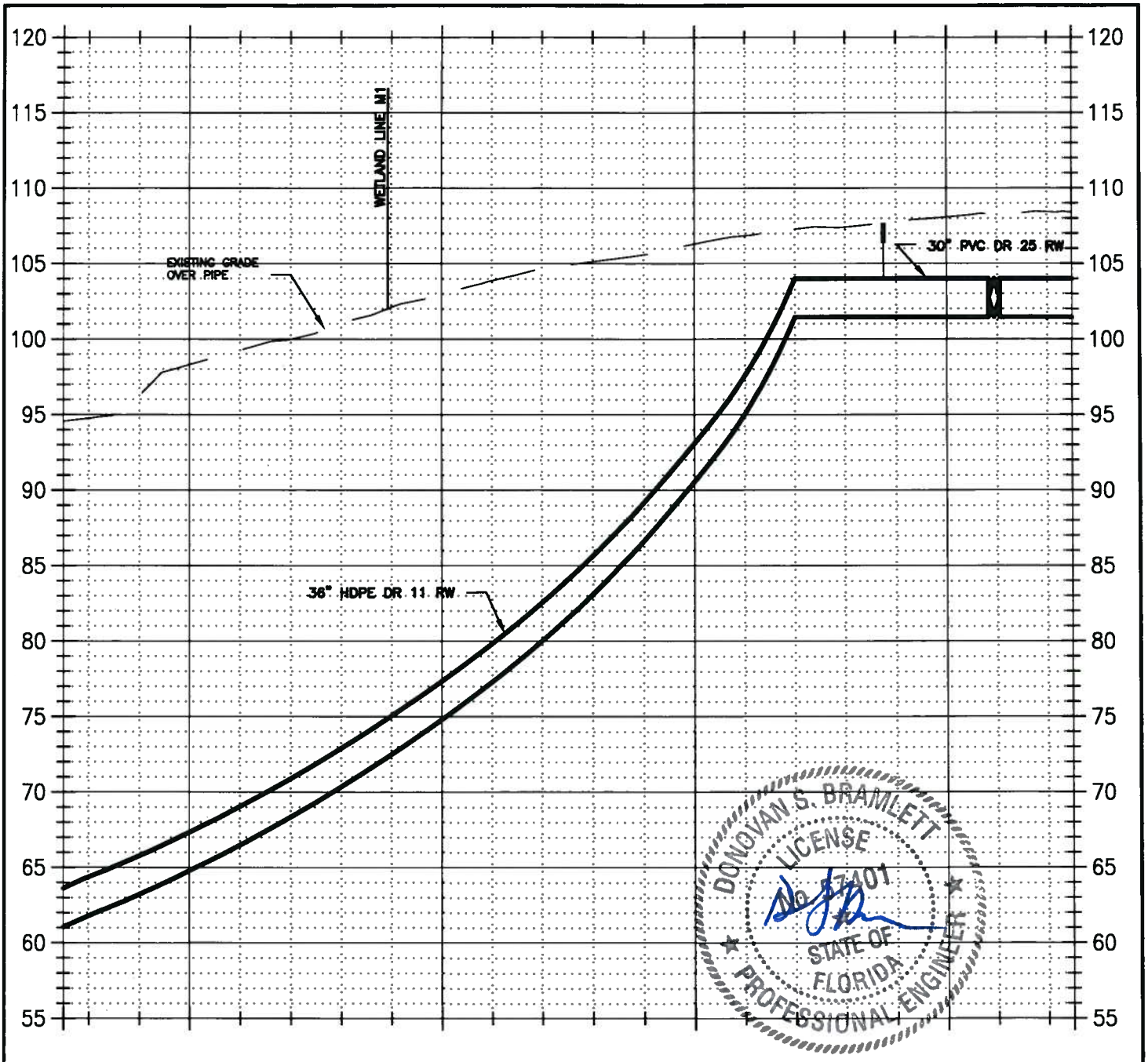
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



PROFILE
SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=10'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

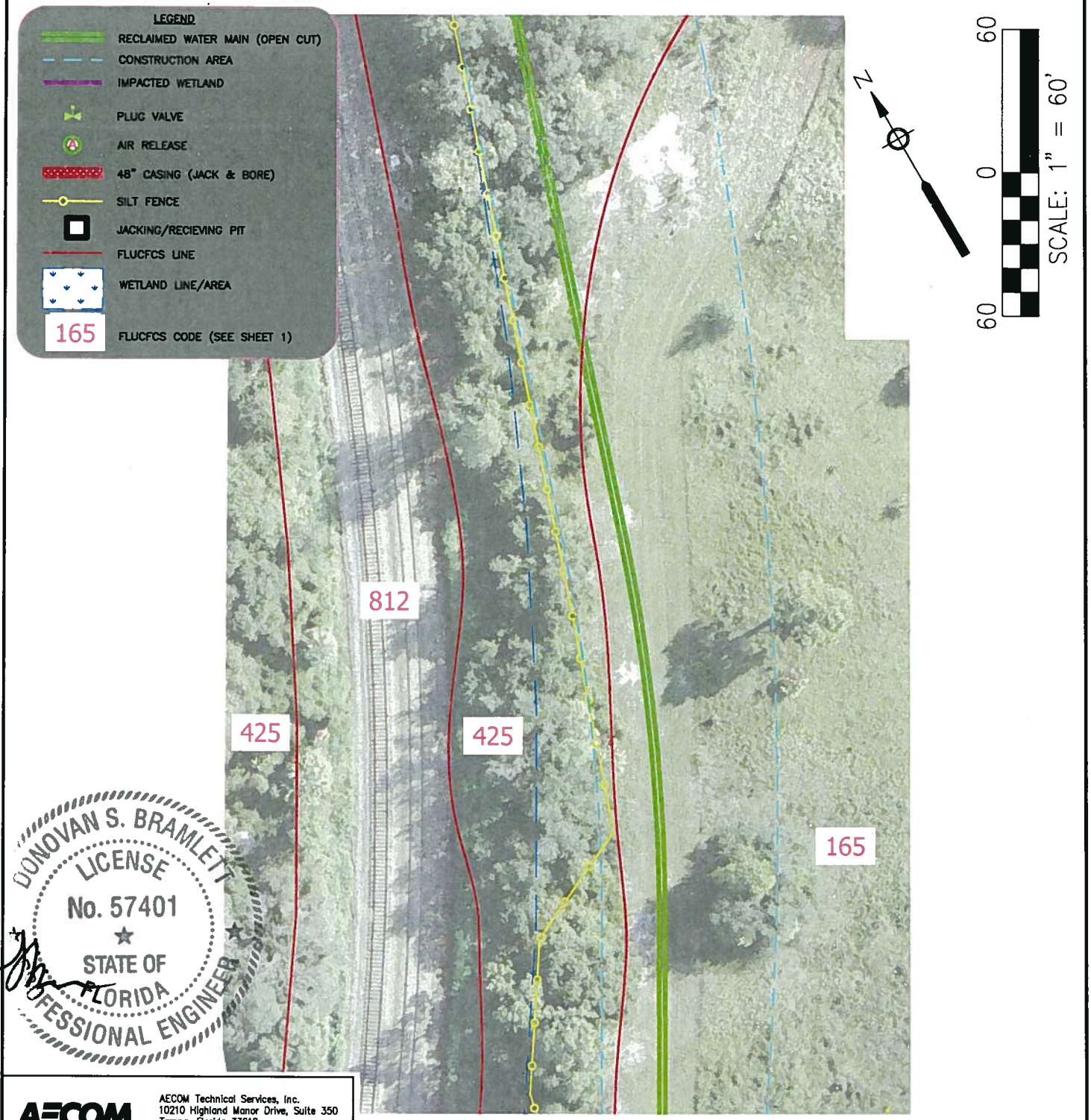
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 189
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 190 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

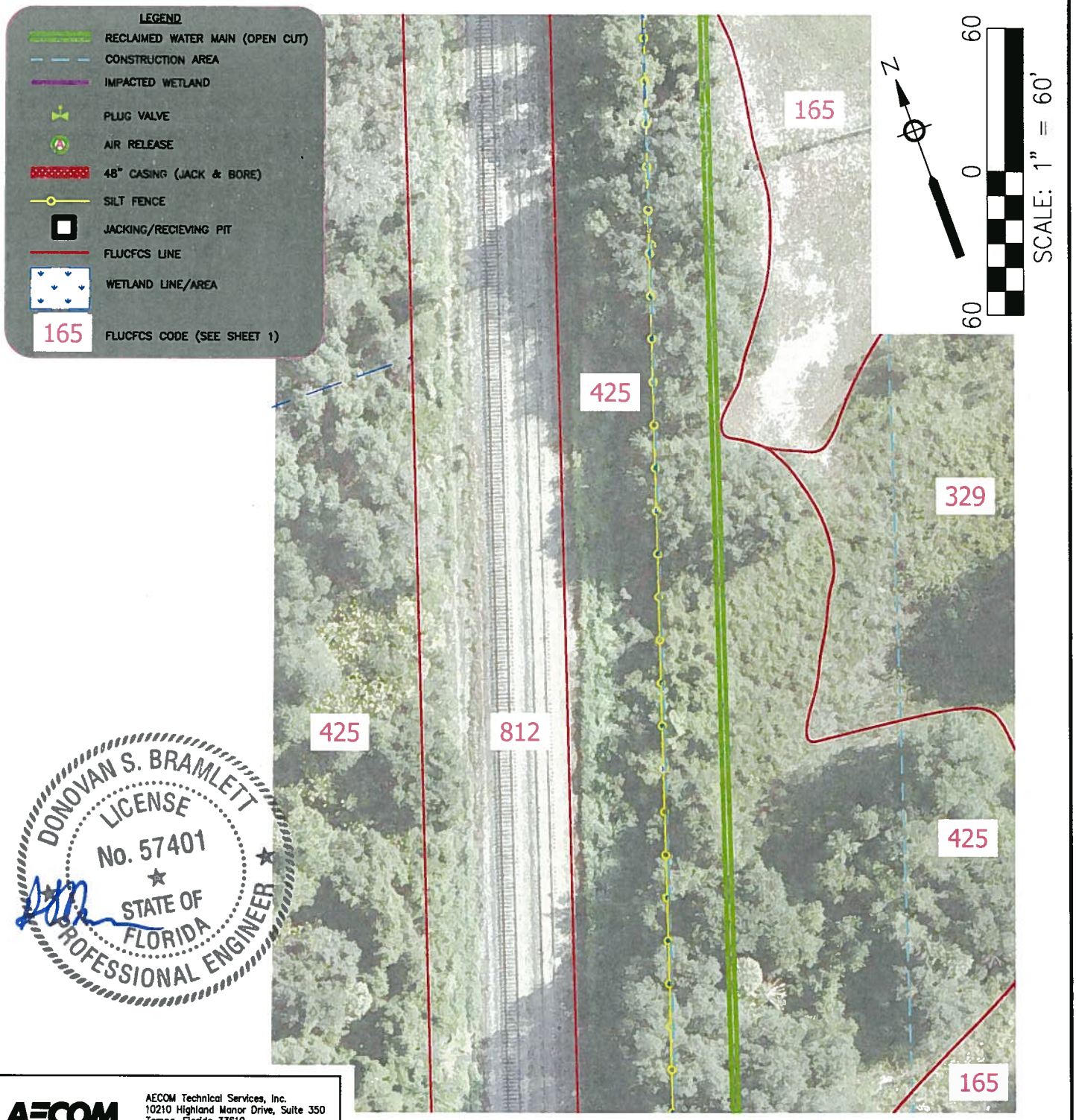
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

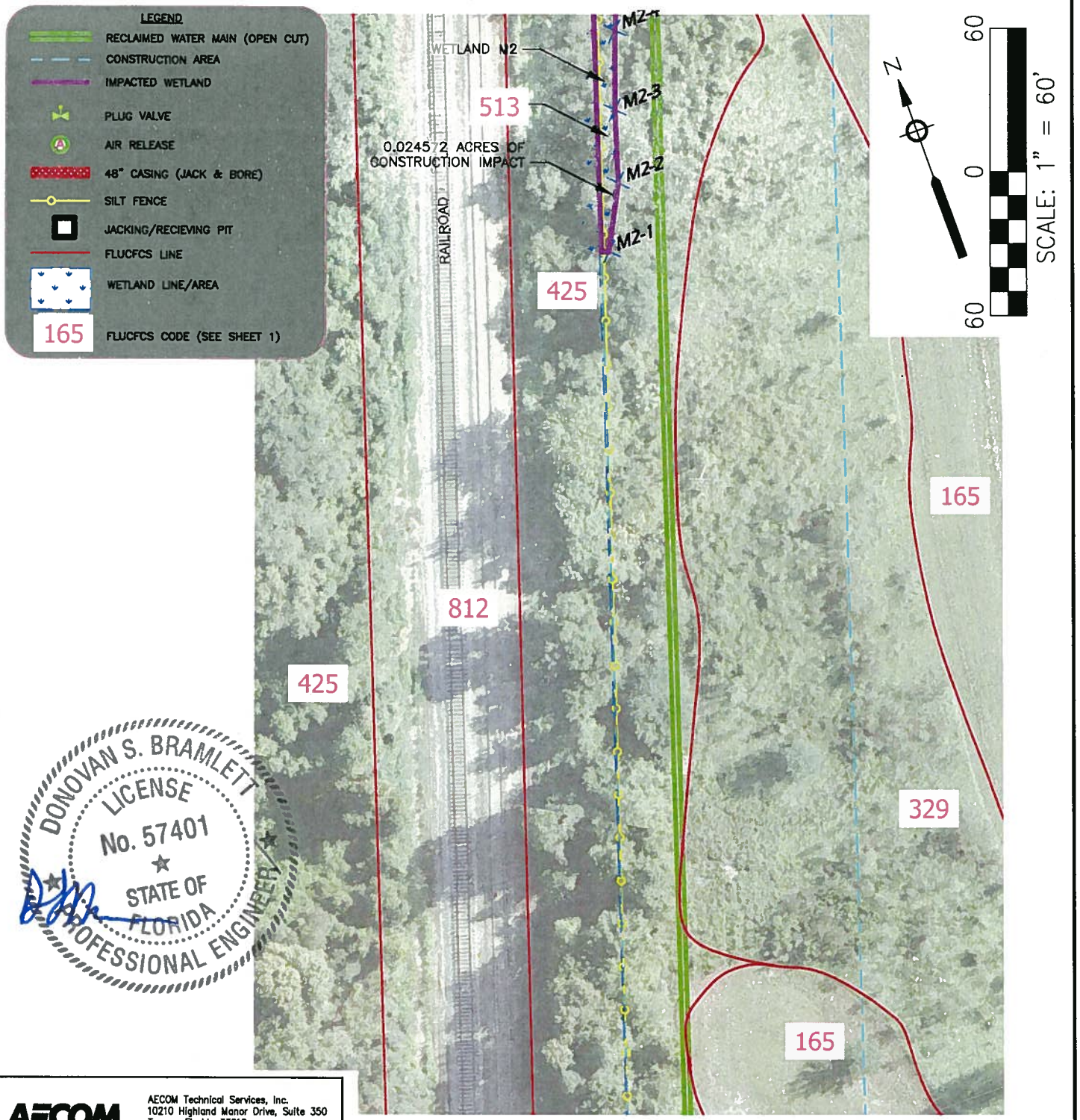
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 192 OF 221 | 0



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

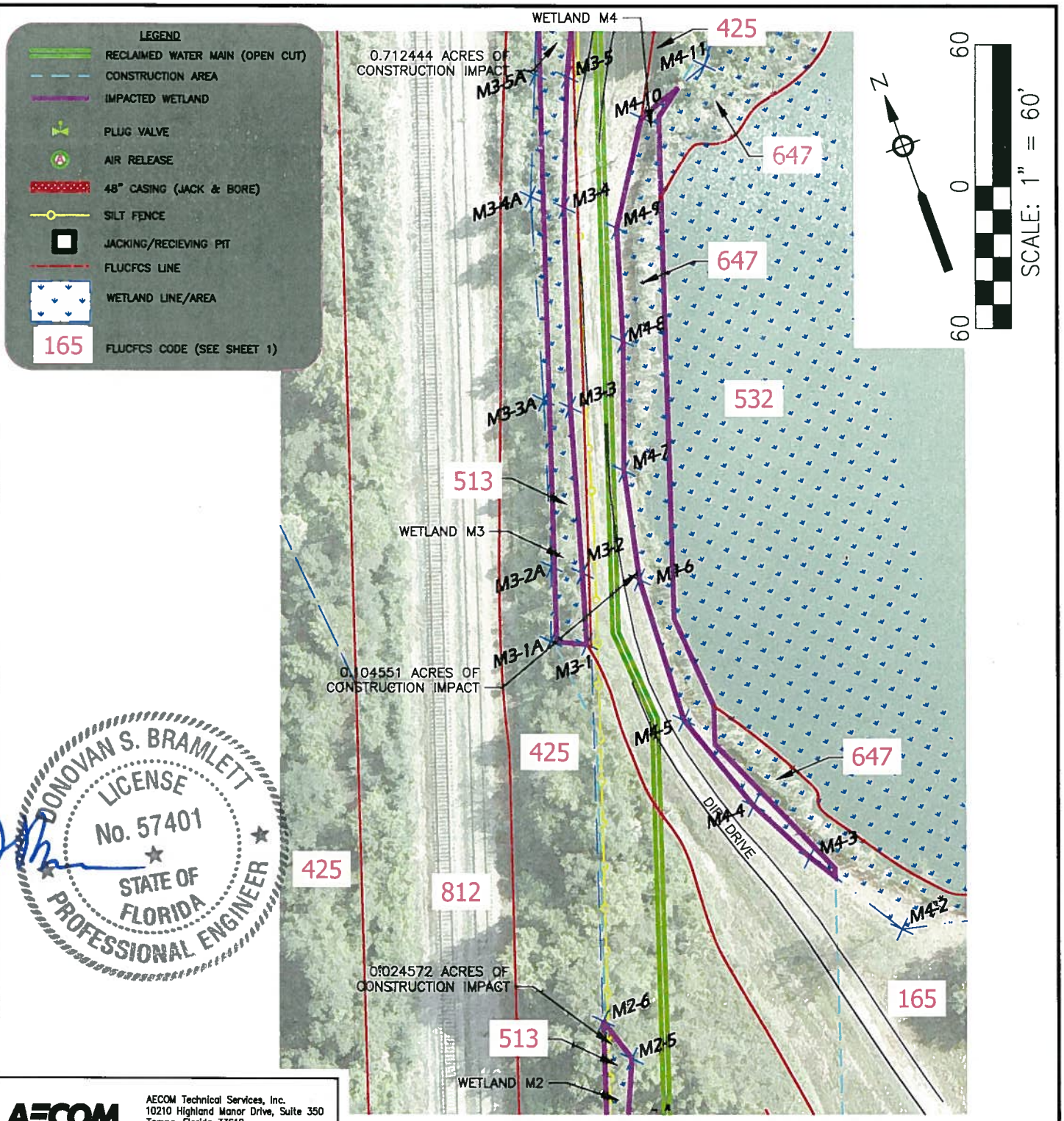
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

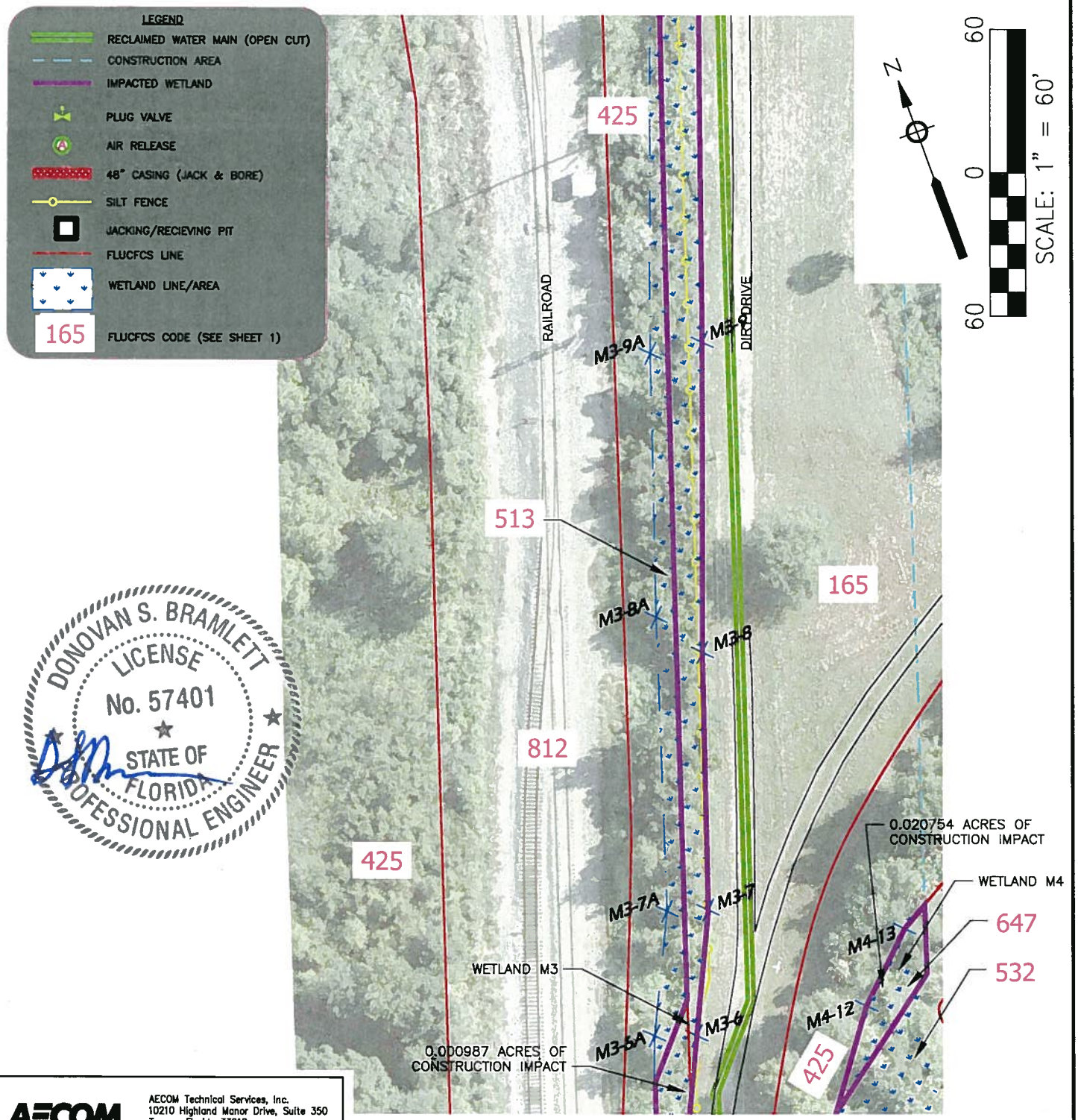
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_181-195.DWG	60218603
FILE NAME	PROJECT NUMBER

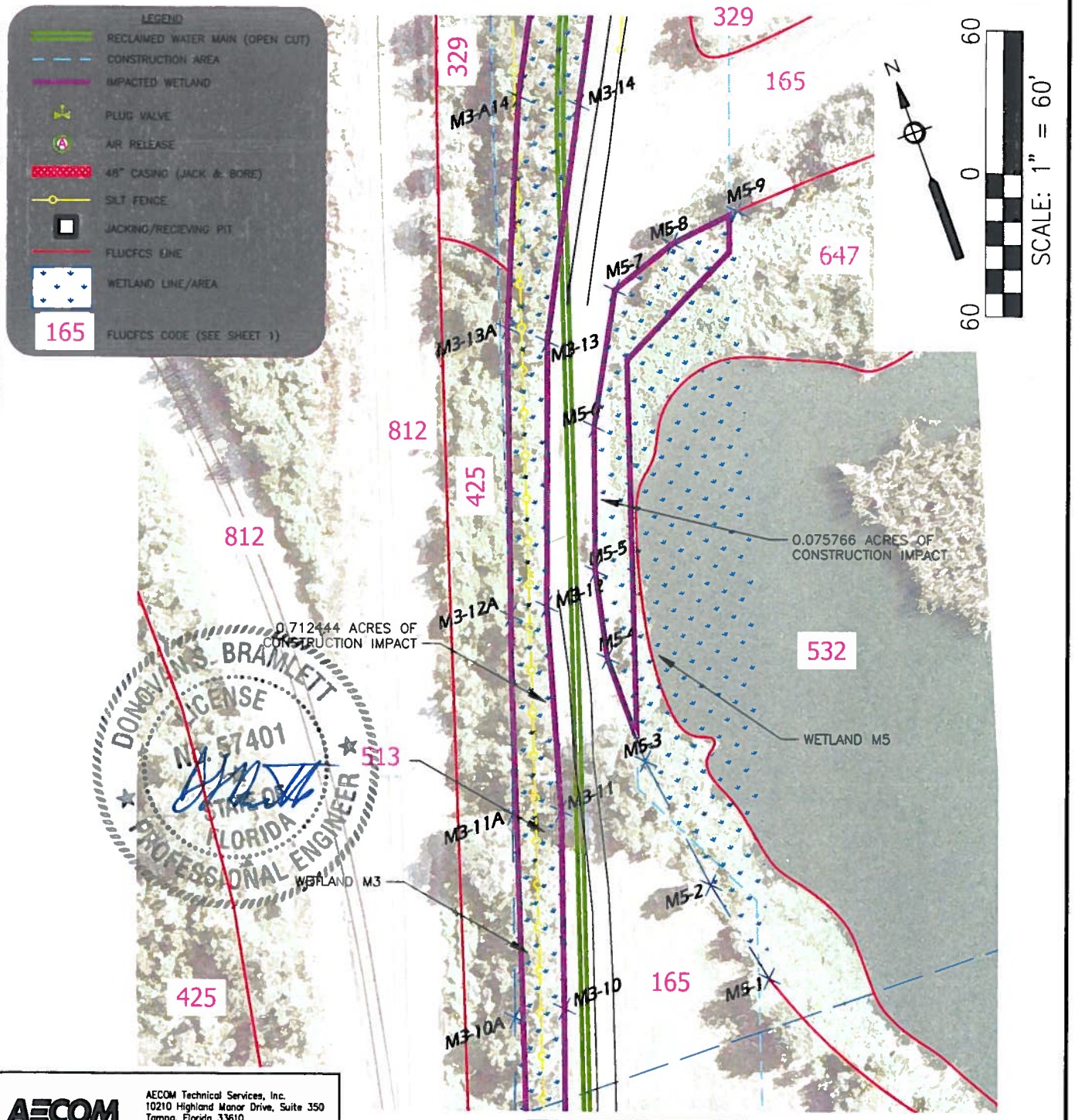
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
NO. 57401
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

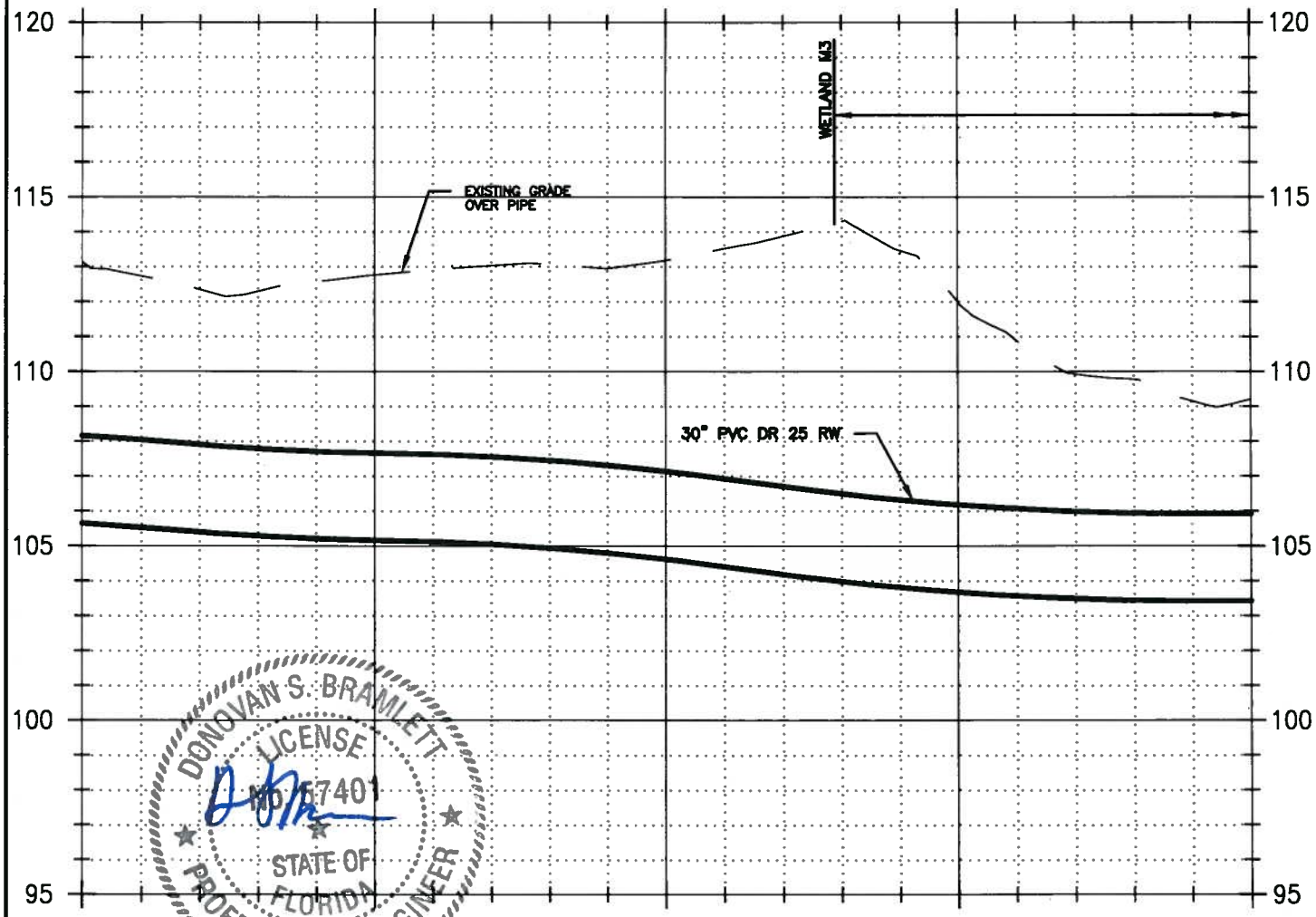
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
NO. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE

SCALE: HORIZONTAL: 1"=60'

VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

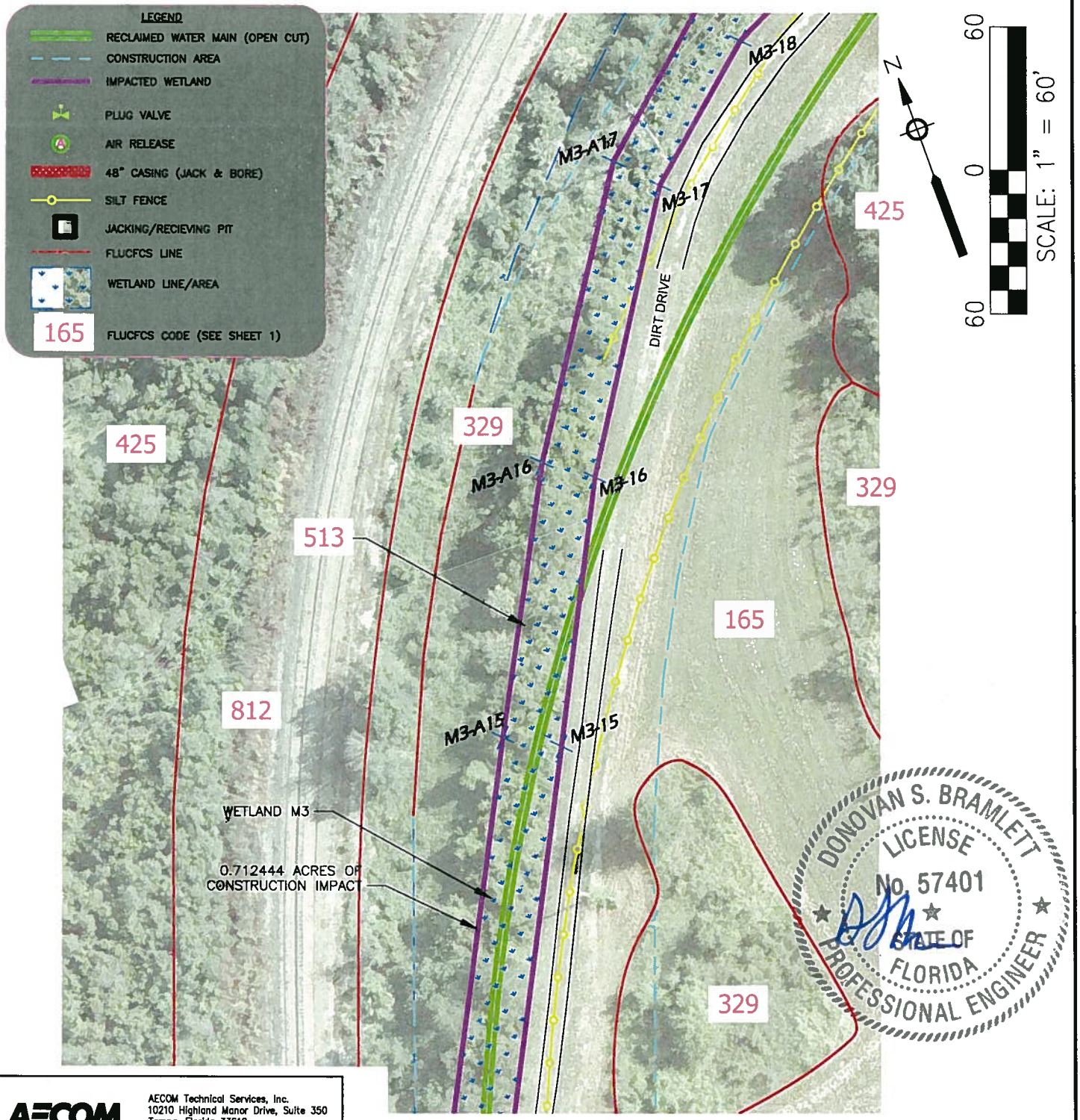
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 196
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

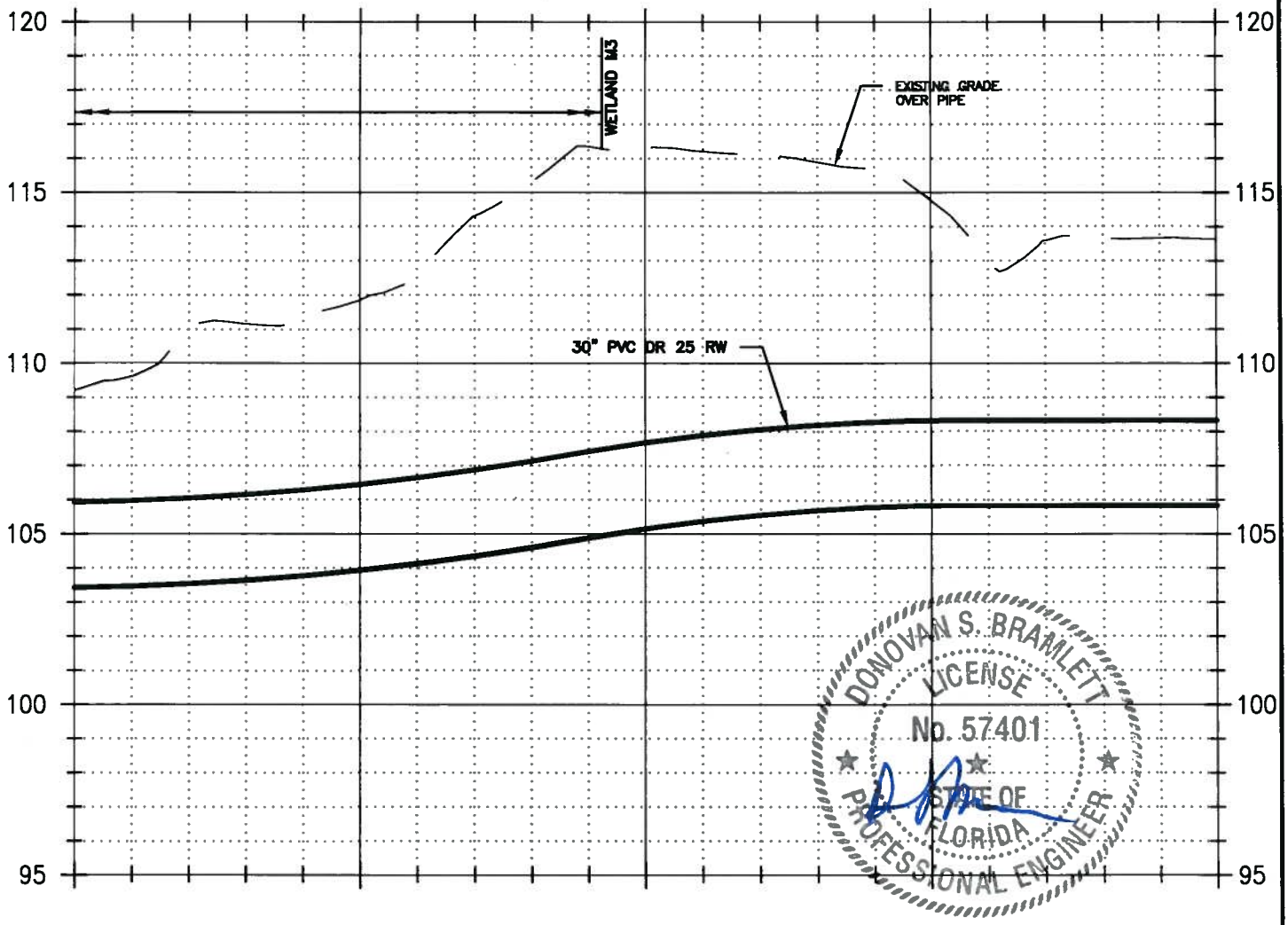
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 198 OF 221 | 0



PROFILE

SCALE: HORIZONTAL: 1"=60'

VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

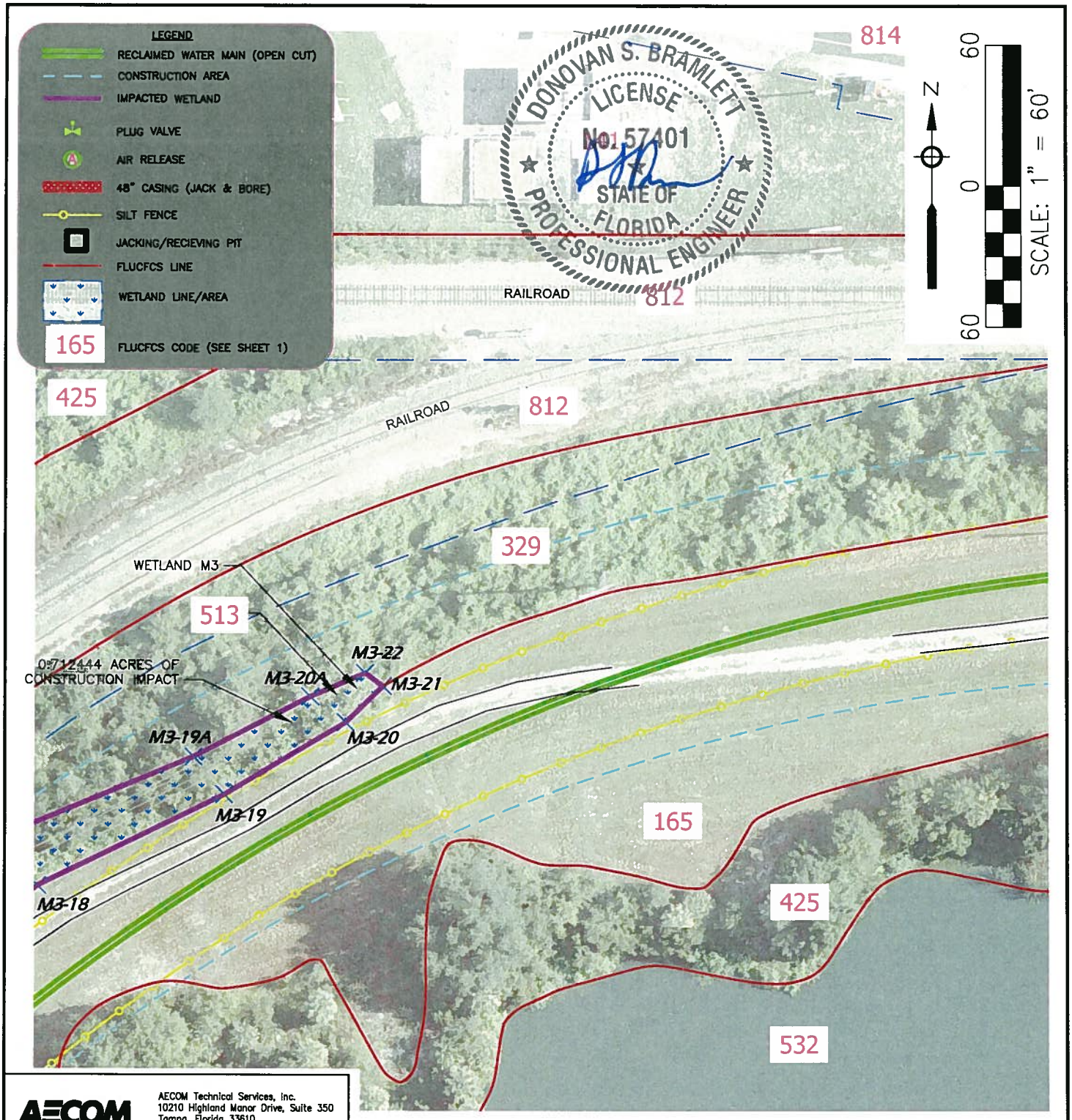
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 198
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

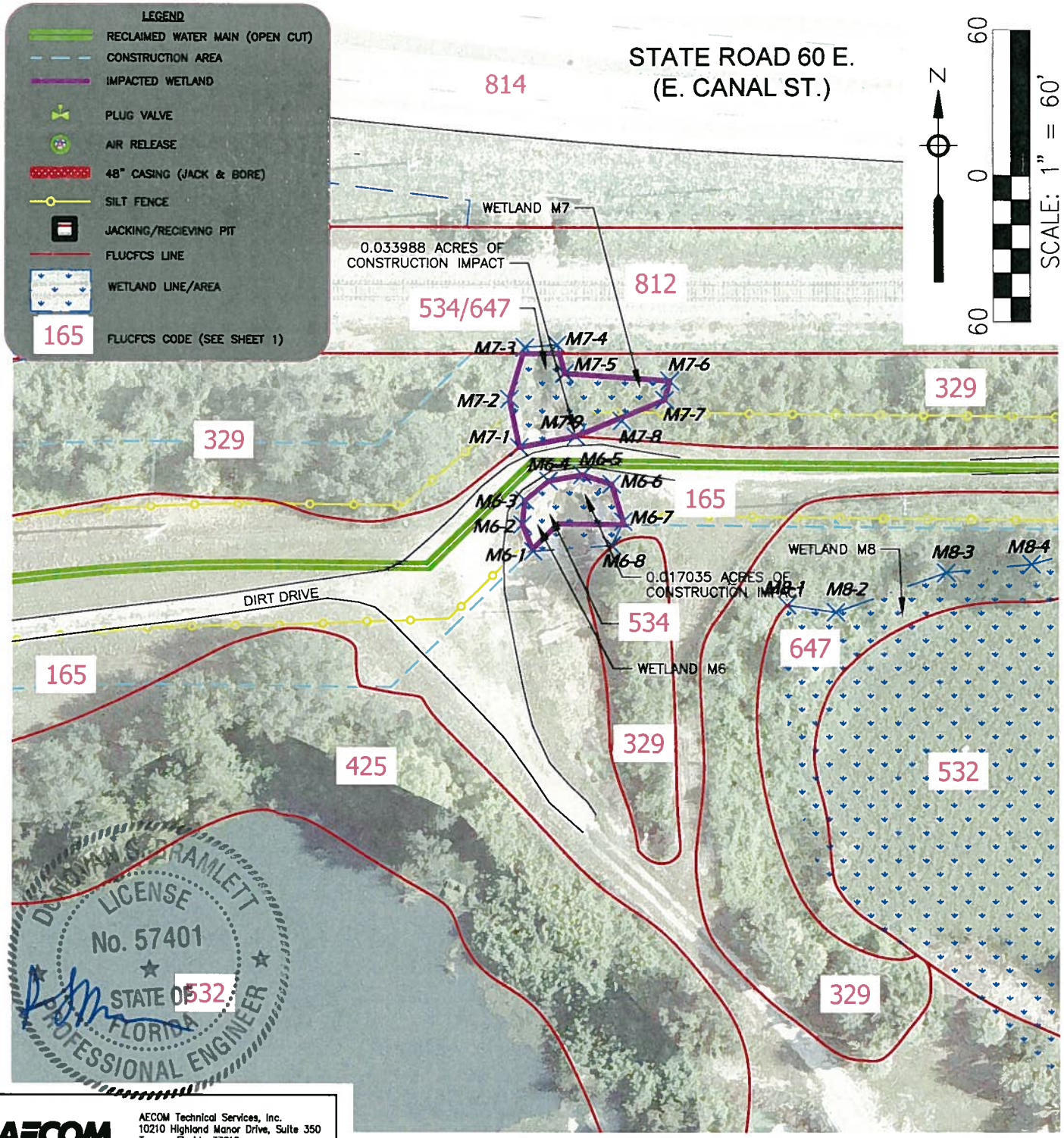
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

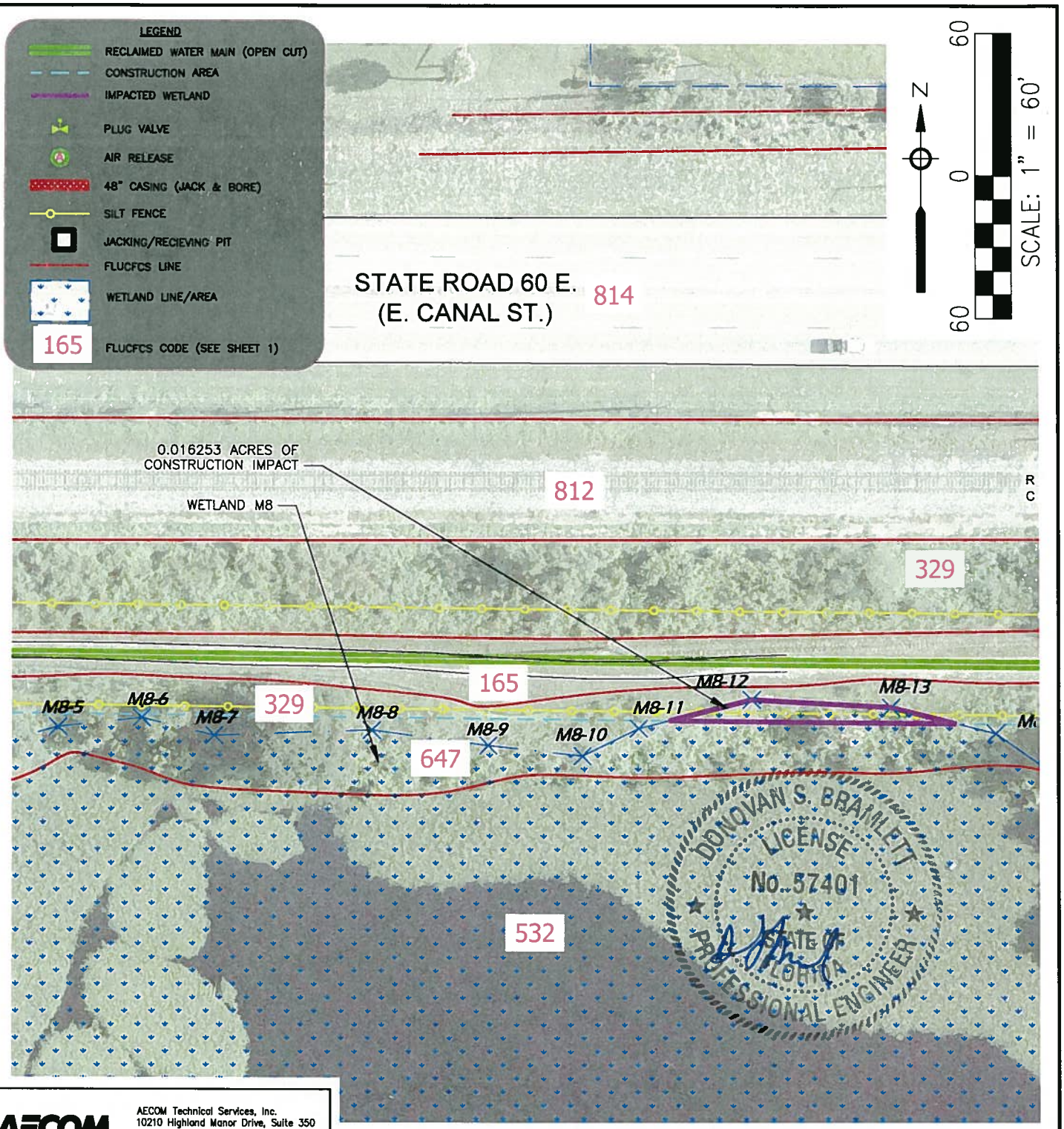
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

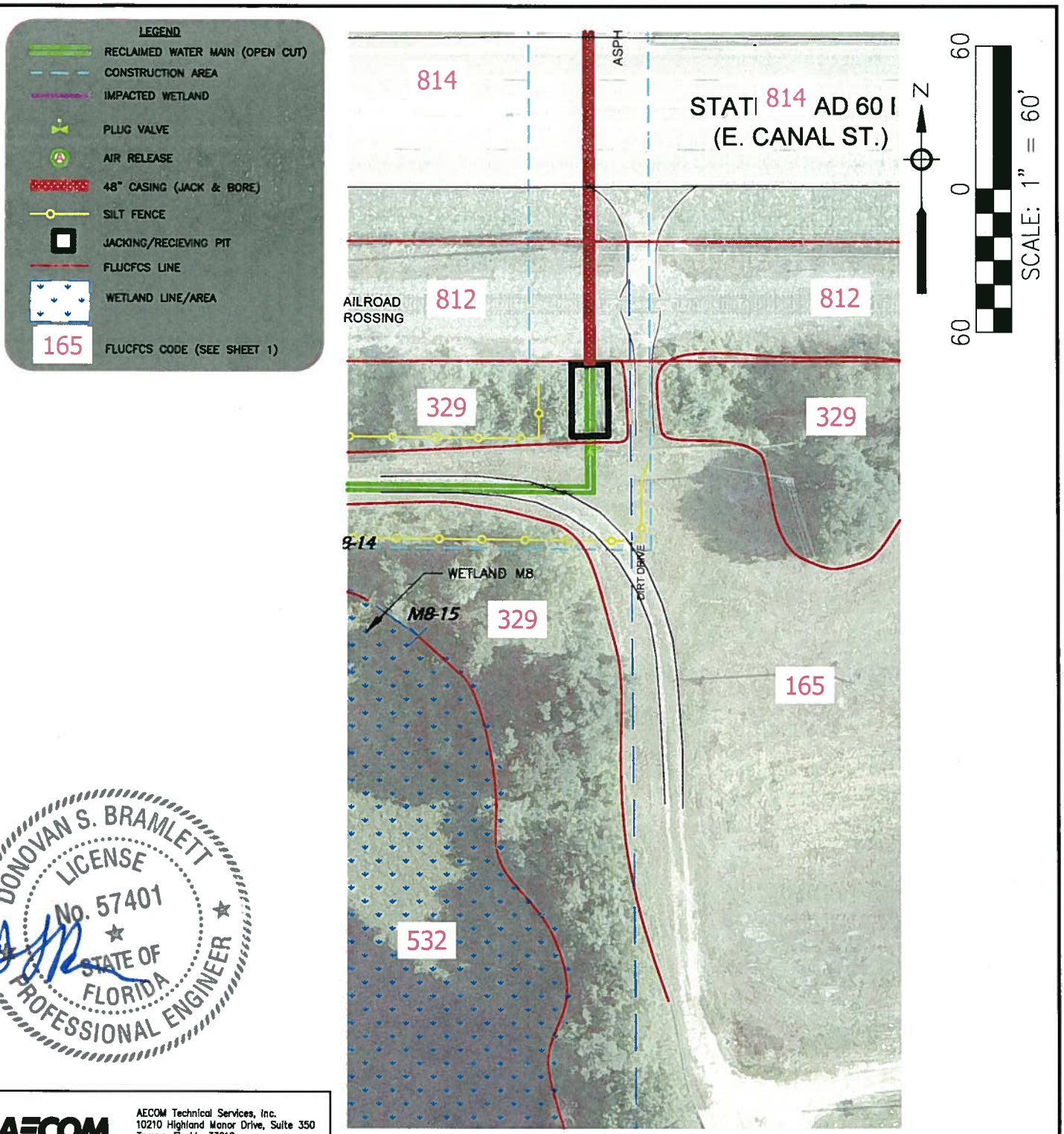
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

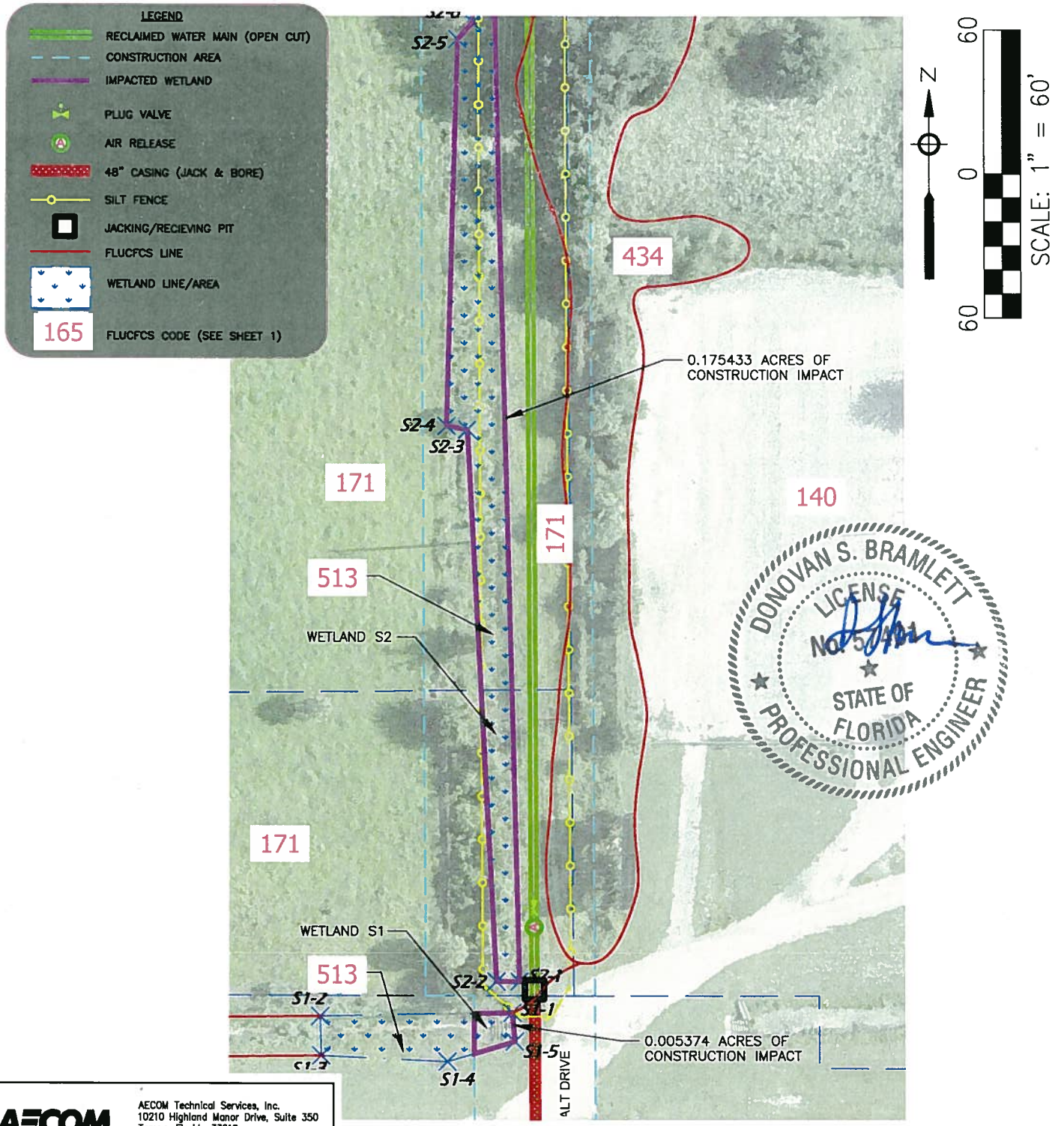
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

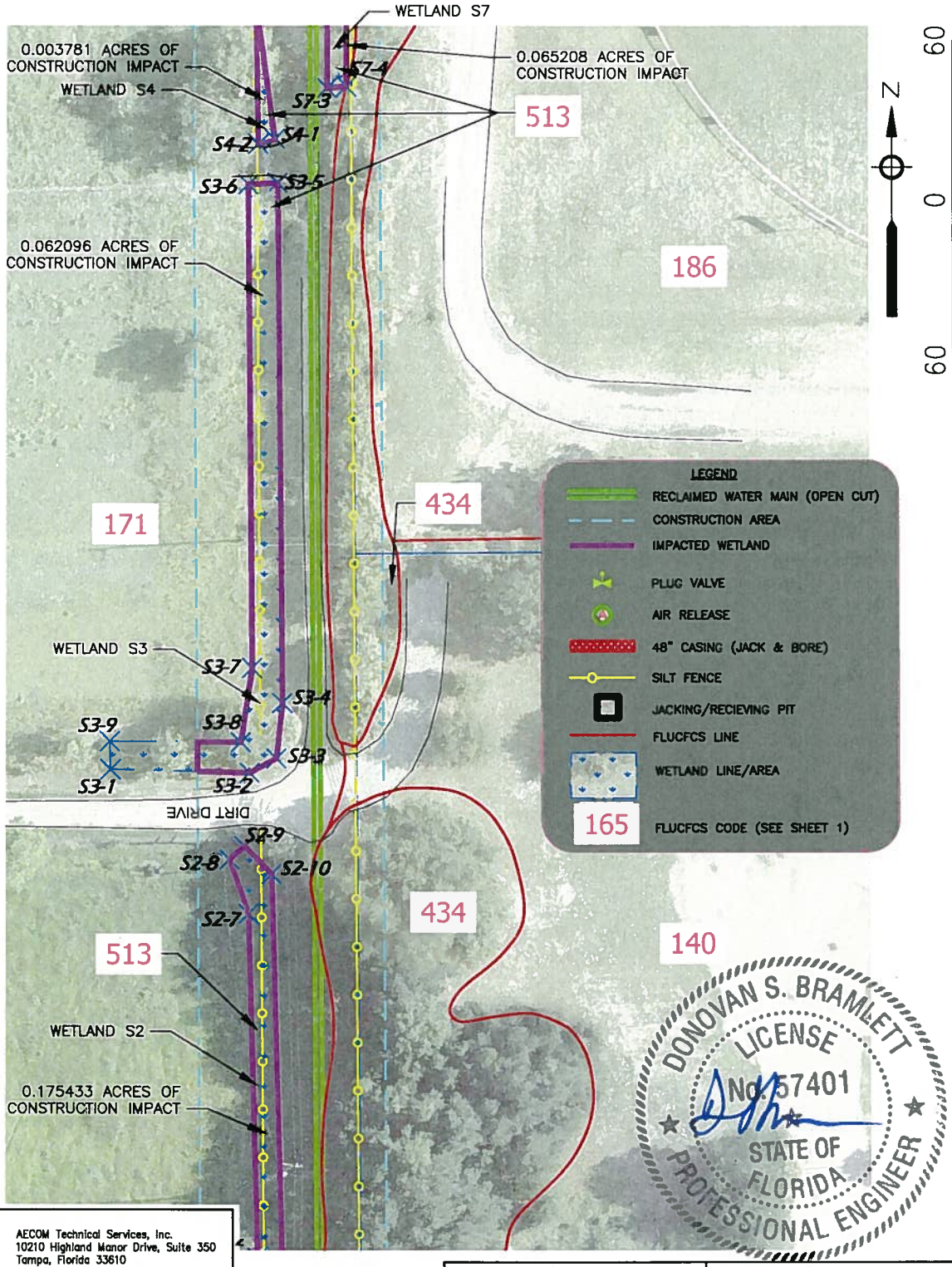
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

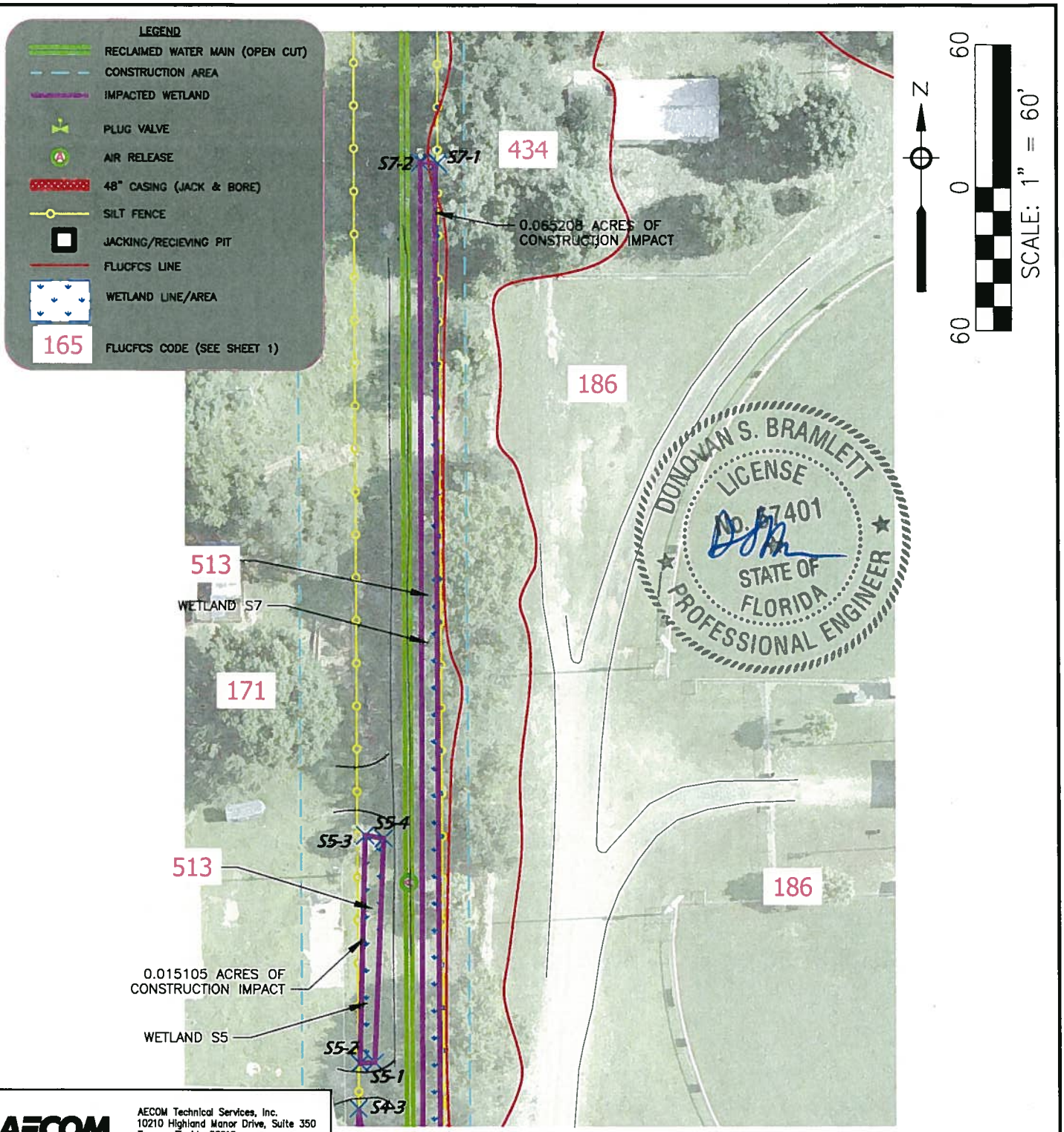
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

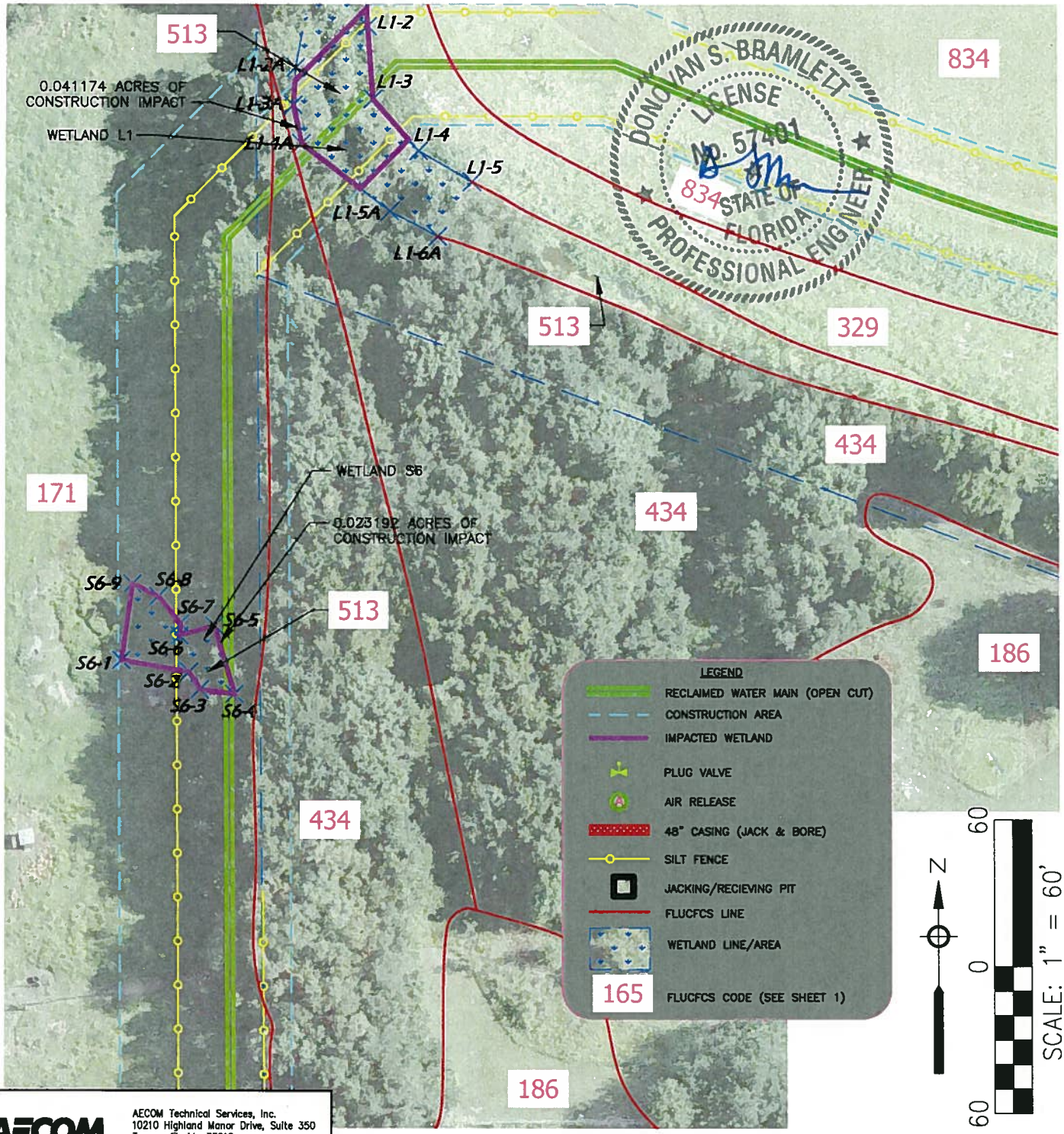
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

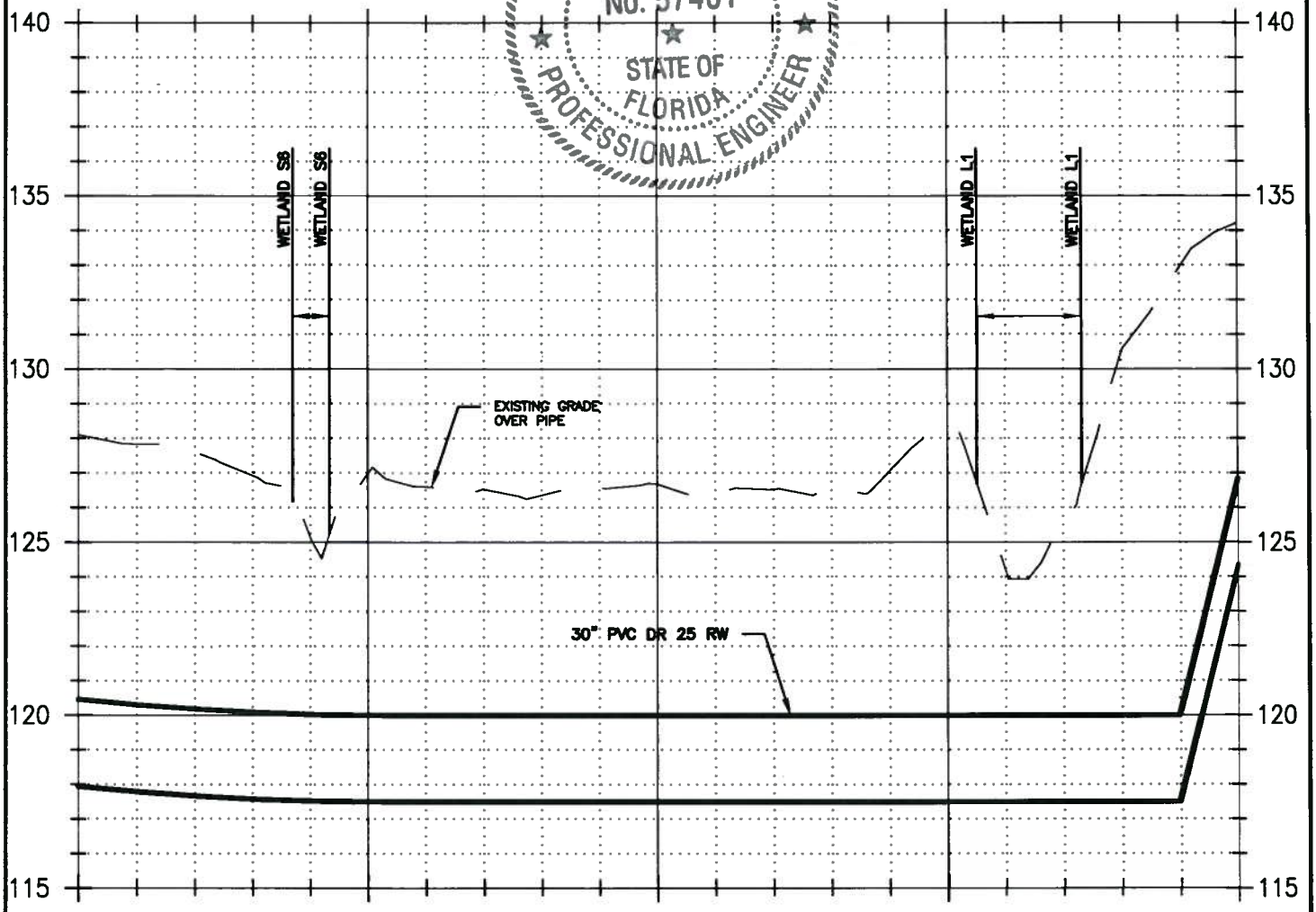
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PROFILE

SCALE: HORIZONTAL: 1"=60'
VERTICAL: 1"=5'

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_196-208.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PROFILE OF SHEET 207
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

LEGEND

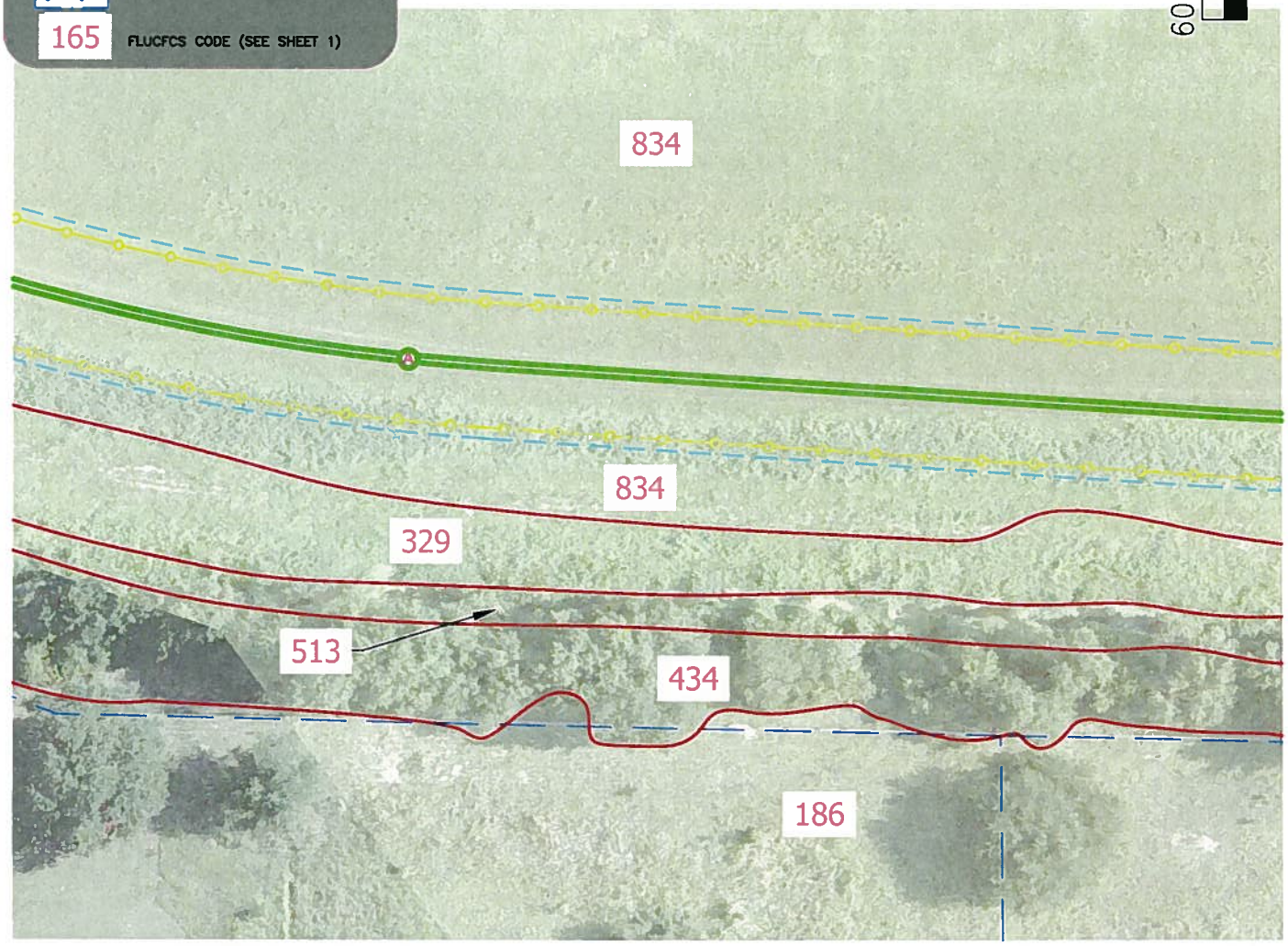
- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)

DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

N

SCALE: 1" = 60'

60 0 60



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 209 OF 221 | 0

LEGEND

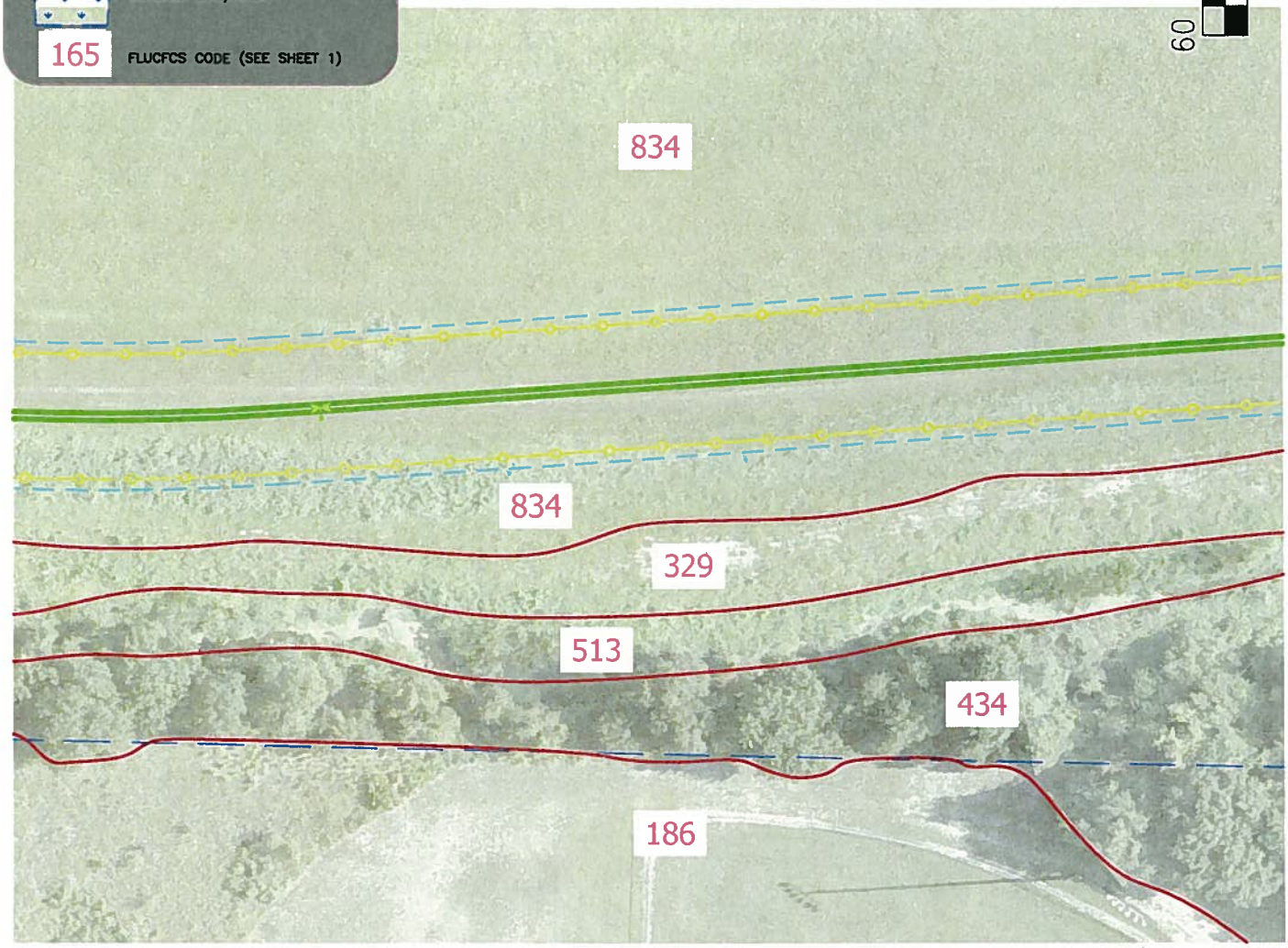
- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)

DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

N

SCALE: 1" = 60'

60 0 60



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

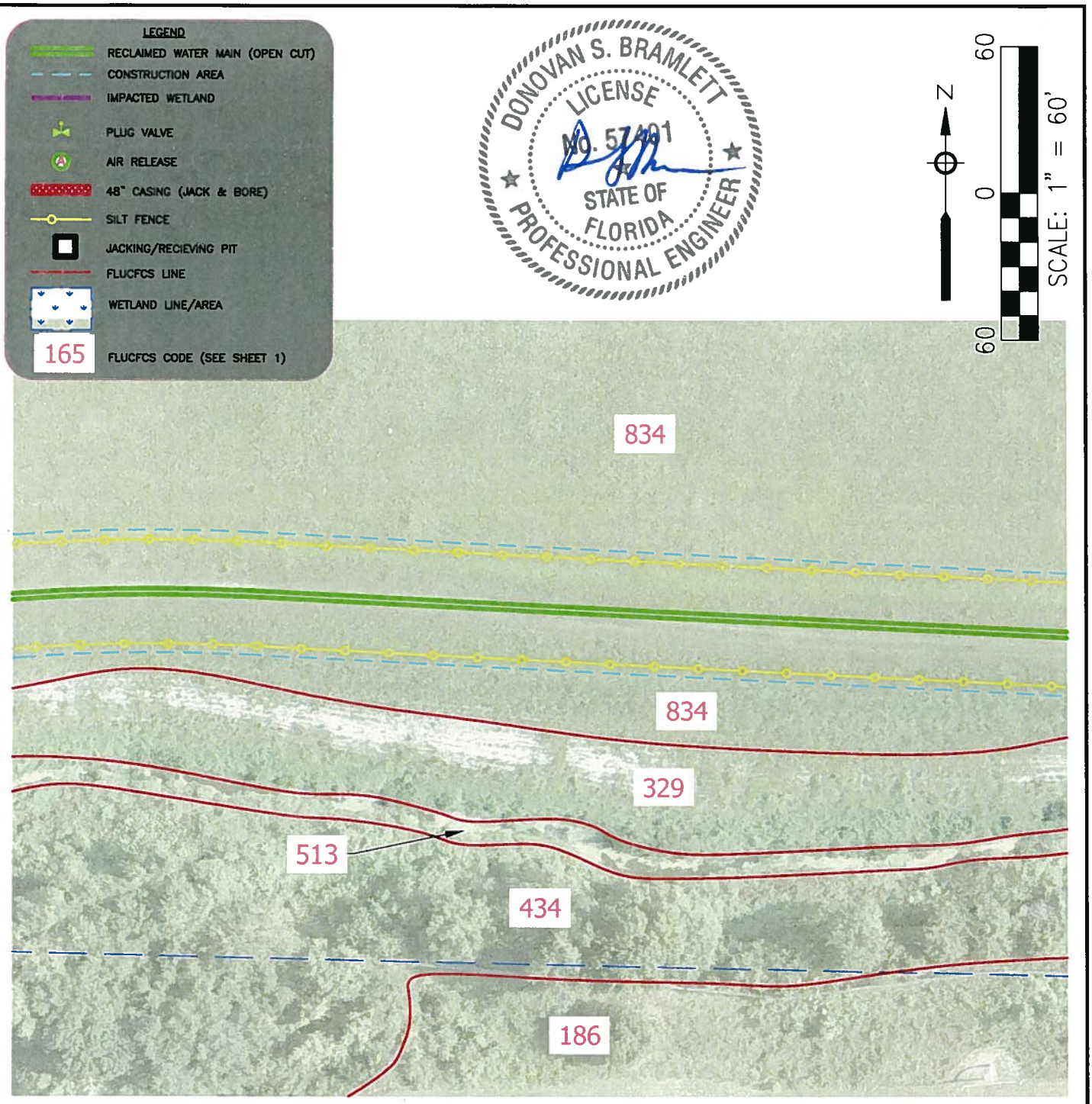
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 210 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

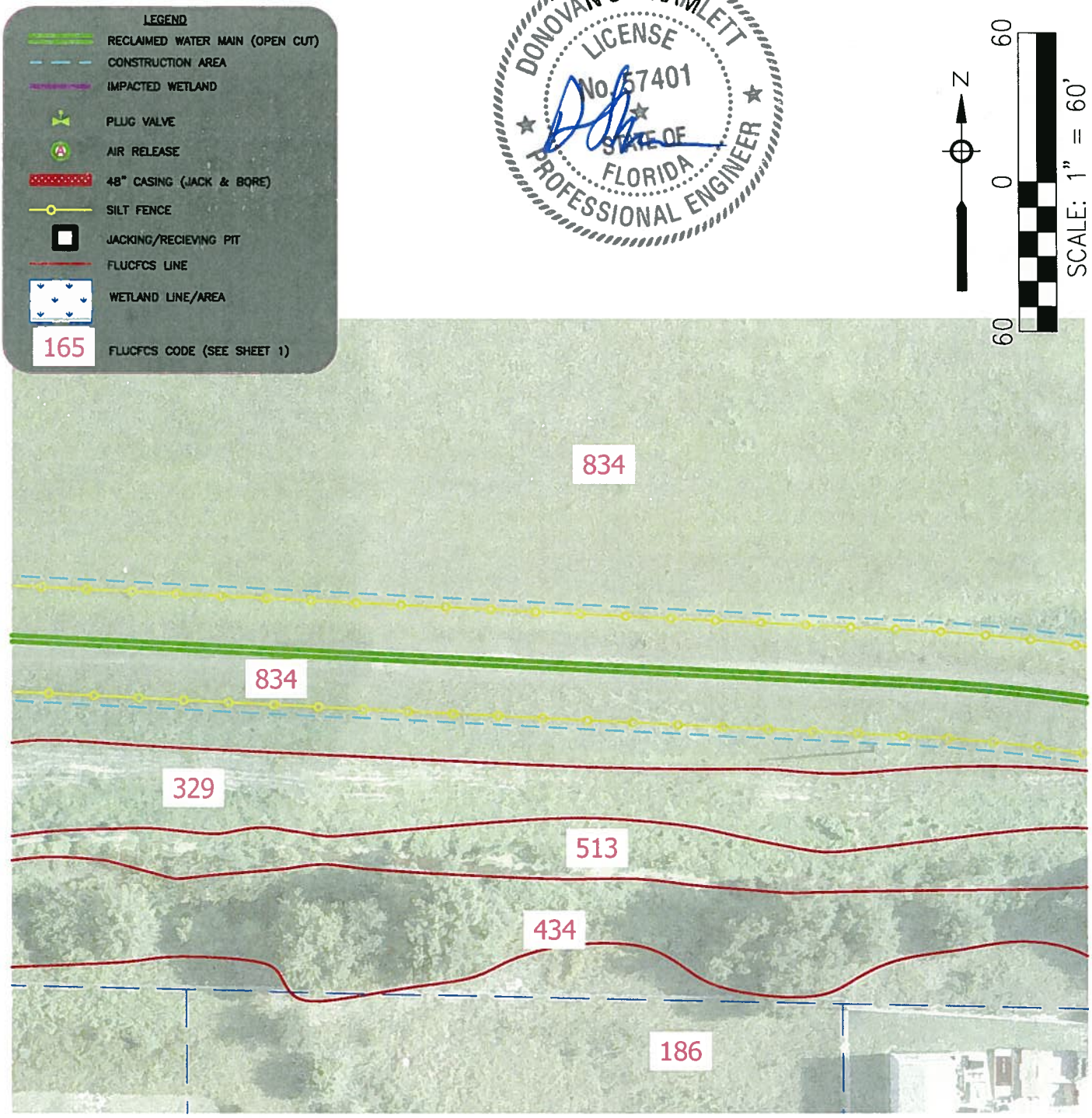
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 211 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

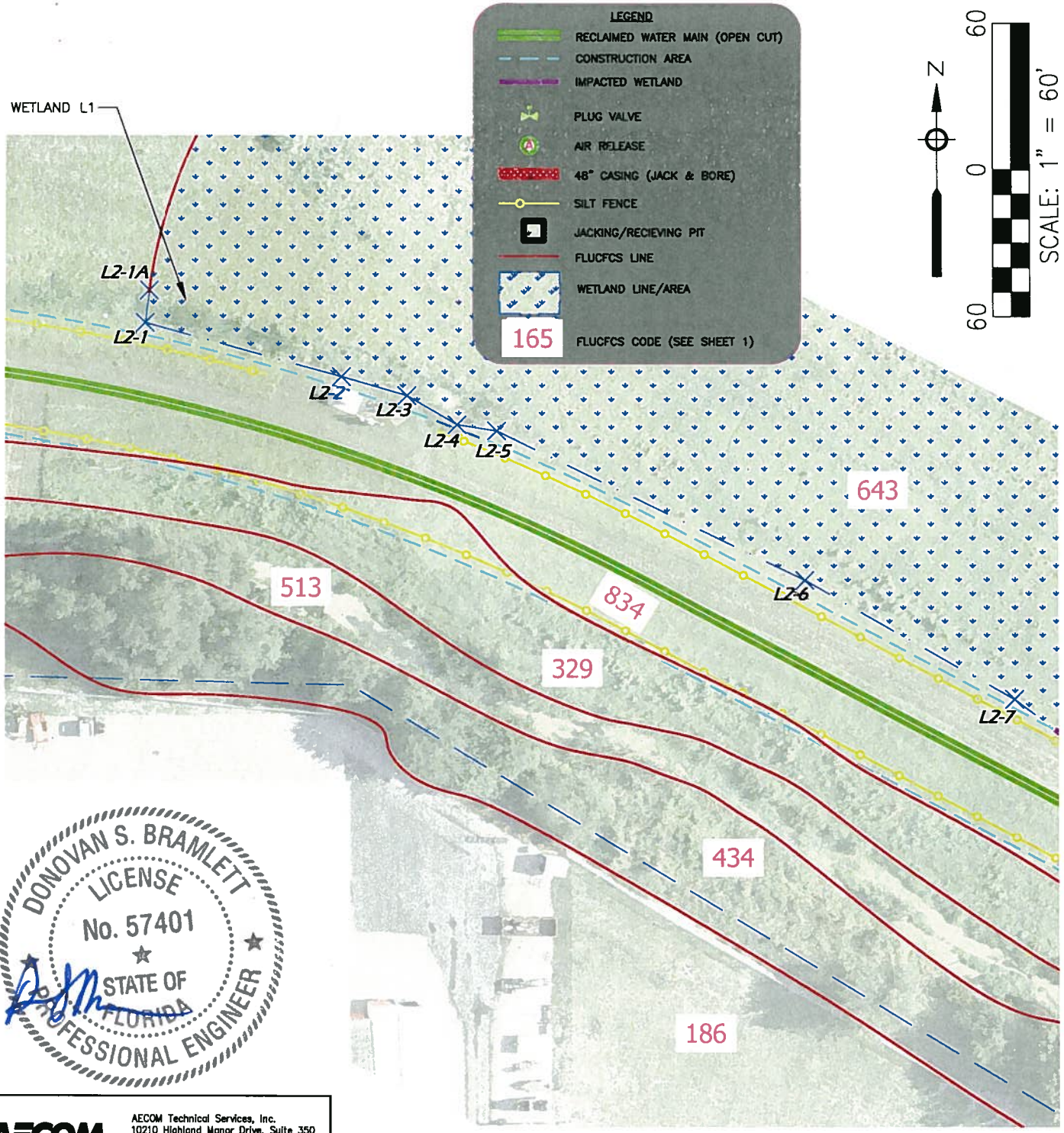
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 212 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

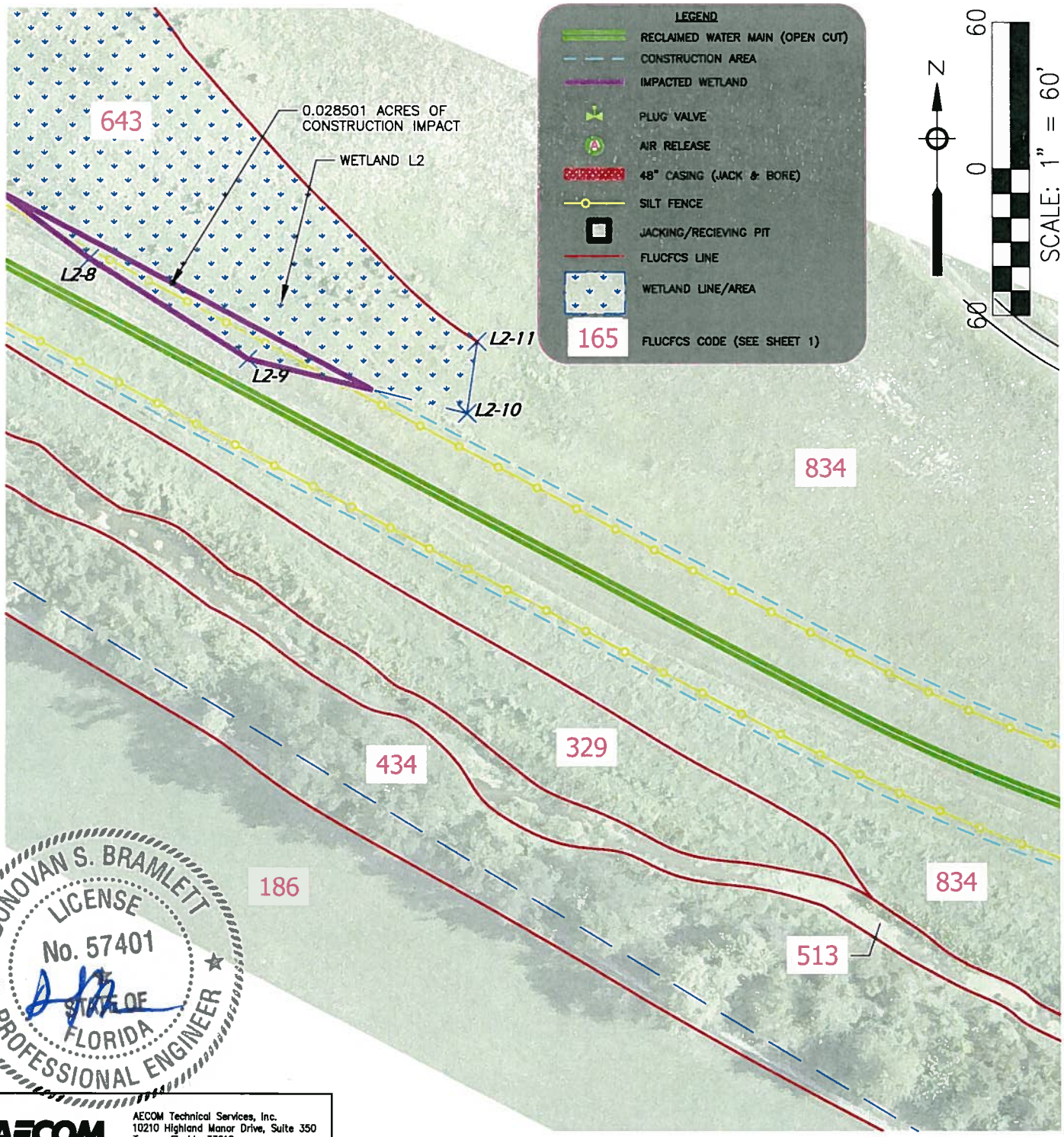
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 213 OF 221 | 0



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

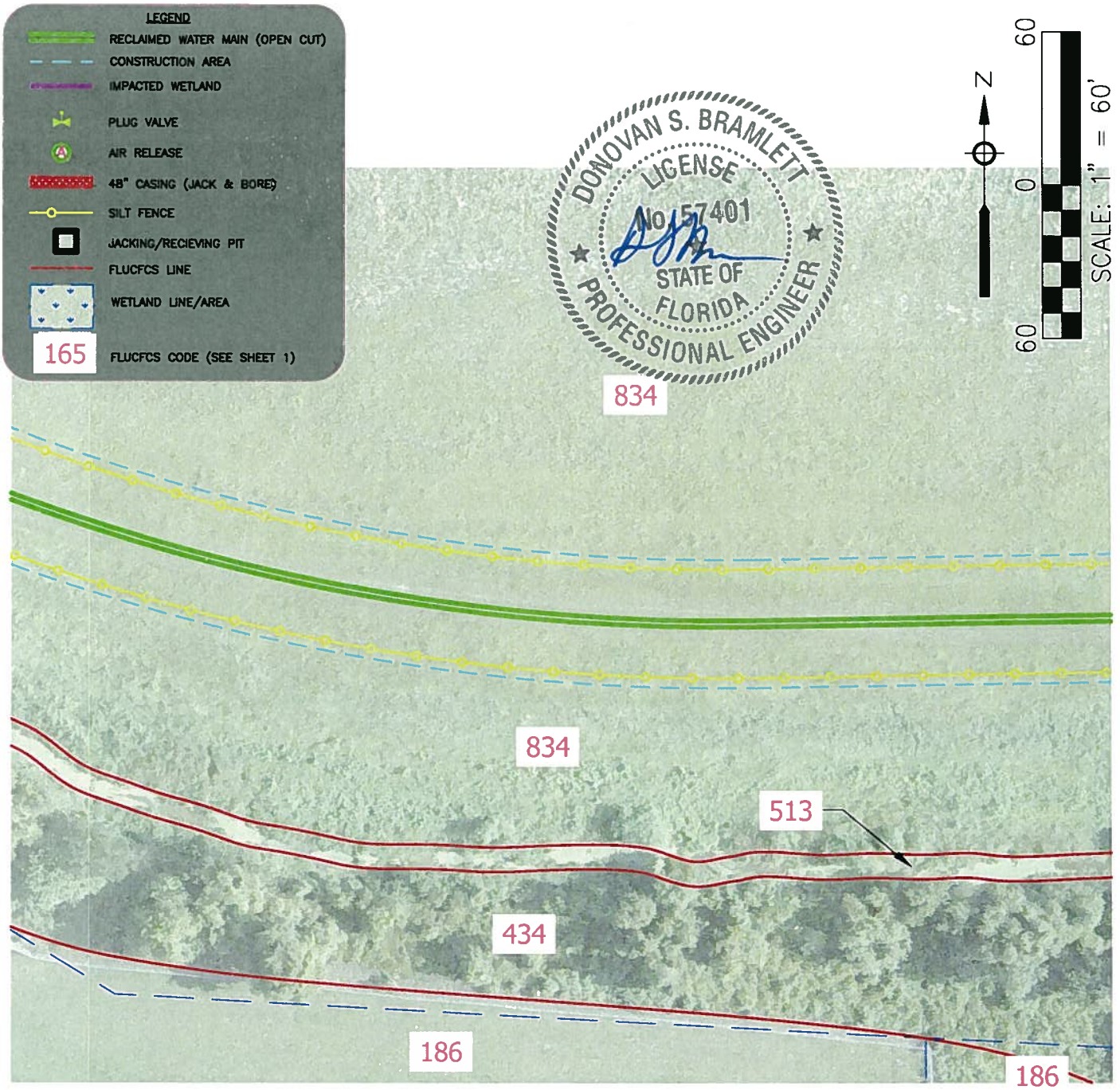
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

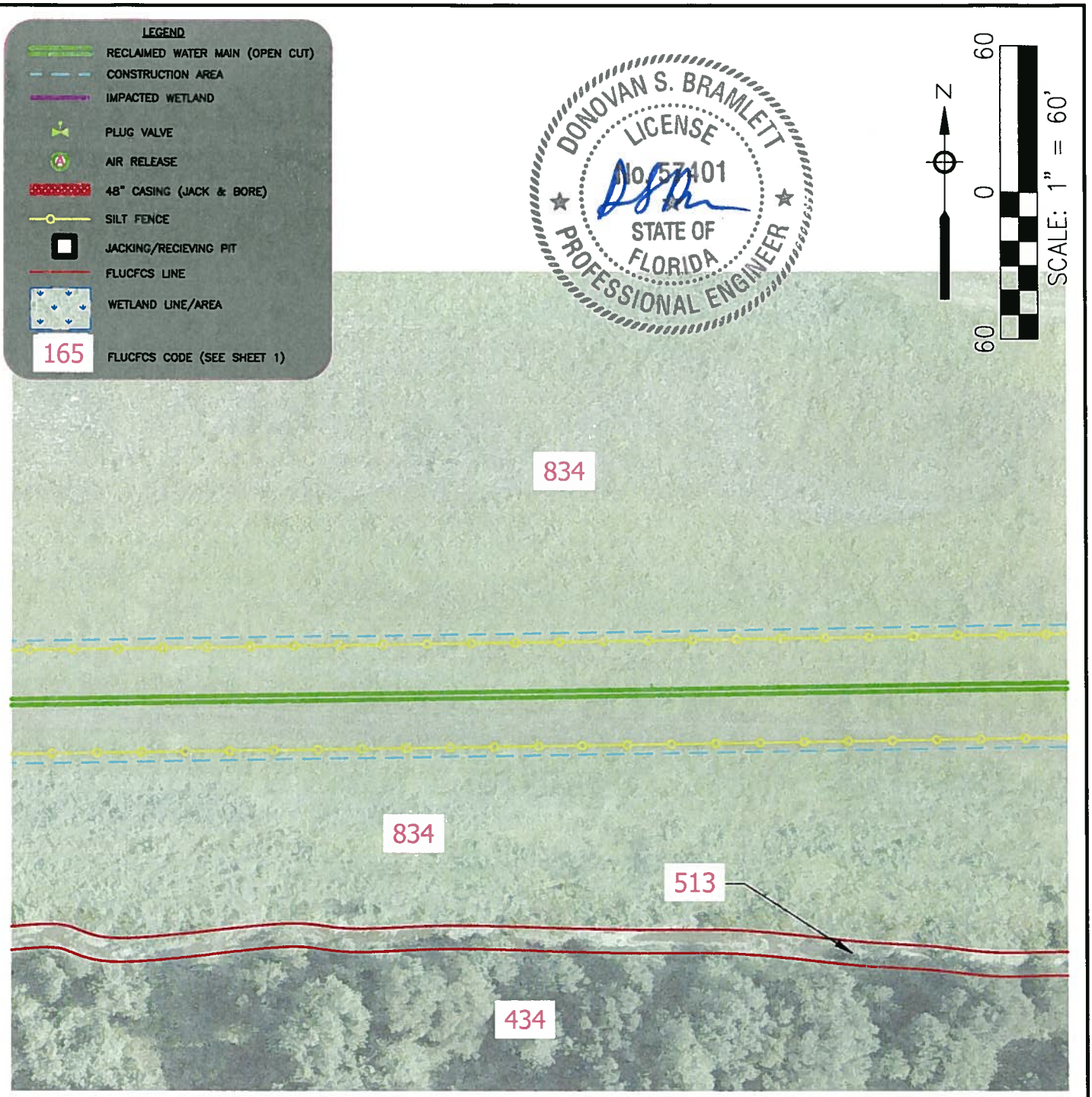
ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

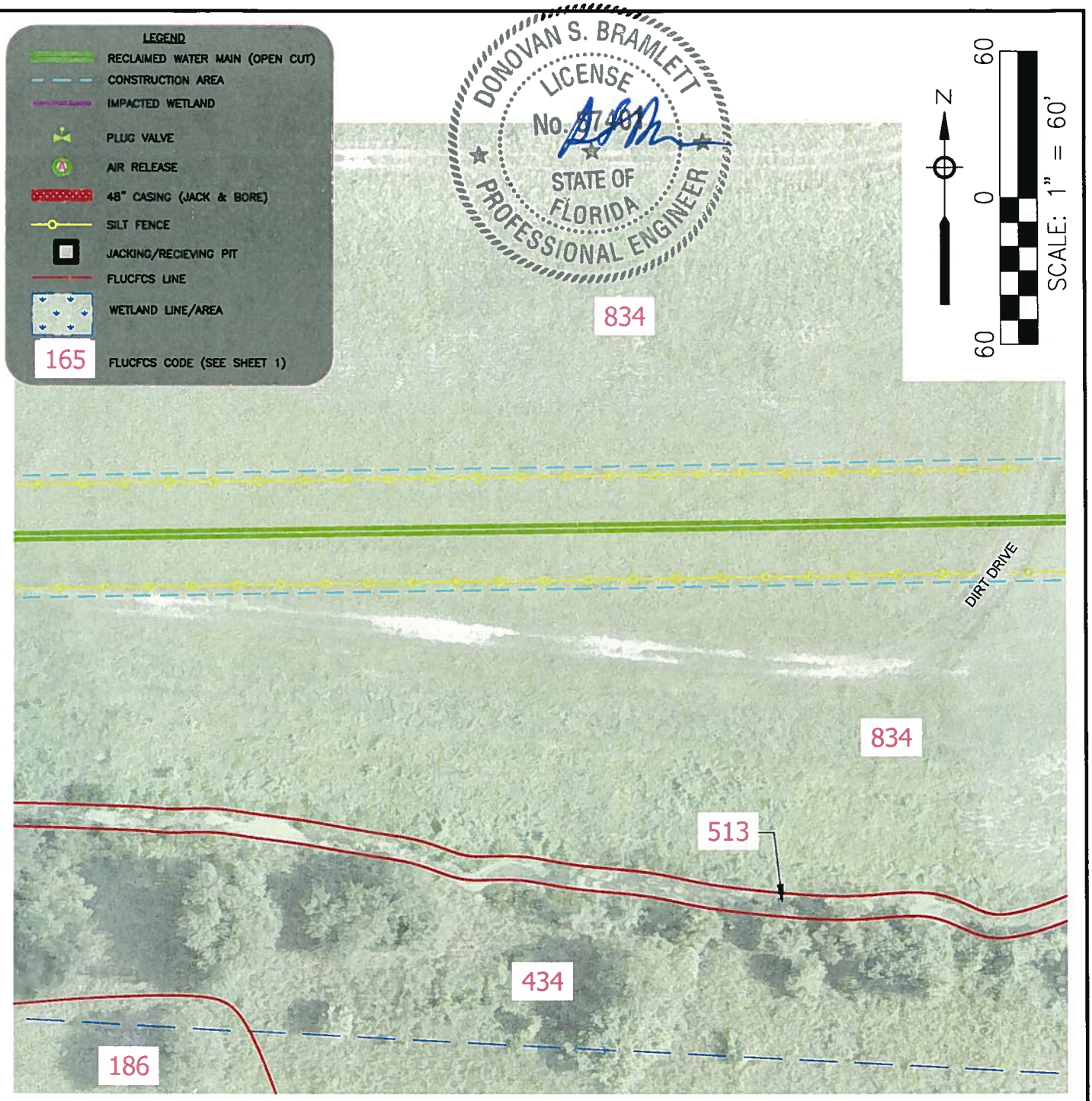
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 216 OF 221 | 0



AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

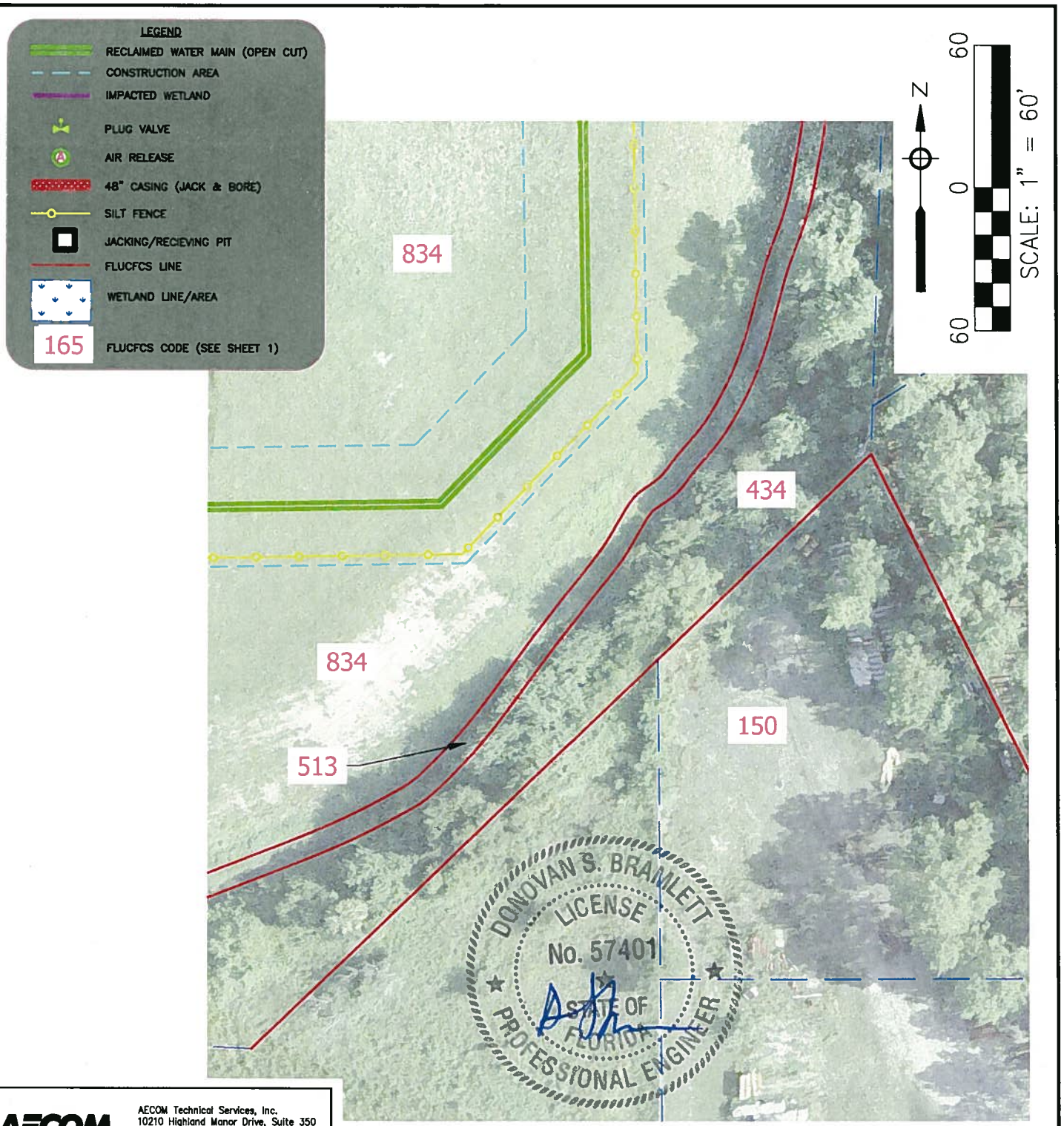
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 217 OF 221 | 0



AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_209-218.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

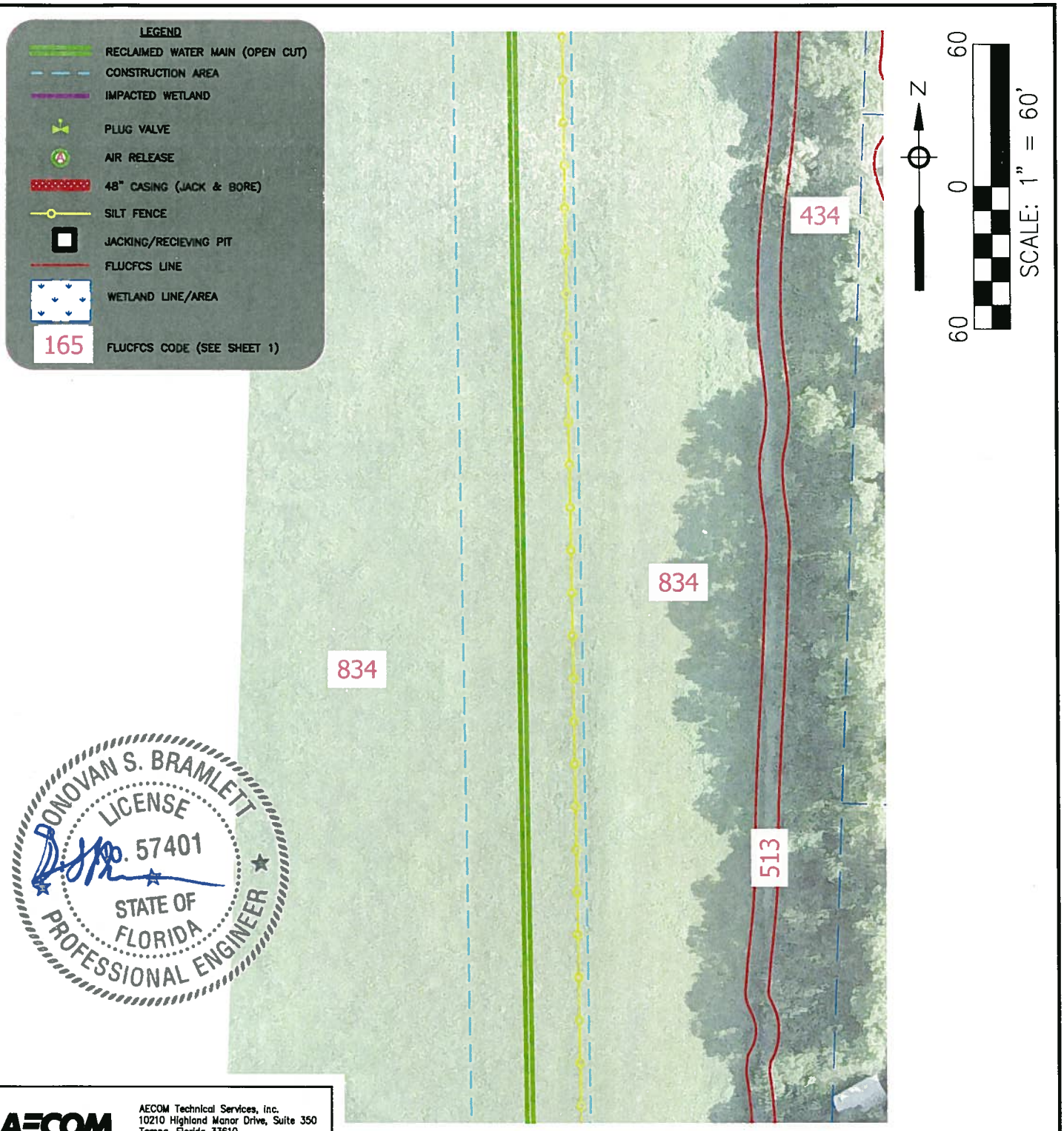
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 218 OF 221 | 0



DONOVAN S. BRAMLETT LICENSE NO. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_219-221.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

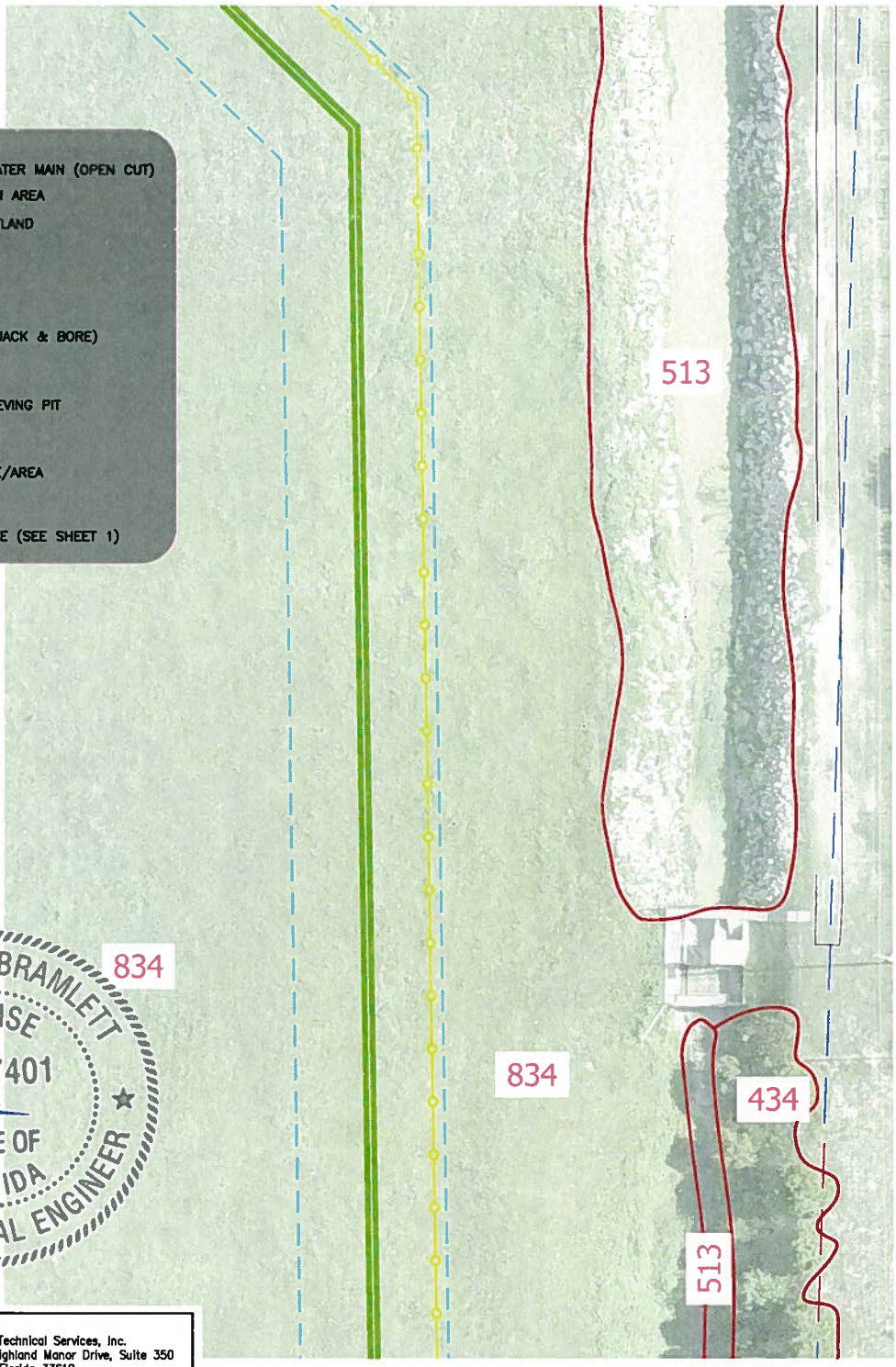
	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 219 OF 221 | 0



LEGEND

- RECLAIMED WATER MAIN (OPEN CUT)
- CONSTRUCTION AREA
- IMPACTED WETLAND
- PLUG VALVE
- AIR RELEASE
- 48" CASING (JACK & BORE)
- SILT FENCE
- JACKING/RECIEVING PIT
- FLUCFCS LINE
- WETLAND LINE/AREA
- 165 FLUCFCS CODE (SEE SHEET 1)

N

60 0 60

SCALE: 1" = 60'

DONOVAN S. BRAMLETT LICENSE No. 57401 STATE OF FLORIDA PROFESSIONAL ENGINEER

AECOM

AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_219-221.DWG	60218603
FILE NAME	PROJECT NUMBER

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

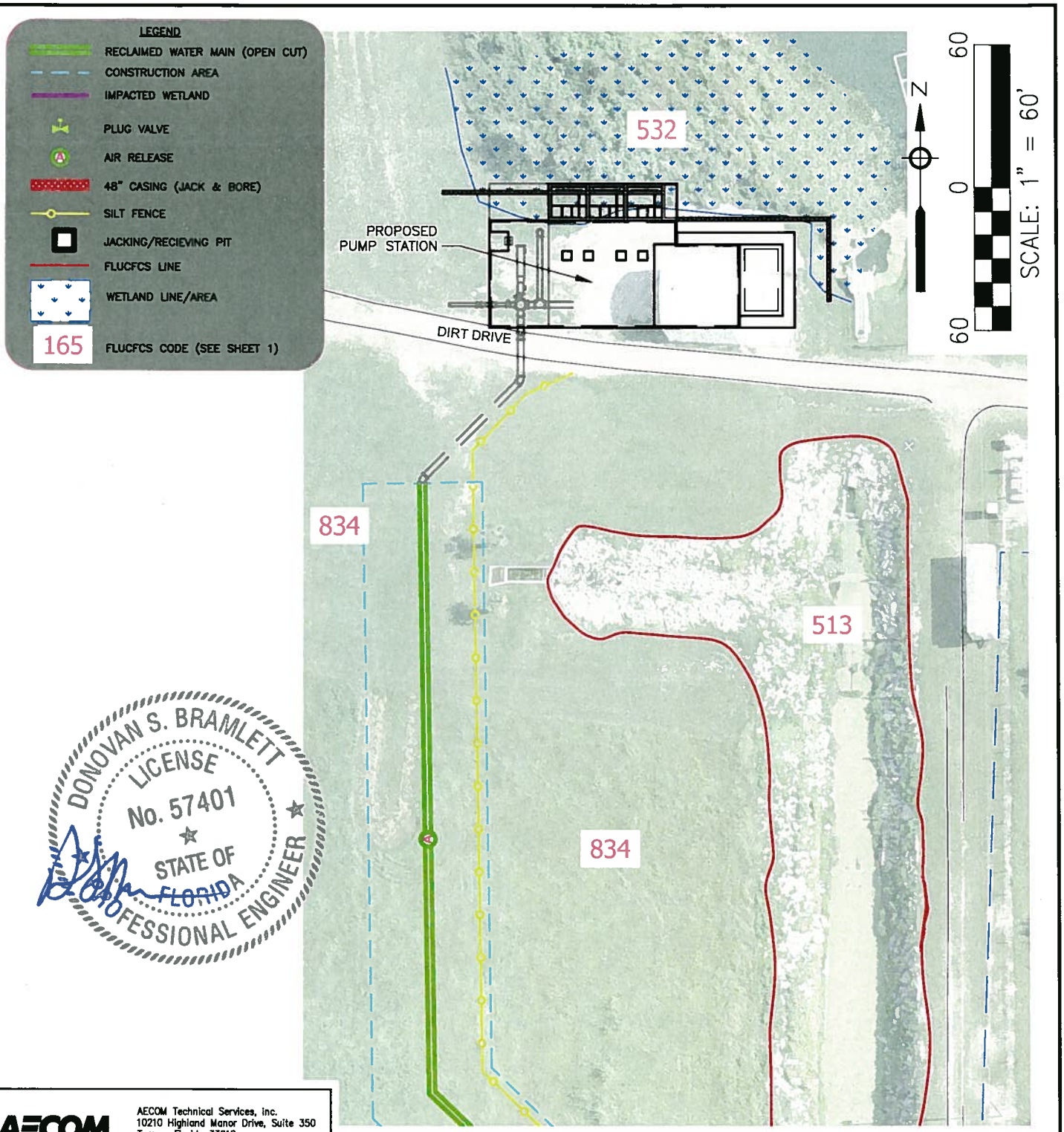
TECO TAMPA ELECTRIC

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT

PLAN VIEW

POLK COUNTY, FLORIDA

ENERGY SUPPLY – GENERATION ENGINEERING



DONOVAN S. BRAMLETT
LICENSE
No. 57401
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AECOM
AECOM Technical Services, Inc.
10210 Highland Manor Drive, Suite 350
Tampa, Florida 33610
T 813.630.2500 F 813.621.2300
FL. Engineering Business No. EB-38
www.aecom.com

FIGURE_219-221.DWG	60218603
FILE NAME	PROJECT NUMBER

TAMPA ELECTRIC COMPANY POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
PLAN VIEW
POLK COUNTY, FLORIDA

ISSUE	DESCRIPTION	DSGN	DWN	CHKD	APVD	DATE
0	ISSUED FOR PERMITTING	JT	JT	RR	RR	5/1/12

	BY:	DATE
APVD	RR	5/1/12
CHKD	RR	5/1/12
DWN	JT	5/1/12
DSGN	JT	5/1/12

TECO
TAMPA ELECTRIC

ENERGY SUPPLY – GENERATION ENGINEERING

SHEET 221 OF 221 | 0

APPENDIX A

SCA MODIFICATION

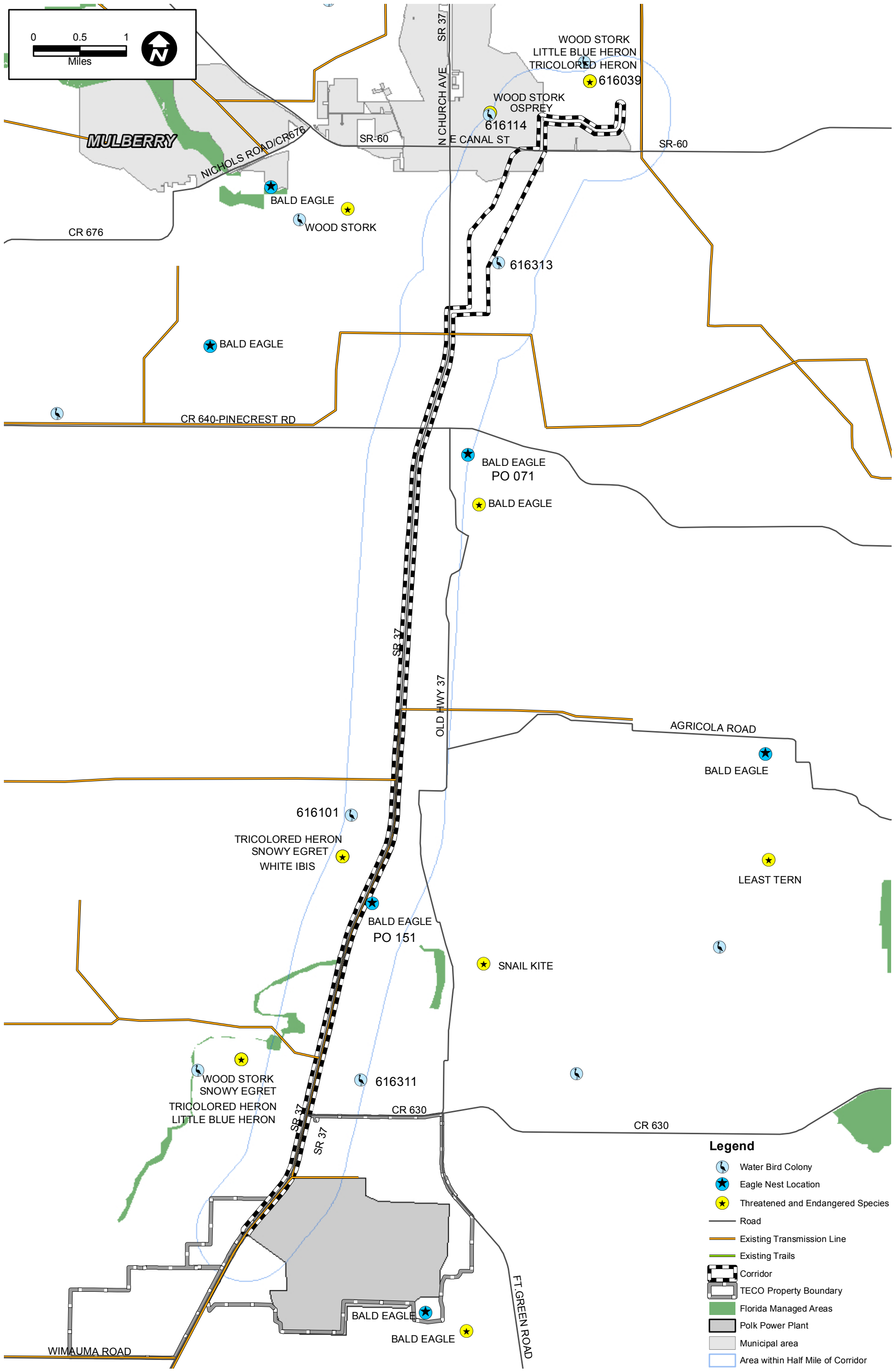


FIGURE 9.3.7-1.
THREATENED AND ENDANGERED SPECIES

Sources:FNAI, 1999, 2010; FWC, 1999; USFWS, 2010; Polk County, 2010; FGDL, 2010; ECT,2010.

Florida Department of
Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard
Secretary

November 1, 2011

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Paul L. Carpinone, Director
Environmental, Health & Safety
Tampa Electric Company
POB 111
Tampa, FL 33601-0111

RE: TECO Polk Power Station
Modification to Conditions of Certification
DEP Case Number PA 92-32M
OGC Case Number 11-0604

FINAL ORDER MODIFYING CONDITIONS OF CERTIFICATION

Dear Mr. Carpinone:

On January 27, 1994, the Florida Siting Board issued a Site Certification to Tampa Electric Company (TEC) for the construction and operation of the Polk Power Station (PPS) in Polk County. The Department of Environmental Protection (Department) has modified the Conditions of Certification (Conditions) for PPS by Final Order on twelve other occasions.

The Department has reviewed TEC's petition dated April 8, 2011 for a modification to PPS's Conditions pursuant to Section 403.516(1)(c), Florida Statutes ("F.S."), for the proposed construction and operation of Polk Power Station Reclaimed Water Pipeline at the existing PPS and within the certified corridor in Polk County, Florida. The Department has also considered the after-the-fact submittal of information regarding TEC's replacement of the existing domestic waste water treatment system with a septic system. Additionally, the Department has considered modifications pursuant to 403.516(1)(c), F.S., to incorporate updates and clarifications to the existing general conditions consistent with recent site certifications and to delete certain obsolete conditions related to mine reclamation.

On September 14 2011, all parties to the certification proceeding were provided notice by certified mail of the Department's intent to modify the Conditions for the PPS, along with a draft copy of the proposed order modifying the Conditions. On September 23, 2011, notice of the Department's intent to modify PPS's Conditions was also published in the Florida Administrative Weekly (FAW).

Pursuant to Section 403.516, F.S., and Rule 62-17.211, Florida Administrative Code (F.A.C.), all parties to the certification proceeding have **45 days** from the issuance of notice by mail to such party's last address of record in which to file a written objection to the modification. Pursuant Section 403.516, F.S., and Rule 62-17.211, Florida Administrative Code (F.A.C.), any person who is not already a party to the certification proceeding and whose substantial interests will be affected by the requested modification has **30 days** from the date of publication of the public notice in the FAW to object in writing. Failure to act within the 30 day time frame constitutes a waiver of the right to become a party. The Department will issue an order modifying the Conditions for this facility if no written objections are received by the Department.

To date, these timeframes have expired and no objections to the modification have been received by the Department. Therefore, the Conditions for PPS are hereby modified as follows:

- **The word 'permittee' has been globally replaced with 'Licensee'.**
- **The following are Modifications associated with the petition for the reclaimed water pipeline corridor which will shrink to a Right of Way (ROW)**

~~XVIII.~~(Now located within Section B) **I. DEPARTMENT OF ENVIRONMENTAL PROTECTION**

~~D~~C. Ground Water

1. Specific Conditions

a. TEC shall submit a Ground Water Monitoring Plan (Attachment C) within one hundred eighty (180) days of certification of the application. TEC shall propose monitor well locations, for Department approval, that will provide reasonable assurance that contamination to ground waters of the state that may potentially occur will be detected. These monitor well locations shall be located so that each disposal site as well as the facility will be monitored in the unconfined, upper intermediate, lower intermediate and upper Floridan aquifer system as defined by Florida Geological Survey Bulletin No. 59 and as discussed in the SCA. A ground water monitoring plan shall be prepared by TEC for submittal to the Department prior to construction of any solid waste disposal unit. The ground water monitoring plan shall include, at a minimum, the equivalent to the requirements of Chapter 62-701.510, F.A.C. Detection monitoring wells shall be screened at the base of the surficial aquifer system, specifically no deeper than the base of the Bone Valley Member as defined in FGS Bulletin No. 59. If the surficial aquifer is present within 100 feet laterally of the edge of the Solid Waste Disposal Area (SWDA), one additional well shall be located down gradient from the SWDA.

b. Construction on the monitoring system to implement the Ground Water Monitoring Plan shall be completed at least sixty (60) days prior to start of commercial operation in accordance with Rules 62-520.600 and 62-522.600, F.A.C.

c. Operation of the facility shall not commence without a written notice from the DEP's Technical Support Section that the installation of the monitor wells and water quality analyses have been approved and reviewed by the Technical Support Section.

2. Ground Water Monitoring Plan

At a minimum the Ground Water Monitoring Plan shall include or address the following, under the indicated section, and shall become effective upon written approval from the Technical Support Section of the Department's Southwest District office:

a. This Ground Water Monitoring Plan is designed for the monitoring of the following sites (as defined in ~~R~~ule 62-520~~.200(17)~~.600, F.A.C.): the Cooling Water Pond and the Brine Storage Area where the outward facing portion of the pond berms define each respective site boundary. The Zone of Discharge (as defined in Rule 62-520.~~200(23)~~.600, F.A.C.), for each site, shall be horizontally located 100 feet from the disposal site boundary, pursuant to Rule 62-522.410(2)(a), F.A.C., and vertically extend to the base of the surficial aquifer system, specifically no deeper than the base of the Bone Valley Member as defined in FGS Bulletin No. 59.

b. The Ground Water Monitoring System shall be designed and constructed by the ~~Permittee~~ Licensee in accordance with the plans and supporting documentation submitted and on file in the Southwest District office. Each monitor well shall be constructed within an individual bore hole.

c. Upon approval, TEC shall comply with the Ground Water Monitoring Plan.

3. Location Map

Within ninety (90) days of completion of construction of the ground water monitor wells, a surveyed drawing shall be submitted showing the location of all monitoring wells (active and abandoned) which will be horizontally located by metes and bounds or equivalent surveying techniques. The surveyed drawing shall include the monitor well identification number as well as location and elevation of all permanent benchmark(s) and/or corner monument marker(s) at the site. The survey shall be conducted by a Florida registered surveyor. Two (2) copies of the certified drawing shall be sent to the DEP's Technical Support Section, Southwest District office.

4. Well Information

Within ninety (90) days of completion of construction of each monitor well, the ~~Permittee~~ Licensee or the authorized representative shall submit the following information for each monitor well:

a. A complete DEP Monitor Well Completion Report.

b. ~~A copy of the SWFWMD Application to Construct a Well, SWFWMD Form SF 306(3) Rev. 9/92~~ A copy of the Florida Water Management District (WMD), State of Florida Permit Application to Construct, Repair, Modify or Abandon a Well, Form LEG-R.040.00, and;

c. ~~A copy of the SWFWMD Well Completion Report, SWFWMD Form 25-18-3/90~~ A copy of the WMD Well Completion Report, Form LEG-R.005.01.

[62-520.600(6)(j)]

d. The information shall be sent to the Technical Support Section, Southwest District office, Department of Environmental Protection, ~~3804 Coconut Palm Drive, Tampa, Florida 33619-8318~~ 13051 North Telecom Parkway, Temple Terrace, FL 33637.

5. Monitoring

a. Within sixty (60) days of completion of construction of the Ground Water Monitoring System and every five (5) years thereafter, the ~~Permittee~~ Licensee shall sample all new ground water monitor wells for the Primary and Secondary Drinking Water parameters included in Chapter 62-550, F.A.C., Public Drinking Water Systems, (excluding asbestos, acrylamide, Dioxin, butachlor, epichlorohydrin, pesticides, and PCBs, unless reasonably expected to be a constituent of the discharge or an artifact of the site) and Fecal Coliform ~~and EPA Methods 601 and 602~~. ~~The results shall be sent to the DEP's Technical Support Section. First test results shall determine background~~ In addition, volatile organics and extractable semivolatile organics shall be analyzed.

b. Within six (6) months of startup for any new facilities certified through supplemental proceedings and at least every five (5) years thereafter the ~~Permittee~~ Licensee shall provide a waste stream characterization for the cooling water pond. The waste streams shall be analyzed for the Primary and Secondary Drinking Water ~~Standards (~~ parameters included in Rule ~~Chapter~~ 62-550, F.A.C~~)~~ Public Drinking Water Systems (excluding asbestos, acrylamide, Dioxin, butachlor, epichlorohydrin, pesticides, and PCBs, unless reasonably expected to be a constituent of the discharge or an artifact of the site), Fecal Coliform ~~and the EPA Priority Pollutants~~ In addition, volatile organics and extractable semivolatile organics shall be analyzed.. The results shall be sent to the Technical Support Section, Southwest District office, DEP.

c. – e. No Change

f. Ground water sampling shall be reported on the Monitoring Report Forms [DEP Forms #62-520.900(2) or ~~Form~~ 62-522.900(2) at a minimum, or the electronic data deliverable requirements of Chapter 62-160, F.A.C., or Rule 62-701.510(9)(a), F.A.C.]. In order to facilitate entry of this data into the state computer system, these forms or an exact replica must be used and must not be altered as to content. The original copies should be retained so that the necessary information is available to properly complete future reports. The report forms received from the laboratory must be submitted along with the DEP Parameter Monitoring Report Forms described above.

g. – i. No Change

6. Plugging and Abandonment

a. Within sixty (60) days of issuance of this certification, all piezometers and wells not a part of the approved ground water monitoring plan or monitoring wells ~~required by SWFWMD are to~~ shall be properly plugged and abandoned in accordance with Rule 62-532.500(4) and 62-532.500(5), F.A.C., ~~and the rules of the SWFWMD~~.

b. The ~~Permittee~~ Licensee shall submit a written report to the Department providing verification of the plugging program. A written request for exemption to the plugging of a well must be submitted to the DEP's Technical Support Section for prior approval.

7. - 8. No Change

[Rule 62-520.420(2), F.A.C.]

~~XXVI~~ (Now located within Section B) **VI.SOUTHWEST FLORIDA WATER MANAGEMENT**

DISTRICT(S)

A. Water Use Permitting Conditions

1.-26 Remain as is.

27. Prior to initiation of withdrawals from the proposed production wells in amounts in excess of 3.14 MGD Annual Average Daily and 5.8 MGD Peak Month Daily ground water quantities for the first phase, and 4.3 MGD Annual Average Daily and 7.6 MGD Peak Month Daily quantities for build-out, TEC must submit a detailed plan of study, including a detailed cost analysis for the treatment and reuse of the 2.1 MGD of cooling reservoir blowdown water (wastewater) that is proposed to be discharged to prevent the water quality in the cooling reservoir from exceeding Class III Florida water quality standards. This plan must address, but is not limited to: the initial investment capital costs for construction of the treatment facilities, operational costs of the treatment facility on an annual basis, costs associated with construction of the brine storage area, and the average cost to store and/or dispose of the brines on- or off-site. The study must also include a comparison of the above mentioned costs with the total budgeted project cost. TEC will also address the feasibility of reuse of treated wastewater of technologically suitable quality available from other sources, such as publicly owned sewage treatment facilities, and the feasibility of use of other available sources of non-potable water of technologically suitable quality. The study shall be submitted to the Permitting Department Director, Resource Regulation. Based on the information submitted, ~~the~~ SWFWMD ~~Governing Board~~ shall determine whether or not treatment of the wastewater is feasible. If ~~the~~ SWFWMD ~~Governing Board~~, subject to approval pursuant to the site certification modification process, determines that treatment of this wastewater is economically feasible, then the first phase Annual Average Daily and Peak Month Daily ground water quantities shall be maintained at 3.14 MGD and 5.8 MGD, respectively, and the build-out Annual Average Daily and Peak Month Daily quantities shall be maintained at 4.3 MGD and 7.6 MGD, respectively. When treated wastewater is available to TEC for reuse and TEC can utilize the water, TEC shall prioritize the use of the treated wastewater above that of current groundwater withdrawals. If ~~the~~ SWFWMD ~~Governing Board~~ determines that treatment of this wastewater is economically infeasible, the quantities shall not change for the first phase.

If ~~the~~ SWFWMD ~~Governing Board~~ determines that treatment of the wastewater is infeasible for the first phase of the project, TEC shall submit a revised plan of study prior to any subsequent increases in power generation capacity and the corresponding increase in ground water requirements. If during the review of any of the subsequent plans of study ~~the~~ SWFWMD ~~Governing Board~~ determines that treatment of the wastewater is economically feasible, ~~the Annual Average Daily and Peak Month Daily quantity shall be reduced by~~ 2.1 MGD and 1.6 MGD, respectively, of the Annual Average Daily and Peak Month Daily quantities shall be designated as standby capacity from the quantities indicated in SWFWMD Water Use Condition ~~XX~~VI.A.14. subject to approval pursuant to the site certification modification process.

~~XXVIII~~ (Now located within Section B) **IV. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

~~**A.** The post reclamation land use plan proposed by TEC includes areas which, by nature of elevation, soils and hydroperiod, may be suitable for the development of xeric upland habitat systems. Following reclamation, areas so identified will be managed to promote their succession into productive xeric systems. The use of any available top soil mulch stripped from the disturbed power block area which would advance this succession is encouraged.~~

~~**B.** During the final phases of the reclamation of portions of the Polk Power Station site intended to function as habitat, TEC will develop, with Florida Fish and Wildlife Conservation Commission input, a wildlife habitat and management plan. Where appropriate, TEC will incorporate best management practices from the Florida Fish and Wildlife Conservation Commission publication *Habitat Reclamation Guidelines: A Series of Recommendations for Fish and Wildlife Habitat Enhancement on Phosphate Mined Lands and Other Disturbed Areas*, April, 1985.~~

~~**C.** Reclamation success and wildlife utilization of the site should be monitored on a routine basis as proposed in the site certification application. In addition, the Florida Fish and Wildlife Conservation Commission will encourage TEC to provide reasonable access to local Audubon chapters and other conservation groups who may desire to conduct annual bird counts, nesting surveys or other studies of fish and wildlife habitat values.~~

~~**D.** Prior to construction of the proposed facility or installation of any associated linear facility, wildlife surveys shall be conducted for the presence of listed species (endangered, threatened, or species of special concern). The results of these surveys shall be presented to the Florida Fish and Wildlife Conservation Commission and the United States Fish and Wildlife Service. TEC shall consult with the Florida Fish and Wildlife Conservation Commission and the United States Fish and Wildlife Service to determine the appropriate steps to be taken to avoid, minimize, mitigate or otherwise appropriately address impacts within each agency's respective jurisdiction.~~

A. General Listed Species Survey

1. The Licensee shall coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) to obtain and follow the current survey protocols for all listed species that may occur within associated facilities and/or expansions of plant site and accessible appropriate buffers as defined by the listed species' survey protocols, prior to conducting detailed surveys.

2. Surveys shall be conducted prior to clearing and construction in accordance with the survey protocols. The results of those detailed surveys shall be provided to FWC in a report, and coordination shall occur with the FWC on appropriate impact mitigation methodologies.

[Article IV, Sec. 9, Fla. Constitution; Section 379.2291, F.S., Sections 403.507 and 403.5113(2), F.S., and Chapter 68A-27, Florida Administrative Code (F.A.C.).]

B. Specific Listed Species Surveys

Before land clearing and construction activities within associated facilities and/or plant site expansions occur, the Licensee shall conduct an assessment for listed species which shall note all habitat, occurrence or evidence of listed species. Listed species to be included in this survey shall include the bald eagle and those species listed as endangered, threatened, or of special concern by the FWC or those listed as endangered or threatened by U.S. Fish and Wildlife Service (USFWS). Wildlife surveys shall be conducted in the reproductive or "active" season for each species that falls before the projected clearing activity schedule unless otherwise approved by the FWC or USFWS. For species that are difficult to detect, the Licensee may make the assumption that the species is present and plan appropriate avoidance/mitigation measures after consultation and approval from the FWC.

1. This survey shall be conducted in accordance with USFWS/FWC guidelines and methodologies by a person or firm that is knowledgeable and experienced in conducting flora and fauna surveys for each potentially occurring listed species.

2. This survey shall identify any wading bird colonies within the project that may be affected.

3. This survey shall identify locations of breeding sites, nests, and burrows for listed wildlife species. Nests and burrows may be recorded with GPS coordinates, identified on an aerial photograph, and submitted with the final listed species report. Although nests and burrows may be recorded individually with GPS, the FWC prefers that any applicable protection radii surrounding groups of nest sites and burrows be included, rather than around individual nests and burrows, and be physically marked so that clearing and construction shall avoid impacting them.

4. This survey shall include an estimate of the acreage and percent cover of each existing vegetation community (Florida Land Use, Cover and Forms Classification System, or FLUCFCS, at the third degree of detail) including a wildlife-based habitat classification scheme such as the Comprehensive Wildlife Conservation Strategy (FWC 2005), Descriptions of Vegetation and Land Cover Types (FWC 2004), or Natural Communities Guide (FNAI 1990) of each community that is contained within ~~the transmission line right-of-way~~ associated facilities and/or plant site expansions prior to land clearing and construction activities using GIS.

[Article IV, Sec. 9, Fla. Constitution; Sections 379.2291, F.S.; and Chapters 68A-27, 68A-4, 68A-16, F.A.C.]

C. Listed Species Locations

Where any suitable habitat or evidence is found of the presence of listed species within the associated facilities and/or plant site expansions, the Licensee shall report those locations to, and confer with, the appropriate regulatory agencies for possible additional pre-clearing surveys and to identify potential mitigation, or avoidance recommendations. If pre-clearing surveys are required, they shall be timed to be reasonably compatible with the construction schedule, considering the anticipated date for the start of construction within an associated facilities and/or plant site expansion. The Licensee shall not construct in areas where evidence of listed species was identified during the initial survey until the particular listed species issues have been resolved as follows:

1. Listed Wildlife Species:

If listed wildlife species are found, their presence shall be reported to the DEP Siting Coordination Office, the appropriate DEP District Office(s), the FWC Office of Planning and Policy Coordination, the appropriate WMD, the appropriate local government(s), the USFWS, and the National Park Service as appropriate.

2. Species Management Plan:

If avoidance of state-listed wildlife species is not feasible, the Licensee shall consult with the FWC to determine the steps appropriate for the species involved to avoid, minimize, mitigate, or otherwise appropriately address potential impacts. For wildlife species, these steps shall be memorialized in a Wildlife Management Plan and submitted to the FWC.

[Article IV, Sec. 9, Fla. Constitution; Sections 379.2291and 403.5113(2), F.S.; and Chapter 68A-27, F.A.C.]

- **The following are modifications associated with after-the-fact approval of the replacement of the existing domestic waste water treatment system with a septic system;**

~~**XV. DOMESTIC WASTEWATER**~~

~~**A.** No portion of the domestic wastewater collection system, treatment plant or effluent transmission line (excluding cooling reservoir) may be constructed without prior written approval from the Department. Construction of any portion of the domestic wastewater facility without the prior written approval of the Department will be considered a violation of the conditions of certification.~~

~~**B.** In order to obtain approval to construct a domestic wastewater treatment facility (DWT), the following forms, reports, plans and data, properly executed and appropriately signed and sealed by an engineer registered in the state of Florida, must be submitted to the Department at least one hundred twenty (120) days prior to proposed date for commencement of construction of that system:~~

~~1. DEP Form 62-604.300(7)(a), Application to Construct a Domestic Wastewater Collection System, with supporting documents.~~

~~2. DEP Form 62-620.910(1) and (2), Wastewater Permit Application Form 1, General Information, and Application Form 2A, Permit for Domestic Wastewater Treatment and Reuse or Disposal Facility, with documentation.~~

~~3. DEP Form 62-640.210(2)(a), Agricultural Use Plan, with documentation.~~

~~4. 8-1/2" x 11" copies of: (i) DWT location, (ii) sludge disposal site, indicating all public or private drinking water wells within 0.5 miles, (iii) roadmap, or drawing of roads leading to the DWT, (iv) flow process diagram, showing all piping, and planar and volumetric data.~~

~~**C.** All plans and proposals must comply with the requirements of the departmental rules and regulations in effect as of the date of proposed commencement of construction. All requirements of Chapters 62-4, 62-600, and 62-640, F.A.C., and other pertinent Florida Administrative Code rules must be met, including construction certifications.~~

~~**D.** Department approval for construction of this domestic wastewater facility will be in effect for two (2) years from the date of issuance; request for extension of time must be submitted in writing on forms and in a manner prescribed by the Department of Environmental Protection at least sixty (60) days prior to date of expiration of the construction approval.~~

~~**E.** Domestic wastewater post-certification approvals will be issued under the provisions of Chapter 403, F.S., and Chapters 62-4, 62-302, 62-600, 62-604 and 62-620, F.A.C. TEC will be approved to perform the work or operate the facility shown on the approved drawing(s), plans, and other documents, attached thereto or on file with the Department.~~

~~**F.** In accordance with Chapter 62-699, F.A.C., the required certified operator on site time is:~~

~~A Class D or higher operator for three (3) nonconsecutive visits per week for 1-1/2 hours per week. The Department reserves the right to modify staffing requirements.~~

~~**G.** The discharge from the chlorine contact chamber shall be sampled in accordance with Chapter 62-60l, F.A.C., and shall meet the following limitations:~~

TYPE PARAMETER	**UNIT**	**MINIMUM**	**MAXIMUM**	**SAMPLE**	**FREQUENCY**
Permitted Capacity (flow)	mgd	0	0.0105		Daily,5/wk
PH	STD UN	6.00	8.50	grab	Daily,5/wk
$CBOD_5$*& Total Suspended Solids*	mg/L	0	20 annual avg. 60 any one sample	grab	Monthly
Nitrate (as N)	mg/L	0	l2	grab	Monthly
Cl_2 residual	mg/L	0.5	-	grab	Daily,5/wk
Fecal coliform	#/l00	0	200 annual avg. 200 monthly avg.	grab	Monthly

- Influent shall be monitored and each sampling shall be reported on a monthly basis [Rule 62-601.300(1), F.A.C.]

The results shall be reported monthly on DEP Form 62-60l.900(1).

H. If sludge is disposed of by land application, the sludge shall be sampled after final treatment in accordance with Rule 62-640.650(1)(b) F.A.C., but prior to land application for the parameters listed below every twelve months. A copy of the analyses shall be submitted with the monthly operation report for the following parameters:

Total Nitrogen	% dry weight
Total Phosphorus	% dry weight
Total Potassium	% dry weight
Cadmium	mg/kg dry weight
Copper	mg/kg dry weight
Lead	mg/kg dry weight
Nickel	mg/kg dry weight
Zinc	mg/kg dry weight
pH	standard units
Total Solids	%

I. Direct discharge of effluent to waters of the state is not allowed. Such discharge shall be considered a violation of this certification and TEC shall immediately report any such discharge to the Southwest District office.

J. Upon completion of construction and prior to placing the treatment plant or effluent discharge system into operation for any purpose other than testing for leaks and equipment operation, TEC shall submit a Notification of Completion of Construction [DEP Form 62-620.910(12)], signed and sealed by a registered engineer, to the DEP Southwest District office.

K. TEC shall provide an approved flow measurement device on the sewage treatment plant to monitor the influent (ahead of any return flows) and/or effluent flow, as appropriate. The flow measurement device shall be calibrated at least annually, with evidence of calibration kept at the site of flow measurement, and submitted to the Department upon request.

L. TEC shall provide a weatherproof location for an on-site log book to monitor each day's activities of the certified operator. This log book shall record sign in/out times of the

~~certified operator, list any maintenance performed and contain the signature and certification number of the operator.~~

~~**M.** TEC shall maintain all audible and visual alarm systems on the lift station(s) in operating condition at all times.~~

~~**N.** A reduced pressure zone backflow preventer shall be installed on any potable water supply pipeline connected to the treatment facility. No potable water outlet intended for human contact shall be located down-line of the backflow preventer.~~

~~**O.** The disinfection system shall be operated to maintain a minimum chlorine residual of 0.5 mg/L at the outfall from the chlorine contact chamber. A metering device for dosing chlorine to the effluent shall be utilized, and the chlorine supply tank shall be inspected regularly to ensure proper operation.~~

~~**P.** Daily checks of the plant shall be performed by TEC or supplier, or his representative or agent five (5) days per week for a D plant pursuant to Rule 62-699.311(1), F.A.C.~~

~~**XXX.**~~ (Now located within Section B) **VII. POLK COUNTY**

A. CUP 92-05 Conditions

1.-14. Remain as is.

15. Septic Tank Use

TEC shall comply with the applicable provisions of Rule 64E-6 for septic tank systems.

[Chapter 64E-6, F.A.C.]

- **Modifications associated with the deletion of obsolete Mine Reclamation Requirements;**

~~**XXIV**~~ (Now located within Section B) **I.D. ~~WETLAND~~ MINE RECLAMATION REQUIREMENTS**

~~***A. Permit Transfer***~~

~~Prior to any construction on the certified site, the process to transfer DEP Permit No. 531620259 from Agrico Chemical Company to TEC shall be initiated and a permit modification for the same permit to change the reclamation plan shall be submitted to the Bureau of Wetland Resource Management for review. The mining authorized in the above referenced permit shall be allowed to proceed as described in the permit pursuant to the conditions in the permit.~~

~~***B. Planting Plans***~~

~~Prior to construction, TEC shall submit final planting plans for all areas to be reclaimed as wetlands. The plans shall include plan views and cross-sections showing the species to be planted at the various elevations. The plans shall specify the size of the plants to be planted and the source of the plants.~~

C. Management Plan

Prior to construction, a detailed management plan for the reclaimed wetlands shall be submitted to DEP for review. The approved plan shall be made part of this certification. Upon approval, the plan shall be fully implemented. The management plan shall include, but not be limited to, frequent assessment and regular removal, if present, of any nuisance and exotic species and supplemental plantings of wetland species (including groundcover, shrubs and trees) to simulate a natural floristic composition in the shrub and groundcover strata in the forested wetlands. Specific details for all aspects of the plans shall be included, such as specific time intervals for nuisance species assessments and planting densities. The management and maintenance actions shall be fully described in the required annual monitoring reports.

D. Biological Consultant

In order to ensure that the wetland reclamation is correctly implemented, a qualified biological consultant shall oversee the earthmoving, mucking, grading, planting, and monitoring required for the reclamation plan. Prior to the commencement of any reclamation activities, TEC shall submit to DEP for review and approval the name of the biological consultant and supporting documentation that the biological consultant is qualified to oversee the work. The biological consultant must have documented experience in successful reclamation. Any proposed change in the biological consultant during the life of the facility shall be submitted to DEP for review and approval.

E. Hardwood Forest Reclamation

TEC shall plant the 31 acres to be reclaimed as hardwood forest with a mixture of woody species at a density of 800 trees/acre. The species shall be a mixture, including but not limited to, the following species: *Acer rubrum* (red maple), *Gordonia lasianthus* (loblolly bay), *Fraxinus caroliniana* (pop ash), *Nyssa sylvatica* var. *biflora* (black gum), *Magnolia virginiana* (sweet bay), *Liquidambar styraciflua* (sweetgum), *Ilex cassine* (dahoon holly), *Persea palustris* (swamp bay), and *Ulmus americana* (elm). In addition to the woody species, these areas shall be planted on 3-foot centers with a mixture, including but not limited to, the following herbaceous species: *Panicum hemitomon* (maidencane), *Pontederia cordata* (pickerelweed), *Sagittaria* sp. (arrowhead), *Saururus cernuus* (lizard's tail), *Woodwardia* sp. (chain fern), and *Juncus* sp. (bog rush). The woody species and the herbaceous species shall be planted at elevations within the reclaimed wetland that will provide hydroperiods appropriate for the species.

F. Mixed Forest Reclamation

TEC shall plant the 38 acres to be reclaimed as mixed forest with *Taxodium distichum* (bald cypress) in addition to the woody and herbaceous species listed for the hardwood forest areas at densities specified for the hardwood forest areas. The woody species and the herbaceous species shall be planted at elevations within the reclaimed wetland that will provide hydroperiods appropriate for the species.

G. Herbaceous Wetland Reclamation

TEC shall plant the 252 acres to be reclaimed as herbaceous wetlands with a mixture, including but not limited to the following herbaceous species: *Panicum hemitomon* (maidencane), *Pontederia cordata* (pickerelweed), *Sagittaria* sp. (arrowhead), *Spartina bakeri* (cordgrass), *Thalia geniculata* (arrowroot), and *Juncus* sp. (bog rush). These herbaceous species

shall be planted at elevations within the reclaimed wetland that will provide hydroperiods appropriate for the species.

H. Surveying and Mapping

Within thirty (30) days of achieving final grade, cross sections of the wetland reclamation areas shall be resubmitted to DEP. The cross sections shall meet the following criteria:

1. They shall clearly depict the wetland topography in such a way as to unambiguously show how the site will retain, detain, shed, or otherwise influence the flow and detention of water at the site;
2. They shall be certified by a registered land surveyor;
3. They shall show any hydrologic connections between the reclaimed and adjacent, existing wetlands; and,
4. They shall show the variations of topographic relief within the graded areas.

I. Organic Soil Placement

To provide for a more hospitable root zone environment and to foster better water quality in the short term, DEP encourages TEC to place organic soils or muck to a minimum depth of four inches on as much of the reclaimed wetlands on the site as possible and requires that organic soils or muck be placed on the seven acres of wetlands to be reclaimed pursuant to DEP Permit No. 531620259. An alternative that would be acceptable to the Department would be to cap the wetland area with mucky sand rather than overburden. Mucky sand, for purposes of the condition, is defined as a fine sand with six (6) percent or greater organic content, if tested by the Walkley-Black method.

J. Plant Stock Requirements

The plants used to plant the mitigation areas shall be container-grown, nursery stock. "Container-grown stock" means plants grown in containers from cuttings or seeds. The plants shall originate from within a 50 mile radius of the site or within the same SCS sub-hardiness zone as the mitigation site.

K. Reclamation Success Goals

1. Freshwater herbaceous wetland

Freshwater herbaceous wetland reclamation shall be considered successful when the following conditions are met:

a. Percent cover by non-nuisance, non-exotic wetland species shall be 80 percent or more. Percent covers for the aggregate of those wetland species, and of non-wetland species, bare ground and water shall be reported relative to the total area. A list of the wetland species included in the aggregate shall be included. Wetland species shall be those listed in Rule 62-301.400, F.A.C.;

b. Nuisance species, such as *Mikania scandens* (climbing hempvine), *Typha* sp. (cattail) and *Ludwigia peruviana* (primrose-willow), and exotic species are limited to ten (10) percent or less of the total cover with no one species being more than five (5) percent of the total cover. If these species exceed ten (10) percent of the total cover, their density must be declining over several years, which would be considered a positive indication that they are under control;

~~c. The reclaimed wetlands are constructed in accordance with the conditions of certification.~~

~~These criteria must all be met at least one year after connection to waters of the state for sites that are severed from waters of the state during some or all of the establishment phase.~~

~~2. Forested wetland reclamation shall be considered successful when the following conditions are met:~~

~~a. An average of at least 400 wetland trees per acre shall be growing above the herbaceous stratum;~~

~~b. The wetland species tree cover shall exceed thirty (33) percent of the total area and in no area of an acre in size shall the tree cover be less than twenty (20) percent total cover. Cover measurement shall be restricted to (1) those trees exceeding the herbaceous stratum in height and (2) those indigenous species that contribute to the overstory of the mature forest of the South Prong of the Alafia River and the Peace River and its tributaries and that are wetland vegetation listed in Rule 62-301.400, F.A.C.~~

~~c. At least eight (80) percent of obligate groundcover (herbaceous) and obligate shrub (non-canopy woody species) vegetation shall be among those species listed in Rule 62-301.400, F.A.C., and shall be reproducing naturally, either normal, healthy, vegetative spread (in ways that would be normal for each wetland species) or through seedling establishment, growth and survival. Nuisance species such as *Mikania scandens* (climbing hempvine), *Typha* sp. (cattail) and *Ludwigia peruviana* (primrose willow), and all exotic species shall be limited to 10 percent or less of the total cover with no one species being more than five percent of the total cover. If these species exceed ten (10) percent of the total cover, their density must be declining over several years, which would be considered a positive indication that they are under control;~~

~~d. The reclaimed wetlands are constructed in accordance with the conditions of certification.~~

~~These criteria must all be met at least one year after connection to waters of the state for sites that are severed from waters of the state during some or all of the establishment phase.~~

~~***L. Reporting***~~

~~TEC shall furnish to DEP annual statistical reports of vegetational sampling of the reclaimed wetlands done by any mutually agreed-upon method. Acceptable methods may be found in Daubenmire (1968), Green (1979), Grieg-Smith (1983), Mueller-Dombois and Ellenberg (1974), Oosting (1956), Poole (1974), and Southwood (1978). It is the responsibility of TEC to ensure that the monitoring report provides a qualitative and quantitative depiction of the site that is representative of the conditions at the entire site.~~

~~This report shall include on the cover page, just below the title, the certification of the following statement by the individual who supervised preparation of the report: "This report represents a true, accurate, and representative description of the site conditions present at the time of monitoring." This report shall also contain the following:~~

~~1. A monitoring plan describing sampling methods and report format, and map of sampling locations and photographic stations shall be submitted to the Department for review and approval within sixty (60) days after certification issuance and prior to the first monitoring event.~~

~~2. Annual statistical reports describing as appropriate for each reclamation area: (1) the density and percent cover of listed trees, and (2) percent cover of listed and non-listed herbaceous species, bare ground and water. For forested wetlands, reports on canopy cover shall be submitted for not less than the third, fifth, and any subsequent years after planting until a determination of a successful reclamation has been made. Data for listed nuisance or exotic species shall be tabulated separately from the remaining data. A listed species is one listed in Rule 62-301.400, F.A.C. Reports shall also include an assessment of the jurisdictional status of each reclamation area. Data shall be taken during the summer growing season. Reports shall be submitted annually within sixty (60) days of data acquisition until a determination of a successful wetland reclamation has been made. The first annual statistical report data gathering shall occur not later than one (1) year after planting.~~

~~M. Review of Reclamation/Mitigation~~

~~Following implementation of the reclamation plan, monitoring shall be performed, following the methods established in the monitoring section, until a determination of a successful reclamation is obtained. At the end of the first three (3) years of monitoring, TEC may request in writing that the monitoring program be reviewed by the DEP to determine whether or not the frequency or parameters of the monitoring program should be changed.~~

~~If it is determined by DEP staff, based on visual inspection and review of the monitoring reports that the reclamation is not trending toward success, TEC shall present within thirty (30) days of DEP's notification a plan of corrective actions containing methods and proposals to be reviewed and approved by the DEP to ensure success of the reclamation effort. The plan of corrective actions shall be implemented within ninety (90) days of written approval by DEP.~~

~~N. Dragline Walk Path~~ 1. Dragline Walk Path

TEC shall retain an easement along the west side of State Road 37 sufficiently wide for use as a drag-line walk path. TEC shall be responsible for notifying the Siting Coordination Office, and the Department's Bureau of Mine Reclamation of a proposed usage of the drag-line walk path on the west side of SR 37 at least fifteen (15) days prior to the event. With the notification, TEC shall provide the Bureau of Mine Reclamation and the Southwest District Office with certified drawings showing the proposed modifications to jurisdictional wetland areas. Within twenty-four (24) hours of the dragline crossing, any wetlands that were impacted by the crossing, shall be restored to original grade and stabilized by either planting or sodding. Use of the drag-line walk path for a future transmission line corridor will require TEC to submit an amendment to the original application and to submit a petition for modification of the applicable conditions of certification.

~~O. Responsibility for Reclamation Success~~

~~TEC shall retain full responsibility for the reclamation of those lands within the original site lying west of State Road 37 until reclamation areas achieve the success criteria listed in the above Conditions of Certification and TEC receives a written notification from the DEP releasing them from said responsibility. The transfer of title for the land to Polk County and its designated land manager shall not release TEC of its responsibility to reclaim the site successfully.~~

~~XXV. MINE RECLAMATION CONDITIONS~~

~~*A. Conceptual Plans*~~

~~The conceptual plan modification TEC-PPS-CP and variance TEC-PPS-V1 applications are to be incorporated into the DEP's siting certification process as part of the TEC's Polk Power Station Site Certification Application. Final agency action on these applications by the Governor and Cabinet, sitting as the Siting Board, shall take place simultaneously with the Site Certification Application under the provisions of the Florida Electric Power Plant Siting Act (FEPPSA), pursuant to Sections 403.501-403.517, F.S. Approval of the conceptual plan modification application, AGR-FG-CPG, and variance application, AGR-FG-TEC-V1, as part of the site certification of the PPS does not warrant the suitability of subject lands for any current or proposed land use and does not constitute a statement, admission, or waiver by the state of Florida concerning ownership of any interest in the subject lands within the PPS site or the conceptual plan area. Approval of the conceptual plan modification and variance applications does not relieve IMC Phosphate Company, Cytec Industries Incorporated and/or the current land owner or mine operator from the obligation to comply with the requirements, standards, and criteria set forth in Chapter 62C-16, F.A.C.~~

~~*B. Changes In Ownership*~~

~~All changes in land ownership, within the lands specifically identified in the TEC's Site Certification Application as the PPS site, shall be reported to the DEP's Siting Coordination Office and the Bureau of Mine Reclamation no later than thirty (30) days after the effective date of such changes, pursuant to Subsection 62C-16.006(6), F.A.C. This notification shall be in the form of a legal contract of sale or transfer agreement between TEC and the entity(ies) claiming a fee interest in the affected lands. The contract/agreement shall appropriately identify the rights, duties, and responsibilities that shall be assumed and delegated by the transferee and each applicable operator, and shall be signed by the transferee and the applicable operators.~~

~~*C. Reclamation/Restoration*~~

~~The TEC shall reclaim and restore all lands within the 4,348-acre PPS site as depicted and described in the TEC's Site Certification Application and in TEC's conceptual plan modification application, TEC-PPS-CPA, in accordance with the required time schedules in Condition XXV.D and in a manner which will yield the following total (including non-mandatory acreages) post-reclamation land use acreages: 3 acres of transportation routes; 321 acres of industrial use as power plant associated facilities; 730 acres of improved pasture; 18 acres of citrus; 544 acres of shrub and brushland; 6 acres of mixed rangeland; 55 acres of upland hardwood forest; 774 acres of upland mixed forest; 264 acres of lakes; 834 acres of cooling reservoir; 61 acres of wetland hardwood forest; 310 acres of wetland mixed forests; and 428 acres of herbaceous wetlands. Of the total site acreage, 523 acres are non-mandatory acres and will exist as 201 acres of improved pasture, 4 acres of shrub and brushland, 6 acres of mixed rangeland, 29 acres of upland hardwood forest, 34 acres of upland mixed forest, 165 acres of lakes, 40 acres of wetland hardwood forest, 11 acres of wetland mixed forest, and 33 acres of herbaceous wetlands.~~

~~***D. Time Tables***~~ 2. Land Donation

~~The TEC shall carry out and complete all reclamation and restoration activities in Tract A, all lands east of State Road 37, and Tract B, all lands west of State Road 37, within the Polk Power Station site in accordance with the following time tables:~~

~~TRACT~~	~~CONTOURING~~		~~REVEGETATION~~		~~ESTABLISHMENT~~	
	~~BEGINS~~	~~ENDS~~	~~BEGINS~~	~~ENDS~~	~~BEGINS~~	~~ENDS~~
~~A~~	~~06/94~~	~~11/95~~	~~12/95~~	~~05/96~~	~~06/96~~	~~05/97~~
~~B*~~	~~10/94~~	~~03/96~~	~~04/96~~	~~09/96~~	~~10/96~~	~~09/97~~

* In lieu of reclamation and restoration, TEC shall donate 1,511 acres of land in Tract B of the Polk Power Station site in Polk County to Polk County, ~~donate 589 acres of submerged lands adjacent to the Cockroach Bay Aquatic preserve to the Tampa Bay Port Authority~~, and abide by the Conservation Easement for uplands adjacent to Cockroach Bay in Hillsborough County as granted to the State of Florida Board of Trustees. ~~in consideration for the variance to phosphate mine reclamation requirements and to provide significant regional benefit to wildlife and the environment as required for variances in accordance with Section 378.212(1) Florida Statutes~~. Such donation and transfer of ownership shall be as attached as ~~Exhibit 1~~ Attachment D hereto and as described in the Easement recorded in Hillsborough County Public Records Official Record Book 12822, Pages 1397 thru 1423; and the Conservation Easement as recorded in Hillsborough County Public Records Official Record Book 12822, Pages 1424 through 1452.

~~***E. Standards***~~

~~The TEC shall carry out and complete all reclamation and restoration activities within the Polk Power Station site in accordance with the required time schedules as previously stated in Condition XXV.D. and in accordance with the requirements, criteria, and standards as set forth in Section 16.0051, F.A.C., with the following exceptions:~~

~~Variances for the following rules adopted pursuant to Chapter 378, F.S. shall be granted in accordance with the provision of Subsection 378.212(1)(a), F.S.:~~

~~1. No minimum annual zone of fluctuation shall be required for the 834-acre cooling reservoir, rather than the twenty-five (25) percent required by Subsection 62C-16.0051(5)(a), F.A.C.;~~

~~2. Approximately eight (8) percent (60 acres) of the low water surface of the cooling reservoir will consist of a zone between the annual low water line and six feet below the annual low water line to provide fish bedding areas and submerged vegetation zones, rather than the 20 percent required by Subsection 62C-16.0051(5)(b), F.A.C.; and,~~

~~Variances for the following rules adopted pursuant to Chapter 378, F.S. shall be granted in accordance with the provision of Subsection 378.212(1)(f), F.S.:~~

~~3. The herbaceous and mixed forest wetlands shall be reclaimed in reduced amounts, rather than the acre-for-acre and type-for-type restoration required by Subsection 62C-16.0051(4), F.A.C.~~

~~4. No minimum zone of annual fluctuation shall be required for lakes west of SR 37, rather than the 25% required by Subsection 62C-16.0051(5)(a), F.A.C.~~

~~5. Some islands within the reclaimed lakes west of SR 37 may have steeper slopes than the 4:1 slopes required by Subsection 62C-16.0051(2)(a), F.A.C.~~

~~***F. Right of Entry***~~

~~All authorized representatives of the Department, on presentation of appropriate credentials to the applicable land owner and/or mine operator, or its authorized representatives, shall have the right of entry to, on, or through all lands subject to Chapter 62C-16, F.A.C. Inspections shall be conducted in accordance with the requirements mandated in Subsections 62C-16.0067(1)-(9), F.A.C.~~

~~***G. Release Procedures***~~

~~Upon fulfillment of the requirements, standards, and criteria, as dictated above in Conditions XXV. B. and C., within Tracts A and B of the TEC's PPS site, the authorized agent of the TEC or the applicable land owner shall submit a release request to the Department that identifies the post-reclamation land use acreages to be released. The release request shall include a statement certifying that the requirements, standards, and criteria, as required in the Conditions XXV.B.,C.,D.,E., and F. above, have been met. This request shall be submitted to:~~

~~The Department of Environmental Protection~~
~~The Bureau of Mine Reclamation~~
~~2051 Paul Dirac Drive,~~
~~Tallahassee, Florida 32310.~~

~~Release procedures shall be followed in accordance with the requirements set forth in Subsections 62C-16.0068(2) - (6), F.A.C.~~

~~***K.***~~ 3. Cockroach Bay

~~After transferring~~ TEC has transferred ownership of the approximately 589 acres of submerged lands in Hillsborough County adjacent to the Cockroach Bay Aquatic Preserve to the Tampa Bay Port Authority, and the Conservation Easement uplands and wetlands to the State of Florida Board of Trustees, as described in Condition ~~XXV.D~~ I.F. above and ~~Exhibit 1~~ Attachment D, TEC ~~shall~~ has provided the State with easements for access and for management purposes including permanent State access to the uplands north of the Reeder property and at the shell pits located at the southwest side of the parcel as described in ~~Exhibit 1~~ Attachment D. If TEC should decide to sell lands they hold in ownership that buffer the 1433 acres of uplands property, TEC shall offer a public entity including the State, Hillsborough County, or Southwest Florida Water Management District, or a non-profit entity, whose mission is conservation, the right of first refusal.

- **The Following modifications associated with certain general conditions for consistency with recent Site Certification updates and clarifications**

The modified Conditions PA92-32M (electronic Attachment A to this document) replace the existing Conditions PA92-32L (Attachment B) in its entirety. Both attachments can be found at: http://publicfiles.dep.state.fl.us/siting/Outgoing/TECO_Polk/TecoPolk_Mod_M_ReclaimedWaterPipeline/TEC_PPS_Mod_M_Conditions/

The existing Conditions (Attachment B) contain cross references to the corresponding conditions in the modified Conditions (Attachment A), appearing in red following each section of the document. The cross references in Attachment B have been electronically linked to the corresponding condition in the modified Conditions (Attachment A).

In order to toggle between the two documents on your screen, copy both files (Attachments A & B) from the ftp site above and paste them into a single folder and then open both files. If you open the documents from the ftp site and "Save As", the links will not work. You must copy and paste with the same file names. Clicking on a link in Attachment B will take you directly to the corresponding condition in Attachment A.

A complete set of the Conditions (including Appendices and Attachments) can be viewed and downloaded from the following website: http://www.dep.state.fl.us/siting/files/certification/pa92_32_2011_M.pdf. Copies of the Conditions and/or attachments may also be obtained by contacting the Department of Environmental Protection, Siting Coordination Office, 3900 Commonwealth Blvd., M.S. 48, Tallahassee, Florida 32399-3000, (850) 245-2002.

Pursuant to Section 120.68, F.S., any party to the this order has a right to seek judicial review, by filing a Notice of Appeal, pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within **30 days** from the date this order is filed with the Clerk of the Department of Environmental Protection.

Executed in Tallahassee, Florida.

Cindy Mulkey
Administrator,
Siting Coordination Office

CC by email:
Gary Colecchio, DEP SWD Director, Gary.Colecchio@dep.state.fl.us
Danny Stubbs, DEP SWD Siting Liaison, Danny.Stubbs@dep.state.fl.us

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52
Florida Statutes, with the designated
Department Clerk, receipt of which is
hereby acknowledged.

Essie Turner
Clerk

11-1-2011
Date

Service List: CC by email (return receipt requested):

Toni Sturtevant, Esquire
Department of Environmental Protection
3900 Commonwealth Blvd., M.S. 35
Tallahassee, Florida 32399-3000
toni.sturtevant@dep.state.fl.us

Kelly Samek, Esquire
Fish and Wildlife Conservation Commission
6230 South Meridian Street
Tallahassee, FL 32399-1600
emily.norton@myfwc.com

Mr. Douglas B. Thomas, City Manager
City of Lakeland
228 South Massachusetts Avenue
Lakeland, Florida 33801-5012
Douglas.Thomas@lakelandgov.net

Richard Tschantz, Esquire
EPC of Hillsborough County
3629 Queen Palm Drive
Tampa, FL 33619-1309
tschantzr@epchc.org

Renee Lee, Esq., County Attorney
Hillsborough County
601 East Kennedy Boulevard
Tampa, Florida 33602
leer@hillsboroughcounty.org

Adam Teitzman, Attorney Supervisor
Florida Public Service Commission
Office of General Counsel
2450 Shumard Oak Boulevard
Tallahassee, FL 32399-0850
ateitzma@psc.state.fl.us

Michael Craig, Esq., County Attorney
Polk County
330 West Church Street
Bartow, Florida 33830-3760
michaelcraig@polk-county.net

Mr. Manny Pumariega, Executive Director
Tampa Bay Regional Planning Council
4000 Gateway Center Boulevard, Suite 100
Pinellas Park, Florida 33782-6141
manny@tbrpc.org

Ms. Vanessa K. Baker, City Clerk
City of Mulberry
104 South Church Avenue
Mulberry, Florida 33860-3002
vbaker@cityofmulberryfl.com

Martha A. Moore, Esquire
Southwest FL Water Management District
2379 Broad Street
Brooksville, FL 34604-6899
martha.moore@swfwmd.state.fl.us

David Jordan, Esquire
Dept. of Economic Opportunity
107 East Madison Street
Tallahassee, Florida 32399
David.Jordan@deo.myflorida.com

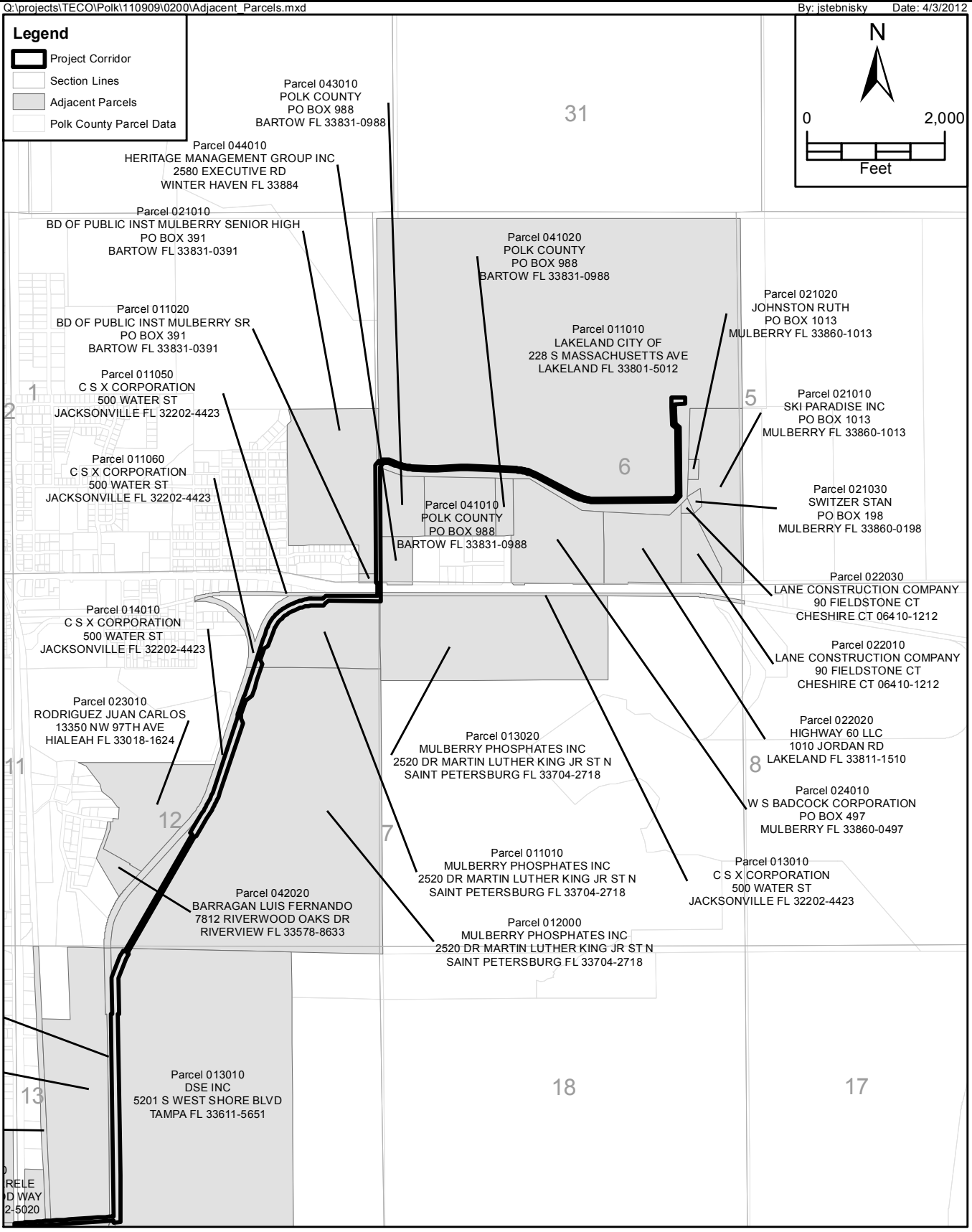
Kimberly Menchion, Esq.
Assistant General Counsel
Department of Transportation
605 Suwannee Street, MS 58
Tallahassee, FL 32399-0458
kimberly.menchion@dot.state.fl.us

Ms. Patricia M. Steed, Executive Director
Central Florida Regional Planning Council
555 East Church Street
Bartow, Florida 33830-3931
psteed@cfrpc.org

APPENDIX B

ADJACENT PROPERTY OWNERSHIP MAP

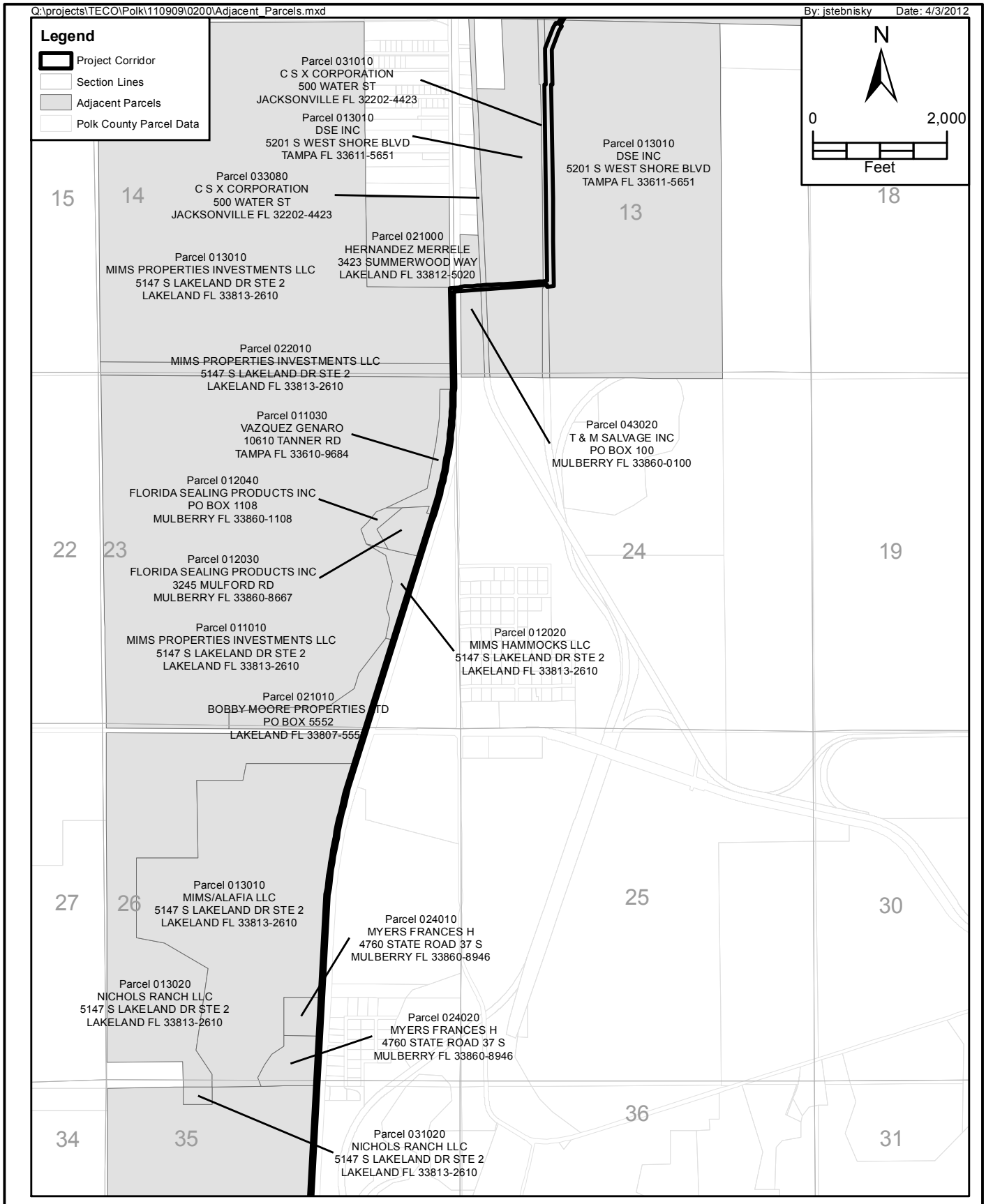
Q:\projects\TECO\Polk\110909\0200\Adjacent_Parcels.mxd By: jstebnisky Date: 4/3/2012



APPENDIX B
ADJACENT PROPERTY OWNERSHIP - SHEET 1 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

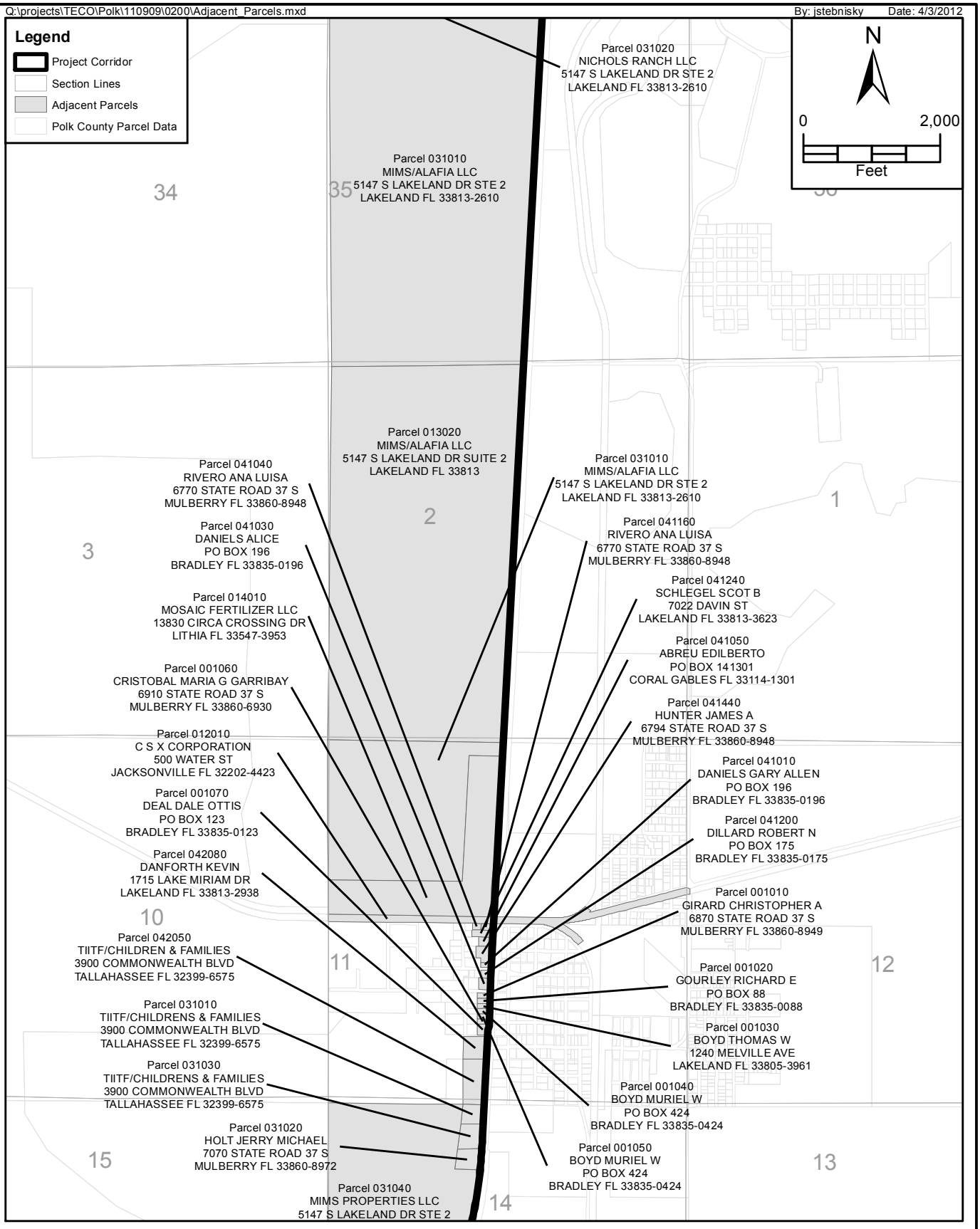
Sources: Polk County Parcel Data, 2012; ECT, 2012

TECO
TAMPA ELECTRIC



APPENDIX B
ADJACENT PROPERTY OWNERSHIP - SHEET 2 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA
Sources: Polk County Parcel Data, 2012; ECT, 2012

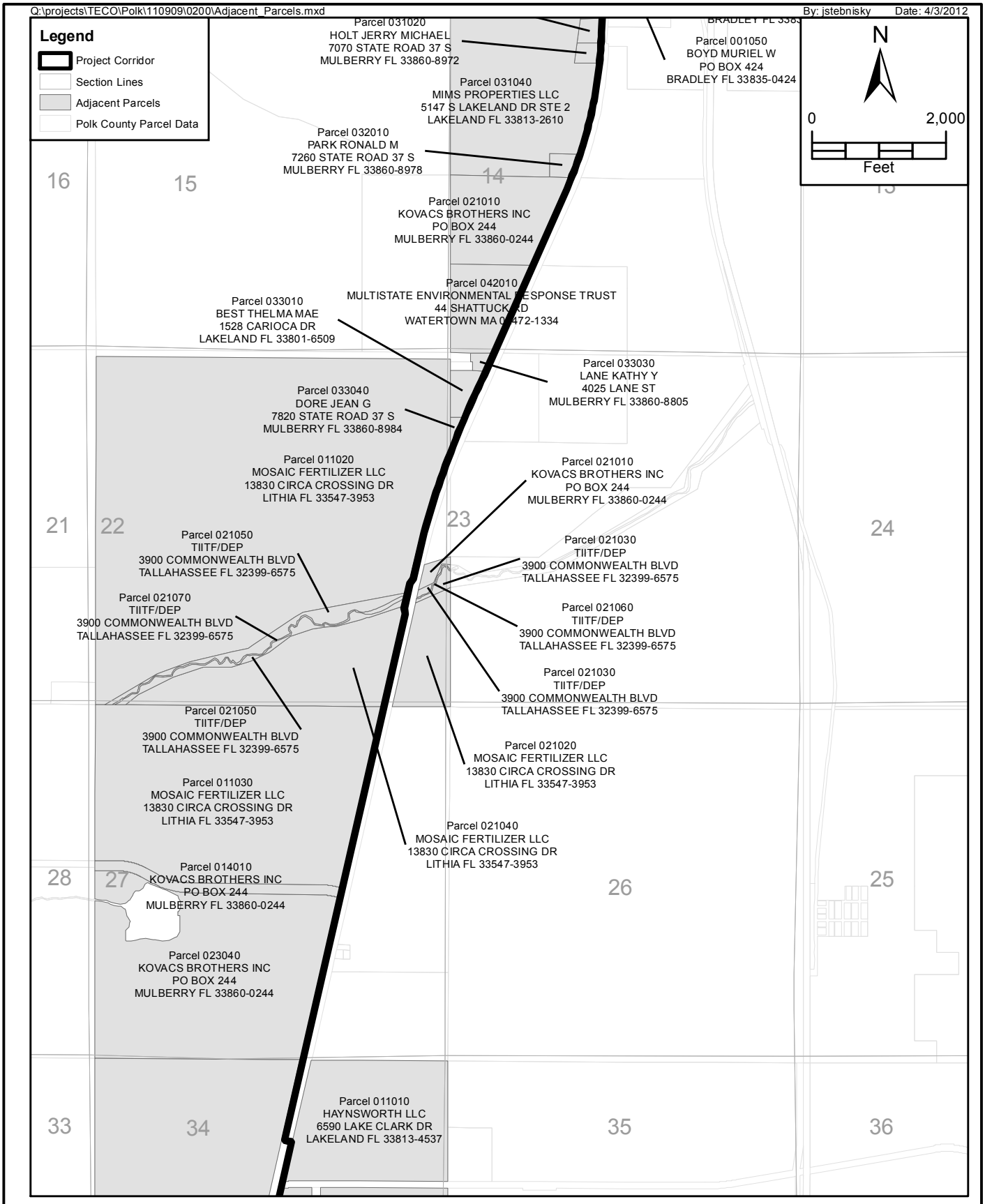
TECO
TAMPA ELECTRIC



APPENDIX B
ADJACENT PROPERTY OWNERSHIP - SHEET 3 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: Polk County Parcel Data, 2012; ECT, 2012

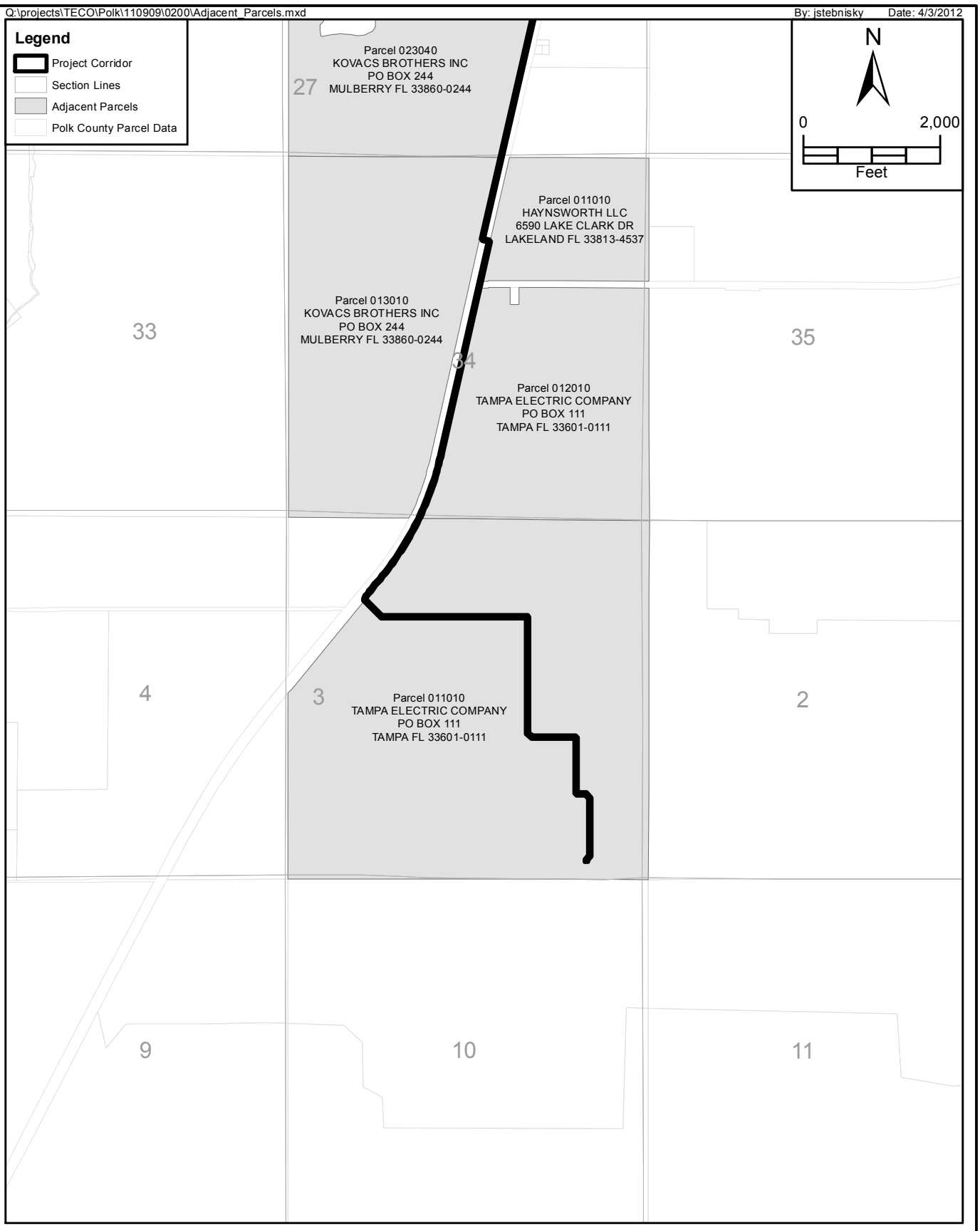
TECO
TAMPA ELECTRIC



APPENDIX B
ADJACENT PROPERTY OWNERSHIP - SHEET 4 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: Polk County Parcel Data, 2012; ECT, 2012

TECO
TAMPA ELECTRIC



APPENDIX B
ADJACENT PROPERTY OWNERSHIP - SHEET 5 OF 5
TAMPA ELECTRIC COMPANY
POLK POWER STATION RECLAIMED WATER PIPELINE PROJECT
POLK COUNTY, FLORIDA

Sources: Polk County Parcel Data, 2012; ECT, 2012

TECO
TAMPA ELECTRIC

APPENDIX C

GROUND PHOTOGRAPHS



Photograph No. 1. View of Wetland PP1 facing west. Roadside ditch with wetland species found only along bottom of channel.



Photograph No. 2. View of Wetland PP2 facing southwest. Low area in field drains to ditch and culvert in background.



Photograph No. 3. View of Wetland PP3 facing north. Low area created by vehicular traffic.



Photograph No. 4. View of Wetland PP4 facing north from culvert at access road. Reclaimed wetland with recruited shrubby vegetation.



Photograph No. 5. View of Wetland PP4 facing northeast. Recruited wax myrtles along edge of wetland.



Photograph No. 6. View of Wetland R1 facing south from the top of the culvert of the ditch.



Photograph No. 7. View of Wetland R2 facing north. Runoff pools to area and drains through culvert to Wetland R1.



Photograph No. 8. View of Wetland R3 facing south. Swale with feral hog rooting.



Photograph No. 9. View of Wetland R4 facing northwest. Area with concrete headwall and two culverts that convey runoff under State Road 37. Water lettuce in channel and cattails in foreground.



Photograph No. 10. View of Wetland R5 facing northeast. Area is a T-shaped ditch along State Road 37. Berm at project corridor boundary seen in background causes water to pool in area. Hog rooting in center of photograph.



Photograph No. 11. View of Wetland R6 facing south. Swale along east side of State Road 37; drains to south.



Photograph No. 12. View of Wetland R7 facing east. Runoff pools to area and drains to the east; area is at the southeast corner of State Road 37 and County Road 630.



Photograph No. 13. View of Wetland R8 facing southeast. Area was previously covered in coastalplain willow prior to recent clearing; delineation includes roadside ditch.



Photograph No. 14. View of Wetland R9 facing north-northeast. Area is impounded by road and other construction fill on three sides and outflows to the east off of project corridor.



Photograph No. 15. View of Wetland R10 facing northwest. Swale with paragrass.



Photograph No. 16. View of Wetland R11 facing northwest. Rip-rap slope at outflow from culvert. Some wetland species present among rocks.



Photograph No. 17. View of Wetland R12 facing northwest taken from south side of the South Prong of the Alafia River.



Photograph No. 18. View of Wetland R12 facing southwest taken from the north side of the South Prong of the Alafia River.



Photograph No. 19. View of Wetland R13 facing south. Roadside swale with low growing wetland forbs and grasses.



Photograph No. 20. View of Wetland R14 facing north. Roadside swale with low growing wetland forbs and grasses.



Photograph No. 21. View of side ditch from reclaimed lake facing west. Connects Wetlands R14 and R15; flows east under State Road 37.



Photograph No. 22. View of Wetland R15 facing south. Swale along highway connects to small depression at edge of pasture.



Photograph No. 23. View of Wetland R16 facing north. Roadside conveyance.



Photograph No. 24. View of Wetland R17 facing south. Roadside conveyance.



Photograph No. 25. View of Wetland R18 facing north. Conveyance for road runoff.



Photograph No. 26. View of Wetland R19 facing south taken from Doc Durrance Road. Ditched maintained as part of lawn.



Photograph No. 27. View of Wetland R20 facing west. Roadside ditch maintained as part of lawn.



Photograph No. 28. View of Wetland R21 facing north. Roadside ditch maintained as part of lawn.



Photograph No. 29. View of Wetland R22 facing south. Roadside ditch maintained as part of lawn.



Photograph No. 30. View of Wetland R23 facing north. Roadside ditch maintained as part of lawn.



Photograph No. 31. View of Wetland R24 facing north. Roadside ditch maintained along State Road 37.



Photograph No. 32. View of Wetland 25 facing north. Roadside ditch maintained along State Road 37.



Photograph No. 33. View of Wetland R26 facing south. Roadside swale with wetland plants.



Photograph No. 34. View of Wetland R27 facing north. Roadside swale with wetland plants.



Photograph No. 35. View of Wetland R28 facing north. Roadside swale.



Photograph No. 36. View of Wetland W1 facing north-northwest. Highly disturbed swamp that has recruited Peruvian primrosewillow and coastalplain willow. Continual impacts from roadside maintenance.



Photograph No. 37. View of Wetland W1 facing east. Upland edge along berm of road.



Photograph No. 38. View of Wetland W1 facing west. Wetland is mixed hardwood swamp.



Photograph No. 39. View of Wetland R30 facing north. Start of long ditch along State Road 37. Note missing photo of Wetland R29, but R30 is similar.



Photograph No. 40. View of Wetland R30 facing south. End of long ditch along State Road 37.



Photograph No. 41. View of Wetland R31 facing south. Roadside conveyance.



Photograph No. 42. View of Wetland R32 facing north. Roadside swale.



Photograph No. 43. View of Wetland R33 facing north. Roadside ditch empties into larger ditch offsite.



Photograph No. 44. View of Wetland R34 facing northwest. Overgrown ditch drains into an old recirculation ditch.



Photograph No. 45. View of Wetland R35 facing southwest. Severely disturbed mixed hardwood swamp overgrown with coastalplain willows at edge in maintained in right-of-way. Considerable feral hog damage.



Photograph No. 46. View of Wetland R36 facing south. Roadside conveyance.



Photograph No. 47. View of Wetland R37 facing south. Roadside conveyance.



Photograph No. 48. View of Wetland R38 facing north. Roadside ditch/conveyance.



Photograph No. 49. View of Wetland W2 facing northwest. Wetland formed in old recirculation ditch.



Photograph No. 50. View of Wetland R39 facing northwest. Bend in ditch.



Photograph No. 51. View of Wetland R40 facing northwest. Roadside ditch.



Photograph No. 52. View of Wetland R41 facing north.



Photograph No. 53. View of Wetland R42 facing south. Roadside ditch/conveyance. Maintained by mowing.



Photograph No. 54. View of Wetland R43 facing south. Roadside ditch/conveyance maintained by mowing.



Photograph No. 55. View of Wetland W3 facing north-northwest. Lake created during post-mining reclamation. Shore and water surface overgrown with mostly nuisance/exotic species.



Photograph No. 56. View of Wetland M1 facing south.



Photograph No. 57. View of Wetland M1 facing north.



Photograph No. 58. View of Wetland M2 facing north.



Photograph No. 59. View of Wetland M3 facing south.



Photograph No. 60. View of Wetland M4 facing northeast.



Photograph No. 61. View of Wetland M5 facing northeast.



Photograph No. 62. View of Wetland M6 facing north.



Photograph No. 63. View of Wetland M7 facing northeast. Note: Photograph of Wetland M8 was not taken. However, it resembles the other mine ponds in the area.



Photograph No. 64. View of Wetland S1 facing east.



Photograph No. 65. View of Wetland S2 facing south.



Photograph No. 66. View of Wetland S3 facing south.



Photograph No. 67. View of Wetland S4 facing south.



Photograph No. 68. View of Wetland S5 facing south.



Photograph No. 69. View of Wetland S6 facing northwest.



Photograph No. 70. View of Wetland S7 facing south.



Photograph No. 71. View of Wetland L1 facing west. Canal with considerable flow. Bank covered in paragrass.



Photograph No. 72. View of Wetland L2 facing east. Maintains marginal wetland species.



Photograph No. 73. View of Wetland L3 facing west. Slumped area along canal receives seepage and supports wetland species. Note: Not surveyed – too far away from project corridor.

APPENDIX D

COMPLETED USACE WETLAND JURISDICTIONAL DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TEC PPS Reclaimed Water Pipeline Project City/County: Polk Sampling Date: 11/29/11

Applicant/Owner: Tampa Electric Company State: FL Sampling Point: Upland-R9

Investigator(s): C. Vandaveer & A. Shuey Section, Township, Range: S34, T31S, R23E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR or MLRA): LRR U Lat: Long: Datum: Survey

Soil Map Unit Name: Neilhurst sand, 1 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:

Area has fill material built up for road bed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): N/A

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Upland

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 20' x 20')			
1. Chamaesyce hypercifolia	5	No	FACU+
2. Geranium carolinianum	5	No	-
3. Paspalum notatum	50	Yes	FACU
4. Paspalum setaceum	40	Yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	55	x 4 =	220
UPL species	5	x 5 =	25
Column Totals:	100 (A)		365 (B)

Prevalence Index = B/A = 3.65

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR3/1	100					Sandy	
5-9	10YR5/2	100					Sandy	
9-11	10YR3/1	100					Sandy	
11-16	10YR2/1	95	10YR4/4	5	RM	M	Sandy	
16-18	10YR5/1	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Fill material along highway berm; most layers compacted with broken asphalt present.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TEC PPS Reclaimed Water Pipeline Project City/County: Polk Sampling Date: 11/29/11

Applicant/Owner: Tampa Electric Company State: FL Sampling Point: Wetland-R9

Investigator(s): C. Vandaveer & A. Shuey Section, Township, Range: S34, T31S, R23E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR U Lat: Long: Datum: Survey

Soil Map Unit Name: Samsula muck NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [✓] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): N/A

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Wetland

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 25' x 25')			
1. Ludwigia octovalvis	15	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		
Herb Stratum (Plot size: 25' x 25')			
1. Polygonum punctatum	50	Yes	FACW+
2. Pontederia cordata	25	Yes	OBL
3. Commelina diffusa	1	No	FACW
4. Panicum repens	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	86 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	61	x 2 =	122
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	101 (A)		162 (B)

Prevalence Index = B/A = 1.60

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Sampling took place in an area of low shrubby cover; area is infrequently maintained as part of highway right-of-way.

SOIL

Sampling Point: Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR2/1	100					Mucky	
3-12	10YR2/2	100					Mucky clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [✓] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Organic Bodies (A6) **(LRR P, T, U)**
- [ ] 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- [✓] Muck Presence (A8) **(LRR U)**
- [ ] 1 cm Muck (A9) **(LRR P, T)**
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Coast Prairie Redox (A16) **(MLRA 150A)**
- [ ] Sandy Mucky Mineral (S1) **(LRR O, S)**
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) **(LRR P, S, T, U)**
- [ ] Polyvalue Below Surface (S8) **(LRR S, T, U)**
- [ ] Thin Dark Surface (S9) **(LRR S, T, U)**
- [ ] Loamy Mucky Mineral (F1) **(LRR O)**
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Marl (F10) **(LRR U)**
- [ ] Depleted Ochric (F11) **(MLRA 151)**
- [ ] Iron-Manganese Masses (F12) **(LRR O, P, T)**
- [ ] Umbric Surface (F13) **(LRR P, T, U)**
- [ ] Delta Ochric (F17) **(MLRA 151)**
- [ ] Reduced Vertic (F18) **(MLRA 150A, 150B)**
- [ ] Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) **(LRR O)**
- [ ] 2 cm Muck (A10) **(LRR S)**
- [ ] Reduced Vertic (F18) **(outside MLRA 150A,B)**
- [ ] Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12) **(LRR T, U)**
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes [✓] No [ ]

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TEC PPS Reclaimed Water Pipeline Project City/County: Polk Sampling Date: 11/30/11

Applicant/Owner: Tampa Electric Company State: FL Sampling Point: Upland-W1

Investigator(s): C. Vandaveer & A. Shuey Section, Township, Range: S2, T31S, R23E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR or MLRA): LRR U Lat: Long: Datum: Survey

Soil Map Unit Name: Arents, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:

Area has fill material built up for road bed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): N/A

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Upland

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5m x 5m)			
1. Chamaesyce hypercifolia	5	No	FACU
2. Drymaria cordata	5	No	FAC
3. Geranium carolinianum	5	No	-
4. Paspalum notatum	20	Yes	FACU+
5. Sida rhombifolia	60	Yes	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	95 (A)		380 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (If observed, list morphological adaptations below).

Area is maintained highway right-of-way.

SOIL

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR3/1	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Filled roadway bed. Dark gray sand with considerable amount of light colored sand grains..

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TEC PPS Reclaimed Water Pipeline Project City/County: Polk Sampling Date: 11/30/11

Applicant/Owner: Tampa Electric Company State: FL Sampling Point: Wetland-W1

Investigator(s): C. Vandaveer & A. Shuey Section, Township, Range: S2, T31S, R23E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR U Lat: Long: Datum: Survey

Soil Map Unit Name: Arents, 0 to 5 percent slopes NWI classification: PSS1/3C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [✓] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [✓]	No [ ]	Depth (inches): 1"
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): N/A

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Surface water present in lowest reaches.

VEGETATION – Use scientific names of plants. Sampling Point: Wetland

Tree Stratum (Plot size: 10m x 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	50	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 10m x 10m)			
1. Ludwigia peruviana	10	Yes	OBL
2. Rubus pensilvanicus	2	No	FACU+
3. Sambucus nigra	1	No	FACW-
4. Ulmus americanus	1	No	FACW
5.			
6.			
7.			
	14	= Total Cover	
Herb Stratum (Plot size: 10m x 10m)			
1. Rhynchospora inundata	1	No	OBL
2. Thelypteris dentata	1	No	FACW
3. Thelypteris interrupta	30	Yes	FAC+
4. Thelypteris kunthii	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	37	= Total Cover	
Woody Vine Stratum (Plot size: 10m x 10m)			
1. Apios americanum	1	No	FACW
2. Clematis virginiana	25	Yes	FAC+
3. Vitis rotundifolia	1	No	FAC
4.			
5.			
	27	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	61	x 1 =	61
FACW species	9	x 2 =	18
FAC species	56	x 3 =	168
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	128 (A)		255 (B)

Prevalence Index = B/A = 1.99

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Area is a highly degraded mixed hardwood swamp.

SOIL

Sampling Point: Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4.5	10YR2/1	100					Mucky	
4.5-12	10YR5/1	95					Coarse sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [✓] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Organic Bodies (A6) **(LRR P, T, U)**
- [ ] 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- [ ] Muck Presence (A8) **(LRR U)**
- [ ] 1 cm Muck (A9) **(LRR P, T)**
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Coast Prairie Redox (A16) **(MLRA 150A)**
- [ ] Sandy Mucky Mineral (S1) **(LRR O, S)**
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) **(LRR P, S, T, U)**
- [ ] Polyvalue Below Surface (S8) **(LRR S, T, U)**
- [ ] Thin Dark Surface (S9) **(LRR S, T, U)**
- [ ] Loamy Mucky Mineral (F1) **(LRR O)**
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Marl (F10) **(LRR U)**
- [ ] Depleted Ochric (F11) **(MLRA 151)**
- [ ] Iron-Manganese Masses (F12) **(LRR O, P, T)**
- [ ] Umbric Surface (F13) **(LRR P, T, U)**
- [ ] Delta Ochric (F17) **(MLRA 151)**
- [ ] Reduced Vertic (F18) **(MLRA 150A, 150B)**
- [ ] Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) **(LRR O)**
- [ ] 2 cm Muck (A10) **(LRR S)**
- [ ] Reduced Vertic (F18) **(outside MLRA 150A,B)**
- [ ] Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12) **(LRR T, U)**
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes [✓] No [ ]

Remarks:

Area appears to be a remnant swamp left after phosphate mining.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TEC PPS Reclaimed Water Pipeline Project City/County: Polk Sampling Date: 12/14/11

Applicant/Owner: Tampa Electric Company State: FL Sampling Point: Upland-M1

Investigator(s): A. Shuey & B. Delius Section, Township, Range: S12, T30S, R23E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR or MLRA): LRR U Lat: Long: Datum: Survey

Soil Map Unit Name: Arents, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): N/A

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Upland

Tree Stratum (Plot size: 25' x 25')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus virginiana	90	Yes	FACU+
2.			
3.			
4.			
5.			
6.			
7.			
	90 = Total Cover		
Sapling Stratum (Plot size: 25' x 25')			
1. Quercus nigra	2	Yes	FAC
2. Sabal palmetto	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	7 = Total Cover		
Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5m x 5m)			
1. Cyperus croceus	1	Yes	FAC
2. Eupatorium capillifolium	3	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	4 = Total Cover		
Woody Vine Stratum (Plot size: 25' x 25")			
1. Smilax bona-nox	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.71 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	18	x 3 =	54
FACU species	93	x 4 =	372
UPL species	0	x 5 =	0
Column Totals:	111 (A)		426 (B)

Prevalence Index = B/A = 3.84

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [ ] No [x]

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR4/1	100					Sandy	Gray sandy soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S,** T)
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes ☐ No ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TEC PPS Reclaimed Water Pipeline Project City/County: Polk Sampling Date: 12/14/11

Applicant/Owner: Tampa Electric Company State: FL Sampling Point: Wetland-M1

Investigator(s): A. Shuey & B. Delius Section, Township, Range: S12, T30S, R23E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR U Lat: Long: Datum: Survey

Soil Map Unit Name: Hydraquents, clayey NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓] No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓] No [ ]	
Wetland Hydrology Present?	Yes [✓] No [ ]	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [✓] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): N/A
Water Table Present?	Yes [✓]	No [ ]	Depth (inches): 12"
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): N/A

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Wetland

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10m x 10m)			
1. Alternanthera philoxeroides	1	No	OBL
2. Polygonum punctatum	40	Yes	FACW+
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	41 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	41 (A)		81 (B)

Prevalence Index = B/A = 1.98

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Freshwater marsh with patches of willows along floodplain of North Prong of the Alafia River.

SOIL

Sampling Point: Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR2/2	100					Organic	Undecomposed plant material
7-12	10YR6/1	100					Clay	Colloidal clay
12-?	10YR6/1	100					Clay	Colloidal clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes ☑ No ☐

Remarks:

The soil type is listed as a hydric soil (Hydraquents, clayey or colloidal clay-a by-product of phosphate mining).

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): June 1, 2012

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
David Lukcic, Manager of Environmental Projects, Tampa Electric Company, P.O. Box 111, Tampa, Florida 33601

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:Tampa Regulatory Office, SAJ-2012-

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
Tampa Electric Company (TEC) certified the Polk Power Station (PPS) in 1994 through the Florida Electrical Power Plant Siting Act (PPSA), Case No. PA92 32. The future expansion of PPS requires additional cooling water. TEC has a unique partnership with the Southwest Florida Water Management District (SWFWMD) and the City of Lakeland, the Regional Reclaimed Water Partnership Initiative. The purpose of the partnership is to maximize water resource by using an under-utilized water source to its maximum benefit. Secondary treated wastewater (reclaimed water) from the City of Lakeland (the City) Wetland Treatment System (WTS) can be used by TEC to reduce groundwater withdrawals from the Southern Water Use Caution Area (SWUCA) and help reduce nutrient loading to the Alafia River.To accept the reclaimed water from the City, TEC will need to construct a pump station and intake structure at the WTS, which will be connected to an underground 15-mile long, 30- to 36-inch in diameter pipeline from the WTS, located north of State Road (S.R.) 60 and east of Mulberry, to the TEC PPS site. Since a pipeline to convey this water source to the PPS was not certified as part of the original PPS site certification or the recent modification approved in 2009, TEC is required to apply for a modification of their Site Certification Application (SCA) under Florida Department of Environmental Protection (FDEP) siting rules (Section 62 17.211, Florida Administrative Code [F.A.C.]). On April 8, 2011, TEC submitted an application to the FDEP in Tallahassee for a modification to the SCA for the proposed construction and operation of the reclaimed water pipeline at the PPS in Polk County, Florida. On October 31, 2011, TEC received approval from the FDEP for the requested SCA modification (i.e., DEP Case No. PA92-32M; OGC Case No. 11-0604). TEC will construct a pump station and intake structure at the WTS that will occupy an approximately 150 by 60 ft area. A small parking area will accompany

the pump house site and the pump house will be fenced and locked. The entire pump station facility will occupy under an acre and result in approximately 6,000 square feet of impervious surface. An Environmental Resource Permit (ERP) application has already been submitted to the FDEP by the City and TEC for the construction of the pump station and intake structure facility. This ERP application is being submitted to the FDEP and U.S. Army Corps of Engineers (USACE) for the construction and operation of the proposed reclaimed water pipeline. Even though a state permit is not required, this ERP application is being submitted in order to: 1) comply with the Conditions of Certification of the recent SCA modification (see Appendix A), 2) receive confirmation of certification that the proposed surface water impacts will not violate State 401 Surface Water Quality standards, 3) request authorization to use sovereign submerged lands, and 4) provide the USACE a federal dredge and fill permit application in order to receive a permit for impacts to waters of the United States.The start of construction of the pipeline is scheduled for January 1, 2013. It is anticipated that the pipeline can be constructed and operational within 12 months. Environmental Consulting & Technolgy, Inc. (ECT) performed the wetland jurisdictional determinations along the proposed impact areas along the project corridor. Acreages for wetland impacts are provided in the attached Table 1.

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State:Florida County/parish/borough: Polk City: N/A
Center coordinates of site (lat/long in degree decimal format): Lat. 27.817145° **N**, Long. -81.980915° **W**.
Universal Transverse Mercator: x= 403,388 East and y=3,077,332 North
Name of nearest waterbody: South and North Prongs of the Alafia River

Identify (estimate) amount of waters in the review area:
Non-wetland waters: 9,184.6 linear feet: 20 width (ft) and/or 4.217 acres.
Cowardin Class: Riverine
Stream Flow: Perennial
Wetlands: Forested- 2.816 acres; Non-forested-0 acres.
Cowardin Class: Forested

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: N/A
Non-Tidal: N/A

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): 11/28/11, 11/29/11, 11/30/11, 12/1/11, 12/5/11, 12/7/11, 12/8/11, 12/14/11, 12/15/11, 12/16/11, and 3/8/12

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:Figures 1 through 10 and Sheets 1 through 221 in the ERP application.

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☐ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☐ Corps navigable waters' study: .

☐ U.S. Geological Survey Hydrologic Atlas: .

☐ USGS NHD data.

☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:1 inch=2 miles; Baird, Bradley Junction, and Duette NE, FL. 1987 and Mulberry, FL. 1993; Figure 2 in ERP application.

☒ USDA Natural Resources Conservation Service Soil Survey. Citation:Soils of Polk County, Florida 1990 and NRCS, 1991; Figure 3 in ERP application.

☒ National wetlands inventory map(s). Cite name:Baird, Bradley Junction, and Duette NE, FL. 1987, and Mulberry, FL. 1993-USFWS 2006; Figure 5 in ERP application.

☐ State/Local wetland inventory map(s): .

☒ FEMA/FIRM maps:FEMA, 1996; Figure 4 in ERP application.

☒ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date):Southern Resource Mapping, Inc.; Photo date August 15, 2011 on Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45, 47 through 55, 57 through 66, 68 through 86, 88, 90 through 94, 96 through 104, 107, 109, 111, 113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221 in the ERP application.

or ☒ Other (Name & Date):Ground photographs; Photo dates - 11/28/11, 11/29/11, 11/30/11, 12/1/11, 12/5/11, 12/7/11, 12/8/11, 12/14/11, 12/15/11, and 12/16/11 in Appendix C in ERP application.

☐ Previous determination(s). File no. and date of response letter: .

☒ Other information (please specify):Land use/cover mapping are on Sheets 14, 16 through 28, 30 through 35, 37, 39 through 43, 45, 47 through 55, 57 through 66, 68 through 86, 88, 90 through 94, 96 through 104, 107, 109, 111,

113, 115, 117 through 130, 132 through 144, 146, 148, 150 through 153, 155, 156, 158, 160, 162, 163, 165 through 181, 183, 185, 187, 189, 191 through 196, 198, 200 through 207, 209 through 221 in the ERP application; Wetland jurisdictional limits for impact areas are depicted on the same sheets in the ERP application; Attached is a table of the wetland types identified on the project site (i.e Table 1). Standard USACE Routine Wetland Delineation forms were completed for representative upland and wetland locations (see Appendix D in ERP application).

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory Project Manager
(REQUIRED)

6/5/12

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

Table 1. Wetlands/Surface Waters on the Tampa Electric Company Polk Power Station Reclaimed Water Pipeline Project

Site Number	Latitude	Longitude	Cowardin Class	Size*	Class of Aquatic Resource
PP1	27.720181	-81.992328	**	0.014	Non-Section 10-Non-Wetland
PP2	27.720453	-81.992283	**	0.024	Non-Section 10-Non-Wetland
PP3	27.723226	-91.992667	PEM1C	0	Non-Section 10-Wetland
PP4	27.729803	-82.001058	PSS1C	0.06	Non-Section 10-Wetland
R1	27.732006	-82.001103	**	0.027	Non-Section 10-Non-Wetland
R2	27.733583	-82.000047	**	0.002	Non-Section 10-Non-Wetland
R3	27.734147	-81.999725	**	0	Non-Section 10-Non-Wetland
R4	27.735639	-81.999258	**	0.087	Non-Section 10-Non-Wetland
R5	27.736497	-81.999028	**	0.07	Non-Section 10-Non-Wetland
R6	27.738300	-81.998608	**	0.104	Non-Section 10-Non-Wetland
R7	27.742996	-81.997019	**	0	Non-Section 10-Non-Wetland
R8	27.743539	-81.997192	PSS1C	0.152	Non-Section 10-Wetland
R9	27.744469	-81.996950	PSS1C	0.197	Non-Section 10-Wetland
R10	27.755372	-81.994547	**	0.01	Non-Section 10-Non-Wetland
R11	27.760131	-81.993347	**	0.006	Non-Section 10-Non-Wetland
R12	27.767208	-81.991521	R2UBHx	0.109	Non-Section 10-Wetland
R13	27.785850	-81.983436	**	0.025	Non-Section 10-Non-Wetland
R14	27.787081	-81.983069	**	0.094	Non-Section 10-Non-Wetland
R15	27.787931	-81.982878	**	0.159	Non-Section 10-Non-Wetland
R16	27.789122	-81.982628	**	0.041	Non-Section 10-Non-Wetland
R17	27.790742	-81.982522	**	0.128	Non-Section 10-Non-Wetland
R18	27.792286	-81.982431	**	0.057	Non-Section 10-Non-Wetland
R19	27.796722	-81.982161	**	0.039	Non-Section 10-Non-Wetland
R20	27.797183	-81.982228	**	0.001	Non-Section 10-Non-Wetland
R21	27.797531	-81.982111	**	0.026	Non-Section 10-Non-Wetland
R22	27.798097	-81.982075	**	0.029	Non-Section 10-Non-Wetland
R23	27.798539	-81.982047	**	0.013	Non-Section 10-Non-Wetland
R24	27.798764	-81.982033	**	0.002	Non-Section 10-Non-Wetland
R25	27.798922	-81.982022	**	0.006	Non-Section 10-Non-Wetland
R26	27.800992	-81.981908	**	0.072	Non-Section 10-Non-Wetland
R27	27.803356	-81.981761	**	0.091	Non-Section 10-Non-Wetland
R28	27.807136	-81.981586	**	0.051	Non-Section 10-Non-Wetland
R29	27.816239	-81.980978	**	0.117	Non-Section 10-Non-Wetland
R30	27.816239	-91.980533	**	0.743	Non-Section 10-Non-Wetland
R31	27.831183	-81.980075	**	0.057	Non-Section 10-Non-Wetland
R32	27.848186	-81.978436	**	0.017	Non-Section 10-Non-Wetland
R33	27.848419	-81.978408	**	0.016	Non-Section 10-Non-Wetland

Table 1. Wetlands/Surface Waters on the Tampa Electric Company Polk Power Station Reclaimed Water Pipeline Project

Site Number	Latitude	Longitude	Cowardin Class	Size*	Class of Aquatic Resource
R34	27.848500	-81.978447	**	0.011	Non-Section 10-Non-Wetland
R35	27.849906	-81.977911	PFO1C	0.206	Non-Section 10-Wetland
R36	27.852589	-81.976878	**	0.007	Non-Section 10-Non-Wetland
R37	27.853011	-81.976733	**	0.023	Non-Section 10-Non-Wetland
R38	27.855439	-81.975894	**	0.481	Non-Section 10-Non-Wetland
R39	27.859164	-81.974611	**	0.147	Non-Section 10-Non-Wetland
R40	27.861331	-81.973883	**	0.129	Non-Section 10-Non-Wetland
R41	27.864031	-81.973483	**	0.055	Non-Section 10-Non-Wetland
R42	27.865258	-81.973467	**	0.036	Non-Section 10-Non-Wetland
R43	27.865778	-81.973483	**	0.027	Non-Section 10-Non-Wetland
W1	27.810703	-81.981378	PFO1C	1.848	Non-Section 10-Wetland
W2	27.854512	-81.976355	PSS1/3C	0	Non-Section 10-Wetland
W3	27.867008	-81.973563	PSS1/3C	0.102	Non-Section 10-Wetland
M1	27.883047	-81.966596	PEM1F	1.425	Non-Section 10-Wetland
M2	27.888778	-81.963744	**	0.025	Non-Section 10-Non-Wetland
M3	27.892139	-81.962475	**	0.712	Non-Section 10-Non-Wetland
M4	27.889600	-81.963372	PUBHx	0.125	Non-Section 10-Wetland
M5	27.891869	-81.962453	PUBHx	0.076	Non-Section 10-Wetland
M6	27.893936	-81.959489	PUBHx	0.017	Non-Section 10-Wetland
M7	27.894067	-81.959519	PUBHx	0.034	Non-Section 10-Wetland
M8	27.893914	-81.957794	PUBHx	0.016	Non-Section 10-Wetland
S1	27.894597	-81.957278	**	0.005	Non-Section 10-Non-Wetland
S2	27.895522	-81.957317	**	0.175	Non-Section 10-Non-Wetland
S3	27.896547	-81.957306	**	0.062	Non-Section 10-Non-Wetland
S4	27.896925	-81.957303	**	0.004	Non-Section 10-Non-Wetland
S5	27.897231	-81.957294	**	0.015	Non-Section 10-Non-Wetland
S6	27.898836	-81.957333	**	0.023	Non-Section 10-Non-Wetland
S7	27.897608	-81.957222	**	0.065	Non-Section 10-Non-Wetland
L1	27.899431	-81.957086	**	0.041	Non-Section 10-Non-Wetland
L2	27.898592	-81.949314	PEM1C	0.029	Non-Section 10-Wetland

* The estimated amount of the aquatic resource within the review area or project limits is in acres.

** The National Wetlands Inventory does not have this wetland/surface water feature mapped for the project area (i.e., man-made upland cut ditch).

APPENDIX E

COMPLETED UMAM FORMS

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**PP4**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.06 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Peace River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Vegetated littoral shelf of large reclaimed pond that drains to the south across a culverted asphalt road.

Assessment area description

The shrub swamp had an overstory of wax myrtle, coastalplain willow, and water oak with a shrub layer of coastalplain willow, Peruvian primrosewillow, and Brazilian pepper. The herb layer contained burrmarigold, hottentot fern, and southern cattail.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 37 and Polk Power Station	**Reclaimed wetland, but common in general area**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Killifish, leopard frog, great blue heron, little blue heron, great egret, snowy egret, glossy ibis, anhinga, double-breasted cormorant, osprey, black vulture, field sparrow, and feral hog.

Additional relevant factors:

Reclaimed area

Assessment conducted by:	Assessment date(s):
Byran Delius	**12/7/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**PP4**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**December 7, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: **5**	with: 5
Adjacent uplands provide good habitat/protection. Optimal support for most wildlife species. However, invasive species such as Peruvian primrosewillow, Brazilian pepper, and southern cattail are common. A substantial portion of adjacent uplands are mowed routinely. Wildlife access potentially limited by chain link fence around power plant and S.R. 37.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: **7**	with: 7
Duration and frequency of water levels appear to be appropriate for system. Zonation is indistinct. No evidence of hydrological stress or altered fire regimes. Some plant species present that are indicative of water quality degradation such as Peruvian primrosewillow, duckweed, and southern cattails. However, no direct evidence of water quality degradation observed.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: **5**	with: 3
Small shrub swamp that is overgrown with invasive species such as Peruvian primrosewillow, Brazilian pepper, climbing hempvine, southern cattails, etc. However, overstory of native shrubs and trees present such as wax myrtle, coastalplain willow, and water oak.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: **0.57**	with: 0.5

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.07 x 0.06 = 0.004**

Delta = [with-current]
-0.07

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**R8**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.152 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Swamp is drained by ditch along highway.

Assessment area description

Swamp has been recently devastated by roadside clearing associated with routine right-of-way maintenance.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 37 and County Road 630	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Tree swallow, osprey, and black and turkey vultures.

Additional relevant factors:

Area previously and regularly impacted by road construction and maintenance.

Assessment conducted by:	Assessment date(s):
Bryan Delius	**11/29/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**R8**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**C. Vandaveer & A. Shuey**	**November 29, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	**Because the assessment area is located within the road right-of-way, it is subject to mowing and/or other forms of maintenance at regular intervals. This mechanical removal of the overstory layers would be detrimental to the wildlife species present that are not capable of quickly moving away. However, after mowing the newly opened area could provide feeding for opportunistic animals, such as wading birds. Area abuts two main highways which severely restricts wildlife access and use.**	**4**	4
.500(6)(b)Water Environment (n/a for uplands)	**The system is seasonally inundated, but drained through ditches/culverts along highway. Water levels/flows are not appropriate for this type of system. Water in system is runoff from two adjacent highways and contiguous swamp. Litter and pollutant loads degrade water quality. Connected to roadside swale/ditch system at intersection to the south that receives irrigation runoff from agricultural areas.**	**5**	5
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**The unmaintained or relict portions of the assessment area are overgrown with a shrub layer of coastalplain willow, groundsel tree, and Peruvian primrosewillow.The ground layer is vegetated by dotted smartweed, torpedograss, soft rush, and southern cattail. No zonation noted. The maintained portion of system was recently cleared by a brush hog leaving only sparse vegetation.**	**3**	2

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.40	0.37

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.03 x 0.152 = -0.005**

Delta = [with-current]
-0.03

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**R9**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.197 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Swamp is drained by ditch along highway.

Assessment area description

The unmaintained or relict portion of the area has a shrub layer of coastalplain willow and Peruvian primrosewillow with occassional red maple, Brazilian pepper and grounsel tree. The ground layer is vegetated by dotted smartweed, yerba de jicotea, and Mexican primrosewillow.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 37	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Feral hogs

Additional relevant factors:

Area previously and regularly impacted by road construction and maintenance.

Assessment conducted by:	Assessment date(s):
Bryan Delius	**11/29/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**R9**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**November 29, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	**Because the assessment area is located within the road right-of-way, it is subject to mowing and/or other forms of maintenance at regular intervals. This mechanical removal of the overstory layers would be detrimental to the wildlife species present that are not capable of quickly moving away. However, after mowing the newly opened area could provide feeding for opportunistic animals, such as wading birds. Presence of adjacent highway significantly limits wildlife access and use.**	**4**	4
.500(6)(b)Water Environment (n/a for uplands)	**The system is seasonally inundated, but drained through ditches/culverts along highway. Water levels/flows are not appropriate for this type of system. Drainage impacted by fill located on three sides. Source of water in system is primarily from highway runoff. Water levels are lower than expected. Soil is moist, but heavily damaged by feral hog rooting. Some evidence of hydrological stress present such as the death of pickerelweed.**	**4**	4
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**The unmaintained or relict portion of the area has a shrub layer of coastalplain willow and Peruvian primrosewillow with occassional red maple, Brazilian pepper and grounsel tree. The ground layer is vegetated by dotted smartweed, yerba de jicotea, and Mexican primrosewillow.**	**4**	3

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.40	0.37

Delta = [with-current]
-0.03

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For impact assessment areas
FL = delta x acres = **-0.03 x 0.197 = -0.006**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**R35**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617	**FDEP: 617** **FNAI: Floodplain Swamp/Basin Swamp** **SCS: 21-Hardwoods**	**Impact**	**0.206 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Area fills with water and discharges via an old recirculation ditch

Assessment area description

Mixed hardwood swamp with an overstory of coastalplain willow, Brazilian pepper, and elm, a shrub layer of anglestem primrosewillow, Peruvuian primrosewillow and Brazilian pepper and a ground stratum of common dayflower, vasey grass, shortleaf spikesedge, and alligatorweed. Howver, most of the area is maintained as part of the highway right-of-way.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 37 and County Road 640	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Vertical heterogeneity (3-4 strata); wading bird feeding, roosting, nesting; macroinvertebrate habitat; small-medium-large mammal habitat (cover, food, dens); amphibian/reptile cover, breeding, and feeding.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Mammals: opossum, raccoon, gray & flying squirrels, otter, gray fox, white-tailed deer, bobcat, black bear; Birds: downy, hairy & pileated woodpeckers, wood duck, turkey, chickadee, titmouse, Carolina wren, cardinal, ruby-throated hummingbird, yellow-throated & prothonotary warblers, hermit thrush, yellow-billed cuckoo, barred owl, limpkin, yellow-crowned night heron, wood stork, swallow-tailed and Mississippi kites, red-shouldered hawk; Reptiles: green anole, chicken & box turtles, five-lined skink, ring-neck snake, gray rat snake, eastern king snake, water moccasin, alligator; Amphibians: cricket frog, marbled, mole, three-lined, slimy and southern dusky salamanders	**Florida black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), bald eagle (T, roosting, incidental), American alligator (SSC, habitat, long-term), limpkin (SSC, foraging, frequent), wood stork (E, foraging, roosting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, roosting, nesting, seasonal), little blue heron (SSC, roosting, nesting, seasonal)**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Palm warblers and feral hogs

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Bryan Delius	**1-Dec-11**

Form 62-345.900(1), F.A.C. [effective date 02-04-2004]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**R35**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**December 1, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	**Because the assessment area is located within the road right-of-way, it is subject to mowing and/or other forms of maintenance at regular intervals. This mechanical removal of the overstory layers would be detrimental to the wildlife species present that are not capable of quickly moving away. However, after mowing the newly opened area could provide feeding for opportunistic animals, such as wading birds. Presence of highways in the area limits wildlife access and use. Area would provide some habitat to wildlife.**	**5**	5
.500(6)(b)Water Environment (n/a for uplands)	**The system is seasonally inundated, but the area pools with water and then discharges through an old recirculating ditch. Water in system is primarily from highway runoff.**	**4**	4
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**Mixed hardwood swamp with an overstory of coastalplain willow, Brazilian pepper, and elm, a shrub layer of anglestem primrosewillow, Peruvuian primrosewillow and Brazilian pepper and a ground stratum of common dayflower, vasey grass, shortleaf spikesedge, and alligatorweed. Even though the system contains trees and shrubs, the majority of the area is maintained in a low grassy condition as part of the highway right-of-way.**	**5**	3

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.47	0.4

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.07 x 0.206 = -0.014**

Delta = [with-current]
-0.07

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**W1**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617	**FDEP: 617** **FNAI: Floodplain Swamp/Basin Swamp** **SCS: 21-Hardwoods**	**Impact**	**1.848 Acres**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Area drains via three large culverts under State Road 37.

Assessment area description

Historically, mining occurred completely around this large mixed hardwood swamp which is now reclaimed. Due to past and ongoing disturbances, this system is vegetated by Peruvian primrosewillow, dog fennel and other invasive species.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 37	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Vertical heterogeneity (3-4 strata); wading bird feeding, roosting, nesting; macroinvertebrate habitat; small-medium-large mammal habitat (cover, food, dens); amphibian/reptile cover, breeding, and feeding.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Mammals: opossum, raccoon, gray & flying squirrels, otter, gray fox, white-tailed deer, bobcat, black bear; Birds: downy, hairy & pileated woodpeckers, wood duck, turkey, chickadee, titmouse, Carolina wren, cardinal, ruby-throated hummingbird, yellow-throated & prothonotary warblers, hermit thrush, yellow-billed cuckoo, barred owl, limpkin, yellow-crowned night heron, wood stork, swallow-tailed and Mississippi kites, red-shouldered hawk; Reptiles: green anole, chicken & box turtles, five-lined skink, ring-neck snake, gray rat snake, eastern king snake, water moccasin, alligator; Amphibians: cricket frog, marbled, mole, three-lined, slimy and southern dusky salamanders	**Florida black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), bald eagle (T, roosting, incidental), American alligator (SSC, habitat, long-term), limpkin (SSC, foraging, frequent), wood stork (E, foraging, roosting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, roosting, nesting, seasonal), little blue heron (SSC, roosting, nesting, seasonal)**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Warblers, leopard frogs, and small game trails.

Additional relevant factors:

None.

Assessment conducted by:	Assessment date(s):
Bryan Delius	**30-Nov-11**

Form 62-345.900(1), F.A.C. [effective date 02-04-2004]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**W1**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**November 30, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	6	**Area is surrounded by reclaimed land planted with oaks and pines, however, there is also a considerable ground cover of cogon grass. Major highway located along east side. However, the swamp is of considerable size and considered to be important wildlife habitat in the area.**
.500(6)(b)Water Environment (n/a for uplands)	5	5	**Area receives runoff from surrounding rclaimed land and highway. Hydrology supports existing community, but upland plants such as caesarsweed and dog fennel present. Trees appear to be stressed and many have split or scarred bark on trunks. System connects to other wetlands via culvert. Heavy amount of iron present in water. A narrow ditch occurs along the entire length of the system along State Road 37.**
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	6	4	**Area is a mixed hardwood swamp with gaps in the canopy; relatively young trees. Heavy vine cover and numerous nuisance species have recruited into the canopy gaps. Historically, mining occurred completely around this large mixed hardwood swamp which is now reclaimed. Due to past and ongoing disturbances, this system is vegetated by Peruvian primrosewillow, dog fennel and other invasive species.**

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.57	0.5

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.07 x 1.848 = -0.129**

Delta = [with-current]
-0.07

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**W3**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.102 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This former lake created after mining has formed into a shrubby wetland that receives runoff from reclaimed lands and the highway.

Assessment area description

The highly disturbed, reclaimed wetland is overgrown with an overstory of coastalplain willow and a shrub layer with coastalplain willow, Peruvian primrosewillow, and elderberry. The deeper portion of the wetland on the west is vegetated by water lettuce. Other herbaceous species present are southern cattail, Cuban bulrush, burrmarigold, and John Charles. Covered with air potato vine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
State Road 37	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Little blue heron, great egret, and warblers

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Chelsie Vandaveer	**12/6/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**W3**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**C. Vandaveer**	**December 6, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: **4**	with: 4
The wetland assessment area is a lake that was created after mining. Reclaimed land surrounding the system was planted with oaks and has recruited a variety of native plants, but considerable amounts of nuisance plants are present. Paved highway occurs along east side. Road trash, litter, and dumping create hazards to wildlife and reduce water quality.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: **4**	with: 4
Vegetation cover is indicative of low water quality. Source of water in system is primarily from reclaimed lands and highway runoff.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: **4**	with: 3
The highly disturbed, reclaimed wetland is overgrown with an overstory of coastalplain willow and a shrub layer with coastalplain willow, Peruvian primrosewillow, and elderberry. The deeper portion of the wetland on the west is vegetated by water lettuce. Other herbaceous species present are southern cattail, Cuban bulrush, burrmarigold, and John Charles. Covered with air potato vine. The majority of understory cover is invasive species.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.40	0.37

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.03 x 0.102 = -0.003**

Delta = [with-current]
-0.03

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M4**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.125 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The pond receives runoff from the surrounding reclaimed lands and water from Wetland M5, which receives water from the pond to the north. The pond to the north receives water from Wetland M8 which receives runoff directly from State Road 60 after going through Wetlands M7 and M6. The waters in Wetland M4 ultimately discharge into the North Prong of the Alafia River.

Assessment area description

Wetland M4 occurs along the vegetated littoral shelf of a man-made pond that was reclaimed after mining.The shrub swamp has an open overstory of occassional coastalplain willow and laurel oak. The shrub layer contains a mix of wax myrtle, cabbage palm, Peruvian primrosewillow, and Mexican primrosewillow. The ground layer mostly contained patragrass and southern cattail.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North Prong of the Alafia River	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Wood stork, double-breasted cormorant, turkey vulture, northern mockingbird, tree swallow, bluegrey gnatcatcher, pied-billed grebe, tufted titmouse, lesser yellowlegs, raccoon, white-tailed deer, and feral pig.

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Bryan Delius	**12/16/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M4**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**December 16, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	**Habitat available for terrestrial, wetland and aquatic wildlife. Surrounding reclaimed lands are not ideal, but provide good habitat and are somewhat isolated from man's activities. The area is somewhat isolated by State Road 60 to the north, an 8-foot high chain link fence, the CSX railroad and State Road 37 to the west and the Mulberry Mine operations to the east. However, the area could be considered to be an extension of the riverine wildlife corridor along the North Prong of the Alafia River which occurs to the south. Wildlife use is consistent with expectations.**	**7**	7
.500(6)(b)Water Environment (n/a for uplands)	**Water levels and flows are ideal and indicators are distinct. The pond receives runoff from the surrounding reclaimed lands and from the ponds to the north which receive runoff directly from State Road 60. Ultimately, these treated waters ultimately discharge into the North Prong of the Alafia River to the south. Water in system appears to be of good quality. No signs of hydrologic stress.**	**8**	8
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**The shrub swamp has an open overstory of occassional coastalplain willow and laurel oak. The shrub layer contains a mix of wax myrtle, cabbage palm, Peruvian primrosewillow, and Mexican primrosewillow. The ground layer mostly contained paragrass and southern cattail. Structural habitat is ideal for wildlife. Regeneration and size distribution typical.**	**6**	4

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.70	0.63

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.07 x 0.125 = -0.009**

Delta = [with-current]
-0.07

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M5**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.076 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The pond receives runoff from the surrounding reclaimed lands and water from the pond to the north, which receives water from Wetland M8. Wetland M8 receives runoff directly from State Road 60 through Wetlands M7 and M6. Ultimately, these treated waters drain offsite to the southwest to ultimately discharge into the Alafia River.

Assessment area description

Wetland M5 occurs along the vegetated littoral shelf of a man-made pond that was reclaimed after mining. The area contains coastalplain willow, Brazilian pepper, Peruvian primrosewillow, and southern cattail.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North Prong of the Alafia River	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge: detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Wood stork, double-crested cormorant, turkey vulture, northern mockingbird, tree swallow, bluegrey gnatcatcher, pied billed grebe, tufted titmouse, lesser yellowlegs, raccoon, white-tailed deer, and feral pig.

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Bryan Delius	**12/16/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M5**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**December 16, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: **7**	with: 7
Habitat available for terrestrial, wetland and aquatic wildlife. Surrounding reclaimed lands are not ideal, but provide good habitat and are somewhat isolated from man's activities. The area is somewhat isolated by State Road 60 to the north, an 8-foot high chain link fence, the CSX railroad and State Road 37 to the west and the Mulberry Mine operations to the east. However, the area could be considered to be an extension of the riverine wildlife corridor along the North Prong of the Alafia River which occurs to the south. Wildlife use is consistent with expectations.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: **8**	with: 8
The pond receives runoff from the surrounding reclaimed lands and water from the pond to the north, which receives water from Wetland M8. Wetland M8 receives runoff directly from State Road 60 through Wetlands M7 and M6. Ultimately, these treated waters drain offsite to the southwest to ultimately discharge into the Alafia River. Water levels and flows are ideal and indicators are distinct. Water in system appears to be of good quality. No signs of hydrologic stress.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: **6**	with: 4
The area contains coastalplain willow, Brazilian pepper, Peruvian primrosewillow, and southern cattail.Structural habitat is ideal for wildlife. Regeneration and size distribution typical.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.70	0.63

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.07 x 0.076 = -0.005**

Delta = [with-current]
-0.07

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M7**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
534/647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.034 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The small pond receives runoff directly from State Road 60 which pools and drains into Wetland M6, a stormwater retention pond. The water circulates through the mine ponds onsite and drains offsite to ultimately discharge into the Alafia River.

Assessment area description

The small pond was constructed to receive runoff directly from State Road 60. The shrubby wetland surrounding the pond supports a shrub layer of a mix of Peruvian primrosewillow, Mexican primrosewillow, anglestem primrosewillow, and elderberry over a ground stratum of mostly paragrass.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
CSX Railroad, State Road 60, and the North Prong of the Alafia River	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Apple snail, loggerhead shrike, red-winged blackbird, double-breasted cormorant, palm warbler, Carolina chickadee, boat-tailed grackle, common grackle, great egret, anhinga, and river otter.

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Bryan Delius	**12/16/2011**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M7**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**December 16, 2011**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	**Not much in the way of wildlife habitat value. Substantial barriers limit wildlife access. Limited indications of wildlife use.**	**4**	4
.500(6)(b)Water Environment (n/a for uplands)	**The small pond receives runoff directly from State Road 60, which pools and drains into Wetland M6, a stormwater retention pond. The water circulates through the mine ponds onsite and drains offsite to ultimately discharge into the Alafia River. Water quality should be significantly degraded.**	**4**	4
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**The shrubby wetland supports a shrub layer of a mix of Peruvian primrosewillow, Mexican primrosewillow, anglestem primrosewillow, and elderberry over a ground stratum of mostly paragrass. Thus, the majority of the vegetation cover is comprised of invasive species.**	**4**	3

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.40	0.37

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.03 x 0.034 = -0.001**

Delta = [with-current]
-0.03

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M8**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
647	**FDEP: None** **FNAI: None, Shrub Swamp** **SCS: None**	**Impact**	**0.016 Acre**

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)
Alafia River	**Class III**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The pond receives runoff from the surrounding reclaimed lands and from Wetlands M7 and M6, which receive runoff directly from State Road 60. These treated waters drain into the pond located to the southwest and ultimately discharge offsite into the Alafia River.

Assessment area description

Wetland M8 occurs along the vegetated littoral shelf of a man-made pond that was reclaimed after mining. The assessment area has an open canopy of occassional wax myrtles and cabbage palms. The shrub layer is dominated by Peruvian primrosewillow and wax myrtle. The ground stratum contains manyflower marshpennywort, Virginia chain fern and southern cattail.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
None	**None**

Functions	Mitigation for previous permit/other historic use
BIOLOGICAL: **Wading bird feeding, roosting, nesting; some vertical heterogeneity (1-2 strata); forage fish cover, feeding, breeding; amphibian cover feeding, some breeding; small-medium-large mammal foraging, denning; reptile feeding and cover.** **PHYSICAL/CHEMICAL:** **Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention.**	**No / Mining**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Crayfish, midge larvae, dragonfly larvae, mosquitofish, least killifish, frogs (several species), sirens, mud turtle, musk turtle, water snakes, red-shouldered hawk, great blue heron, great egret, white eyed vireo common yellowthroat, red-winged blackbird, common gallinule, coots, snipe, water snakes, cottonmouth moccasin, raccoon, marsh rabbit, and opossum.	**Little blue heron (SSC, foraging, roosting, nesting, seasonal), tricolored heron (SSC, foraging, roosting, nesting, seasonal), snowy egret (SSC, foraging, roosting, nesting, seasonal), wood stork (E, foraging, roosting, seasonal), white ibis (SSC, foraging, roosting, nesting, seasonal), black bear (T, foraging, incidental), Florida panther (E, hunting, incidental), and American alligator**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

American alligator, common moorhen, common egret, American coot, and otter.

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Bryan Delius	**3/8/2012**

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
TEC PPS Reclaimed Water Pipeline Project		**M8**
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	**B. Delius**	**March 8, 2012**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	**Habitat available for terrestrial, wetland and aquatic wildlife. Surrounding reclaimed lands are not ideal, but provide limited habitat and are somewhat isolated from man's activities. The area is somewhat isolated by State Road 60 to the north, the CSX railroad and State Road 37 to the west and the Mulberry Mine operations to the east. However, the area could be considered to be an extension of the riverine wildlife corridor along the North Prong of the Alafia River which occurs to the south.**	**6**	6
.500(6)(b)Water Environment (n/a for uplands)	**The pond receives runoff from the surrounding reclaimed lands and from Wetlands M7 and M6, which receive runoff directly from State Road 60. Ultimately, these treated waters drain into the pond located to the southwest and ultimately discharge offsite into the Alafia River.**	**6**	6
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**The assessment area has an open canopy of occassional wax myrtles and cabbage palms. The shrub layer is dominated by Peruvian primrosewillow and wax myrtle. The ground stratum contains manyflower marshpennywort, Virginia chain fern and southern cattail.**	**5**	3

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.57	0.5

If preservation as mitigation,
Preservation adjustment factor = **N/A**
Adjusted mitigation delta = **N/A**

For impact assessment areas
FL = delta x acres = **-0.07 x 0.016 = -0.001**

Delta = [with-current]
-0.07

If mitigation
Time lag (t-factor) = **N/A**
Risk factor = **N/A**

For mitigation assessment areas
RFG = delta/(t-factor x risk) = **N/A**

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

APPENDIX F

C.R.A.S REPORT AND FDHR/SHPO RESPONSE

JANUS MAIN OFFICE
1107 N. Ward Street
Tampa, FL 33607

JANUS RESEARCH
— EST. 1979 —

Tel. 813.636.8200
Fax 813.636.8212
janus@janus-research.com

Tampa Bay ▪ Miami ▪ Ft. Myers ▪ Atlanta

RECEIVED
BUREAU OF
HISTORIC PRESERVATION
2012 APR 26 P 12:07

April 24, 2012

Mr. Robert Bendus
Interim State Historic Preservation Officer
Division of Historical Resources
500 South Bronough Street - Room 423
Tallahassee, FL 32399-0250

RE: Final Report of the Cultural Resource Assessment Survey of the Tampa Electric Company (TEC) Polk Power Station Reclaimed Water Pipeline Project

Dear Mr. Bendus:

Please find enclosed a copy of the final report for the above-referenced project for your review and comment. At the request of Tampa Electric Company (TEC) and Environmental Consulting & Technology, Inc. (ECT), Janus Research conducted a cultural resource assessment survey (CRAS) of the Tampa Electric Company (TEC) Polk Power Station Reclaimed Water Pipeline Project in Polk County, Florida in April 2012. The purpose of this survey was to identify cultural resources located within and adjacent to the project corridor and to assess their significance in terms of eligibility for listing in the *National Register of Historic Places* (National Register).

The assessment was conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665, as amended) as implemented by 36 CFR 800 (Protection of Historic Properties, effective January 2001) and with the Federal Energy Regulatory Commission, Office of Pipeline Regulation's Guidelines for Reporting on Cultural Resources Investigations (December 1994). The survey also complied with Chapter 267, Florida Statutes (Florida Historical Resources Act); and the minimum field methods, data analysis, and reporting standards embodied in the Florida Division of Historical Resources' (FDHR) Cultural Resource Management Standards and Operational Manual (February 2003). All work conformed to the professional guidelines set forth in the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 CFR 44716, as amended and annotated); and Chapter 1A-46 (Archaeological and Historical Report Standards and Guidelines), Florida Administrative Code.

No archaeological sites were identified within the archaeological area of potential effect (APE) during the current survey. Three significant previously recorded historic resources were identified within the APE: the Seaboard Coast Line Railroad (8PO6449), the CSX Railroad (8PO7140), and the Winston and Bone Valley Railroad (8PO7528). These historic railroads will be avoided through the use of jack and bore construction, which will allow for the installation of the pipeline underneath these resources. Therefore, no impacts to these resources are anticipated. Fourteen unrecorded historic buildings adjacent to the project right-of-way were also identified. However, all of these structures exhibited a common design type found throughout Florida, and alterations have limited the historic integrity of many. Therefore, these buildings were found to be ineligible for listing in the National Register, either individually or as part of a district.

Therefore, based upon the results of this survey, the currently proposed alignment, and the proposed construction methods, no further archaeological testing or historic investigations within the proposed project corridor are recommended by Janus Research, Inc. If you should have any questions or need any additional information, please do not hesitate to give me a call at your earliest convenience. Thank you for your kind attention to this matter.

Sincerely,

Kathl Hoffman

Kathleen Hoffman, Ph.D.
Janus Research, Inc.
1107 North Ward Street
Tampa, FL 33607
Phone: 813-636-8200
Cell: 727-423-1937
Fax: 813-636-8212

cc: Anthony N. Arcuri, ECT
Adriano "Nate" Alcoz, TEC

(Enclosures)

Please sign below if you concur with these recommendations outlined in this letter.

2012-2109 (DHR Project File No.)

Laura A. Kammerer, Deputy SHPO 6.6.12

for Robert Bendus
Interim State Historic Preservation Officer
Florida Division of Historical Resources

Date