



# FLORIDA DEPARTMENT OF Environmental Protection

CENTRAL DISTRICT OFFICE  
3319 MAGUIRE BLVD., SUITE 232  
ORLANDO, FLORIDA 32803

Ron DeSantis  
Governor

Jeanette Nuñez  
Lt. Governor

Noah Valenstein  
Secretary

**Permittee/Authorized Entity:**  
St Johns River Water Management District (SJRWMD)  
Ann Shortelle, Executive Director  
[AShortelle@sjrwmd.com](mailto:AShortelle@sjrwmd.com)  
PO Box 1429  
Palatka, Florida 32178-1429

## **SJRWMD M-1 Canal Flow Restoration**

**Authorized Agent:**  
Jones Edmunds  
Amy L. Goodden, P.E., Project Engineer  
[AGoodden@jonesedmunds.com](mailto:AGoodden@jonesedmunds.com)  
730 NE Waldo Road  
Gainesville, Florida 32641

**Environmental Resource Permit – Individual**

**State-Owned Submerged Lands Authorization – Not Applicable**

**U.S. Army Corps of Engineers – Separate Authorization May Be Required**

**Permit No.: 0384808-001-EI**

**Oculus Facility-Site ID Search: [ERP 384808](#)**

**Permit Issuance Date: June 29, 2020**  
**Permit Construction Expiration Date: June 29, 2025**



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**Environmental Resource Permit (ERP)**  
**Permittee: SJRWMD**  
**Attention: Ann Shortelle, Executive Director**  
**Permit No.: 0384808-001-EI**

## PROJECT LOCATION

The activities authorized by this individual permit are located from southeast of West Hibiscus Boulevard and Evans Road, parcel identification number 28-37-05-00-264, to northeast of Columbia Lane and BJ Lane, parcel identification number 27-36-34-00-502, Melbourne, Brevard County, FL. The activities are located within the following Sections, Townships and Ranges:

Section	Township	Range		Section	Township	Range
5	28 South (S)	37 East (E)		31	27 S	37 E
6	28 S	37 E		36	27 S	36 E
1	28 S	36 E		35	27 S	36 E
2	28 S	36 E		34	27 S	36 E
3	28 S	36 E				

## PROJECT DESCRIPTION & AUTHORIZATION

The permittee will be restoring the flow from M-1 Canal to the St. Johns River. The permittee is authorized to construct a weir at the M-1 Canal east of Evans Road, a pump station at the M-1 Canal near Dike Road, that will pump flow from the M-1 Canal to the previously permitted stormwater treatment system (STA), and a 24-inch stormwater force main. The STA was permitted under [SJRWMD ERP Permit Number 126163-3](#).

The activities authorized by this individual permit are depicted on Exhibit 1 and 2, attached.

There are no surface waters and floodplain impacts are not authorized.

### Environmental Resource Permit

The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapter 62-330, Florida Administrative Code (F.A.C.).

### Sovereignty Submerged Lands Authorization

As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the Department has determined the activity is not on submerged lands owned by the State of Florida. Therefore, your project is not subject to the requirements of Chapter 253, F.S., or Chapter 18-21, F.A.C.

### Federal Authorization

Your proposed activity as outlined on your application and attached drawings **does not qualify** for Federal authorization pursuant to the State Programmatic General Permit and a **SEPARATE permit** or authorization **may be required** from the U. S. Army Corps of Engineers. You must apply

separately to the Corps using the federal application form (ENG 4345). More information about Corps permitting may be found online in the Jacksonville District Regulatory Division Sourcebook. **Failure to obtain Corps authorization prior to construction could subject you to federal enforcement action by that agency.**

Authority for review - an agreement with the USACOE entitled “Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection, or Duly Authorized Designee, State Programmatic General Permit”, Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

#### Coastal Zone Management

Issuance of this authorization also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

#### Water Quality Certification

This permit also constitutes a water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

#### Other Authorizations

You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations. (NOTE: If there are discharge points from the proposed stormwater management system, a National Pollutant Discharge Elimination System (NPDES) permit may be required.)

The activity described may be conducted only in accordance with the terms, conditions and attachments contained in this document. Issuance and granting of the permit and authorizations herein do not infer, nor guarantee, nor imply that future permits, authorizations, or modifications will be granted by the Department.

### **PERMIT CONDITIONS**

The activities described herein must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The limits, conditions and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are using a contractor, the contractor also should read and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit, as described.

### **SPECIFIC CONDITIONS – PRIOR TO CONSTRUCTION**

1. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), “Construction Commencement Notice.” The construction commencement notice can be found on the following link: [Form 62-330.350\(1\)](#)
2. Best management practices for erosion control shall be implemented prior to construction commencement and shall always be maintained during construction to prevent siltation and turbid discharges in a manner that does not cause or contribute to violations of state water quality standards in accordance with 62-302, F.A.C.
3. Prior to construction, the limits of construction shall be clearly marked in a way which is visible and obvious to anyone performing work on-site, including someone operating heavy equipment. Orange construction fencing or tall flagged stakes along the construction limits are possible methods.
4. Prior to initiation of any work authorized by this permit, all wetlands, surface waters, and stormwater conveyances outside the specific limits of construction authorized by this permit shall be protected from erosion, siltation, sedimentation, and/or scouring, including the placement of staked erosion control devices around the project area and staging areas that are located outside of any authorized impact area.

### **SPECIFIC CONDITIONS – ADDITIONAL REGULATED ACTIVITIES**

5. The permittee must obtain additional authorization from the Department prior to beginning construction and/or operation of any regulated activity described in 62-330.020, F.A.C not specifically authorized herein.

### **SPECIFIC CONDITIONS – DEWATERING**

6. If dewatering is to occur at any time and discharge is to on-site or off-site surface waters of the State, either directly or via a stormwater management system, a generic permit in accordance with Rule 62-621.300, F.A.C., will be required prior to any dewatering.
7. If dewatering is to occur any time, a water use permit may be required from the South Florida Water Management District prior to beginning any dewatering in accordance with 40E-2.041, F.A.C.

### **SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES**

8. The permittee shall be responsible for ensuring erosion control devices/procedures are inspected and maintained daily during all phases of construction authorized by this permit until areas disturbed during construction are sufficiently stabilized to prevent erosion, siltation, and turbid discharges.
9. Staked filter cloth shall be positioned at the edge of the permitted fill slopes adjacent to wetlands to prevent turbid runoff and erosion.
10. A vegetative cover that stabilizes and prevents erosion of the fill material shall be established within 60 days of sodding or seeding. Turbidity barriers/erosion control devices shall be removed upon establishment of a substantial vegetative cover.

### **SPECIFIC CONDITIONS – FLORIDA FISH AND WILDLIFE (FWC)**

11. Construction, operation and maintenance activities are to avoid adversely impacting or causing “take” of state listed species and other regulated species of fish and wildlife.



Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of “take” and a list of fish and wildlife species. Most marine endangered and threatened species are statutorily protected and a “take” permit cannot be issued. If listed species are observed onsite, FWC staff are available to provide decision support information or to assist in obtaining the appropriate FWC permits. Requests for assistance or further information can be sent to [FWCConservationPlanningServices@MyFWC.com](mailto:FWCConservationPlanningServices@MyFWC.com).

#### **SPECIFIC CONDITIONS – POST ISSUANCE SUBMITTALS**

12. All post-issuance submittals required by the Specific or General Conditions of this permit shall be provided to the Department in a digital format (via electronic mail, CD or DVD, or through a file transfer site) when practicable. The mailing address for the appropriate Department office is 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767 and the electronic mail address is [DEP\\_CD@dep.state.fl.us](mailto:DEP_CD@dep.state.fl.us). All submittals shall include the project name and indicated permit number when referring to this project.

#### **SPECIFIC CONDITIONS – STORMWATER MANAGEMENT SYSTEM (SWMS)**

13. The following maintenance activities shall be performed, as necessary, on:
  - A. All permitted systems:
    - 1) Removal of trash and debris;
    - 2) Inspection of inlets and outlets;
    - 3) Removal of sediments when the storage volume or conveyance capacity of the stormwater management system is less than the permitted design; and
    - 4) Stabilization and restoration of eroded areas.
  - B. Retention, ditch, swale, and underdrain systems:
    - 1) Mowing and removal of grass clippings;
    - 2) Aeration, tilling, or replacement of topsoil; and
    - 3) Re-establishment of vegetation on disturbed surfaces.
  - C. Wet detention systems, if applicable:
    - 1) Replanting of natural vegetation within the littoral zone; and
    - 2) Control of nuisance and exotic vegetation.
14. In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems, dams, impoundments, reservoirs, appurtenant works, or works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.
15. If the stormwater management system is not functioning as designed and permitted, operational maintenance must be performed immediately to restore the system. Within 30 days of any failure of the stormwater management systems or deviation from the permit, a report shall be submitted electronically or in writing to the Department using the enclosed “Operation and Maintenance Inspection Certification” [Form 62-330.311(1)] describing the remedial actions taken to resolve the failure or deviation. If operational maintenance measures are insufficient to

enable the system to meet the design and performance standards of this Chapter 62-330, F.A.C., the permittee must either replace the system or construct an alternative design. A permit modification must be obtained from the Department prior to constructing such an alternate design pursuant to Rule 62-330.315, F.A.C.

16. Upon completion of the permitted stormwater management systems, dams, reservoirs, impoundments, appurtenant work, or works, the Agency shall have periodic inspections made to ensure the project was constructed and is being operated in compliance with the terms and conditions of the permit, and in a manner that protects the public health and safety and the natural resources of the state. No person shall refuse immediate entry or access to any authorized representative of the District or DEP who requests entry for purposes of such inspection and presents appropriate credentials pursuant to Part 12.4 (b) of the Applicant's Handbook Volume I.
17. Inspections may be performed by Agency staff during and after construction. When needed to ensure a project is being operated and maintained in perpetuity, the permit may require the operation and maintenance entity to conduct the periodic inspections. The required inspection schedule for a specific project will be specified in the permit pursuant to Part 12.4 (c) of the Applicant's Handbook Volume I.
18. The efficiency of stormwater management systems decreases over time without periodic maintenance. For example, a significant reduction in the flow capacity of a stormwater management system often can be attributed to partial blockages of its conveyance system. Once flow capacity is compromised, flooding may result. Therefore, operation and maintenance entities must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies so that the project is returned to the operational functions required in the permit and contemplated by the design of the project as permitted pursuant to Part 12.4 (e) of the Applicant's Handbook Volume I.
19. The operation and maintenance entity must maintain a record of each inspection, including the date of inspection, the name and contact information of the inspector, whether the system was functioning as designed and permitted, and make such record available upon request of the Agency pursuant to Section 12.4 (h) of Applicant's Handbook Volume I.

#### **SPECIFIC CONDITIONS – CONSTRUCTED ACTIVITY**

20. In accordance with 62-330.350(1)(q), F.A.C.; if the activity authorized within this permit is causing adverse water resource-related impacts, the Department will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

#### **GENERAL CONDITIONS FOR INDIVIDUAL PERMITS**

The following general conditions are binding on all Individual Permits issued under Chapter 62-330, F.A.C., except where the conditions are not applicable to the authorized activity, or where the conditions must be modified to accommodate project-specific conditions.

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification

in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007, <http://www.fdot.gov/roadway/drainage/files/Erosion-Sediment-Control.pdf>* and the *Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008, <http://www.dep.state.fl.us/water/nonpoint/docs/erosion/erosion-inspectors-manual.pdf>)*, which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C., indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
  - a) For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
  - b) For all other activities – "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)]. (See Specific Condition 2 regarding requirements for the submittal package.)
  - c) If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
  - a) Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of

State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.

- b) Within 30 days of submittal of the as-built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes to the permitted activity required by any other regulatory agency. Any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
  - a) Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
  - b) Convey to the permittee or create in the permittee any interest in real property;
  - c) Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
  - d) Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
  - a) Immediately if any previously submitted information is discovered to be inaccurate; and
  - b) Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate

vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

## **NOTICE OF RIGHTS**

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until a subsequent order of the Department. Because the administrative hearing process is designed to formulate final agency action, the subsequent order may modify or take a different position than this action.

### Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;

- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at [Agency\\_Clerk@dep.state.fl.us](mailto:Agency_Clerk@dep.state.fl.us). Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

#### Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a).

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you do not publish notice of this action, this waiver may not apply to persons who have not received a clear point of entry.

#### Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at [Agency\\_Clerk@dep.state.fl.us](mailto:Agency_Clerk@dep.state.fl.us), before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

#### Mediation

Mediation is not available in this proceeding.

### FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

### Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, 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 must be filed within 30 days from the date this action is filed with the Clerk of the Department.

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## EXECUTION AND CLERKING

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Erin Rasnake, Program Administrator  
Permitting and Waste Cleanup Program  
Central District

### Attachments:

- Exhibit 1: 0385344-001-EI Location Figures, 4 pages
- Exhibit 2: 0385344-001-EI Engineering Drawings, 75 pages
- Exhibit 3: [Internet Link to SJRWMD ERP 126163-3 Permitting Files](#)
- Exhibit 4: [Oculus Link to 0385344 Permitting Files](#)
- Exhibit 5: See the links below for the 62-330 Forms,  
[Link to the Construction Commencement Notice/Form 62-330.350\(1\)](#)  
[Link to the As-built Certification and Request for Conversion to Operational Phase/Form 62-330.310\(1\)](#)  
[Link to the Operation and Maintenance Inspection Certification/Form 62-330.311\(1\)](#)  
[Link to the Request to Transfer Permit/Form 62-330.340\(1\)](#)  
[Link to the Recorded Notice of Environmental Resource Permit/Form 62-330.090\(1\)](#)

### CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were sent on the filing date below to the following listed persons:

Jenni Lamb, Deputy City Manager, [Jenni.Lamb@mlbfl.org](mailto:Jenni.Lamb@mlbfl.org)  
John Denninghoff, Brevard County, [John.Denninghoff@brevardfl.gov](mailto:John.Denninghoff@brevardfl.gov)  
Lee Ann McCullough, Brevard County, [LeeAnn.McCullough-Wham@brevardfl.gov](mailto:LeeAnn.McCullough-Wham@brevardfl.gov)  
Richard Koller, SJRWMD, [RKoller@jonesedmunds.com](mailto:RKoller@jonesedmunds.com)  
Marc Van Heden, SJRWMD, [MVanHede@sjrwmd.com](mailto:MVanHede@sjrwmd.com)  
Julie Green, SJRWMD, [JGreen@sjrwmd.com](mailto:JGreen@sjrwmd.com)  
Erin Rasnake, FDEP, [Erin.Rasnake@FloridaDEP.gov](mailto:Erin.Rasnake@FloridaDEP.gov)  
Reggie Phillips, FDEP, [Reggie.Phillips@FloridaDEP.gov](mailto:Reggie.Phillips@FloridaDEP.gov)  
Leo Angleró, FDEP, [Leo.Anglero@FloridaDEP.gov](mailto:Leo.Anglero@FloridaDEP.gov)  
Dan Shideler, FDEP, [Dan.Shideler@FloridaDEP.gov](mailto:Dan.Shideler@FloridaDEP.gov)  
Megan Warr, FDEP, [Megan.Warr@FloridaDEP.gov](mailto:Megan.Warr@FloridaDEP.gov)  
Michelle R. Pasawicz, FFWCC, [Michelle.Pasawicz@MyFWC.com](mailto:Michelle.Pasawicz@MyFWC.com)

### FILING AND ACKNOWLEDGMENT

**FILED**, on this date, pursuant to Section 120.52(7), F.S., with the designated Department clerk, receipt of which is hereby acknowledged.

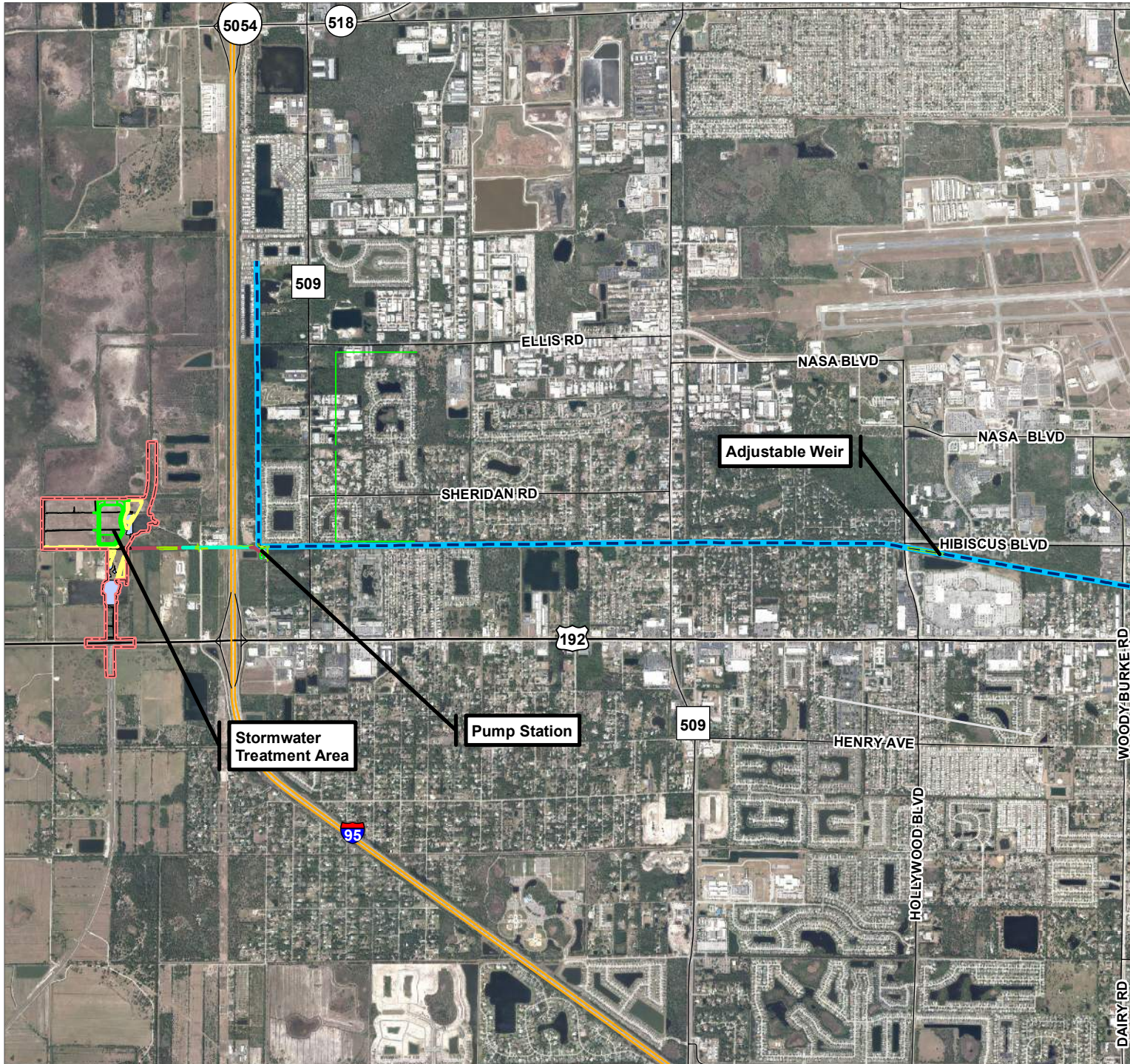


Clerk

June 26, 2020

Date

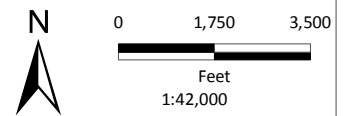




**Figure 1**  
**Project Overview Map**  
M-1 Canal Flow Restoration



- Legend**
- M1 Canal
  - Heritage Parkway Permit Boundary
  - Proposed Pond Grading



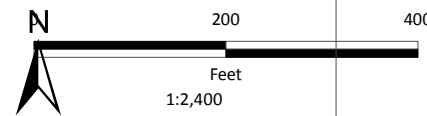




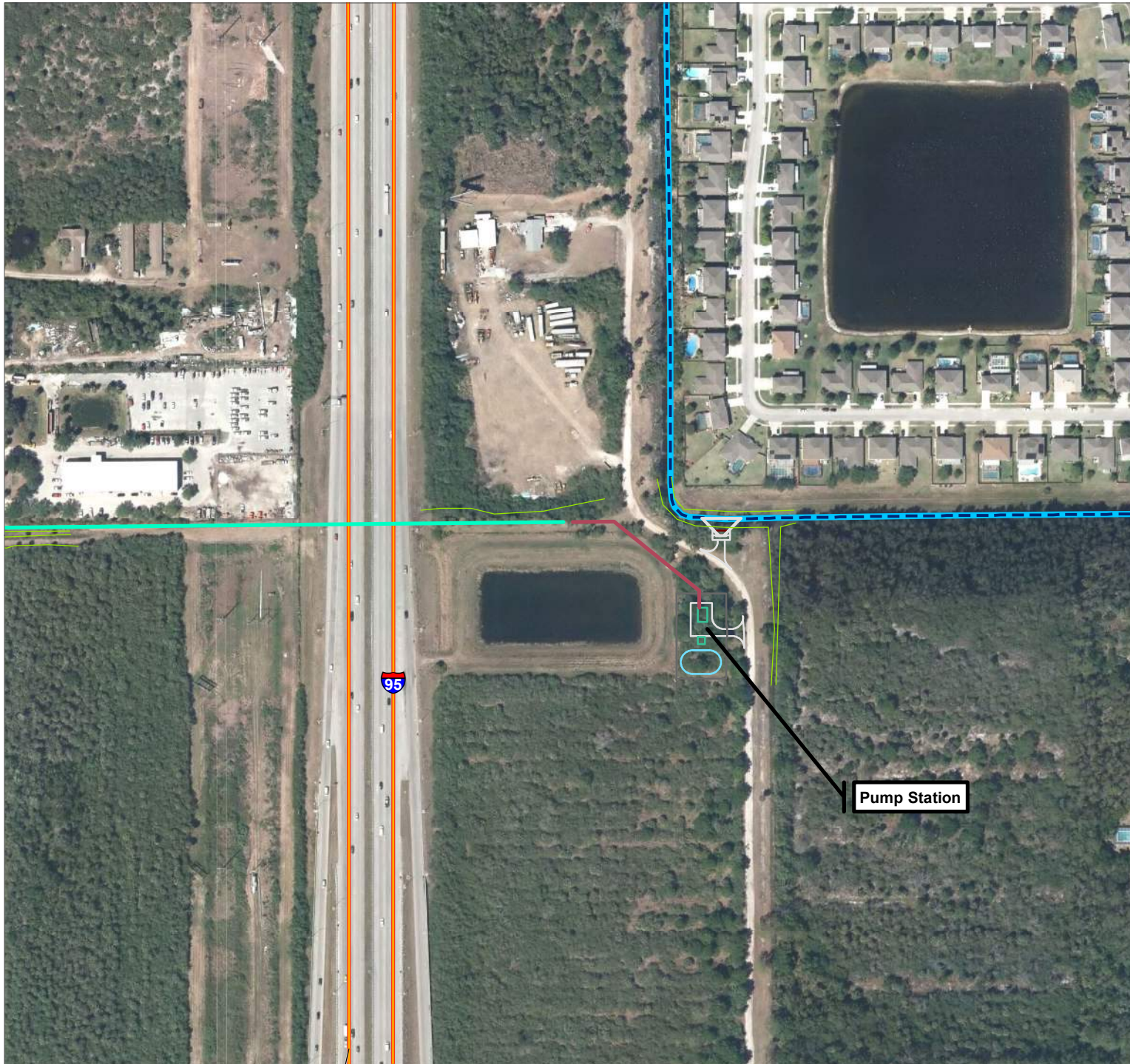
**Figure 2**  
**Weir Overview Map**  
M-1 Canal Flow Restoration



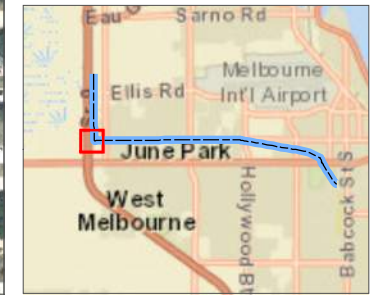
- Legend**
- M1 Canal
  - Wetlands
  - Wetland Polygons



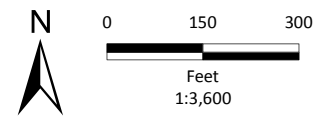




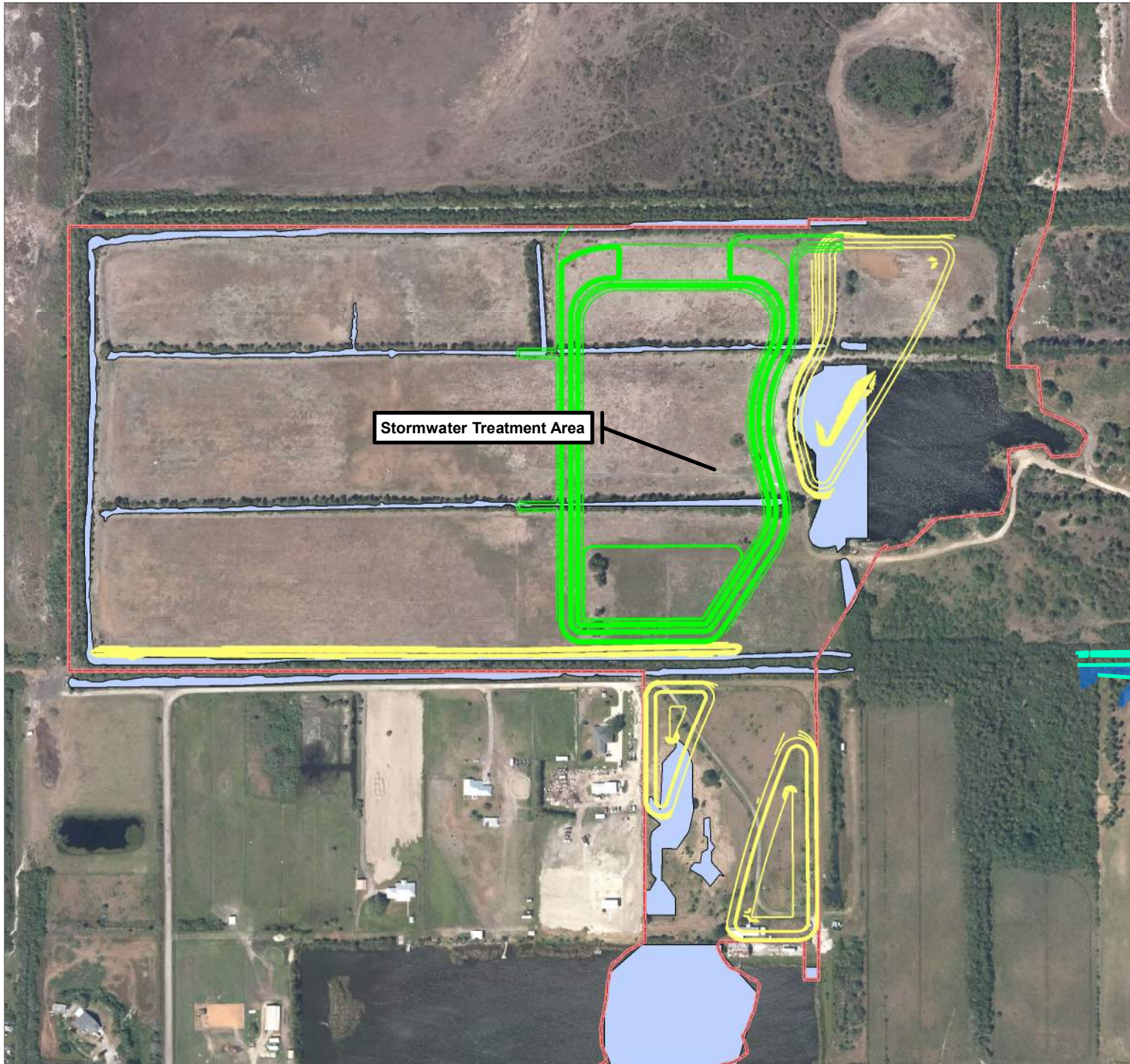
**Figure 3**  
**Pump Station**  
 M-1 Canal Flow Restoration



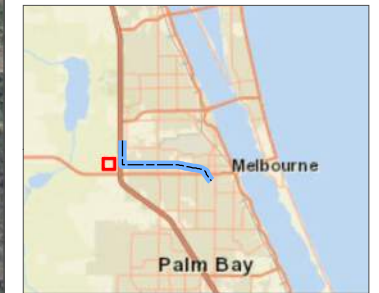
- Legend**
- M1 Canal
  - Delineated Wetlands
  - Pavement, Concrete
  - Road
  - Building
  - Fence
  - - - Fence Gate
  - Pond
  - Structural Concrete
  - Structural Steel
  - Force Main-HDD
  - Force Main-Open Cut
  - Heritage Parkway Stormwater Grading
  - Heritage Parkway Permit Boundary













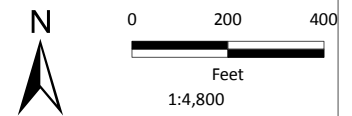


**Figure 4**  
**Stormwater Treatment Area**  
M-1 Canal Flow Restoration



**Legend**

-  M1 Canal
-  Wetlands
-  Wetland Polygons
-  Heritage Parkway Permit Boundary
-  Heritage Parkway Stormwater Grading
-  Heritage Parkway Stormwater Grading
-  Heritage Parkway Stormwater Grading
-  Proposed Pond Grading





22x34

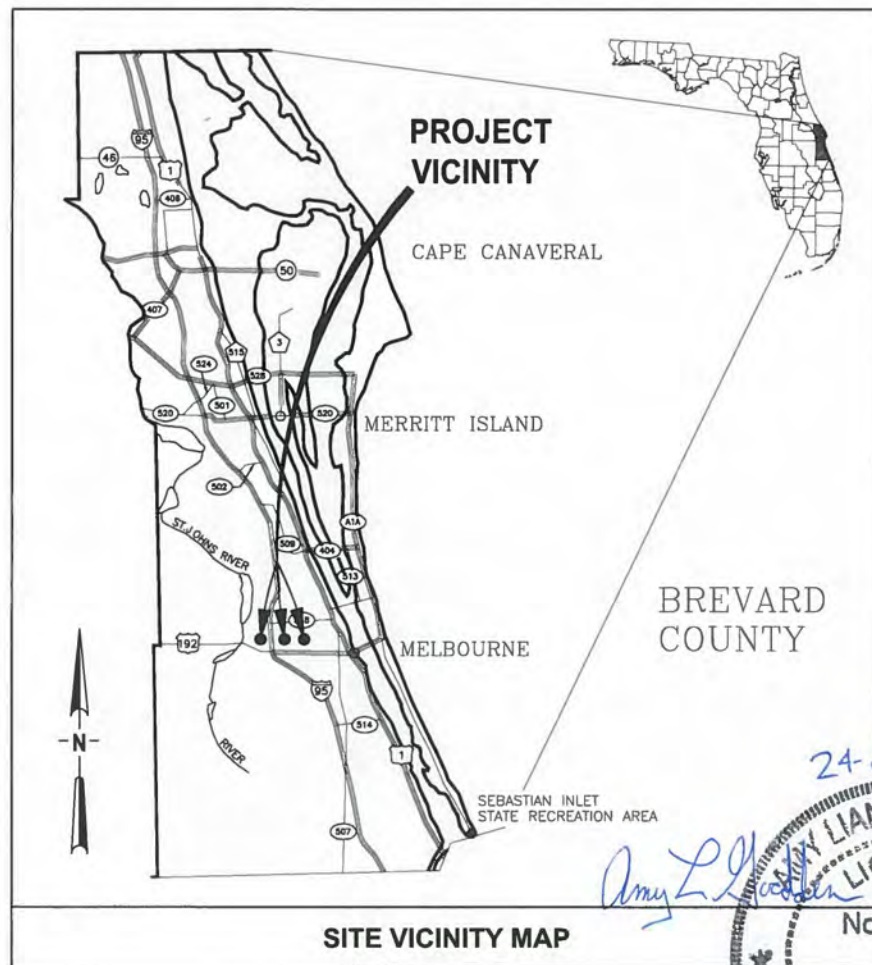
# CRANE CREEK M-1 CANAL FLOW RESTORATION

PREPARED FOR:  
**ST. JOHNS RIVER  
WATER MANAGEMENT  
DISTRICT**

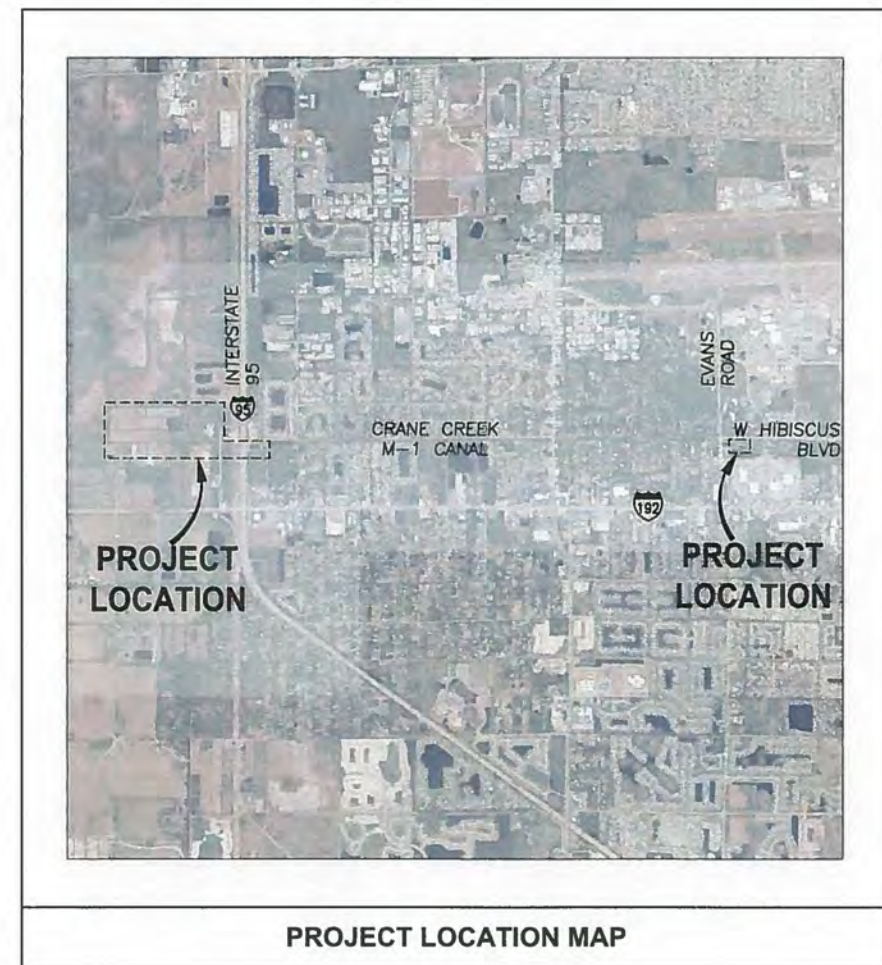


PREPARED BY:

**JonesEdmunds**  
CERTIFICATE OF AUTHORIZATION #1841  
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821



SITE VICINITY MAP



PROJECT LOCATION MAP

LTR.	DATE	REVISIONS	BY	APPRD.
A	12/20/19	REVISED PER COWM	RK	RK

**CONTRACT NO: 32116**  
**PROJECT NO: 19750-066-01**

**NOT FOR CONSTRUCTION**

**DECEMBER 2019**

LAST SAVED: 12/23/2019 3:16 PM BY: DHAUBRICH PLOTTED: 1/20/2020 11:47 AM BY: DEAN HAUBRICH



PLOTTED: 1/28/2020 10:29 AM DEAN HAUBRICH

**DRAWING INDEX**

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GENERAL	
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G2	DRAWING INDEX & ABBREVIATIONS
G3	GENERAL NOTES
G4	CIVIL LEGEND
G5	MECHANICAL LEGEND & PIPE SCHEDULE
G6	ELECTRICAL LEGEND
G7	STRUCTURAL GENERAL NOTES
G8	KEY MAP
EXISTING CONDITIONS: LIDAR	
V1	STORMWATER TREATMENT AREA EXISTING CONDITIONS
EXISTING CONDITIONS: SURVEY	
V2	KEY MAP, LEGEND & NOTES
V3	SURVEY
V4	SURVEY
V5	SURVEY
V6	SURVEY
V7	SURVEY
V8	SURVEY
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V10	SURVEY
V11	SURVEY
V12	SURVEY
V13	SURVEY
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V15	SURVEY
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V17	SURVEY
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EC1-2	STORMWATER TREATMENT AREA STORMWATER POLLUTION PREVENTION NOTES
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C3-3	STORMWATER FORCE MAIN - DETAILS
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M3-1	HORIZONTAL DIRECTIONAL DRILL DETAILS
PUMP STATION: CIVIL	
C4-1	PUMP STATION SITE PLAN

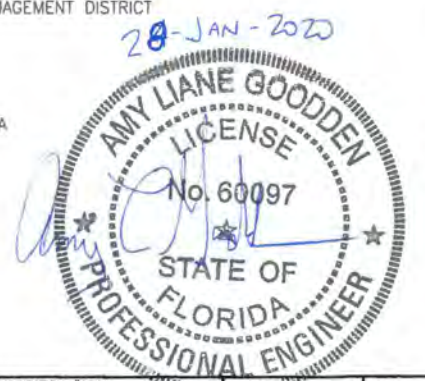
C4-2	PUMP STATION GRADING PLAN
C4-3	PUMP STATION GEOMETRIC CONTROL PLAN
C4-6	PUMP STATION INTAKE PLAN & SECTIONS
C4-7	CIVIL DETAILS
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PUMP STATION: EROSION CONTROL	
EC4-1	DEWATERING & EROSION CONTROL PLAN
EC4-2	STORMWATER POLLUTION PREVENTION NOTES
EC4-3	EROSION CONTROL NOTES AND DETAILS
PUMP STATION: MECHANICAL	
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E4-3 (E6)	PUMP STATION ELECTRICAL DETAILS
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C5-3	WEIR GEOMETRIC CONTROL TABLE
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C5-7	WEIR DETAILS
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WEIR: EROSION CONTROL	
EC5-1	EROSION CONTROL PLAN - WEIR
EC5-2	STORMWATER POLLUTION PREVENTION NOTES - WEIR
EC5-3	EROSION CONTROL NOTES AND DETAILS - WEIR
WEIR: STRUCTURAL	
S5-1	
S5-2	WEIR SECTIONS AND DETAILS
S5-3	WEIR SECTIONS AND DETAILS
WEIR: ELECTRICAL	
E5-1 (E-1)	WEIR ELECTRICAL SITE PLAN
E5-2 (E4)	WEIR STATION ONE LINE DIAGRAM
E5-3 (E7)	WEIR STATION ELECTRICAL DETAILS

**ABBREVIATIONS**

⊙	AT	HWL	HIGH WATER LEVEL	TOC	TOP OF CONCRETE
&	AND	ID	INSIDE DIAMETER	TOS	TOE OF SLOPE
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	IE	INVERT ELEVATION	TS	THICKENED SLAB
ADF	AVERAGE DAILY FLOW	IF	INSULATED FLANGE	TYP	TYPICAL
ADJ	ADJUSTABLE	IPS	IRON PIPE SIZE	ULC	ULTRASONIC LEVEL CONTROLLER
ALUM	ALUMINUM	JT	JOINT	VERT	VERTICAL
ALT	ALTERNATIVE	LB	POUND	W	WEST
AISI	AMERICAN IRON STEEL INSTITUTE	LBR	LIMEROCK BEARING RATIO	W/	WITH
AMPS	AMPERES	LF	LINEAR FEET	WM	WATER MAIN
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LIDAR	LIGHT DETECTION AND RANGING	WSE	WATER SURFACE ELEVATION
AR	AIR RELEASE	LOC	LIMITS OF CONSTRUCTION	WT	WEIGHT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LR	LONG RADIUS	WWF	WELDED WIRE FABRIC
AV	AIR VACUUM	LWL	LOW WATER LEVEL	YR	YEAR
AWWA	AMERICAN WATER WORKS ASSOCIATION	M/F	MALE/FEMALE		
BLD	BLIND	MAX	MAXIMUM		
BLDG	BUILDING	MES	MITERED END SECTION		
BF	BLIND FLANGE	MFR	MANUFACTURER		
BFP	BACKFLOW PREVENTOR	MH	MANHOLE		
BFV	BUTTERFLY VALVE	MIN	MINIMUM		
BMP	BEST MANAGEMENT PRACTICES	MJ	MECHANICAL JOINT		
BO	BLOW-OFF	MNPT	MALE NATIONAL PIPE THREAD		
BTM	BOTTOM	N	NORTH		
BTM/	BOTTOM OF	NAD	NORTH AMERICAN DATUM		
BV	BALL VALVE	NAVD	NORTH AMERICAN VERTICAL DATUM		
BW	BLENDED WATER	NC	NORMALLY CLOSED		
BYP	BY-PASS	NEC	NATIONAL ELECTRIC CODE		
CB	CENTER OF DITCH/POND	NHW	NORMAL HIGH WATER		
CD	CENTER OF DITCH	NIC	NOT IN CONTRACT		
CEN	CENTER	NLW	NORMAL LOW WATER		
CL, C	CENTERLINE	No, #	NUMBER		
CC	CENTER TO CENTER	NOM	NOMINAL		
CI	CAST IRON	NPT	NATIONAL PIPE THREAD		
CO	CLEAN OUT	NRS	NONRISING STEM		
CIP	CAST IRON PIPE	NTS	NOT TO SCALE		
CISP	CAST IRON SLIP PIECE	NSF	NATIONAL SANITATION FOUNDATION		
CJ	CONSTRUCTION JOINT	NW	NORTHWEST		
CLR	CLEAR	OC	ON CENTER		
CMF	CONCRETE MONUMENT, FOUND	OD	OUTSIDE DIAMETER		
CMP	CORRUGATED METAL PIPE	OHE	OVERHEAD ELECTRIC		
CONSTR	CONSTRUCTION	OS&Y	OUTSIDE STEM & YOKE		
CONT	CONTINUOUS	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION		
CONC	CONCRETE	PE	PLAIN END		
CON	CONCENTRIC	PI	PRESSURE INDICATOR/GAUGE		
CORP	CORPORATION	PL	PLATE		
CS	CARBON STEEL	P/L	PROPERTY LINE		
CV	CHECK VALVE	PP	POWER POLE		
DIA, Ø	DIAMETER	PRV	PRESSURE REDUCING VALVE		
DBI	DITCH BOTTOM INLET	PSF	POUNDS PER SQUARE FOOT		
DI	DUCTILE IRON	PSI	POUNDS PER SQUARE INCH		
DIV	DIVISION	PV	PLUG VALVE		
DWG	DRAWING	PVC	POLYVINYL CHLORIDE		
EA	EACH	PVMT	PAVEMENT		
ECC	ECCENTRIC	R	RADIUS		
EF	EACH FACE	RCP	REINFORCED CONCRETE PIPE		
EG	SUCH AS	RED	REDUCER		
EL	ELEVATION	REINF	REINFORCED		
ELB	ELBOW	REQ, REQ'D	REQUIRED		
EOP	EDGE OF PAVEMENT	RF	REDUCING FLANGE		
E/R	EDGE OF ROAD	RJ	RESTRAINED JOINT		
EW	EACH WAY	RPM	REVOLUTIONS PER MINUTE		
FAB	FABRICATED	RPOJ	RESTRAINED PUSH ON JOINT		
FAC	FLORIDA ADMINISTRATIVE CODE	RST	REGIONAL STORMWATER TREATMENT		
FCA	FLANGED COUPLING ADAPTER	RTU	REMOTE TELEMETRY UNIT		
FCV	FLOW CONTROL VALVE	RW	RAW WATER		
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	ROW	RIGHT-OF-WAY		
F/F	FINISHED FLOOR	S	SOUTH		
FG	FIBERGLASS	SAN	SANITARY		
FIN	FINISHED	SCH	SCHEDULE		
FJ	FLANGE JOINT	SE	SOUTHEAST		
FL	FLOOR	SEC	SHOULDERED-END COUPLING		
FLEX	FLEXIBLE	SIM	SIMILAR		
FLG	FLANGE(D)	SURWMD	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT		
FM	FORCE MAIN	SP	STANDARD PLANS (FDOT)		
FND	FOUNDATION	SQ	SQUARE		
FNPT	FEMALE NATIONAL PIPE THREAD	SR	SURGE RELIEF		
FRP	FIBER REINFORCED PLASTIC	SRV	SURGE RELIEF VALVE		
FS	FLORIDA STATUTES	SS, SST	STAINLESS STEEL		
GALV	GALVANIZED	STA	STORMWATER TREATMENT AREA		
GPM	GALLONS PER MINUTE	STD	STANDARD		
GR	GRADE	STRUC	STRUCTURE		
GRU	GAINESVILLE REGIONAL UTILITIES	STL	STEEL		
GS	GALVANIZED STEEL	STS	STORMWATER SYSTEM		
GV	GATE VALVE	SY	SQUARE YARD		
HDPE	HIGH DENSITY POLYETHYLENE	TBM	TEMPORARY BENCHMARK		
HORIZ	HORIZONTAL	TH	TOTAL HEAD		
HP	HORSEPOWER	THD	THREADED		
HR	HOUR	THK	THICK		
		TOB	TOP OF BERM		

SAVED: 1/28/2020 10:29 AM DHAUBRICH Y:\19750-SJRWMD\PROJECTS\066-01-CRANE CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\GENERAL\19750-066-01-C2.DWG

NOT FOR CONSTRUCTION



DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER
DATE	12/20/19
REVISIONS	

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**DRAWING INDEX & ABBREVIATIONS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		G2



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**GENERAL NOTES**

1. TOPOGRAPHIC SURVEY INFORMATION FOR ALL AREAS EXCEPT THE STA SITE WAS PROVIDED BY SOUTHEASTERN SURVEYING AND MAPPING CORPORATION, A REGISTERED PROFESSIONAL LAND SURVEYOR, DATED NOVEMBER 21 2018. THE SURVEYOR'S DRAWINGS ARE INCLUDED IN THIS DRAWING SET. STA SITE TOPOGRAPHIC SURVEY INFORMATION IS LIDAR DATA PROVIDED BY BREVARD COUNTY.
2. THE HORIZONTAL DATUM IS BASED ON FLORIDA STATE PLANE EAST, NORTH AMERICAN DATUM 1983 (NAD83), 2011 ADJUSTMENT. VERTICAL INFORMATION SHOWN REFERS TO NATIONAL GEODETIC SURVEY (NGS) POINT PID#DG8680 HAVING A RECORDED ELEVATION OF 22.98 FEET (NAVD 88).
3. INFORMATION SHOWN HEREIN REPRESENTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
4. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION INCLUDING BUT NOT LIMITED TO SOD, LANDSCAPING, ETC. NEW SOD SHALL MATCH ADJACENT SOD OR IF NONE IS PRESENT IT SHALL BE A BAHIA/ BERMUDA MIX.
5. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED.
6. EXISTING PAVEMENTS DAMAGED DUE TO CONSTRUCTION ARE TO BE REPLACED IN-KIND AT THE SAME LOCATION, WIDTH, AND GEOMETRY UNLESS OTHERWISE SHOWN IN THE PLANS. CONTRACTOR SHALL RECONSTRUCT ROADWAY AND DRIVEWAY PAVEMENT TO EXISTING GRADES UNLESS OTHERWISE SPECIFIED.
7. CONTRACTOR WILL REMOVE BURIED OUT OF SERVICE UTILITY LINES WITHIN THE LIMITS OF ALL EXCAVATION. THE COST OF THIS WORK WILL BE INCIDENTAL TO AND INCLUDED IN THE COST OF THE WORK BEING PERFORMED WHEN THE LINES ARE ENCOUNTERED.
8. ALL EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
9. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
10. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA, INC. (1-800-432-4770) TWO BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.
11. CONTRACTOR SHALL NOTIFY SJRWMD IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR OMISSIONS IN CONSTRUCTION PLANS.
12. DISPOSAL OF ALL EXCESS EARTHWORK MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. DISPOSAL SITES SHALL BE AS DIRECTED BY SJRWMD.
13. CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE FLORIDA STATE TRENCH SAFETY ACT.
14. CONTRACTOR SHALL OBTAIN A TEMPORARY DEWATERING PERMIT PRIOR TO ANY DEWATERING ACTIVITIES. CONTRACTOR SHALL SUBMIT DEWATERING PLAN TO SJRWMD FOR APPROVAL. DURING DEWATERING OPERATIONS, CONTRACTOR SHALL NOT DISCHARGE DIRECTLY TO EXISTING WETLAND SYSTEMS, CANALS OR DITCHES.
15. CONTRACTOR TO ESTABLISH ALL LINES, GRADES, AND REFERENCE POINTS AS REQUIRED FOR WORK UNDER THIS CONTRACT. ALL PROJECT LAYOUTS SHALL BE DONE USING A PROFESSIONAL SURVEYOR & MAPPER LICENSED IN THE STATE OF FLORIDA.
16. CONTRACTOR TO PROVIDE ALL LABOR, INSTRUMENTS, STAKES AND OTHER MATERIALS NECESSARY FOR MARKING AND MAINTAINING ALL LINES AND GRADE.
17. ALL EXISTING TREES OUTSIDE THE GRADING LIMITS ARE TO REMAIN.
18. CONTRACTOR SHALL KEEP ALL SPOILS AND EQUIPMENT OUTSIDE OF THE TREE DRIPLINE FOR ALL TREES NOT DIRECTLY AFFECTED BY CONSTRUCTION.
19. BURNING OF MATERIAL AND/OR DEBRIS IS PROHIBITED WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL CLEARED/GRUBBED MATERIAL OFFSITE.
20. UNLESS OTHERWISE SPECIFIED ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2018), AND FDOT DESIGN PLANS (2019-20).
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A STAGING AREA FOR MATERIAL AND EQUIPMENT STORAGE. THIS MAY INCLUDE LOCATING A SITE, OBTAINING PERMITS, AND MAKING THE SITE SUITABLE FOR USE. THE CONTRACTOR SHALL NOT USE RIGHT-OF-WAY FOR STAGING MATERIAL AND EQUIPMENT.
22. THE CONTRACTOR SHALL PROVIDE MATERIAL AND CONSTRUCTION TESTING BY A FLORIDA QUALIFIED GEOTECHNICAL TESTING FIRM. ACCEPTANCE TESTING INCLUDES BUT IS NOT LIMITED TO CONCRETE, ROADWAY STABILIZATION AND BASE, ASPHALT DENSITY, AND LIMEROCK.
23. AS-BUILT PLANS TO BE PROVIDED BY THE CONTRACTOR TO SJRWMD AND CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.
24. ANY EXISTING FENCING THAT IS DAMAGED OR TEMPORARILY REMOVED DURING CONSTRUCTION MUST BE REPLACED IN-KIND. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER REGARDING ANY FENCE REMOVAL OR REPLACEMENT.
25. CONTRACTOR TO COORDINATE REMOVAL OF SALVAGE EQUIPMENT. PROVIDE SJRWMD MINIMUM OF 30 DAYS NOTICE TO REMOVE/RELOCATE EQUIPMENT.
26. THE CONTRACTOR WILL STABILIZE ALL EARTHWORK TO PREVENT EROSION.
27. ALL FLAT BERM TOPS WILL BE STABILIZED WITH SEED.
28. ALL SLOPES 4H:1V OR STEEPER SHALL BE STABILIZED WITH STAKED SOD.

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DESIGNED	A GOODDEN		
DRAWN	D HAUBRICH		
CHECKED	R KOLLER		
LTR.	DATE	REVISIONS	BY
A	12/20/19	REVISED PER CDM	RK

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**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**GENERAL NOTES**

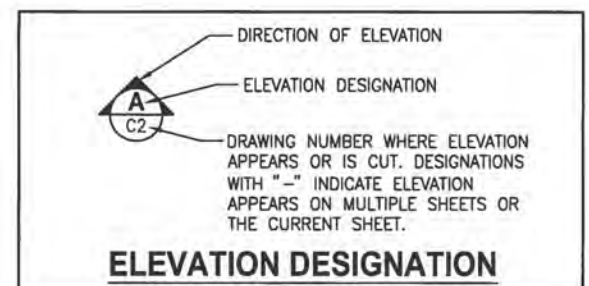
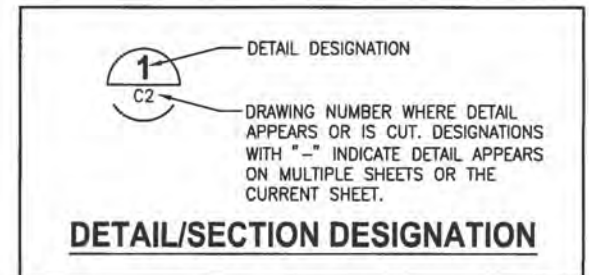
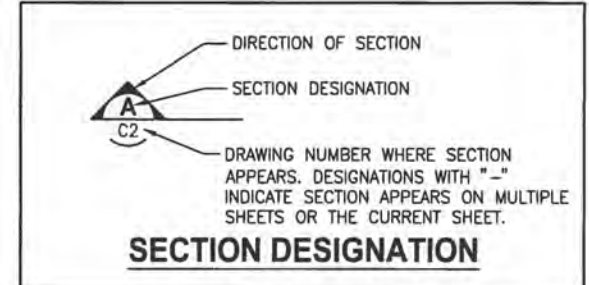
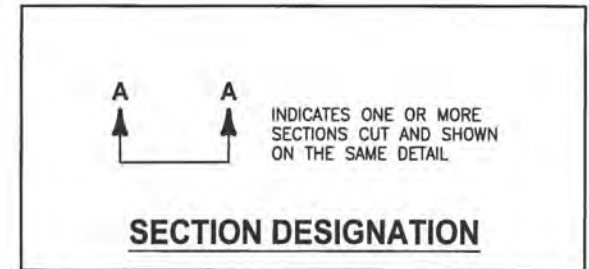
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		G3



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**LEGEND**

	MATCHLINE		DRAINAGE PIPE W/MITERED END SECTION
	UTILITY EASEMENT		STORM PIPE/CULVERT
	RIGHT-OF-WAY BOUNDARY		MANHOLE
	CENTERLINE		ELEVATION TAG
	LIMITS OF CONSTRUCTION		WATER METER
	SILT FENCE		SOIL BORING
	TURBIDITY CURTAIN		BENCHMARK
	GRADE BREAK		POWER POLE
	WETLAND LINE		WATER LEVEL
	PROPOSED CONTOUR		EXISTING CONCRETE MONUMENT, FOUND
	EXISTING CONTOUR		SLOPE INDICATOR
	FENCE		ALIGNMENT LINE DATA
	STORMWATER FORCE MAIN (HORIZONTAL DIRECTIONAL DRILL)		ALIGNMENT CURVE DATA
	STORMWATER FORCE MAIN (OPEN CUT)		EXISTING SANITARY SEWER FORCE MAIN
	GRAVITY STORM PIPING		EXISTING POTABLE WATER MAIN
	REINFORCED CONCRETE PIPE (RCP)		
	DITCH BOTTOM INLET		
	MITERED END SECTION		
	STRUCTURE/PIPE DESIGNATION		
	STABILIZED DRIVE SURFACE		
	ASPHALT SURFACE		
	LIMITS OF MILLING AND RESURFACING		
	LIMEROCK		
	CROSS HATCHING INDICATES REMOVAL/DEMOLITION		
	CONCRETE		
	RIPRAP		
	HEDGE, BUSH, SHRUBS, WOODS		
	SPOT ELEVATION		
	PROPOSED SIGN		
	DRAWING DESIGNATION		
	COORDINATE POINT		
	DRAINAGE FLOW DIRECTION		



**NOTES**

- IN GENERAL, EXISTING FACILITIES AND UTILITIES ARE NOTED AS EXISTING AND/OR SHOWN IN LIGHT LINE WEIGHT (SCREENED). PROPOSED CONSTRUCTION IS SHOWN IN HEAVY LINE WEIGHT AND/OR IDENTIFIED AS PROPOSED. SCREENING IS ALSO USED IN ORDER TO CLARIFY DRAWINGS. FOR EXAMPLE, STRUCTURES ARE SCREENED ON MECHANICAL DRAWINGS TO HIGHLIGHT PIPING AND EQUIPMENT. THIS DRAFTING CONVENTION IS TYPICAL THROUGHOUT THE SET OF PLANS.
- THIS IS A STANDARD LEGEND DRAWING. SOME ITEMS MAY APPEAR IN LEGENDS AND NOT ON THE DRAWINGS.



NOT FOR CONSTRUCTION

SAVED: 1/24/2020 8:14 AM DHAUBRICH Y:\19750-SJRWMD\PROJECTS\066-01-CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\GENERAL\19750-066-01-C4.DWG

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.
A	2/20/19	REVISED PER COWM	RK	RK

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

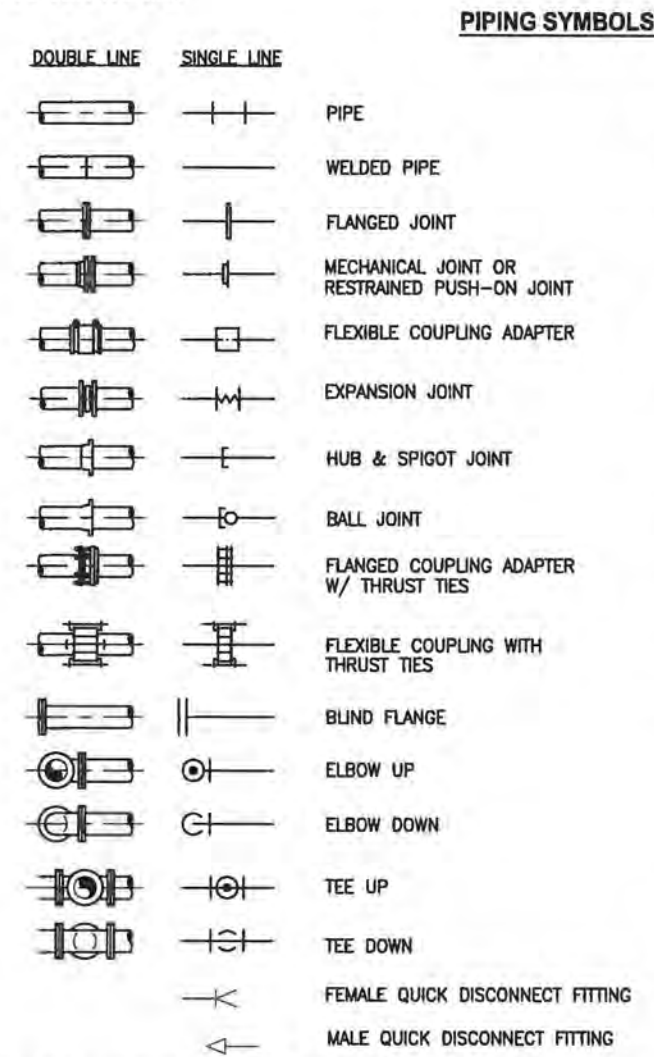
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**CIVIL LEGEND**

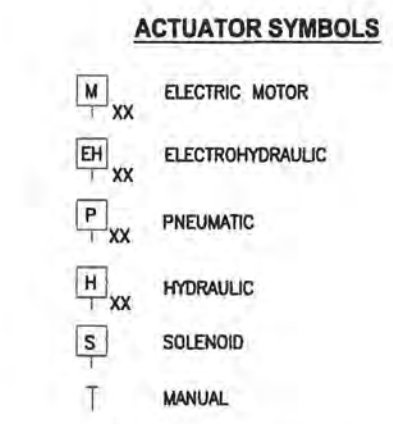
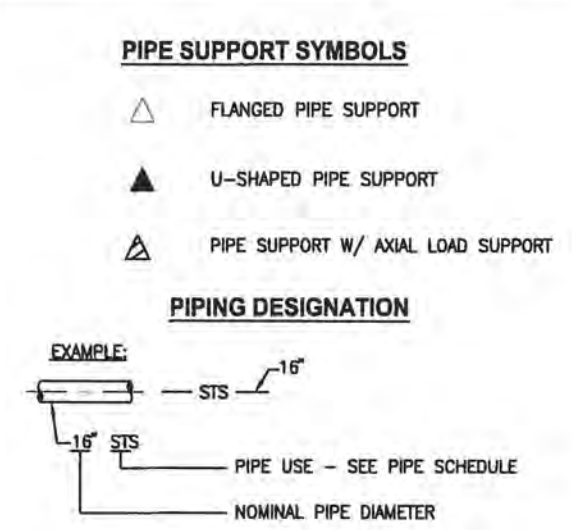
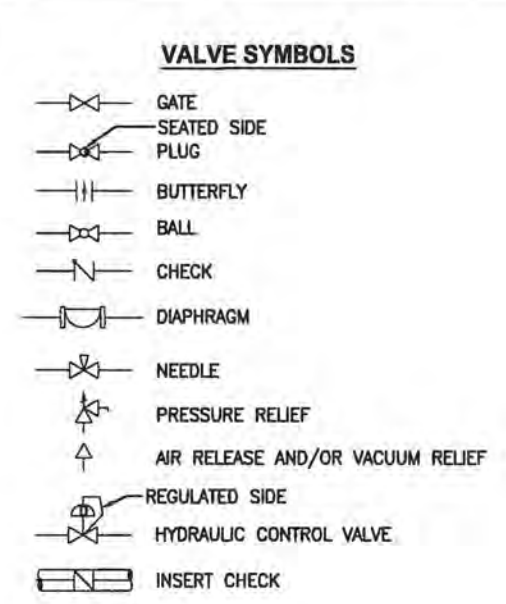
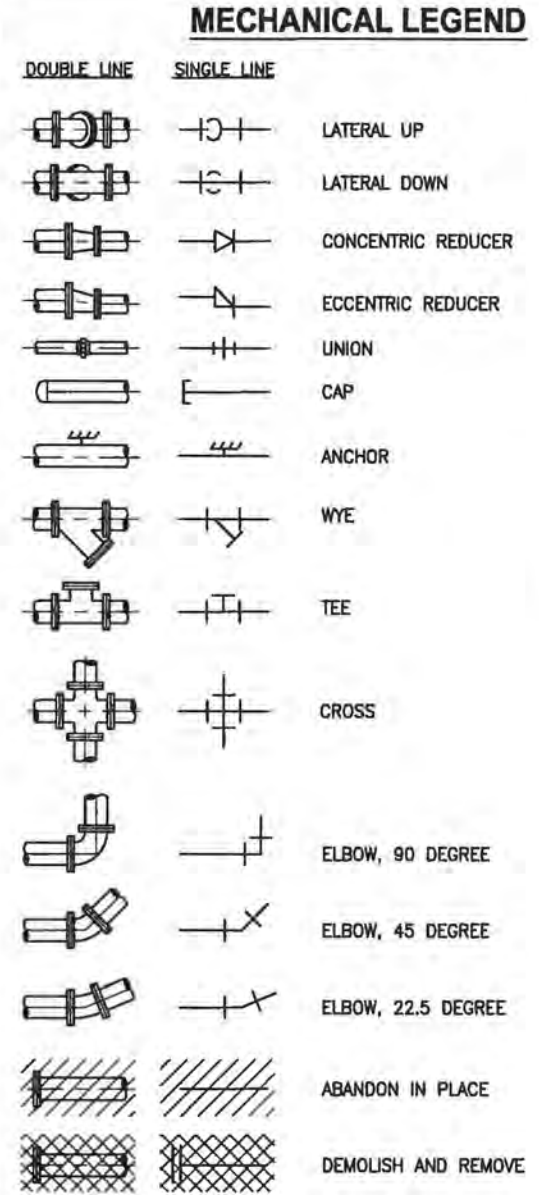
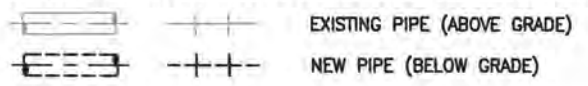
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		G4



8 7 6 5 4 3 2 1  
 PLOTTED: 1/20/2020 11:48 AM DEAN HAUBRICH



**NOTE:**  
 EXISTING PIPE AND EQUIPMENT ARE SHOWN IN THE DRAWINGS AS LIGHT-LINED AND/OR SCREENED. PROPOSED PIPE AND EQUIPMENT ARE SHOWN IN THE DRAWINGS AS HEAVY-LINED. ABOVE GRADE PIPE AND EQUIPMENT ARE SHOWN IN DRAWINGS AS SOLID-LINED EXCEPT FOR PIPELINE PLANS AND PROFILES. BELOW GRADE PIPE AND EQUIPMENT ARE SHOWN IN DRAWINGS AS DASHED-LINED. SEE BELOW EXAMPLES:



**NOTE:**  
 ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL OR HYDRAULIC)  
 XX: FO = FAIL OPEN  
 FC = FAIL CLOSED  
 FLP = FAIL TO LAST POSITION

**NOTE**  
 1. THIS IS A STANDARD LEGEND DRAWING. SOME ITEMS MAY APPEAR IN LEGENDS AND NOT ON THE DRAWINGS.

### PIPE SCHEDULE

FLOW STREAM IDENTIFICATION	PIPE/DUCT MATERIAL	PIPE MATERIAL ABBREV	SPECIFICATION NUMBER	PIPE LINING	NORMAL MAX OPERATING PRESSURE (PSIG)	FIELD TEST PRESSURE (PSIG)	EXPOSED PIPE PAINT SYSTEM	COLOR CODE	SPECIFIC NOTES	RESTRAINT SYSTEM NOTES
FM-1	DUCTILE IRON	DI	15155	CERAMIC EPOXY	25	100		GREEN W/ "STORMWATER" STENCIL	(A)	(1)
FM-2	HIGH DENSITY POLYETHYLENE (DI PIPE SIZE)	HDPE, DR11	15146	N/A	25	100		GREEN W/ "STORMWATER" STENCIL	N/A	(2)
FM-3	POLYVINYL CHLORIDE	PVC, DR18	15291	N/A	25	100		GREEN W/ "STORMWATER" STENCIL	N/A	(1)

**GENERAL NOTES:**  
 1. COAT BURIED AND SUBMERGED PIPE PER PIPE SPECIFICATIONS.  
 2. TEST LINES PER SECTION 15144 UNLESS NOTED OTHERWISE.

**RESTRAINT SYSTEM NOTES:**  
 (1) RESTRAIN EVERYTHING (FITTINGS, VALVES, ETC.) INCLUDING NEW TO EXISTING.  
 (2) RESTRAIN AT FITTINGS AND VALVES.

**SPECIFIC NOTES:**  
 (A) APPLY ABOVE GRADE PAINT SYSTEM ONLY TO PIPING EXPOSED TO SUNLIGHT. PIPING UNDER FACILITY CANOPY STRUCTURE SHALL BE CLASSIFIED AS EXPOSED TO SUNLIGHT.



NOT FOR CONSTRUCTION

SAVED: 11/15/2019 9:33 AM JKRAMER Y:\19750-SJRWMD\PROJECTS\066-01-CRANE CREEK M-1\_FLOW\_RESTORATION\_DESIGN\GENERAL\19750-066-01-G5.DWG

LTR.	DESIGNED	D. YOUNG	<p>CERTIFICATE OF AUTHORIZATION #1841                  730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821                  8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	MECHANICAL LEGEND & PIPE SCHEDULE	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
	DRAWN	D. HAUBRICH				APPROVED BY	19750-066-01	DEC 2019
	CHECKED	R. KOLLER				D. YOUNG	INDEX NO:	DWG NO:
						P.E. # 44204		G5



PLOTTED: 1/20/2020 11:48 AM DEAN HAUBRICH

**ELECTRICAL ABBREVIATIONS**

A	AMMETER, AMPERE	PVC	POLYVINYL CHLORIDE
AC	ALTERNATING CURRENT	PWR	POWER
AFF	ABOVE FINISHED FLOOR	RGS	RIGID GALVANIZED STEEL
AFG	ABOVE FINISHED GRADE	RCPT	RECEPTACLE
AMP	AMPERE	RTU	REMOTE TELEMETRY UNIT
ATS	AUTOMATIC TRANSFER SWITCH	SA	SURGE ARRESTER
AUTO	AUTOMATIC	SH	SPACE HEATER
AUX	AUXILIARY	SPD	SURGE PROTECTION DEVICE
AWG	AMERICAN WIRE GAGE	SS	STAINLESS STEEL
BAT	BATTERY	SW	SWITCH
BC	BARE COPPER	T	THERMOSTAT, THERMISTER
BRKR	BREAKER	TD	TEMPERATURE DETECTOR,
C	CONDUIT, CONTACTOR, CONDUCTOR,	TIME DELAY	
CB	CIRCUIT BREAKER	TDR	TIME DELAY RELAY
CKT	CIRCUIT	TEMP	TEMPERATURE
CPT	CONTROL POWER TRANSFORMER	UND	UNLESS NOTED OTHERWISE
CT	CURRENT TRANSFORMER, CABLE TRAY	UPS	UNINTERRUPTIBLE POWER
DC	DIRECT CURRENT	SUPPLY	
DIV	DIVISION	V	VOLTAGE, VOLTS
DPDT	DOUBLE-POLE DOUBLE-THROW	W	WATT
DPST	DOUBLE-POLE SINGLE-THROW	WP	WEATHERPROOF
DS	DISCONNECT SWITCH	XFMR	TRANSFORMER
ETM	ELAPSED TIME METER		
ETR	EXISTING TO REMAIN		
EXP	EXPLOSION-PROOF		
FDR	FEEDER		
F,FU	FUSE		
FLEX	FLEXIBLE CONDUIT		
FREQ	FREQUENCY		
GALV	GALVANIZED		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER		
G,GND	GROUND		
HH	HANDHOLE		
HP	HORSEPOWER		
HZ	HERTZ		
I & C	INSTRUMENTATION AND CONTROL		
ISR	INTRINSICALLY SAFE RELAY		
J,JB	JUNCTION BOX		
K	KEY INTERLOCK		
KA	KILOAMPERES		
KV	KILOVOLT		
KVA	KILOVOLT AMPERES		
KW	KILOWATTS		
LT	LIQUID-TIGHT		
MISC	MISCELLANEOUS		
MS	MOTOR STARTER		
MT,MTD	MOUNT, MOUNTED		
N	NEUTRAL, NORMAL		
NA	NON-AUTOMATIC		
NC	NORMALLY CLOSED		
NEC	NATIONAL ELECTRIC CODE		
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC		
NO	NORMALLY OPEN		
NTS	NOT TO SCALE		
OL	OVERLOAD RELAY		
PB	PULL BOX		
PC	PHOTOCELL		
PH	PHASE		
PNL	PANEL		

**ELECTRICAL LEGEND**

SYMBOL	DESCRIPTION
X	INDICATES ELECT. CKT. #
S	TOGGLE SWITCH, 1-POLE, 20 AMP, 120 VOLT (3 INDICATES 3-WAY, 4 INDICATES 4-WAY)
ⓐ	JUNCTION BOX
Ⓜ	DUPLEX RECEPTACLE, 3 WIRE GROUNDING, NEMA 5-20R, 20 AMP, 125 VOLT
Ⓜ	MOTOR, HORSEPOWER INDICATED
Ⓟ	IN GROUND PULL BOX, SEE NOTE 11 & 13
HH1	NEW HANDHOLE (NUMBER INDICATED), SEE NOTE 12
Ⓞ	GROUND ROD, 5/8"x10'-0" COPPER CLAD
Ⓞ	CONDUIT UP (MULTIPLE OR SINGLE)
Ⓞ	CONDUIT DOWN (MULTIPLE OR SINGLE)
---	CONDUIT, EXPOSED
---	CONDUIT IN FLOOR OR UNDERGROUND
---	OVERHEAD ELECTRIC LINE, 3-PHASE
Ⓞ	CONDUIT RUN
P101	CIRCUIT REFERENCE, SEE WIRING SCHEDULES
X	ON SYMBOL INDICATES REMOVAL
Ⓜ	LOCAL CONTROL STATION HAND-OFF-AUTOMATIC IN NEMA 4X SS ENCL.
Ⓜ	SAFETY SWITCH NEMA 4X STAINLESS STEEL 3 POLE UNLESS OTHERWISE NOTED WITH 2 FORM "C" AUX CONTACTS
ETM	ELAPSED TIME METER
Ⓞ	CIRCUIT BREAKER
Ⓞ	FUSE
Ⓞ	TERMINAL
Ⓜ	CONTROL POWER TRANSFORMER
Ⓞ	INDICATING LIGHT, R=RED, G=GREEN, A=AMBER
Ⓞ	GROUND CONNECTION
OL'S	THERMAL OVERLOADS
P	PHASE MONITOR RELAY CONTACT
Ⓞ	PUSHBUTTON SWITCH
Ⓞ	N.C.T.O. CONTACT
Ⓞ	N.O.T.C. CONTACT
Ⓞ	NORMALLY OPEN INSTANTANEOUS CONTACT
Ⓞ	NORMALLY CLOSED INSTANTANEOUS CONTACT
TD	TIME DELAY RELAY (0-180 SEC)
---	FIELD/INTERCONNECTION WIRING
---	LOCAL/INTERNAL WIRING

SYMBOL	DESCRIPTION
C	TIME CLOCK (24 HR, 15 MIN ON/OFF)
D	TIME DELAY RELAY (0-180 SEC)
E	ELAPSED TIME METER
H	MOTOR SPACE HEATER
M	MAGNETIC FLOW METER
P	PHASE MONITOR RELAY
T	TORQUE SWITCH
TH	THERMOSTAT
Ⓞ	SELECTOR SWITCH
Ⓞ	HAND OFF AUTOMATIC (HOA)
Ⓞ	ON-OFF (O-O)
Ⓞ	ON OFF REMOTE (OOR)
Ⓞ	VFD/BYPASS (V-B)
Ⓞ	SURGE PROTECTION DEVICE (SPD)
Ⓞ	MOTOR CIRCUIT PROTECTOR (MCP) OR CIRCUIT BREAKER (TRIP AMPS INDICATED) 3 POLE UNLESS OTHERWISE INDICATED
Ⓞ	CURRENT TRANSFORMER
Ⓞ	POWER TRANSFORMER
Ⓞ	COMBINATION MOTOR STARTER WITH MCP
Ⓞ	FVR = FULL VOLTAGE REVERSING
Ⓞ	FVNR = FULL VOLTAGE NON-REVERSING
Ⓞ	SSRV = SOLID STATE REDUCED VOLTAGE
Ⓞ	VFD = VARIABLE FREQUENCY DRIVE
CPT	CONTROL POWER TRANSFORMER
CP	CONTROL PANEL
O-O	ON - OFF
---	EQUIPMENT OUTLINE

**ELECTRICAL NOTES**

- COORDINATE THE INSTALLATION WITH POWER COMPANY PRIOR TO BEGINNING WORK. CONTACT THE POWER COMPANY AND SUBMIT ANY FORMS NECESSARY FOR WORK REQUIRED UNDER THIS CONTRACT.
- ALL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC). GROUND ALL ELECTRICAL EQUIPMENT AND ENCLOSURES IN ACCORDANCE WITH THE NEC.
- THE EXISTING UTILITIES ARE SHOWN BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL DETERMINE ACTUAL LOCATIONS OF EXISTING UTILITIES AND TAKE NECESSARY CARE TO AVOID DAMAGE TO THOSE UTILITIES. THE CONTRACTOR SHALL REPLACE ALL CIRCUITS AND REPAIR PIPING DAMAGED AS A RESULT OF CONTRACTOR OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE CONDUIT RUNS WITH FACILITIES AND PIPING RUNS. PROVIDE 6" CLEAR AT PIPE CROSSINGS.
- THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF ALL SYSTEMS INCLUDING ROUTING OF HOME RUNS AS SPECIFIED.
- INSTRUMENTATION AND CONTROL CIRCUITS IN CONDUITS SHALL BE SEPARATED BY 6" MINIMUM WHERE RUNNING IN PARALLEL WITH POWER CIRCUIT CONDUITS.
- ALL MOUNTING HARDWARE, ANCHORS, CHANNEL, PLATES, BRACKETS, FLOAT SUSPENSION CABLES, CABLE HANGERS AND ENCLOSURES SHALL BE STAINLESS STEEL UNLESS OTHERWISE INDICATED.
- UNLESS OTHERWISE NOTED, ALL CONDUIT SHALL BE SCHEDULE 40 PVC BELOW GRADE AND SCHEDULE 80 ABOVE GRADE.
- ALL LOW VOLTAGE CIRCUITS SHALL BE PROVIDED WITH A GREEN GROUNDING CONDUCTOR, SIZED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
- IN GENERAL, LIGHT LINES INDICATE EXISTING OR WORK OF OTHER TRADES, BOLD LINES INDICATE NEW ELECTRICAL WORK.
- THE CONTRACTOR SHALL TEST AND RE-VERIFY SIGNAL AND CONNECTIVITY OF RELOCATED ANTENNA SYSTEM TO ENSURE IT MAINTAINS AT A MINIMUM THE SAME CAPABILITIES AS IN ITS ORIGINAL LOCATION.



THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS.

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 11/14/2019 4:34 PM DHAUBRICH

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK
APPROVED	
DATE	
REVISIONS	
BY	
APPRD	

**JonesEdmunds**  
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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**ELECTRICAL LEGEND**

APPROVED BY	PROJECT NO:	DATE:
HAL DIETRICK	19750-066-01	NOV 2019
P.E. # 76416	INDEX NO:	DWG NO:
		G6



PLOTTED: 11/15/2019 11:22 AM JOAQUIN LOVO

**GENERAL NOTES:**

- THESE NOTES ARE GENERAL AND SUPPLEMENTAL TO THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
- DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2017 FLORIDA BUILDING CODE, EXCEPT WHERE OTHER APPLICABLE CODES AND THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.
- LIVE LOADS:  
 ROOFS: 20 PSF  
 PROCESS AREAS: 200 PSF  
 STAIRS & PLATFORMS: 100 PSF  
 CANAL SLAB-ON-GRADE: HS20 TRUCK LOADING
- ALL DIMENSIONS INDICATED (\*) ARE TO BE VERIFIED EITHER BY FIELD MEASUREMENTS FOR EXISTING STRUCTURES OR BY SHOP DRAWINGS FOR EQUIPMENT FURNISHED. STRUCTURAL DIMENSIONS NOT SHOWN BUT CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED WITH THE MANUFACTURER PRIOR TO CONSTRUCTION.
- EQUIPMENT ANCHOR BOLT SIZES, TYPES, AND PATTERNS SHALL BE VERIFIED WITH THE MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO INSURE ACCURACY OF PLACEMENT.
- STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.
- IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, NOTIFY THE OWNER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED BY THE OWNER.
- STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.
- NO BACK FILL SHALL BE PLACED AGAINST ANY WALL UNLESS ALL SUPPORTING ELEMENTS OF THE STRUCTURE HAVE BEEN CONSTRUCTED AND HAVE REACHED THE SPECIFIED MINIMUM CONCRETE STRENGTH.
- DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS.
- CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
- PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS AND AT WALL INTERSECTIONS AS SHOWN IN STANDARD DETAILS.
- FOR SIZES AND LOCATIONS OF EQUIPMENT SUPPORTS AND PIPE OPENINGS, SEE OTHER DISCIPLINE DRAWINGS. OPENINGS SIZES LESS THAN 12" ARE NOT SHOWN ON STRUCTURAL DRAWINGS, REFERENCE OTHER DISCIPLINE DRAWINGS FOR LOCATIONS.
- FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS, AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
- STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
- DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

**FOUNDATION NOTES:**

- DESIGN OF FOUNDATION IS BASED ON SUBSURFACE SOIL EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION (PROJECT NO. 18-23-5319) COMPLETED BY ARDAMAN & ASSOCIATES, INC., ON MAY 3, 2019.
- MINIMUM DEPTH FROM ADJACENT FINISHED GRADE TO BOTTOM OF EXTERIOR FOUNDATION 1'-6" UNLESS OTHERWISE NOTED.
- FOUNDATION SLABS AND SLABS-ON-GRADE SHALL BEAR ON COMPACTED SOILS MEETING THE REQUIREMENTS OF THE GEOTECHNICAL REPORT UNLESS OTHERWISE NOTED IN FACILITY NOTES. PLACE 6 MIL VISQUEEN OVER COMPACTED SOILS PRIOR TO PLACING CHAIRS THAT SUPPORT REINFORCING MATS.
- FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR QUALIFIED DESIGNER PRIOR TO THE PLACEMENT OF FORM WORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS, TEST PITS, TESTING AND DATA REPORTS.

**CONCRETE NOTES:**

- CONCRETE 56-DAY COMPRESSIVE STRENGTH:  
 CLASS A - 2500 PSI FOR CONCRETE FILL & DUCT ENCASUREMENT  
 CLASS B - 3000 PSI FOR SIDEWALKS, CURBS ETC.  
 CLASS C - 5000 PSI ALL FOUNDATIONS AND STRUCTURAL WALLS, SLABS AND BEAMS  
 CLASS D - 5000 PSI PRE-CAST CONCRETE
- REINFORCEMENT: ASTM A615, GRADE 60.
- CONCRETE COVER FOR REINFORCING:  
 A) SURFACES CAST AGAINST SUBGRADE 3"  
 B) TOP SURFACES OF SLABS WHERE PVC WATERSTOP IS REQUIRED IN WALLS 3"  
 C) FORMED SURFACES IN CONTACT WITH WEATHER, SOIL, OR LIQUID 2"  
 D) BOTTOM SURFACES OF SLABS OVER LIQUID 2"  
 E) SURFACES NOT IN CONTACT WITH WEATHER, SOIL, OR LIQUID 1 1/2"
- CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE LOCATED AT NO MORE THAN 40' ON CENTER SPACING. SUBMIT PROPOSED CONSTRUCTION JOINT LOCATIONS.
- WHERE HORIZONTAL CONSTRUCTION JOINTS, LOCATED ABOVE THE FOUNDATION SLAB, EXTEND BEYOND WHERE NEEDED, TERMINATE AT A VERTICAL CONSTRUCTION JOINT AS APPROVED BY THE ENGINEER.
- PROVIDE WATERSTOPS IN ALL FOUNDATIONS, TANKS AND OTHER SUBSTRUCTURES UP TO AN ELEVATION AT LEAST 12 INCHES ABOVE GRADE OR TO AN ELEVATION AT LEAST 12 INCHES ABOVE LIQUID LEVEL IN TANKS, WHICHEVER IS HIGHER, WHETHER SHOWN OR NOT. SEE STANDARD DETAILS. SEE MECHANICAL DRAWINGS FOR ALL REQUIRED PIPE ENCASEMENT.
- EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.
- AT ALL TYPICAL CURBS, EQUIPMENT PADS, AND PIPE SUPPORT PIERS, REINFORCING DOWELS SHOWN MAY BE REPLACED WITH MATCHING DOWELS SET IN EPOXY IN DRILLED HOLES AS SPECIFIED. DOWELS LOCATED CLOSER THAN 3 INCHES FROM ANY EDGE OF CONCRETE SHALL NOT BE REPLACED WITH DRILLED DOWELS.
- WHERE DRILLED EPOXY DOWELS ARE PLACED INTO HARDENED CONCRETE, ADJUST THE DOWEL LOCATIONS AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS. IF THE DOWEL LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER PRIOR TO DRILLING.
- DOWELS, ANCHOR BOLTS, PIPES, AND OTHER EMBEDDED ITEMS SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS PLACED.
- CONDUITS AND PIPES EMBEDDED IN OR PENETRATING THROUGH CONCRETE SHALL BE SPACED ON CENTER NOT LESS THAN 3 TIMES THEIR OUTSIDE DIMENSION, BUT NOT LESS THAN 2 1/2 INCHES CLEAR. OUTSIDE DIMENSION OF EMBEDDED ITEMS SHALL NOT EXCEED 1/3 OF THE CONCRETE MEMBER THICKNESS. CLEAR SPACING REQUIREMENTS SHALL APPLY FOR EMBEDDED CONDUITS OR PIPES CROSSING AT AN ANGLE LESS THAN 60 DEGREES.
- THE EFFECTIVE DIMENSION USED TO MEET MEMBER THICKNESS LIMITATIONS SHALL BE THE SUM OF THE OUTER DIMENSIONS OF CROSSING ELEMENTS.
- EMBEDDED CONDUITS AND PIPES SHALL BE LOCATED BETWEEN THE LAYERS OF REINFORCEMENT AND A MINIMUM OF 2 1/2 INCHES CLEAR FROM APPROXIMATELY PARALLEL REINFORCING BARS. REQUIREMENTS FOR EMBEDDED ELEMENTS CROSSING REINFORCING BARS SHALL BE AS REQUIRED FOR CROSSING EMBEDDED ELEMENTS.
- CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN OR PASS THROUGH COLUMNS OR BEAMS UNLESS INDICATED OTHERWISE OR AUTHORIZED BY ENGINEER.
- REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY METAL PIPE, PIPE IN FLANGE, METAL CONDUIT, OR OTHER METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM CLEARANCE OF 2 INCHES SHALL BE PROVIDED.
- PROVIDE 3/4 INCH CHAMFER USING WOOD CHAMFER STRIPS ON ALL EXPOSED CORNERS OF COLUMNS, BEAMS, AND WALLS.
- SIZE AND SPACING OF WALL CORNER AND WALL INTERSECTION REINFORCING SHALL MATCH TYPICAL WALL REINFORCING UNLESS OTHERWISE SHOWN ON PLANS.
- 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 350 STANDARD HOOKS.
- WALL CORNERS AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED IN STANDARD DETAIL B155-3.
- WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS. ALL WALL FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMN OR PILASTER FOOTINGS.
- REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE. LIFTING REINFORCING OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.
- PREPARE AND PATCH FORM SNAP-TIE HOLES AND ALTERNATE FORM-THROUGH BOLT HOLE BY DRY-PACKING WITH APPROVED NON-SHRINK GROUT.
- PROVIDE VERTICAL WALL CONSTRUCTION JOINTS.
- PROVIDE ADDITIONAL HORIZONTAL STEEL REINFORCEMENT AT HORIZONTAL CONSTRUCTION JOINTS.
- PROVIDE ADDITIONAL STEEL REINFORCEMENT AT OPENINGS AND PIPE PENETRATIONS.

**STRUCTURAL METAL NOTES:**

- DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL AND AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION.
- STEEL MATERIAL:  
 2.1 STRUCTURAL TUBING, ASTM A500, GRADE B OR C  
 2.2 STRUCTURAL PIPE, ASTM A53, GRADE B  
 2.3 W SHAPES, ASTM A992  
 2.4 STRUCTURAL CHANNELS, ASTM A536  
 2.5 ALL OTHER SHAPES AND PLATES, ASTM A36 UON
- BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM SPECIFICATIONS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:  
 UNLESS SHOW OTHERWISE A325-N  
 SLIP CONTROL A325-SC  
 ANCHOR BOLTS (AB) F593, AISI TYPE 316, CONDITION CW  
 STAINLESS STEEL STEEL F1554, GR 36  
 GALVANIZED STEEL F1554, GR 36 / A153  
 MACHINE BOLTS (MB) A307
- PROVIDE TYPICAL STEEL BEAM CONNECTIONS FOR A CAPACITY OF NOT LESS THAN THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE AISC TABLES FOR ALLOWABLE LOADS OF BEAMS.
- DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ENCASED IN CONCRETE.
- FILLET WELD SIZES SHALL BE THE MINIMUM SIZE REQUIRED BY AISC AND AWS FOR PLATE SIZES TO BE CONNECTED AND SHALL BE APPLIED TO THE ENTIRE JOINT CONTACT LENGTH.
- STAINLESS STEEL SHALL BE TYPE 316L-ASTM A276.
- STAINLESS STEEL TYPE 316L SHALL BE USED IN ALL AREAS TO BE SUBMERGED AND AS SHOWN ON DWGS.
- IF STAINLESS STEEL MEMBERS ARE NOT AVAILABLE, PROVIDE EQUIVALENT STAINLESS STEEL SECTIONS, BUILT UP OUT OF STAINLESS STEEL PLATES.
- ALL BOLTS, ANCHOR BOLTS, AND CONCRETE ANCHORS CONNECTING STAINLESS STEEL SHALL BE TYPE 316 STAINLESS STEEL.
- WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A UNIFORM SPACING, THERE SHALL BE A MINIMUM OF TWO FASTENINGS PER PIECE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 1/4 SPACE FROM EACH END.
- ALL GRATING SHALL BE ALUMINUM UNLESS OTHERWISE NOTED.
- ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

**STEEL SHEET PILING NOTES:**

- SEE SPECIFICATIONS FOR ALL STEEL SHEET PILING REQUIREMENTS.
- SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A REGISTERED FLORIDA P.E. FOR REVIEW PRIOR TO FABRICATION.

**PRECAST CONCRETE NOTES:**

- SEE SPECIFICATIONS FOR ALL PRECAST CONCRETE REQUIREMENTS.
- SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A REGISTERED FLORIDA P.E. FOR REVIEW PRIOR TO FABRICATION.

SAVED: 11/15/2019 11:21 AM JLOVO Q:\PROJECTS\13972 M-1 CANAL RESTORATION\13972 ACAD\STRUCTURAL PLAN.DWG

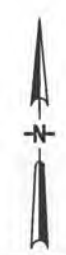
DESIGNED	_____			
DRAWN	_____			
CHECKED	_____			
LTR.	DATE	REVISIONS	BY	APPRD.

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377 5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

**GSE**  
 Engineering & Consulting, Inc.  
 GSE PROJECT #13972  
 5590 SW 64th Street, Suite B  
 Gainesville, Florida 32608  
 Certificate of Authorization #27430  
 MONROE T. THIE P.E. # 32071

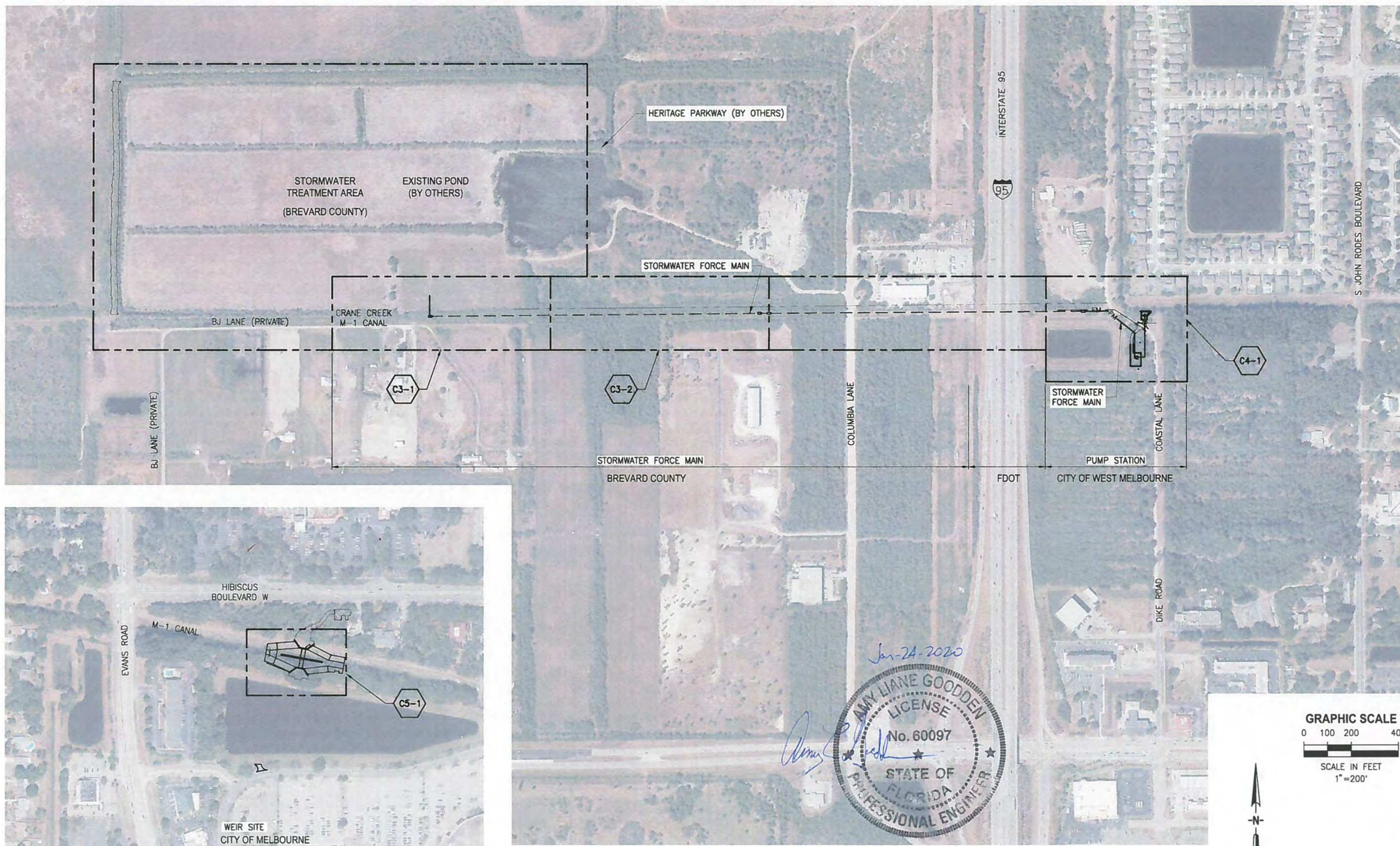
11/27/2020



PROJECT NO:	DATE:
19750-066-01	OCT 2019
INDEX NO:	DWG NO:
	G7



PLOTTED: 1/24/2020 08:49 AM DEAN HAUBRICH



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 1/24/2020 8:13 AM DHAUBRICH

NOT FOR CONSTRUCTION

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER
DATE	REVISIONS
BY	APPROD.

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 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

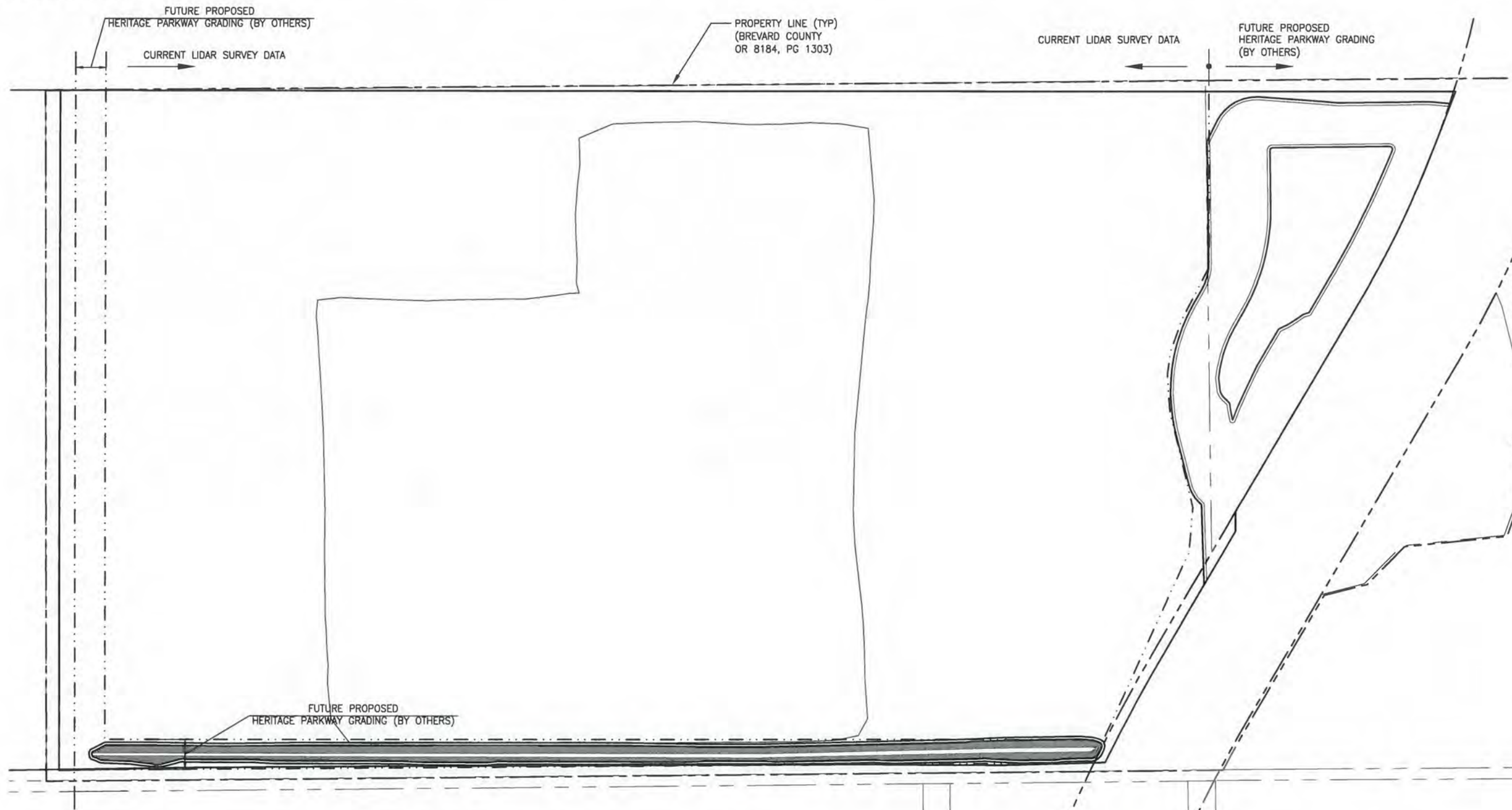
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

KEY MAP

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		G8



PLOTTED: 1/20/2020 11:50 AM DEAN HAUBRICH

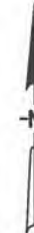
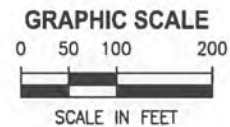


**GENERAL NOTES:**

- 1) JONES EDMUNDS DOES NOT HAVE A COMPLETE SURVEY OF THE PROPERTY FOR THE STORMWATER TREATMENT AREA. THE DATA PRESENTED IN V1 ARE AN APPROXIMATION OF THE GRADES THAT WILL EXIST AFTER THE ST. JOHN'S HERITAGE PARKWAY IS CONSTRUCTION AND WHEN THE CRANE CREEK M-1 CANAL RESTORATION PROJECT STARTS. V1 IS A COMPOSITE CREATED FROM THE REFERENCED DATA LISTED HERE.
- 2) THE FOLLOWING DATA WERE USED TO PREPARE THE EXISTING CONDITIONS:
  - a. 2007 BREVARD COUNTY LIDAR DATA. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88
  - b. FUTURE PROPOSED HERITAGE PARKWAY GRADING FROM DRMP, 11/01/2018 CAD FILES FOR THE ST JOHN HERITAGE PARKWAY. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88
  - c. FUTURE PROPOSED HERITAGE PARKWAY LIMITS-OF-CONSTRUCTION FROM DRMP, 11/01/2018 CAD FILES FOR THE ST JOHN HERITAGE PARKWAY.
  - d. BORROW AREA SURVEYS PREPARED BY JR DAVIS CONSTRUCTION COMPANY FOR THE PURPOSE OF PROVIDING INTERMEDIATE CONSTRUCTION DATA TO BREVARD COUNTY DURING THE ST. JOHN'S HERITAGE PARKWAY CONSTRUCTION PROJECT. THE SURVEYS ARE DATED 08/13/2019 AND 10/04/2019. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88
  - e. THE HERITAGE PARKWAY ROW LINE WAS DRAWN BY JONES EDMUNDS USING DATA PRESENTED IN THE PRELIMINARY PARKWAY. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88.
- 3) PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL SURVEY THE PROPERTY BOUNDARY AND RIGHTS-OF-WAY AND ENSURE ALL PROPOSED WORK IS WITHIN THE PROPERTY LIMITS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND THE ENGINEER IMMEDIATELY OF ANY CONFLICTS.

(06/25/2011) ST JOHN'S HERITAGE PARKWAY RIGHT-OF-WAY MAP. THE FINAL ROW WILL BE FILED AND PLATTED AT THE COMPLETION OF THE ST JOHN'S HERITAGE PARKWAY PROJECT (APPROXIMATELY JAN 2020).

THE PROPERTY BOUNDARY IS BASED ON THE PROPERTY BOUNDARY DESCRIPTION RECORDED IN THE BREVARD COUNTY CLERK OF COURT OFFICIAL RECORD OR8184, PG1303.



NOT FOR CONSTRUCTION

LTR.	DATE	REVISIONS	BY	APPRO.

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER TREATMENT AREA  
 EXISTING CONDITIONS**

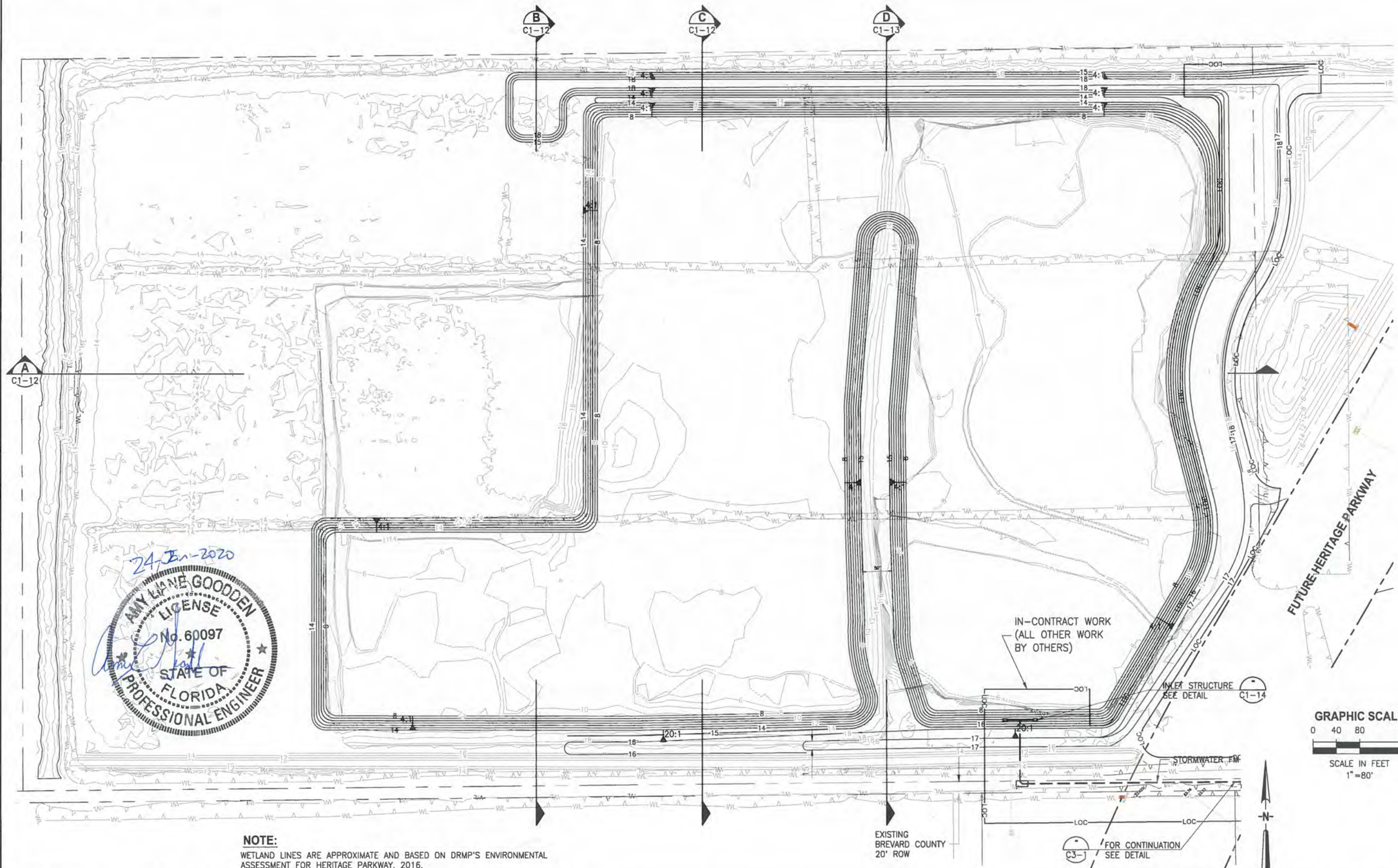
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INDEX NO:	DWG NO: V1
P.E. #	

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 12/19/2019 3:22 PM PUPSTILL



24 Jan 2020  
 AMY LANE GOODDEN  
 LICENSE No. 60097  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

**NOTE:**  
 WETLAND LINES ARE APPROXIMATE AND BASED ON DRMP'S ENVIRONMENTAL ASSESSMENT FOR HERITAGE PARKWAY, 2016.

EXISTING BREVARD COUNTY 20' ROW

IN-CONTRACT WORK (ALL OTHER WORK BY OTHERS)

INLET STRUCTURE SEE DETAIL C1-14

FOR CONTINUATION SEE DETAIL C3-1

GRAPHIC SCALE  
 0 40 80 160  
 SCALE IN FEET  
 1"=80'

NOT FOR CONSTRUCTION

LTR	DATE	REVISIONS	BY	APPROV.	CHECKED

DESIGNED A GOODDEN  
 DRAWN D HAUBRICH  
 CHECKED R KOLLER

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CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

STORMWATER TREATMENT AREA  
 OVERALL GRADING PLAN

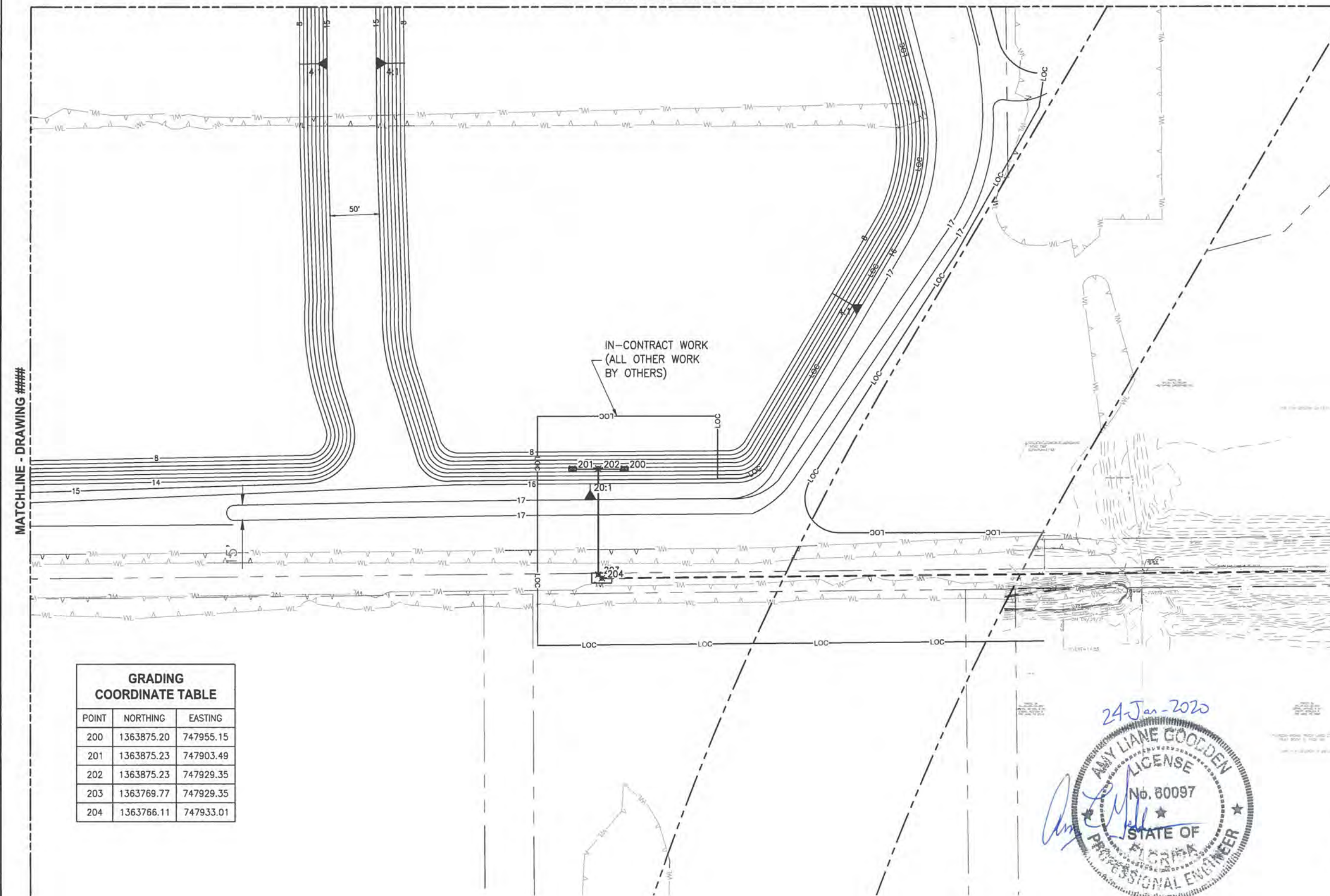
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 APPROVED BY  
 A. GOODDEN  
 P.E. # 60097

PROJECT NO: 19750-066-01  
 DATE: DEC 2019  
 INDEX NO:  
 DWG NO: C1-2

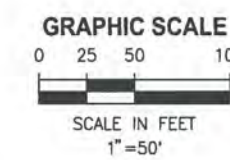


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MATCHLINE - DRAWING ####



GRADING COORDINATE TABLE		
POINT	NORTHING	EASTING
200	1363875.20	747955.15
201	1363875.23	747903.49
202	1363875.23	747929.35
203	1363769.77	747929.35
204	1363766.11	747933.01



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LTR	DATE	REVISIONS	BY	APPRD.

DESIGNED A GOODDEN  
DRAWN D HAUBRICH  
CHECKED R KOLLER

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CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

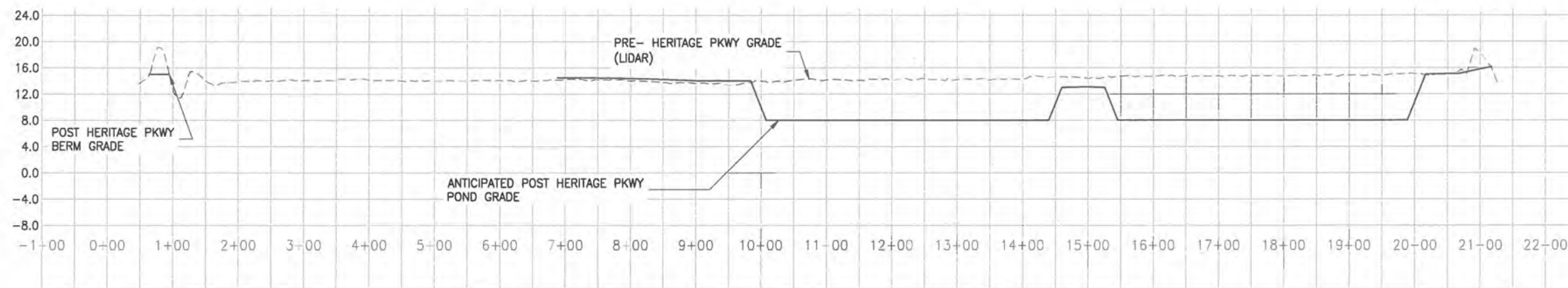
STORMWATER TREATMENT AREA  
 GRADING PLAN

CERTIFICATE OF AUTHORIZATION #1841  
 APPROVED BY  
 A. GOODDEN  
 P.E. # 60097

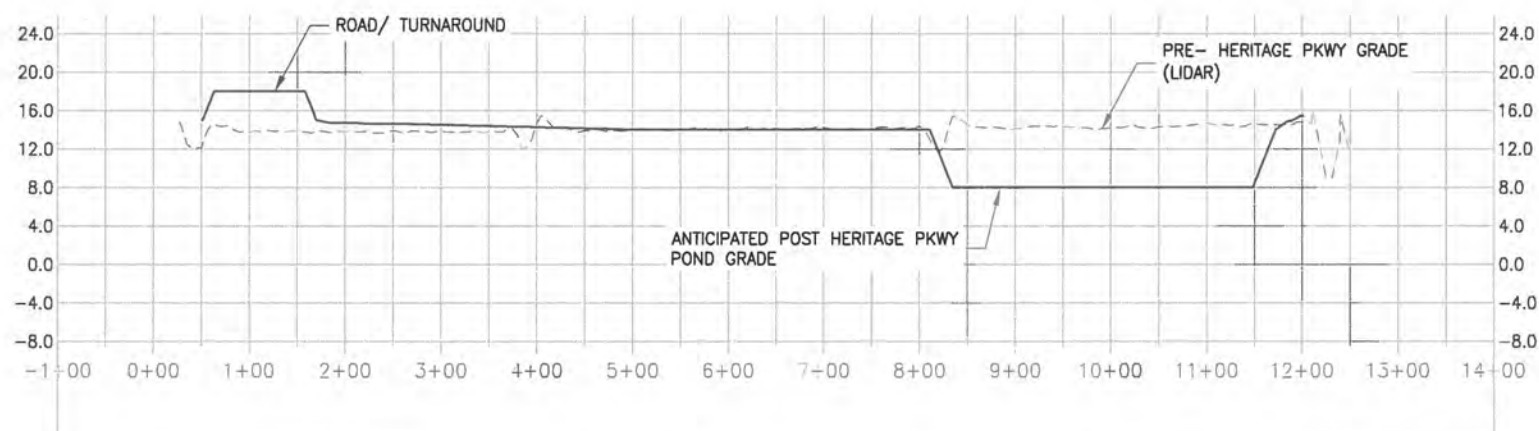
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 DWG NO: C1-6



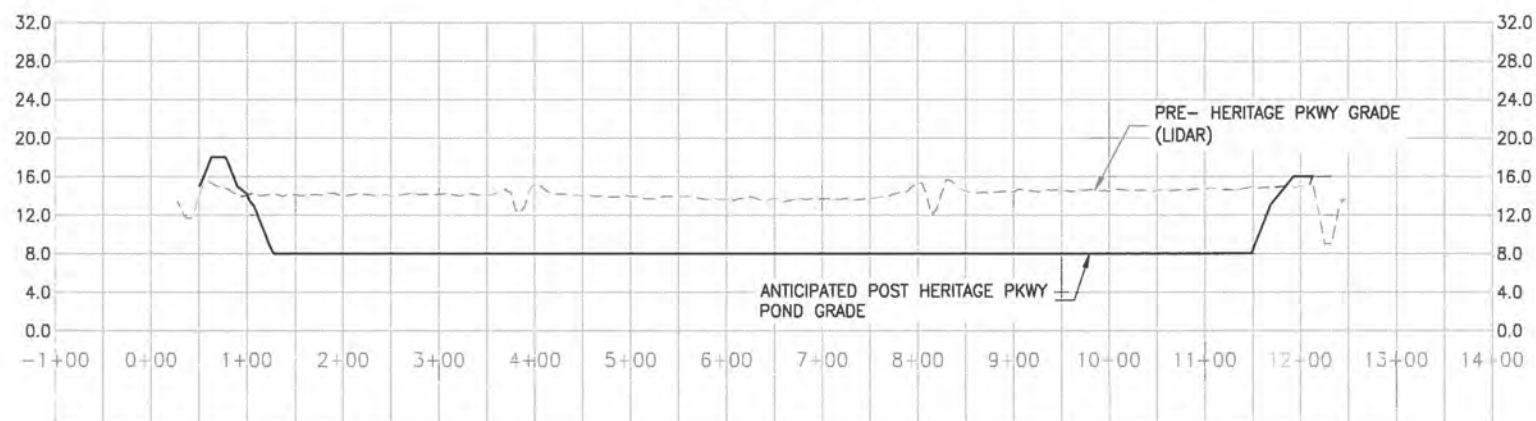
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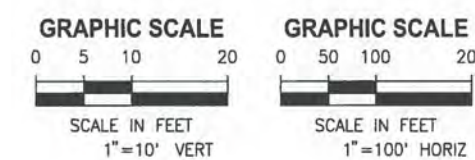
**SECTION A**  
1"=100' H  
1"=10' V  
C1-2  
**NOT IN CONTRACT**



**SECTION B**  
1"=100' H  
1"=10' V  
C1-2  
**NOT IN CONTRACT**



**SECTION C**  
1"=100' H  
1"=10' V  
C1-2  
**NOT IN CONTRACT**



NOT FOR CONSTRUCTION

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DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

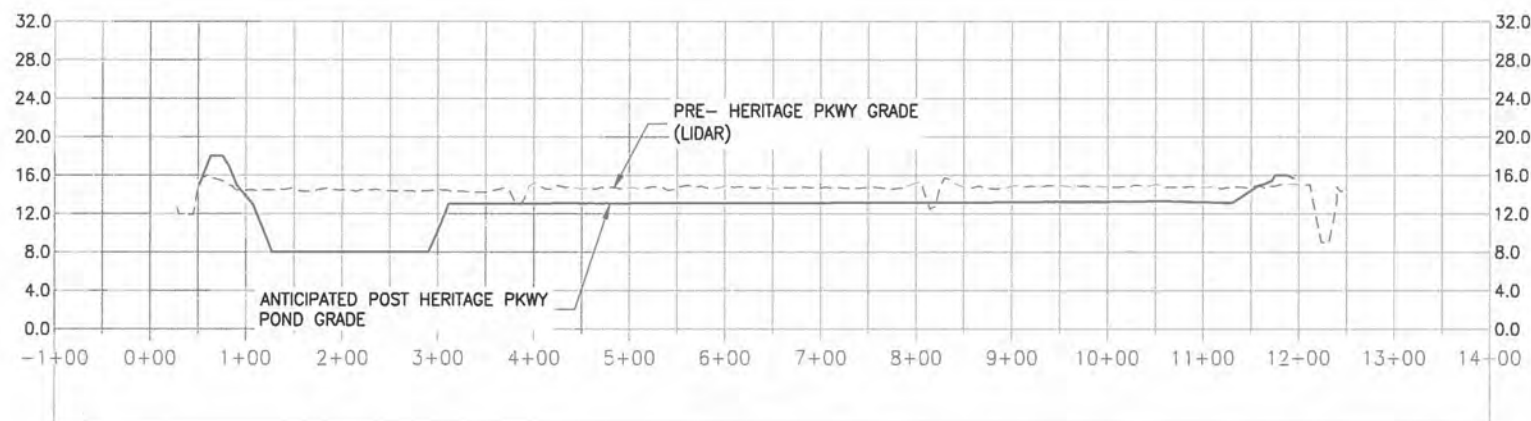
**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER TREATMENT AREA  
 SECTIONS**

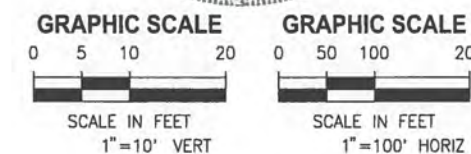
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APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		C1-12



PLOTTED: 1/20/2020 11:55 AM DEAN HAUBRICH



**SECTION D**  
 1" = 100' H  
 1" = 10' V  
**NOT IN CONTRACT**



NOT FOR CONSTRUCTION

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 12/18/2019 1:44 PM DHAUBRICH

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

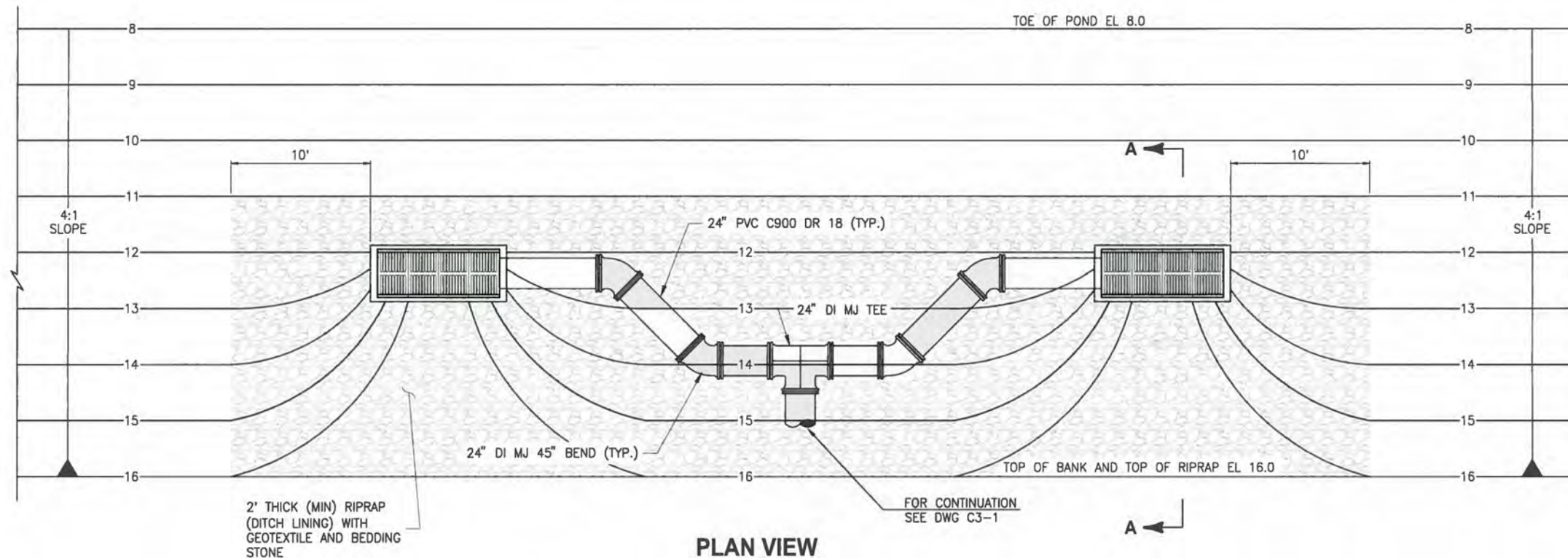
**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

STORMWATER TREATMENT AREA  
 SECTIONS

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		C1-13

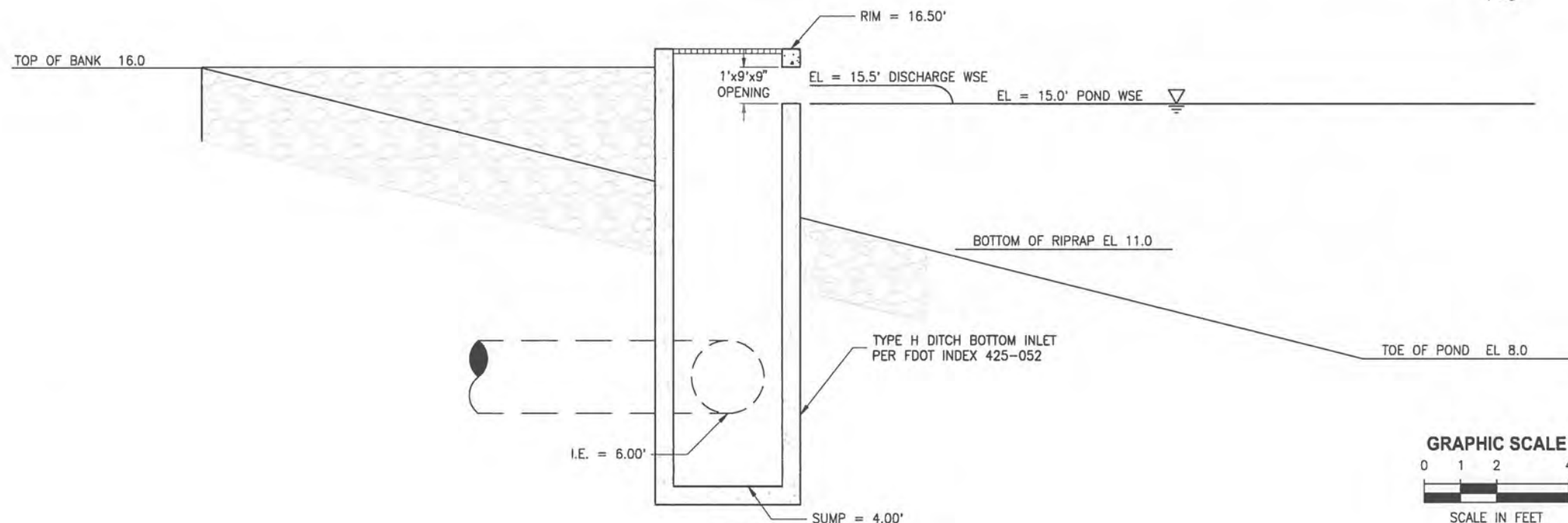
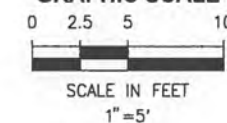
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**PLAN VIEW**

1"=5'

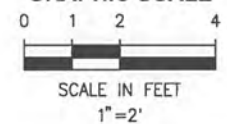
**GRAPHIC SCALE**



**SECTION A-A**

1"=2'

**GRAPHIC SCALE**



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DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR	DATE	REVISIONS	BY	APPRD.

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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

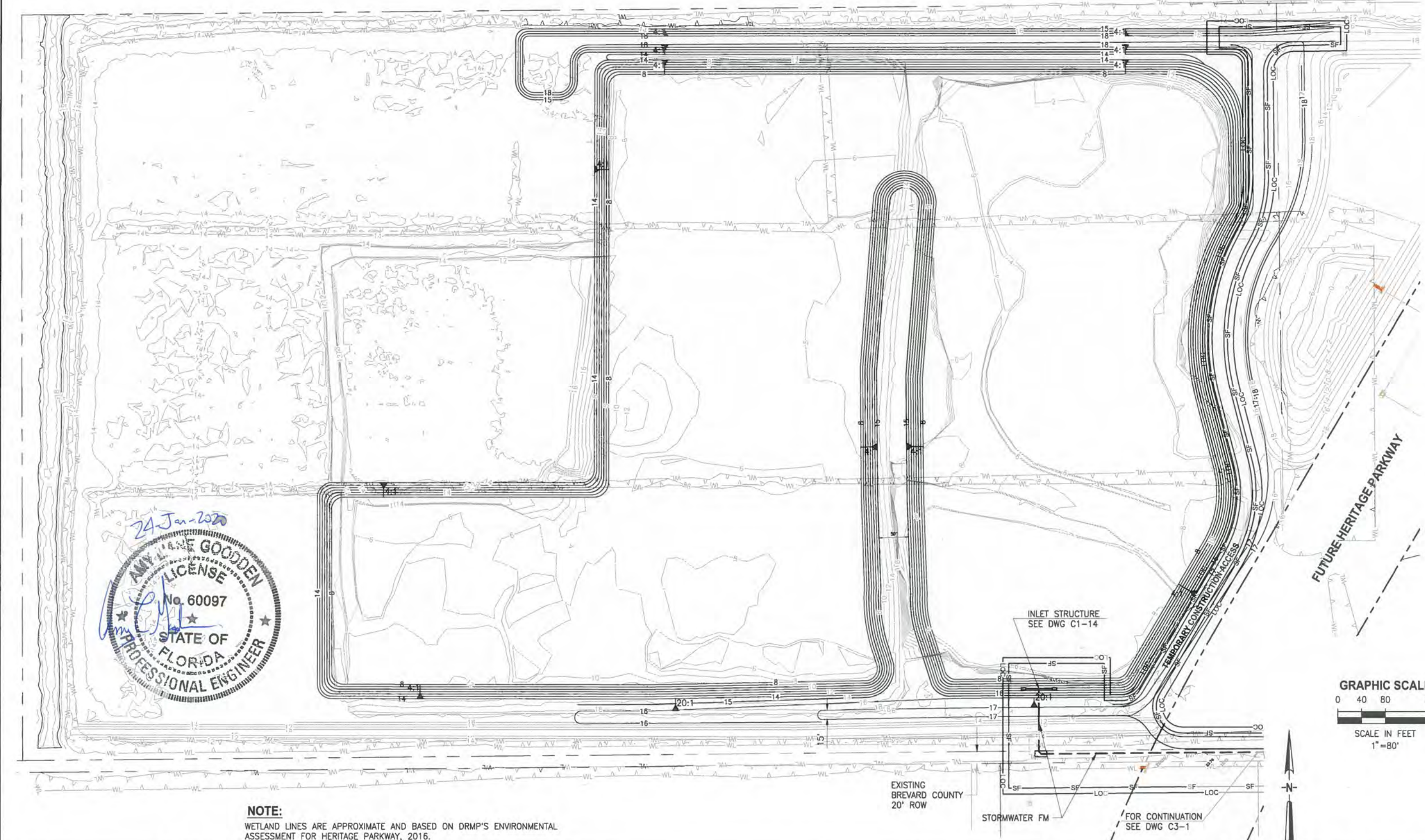
**STORMWATER TREATMENT AREA**  
**INLET DETAILS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		C1-14



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11/15/2019 11:07 AM DHAUBRICH



**NOTE:**  
WETLAND LINES ARE APPROXIMATE AND BASED ON DRMP'S ENVIRONMENTAL ASSESSMENT FOR HERITAGE PARKWAY, 2016.

LTR	DATE	REVISIONS	BY	APPR.

DESIGNED A GOODDEN  
DRAWN D HAUBRICH  
CHECKED R KOLLER

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER TREATMENT AREA**  
**EROSION CONTROL PLAN**

CERTIFICATE OF AUTHORIZATION #1841  
 APPROVED BY  
 A. GOODDEN  
 P.E. # 60097

PROJECT NO: 19750-066-01  
 DATE: DEC 2019  
 INDEX NO:  
 DWG NO: EC1-1

NOT FOR CONSTRUCTION

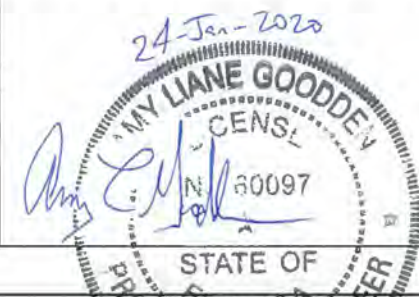


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CONTRACTOR REQUIREMENTS

SITE DESCRIPTION	GENERAL	SPILL PREVENTION	MAINTENANCE/INSPECTION PROCEDURES																									
<p><b>PROJECT NAME(S) AND LOCATION:</b> CRANE CREEK M-1 CANAL FLOW RESTORATION, STORMWATER TREATMENT AREA</p> <p><b>COUNTY:</b> SECTIONS 34, TOWNSHIP 27; RANGE 36</p> <p><b>PROPERTY OWNER AND ADDRESS:</b> ATTN: JOHN DENNINGHOFF, ASSISTANT COUNTY MANAGER BREVARD COUNTY 2725 JUDGE FRAY JAMIESON WAY MELBOURNE, FLORIDA 32940</p> <p><b>DESCRIPTION:</b> THIS PROJECT WILL CONSIST OF: THE CONSTRUCTION OF POND INLET AND ASSOCIATED GRADING.</p> <p><b>SOIL DISTURBING ACTIVITIES WILL INCLUDE:</b> CLEARING, GRUBBING; INSTALLING STABILIZED CONSTRUCTION ENTRANCE, PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS.</p> <p><b>SOILS:</b> SEE GEOTECHNICAL REPORT FOR SOILS DATA.</p> <p><b>SITE MAPS:</b> SEE ATTACHED GRADING PLAN FOR PRE &amp; POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS. SEE ATTACHED EROSION &amp; TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS. SEE GENERAL NOTES AND SPECIFICATIONS FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.</p> <p><b>SITE AREA:</b> TOTAL AREA OF SITE - 57.0 ACRES TOTAL AREA TO BE DISTURBED - GREATER THAN 1 ACRE</p> <p><b>NAME OF RECEIVING WATERS:</b> ST JOHN'S RIVER BY WAY OF FLOODPLAIN WETLANDS.</p>	<p><b>SEQUENCE OF MAJOR ACTIVITIES</b></p> <ol style="list-style-type: none"> <li>COMPLETE AND SUBMIT NOTICE OF INTENT (NOI) TO FDEP.</li> <li>INSTALL STABILIZED CONSTRUCTION ENTRANCES.</li> <li>INSTALL SILT FENCES AND OTHER EROSION CONTROL DEVICES.</li> <li>STOCK PILE TOP SOIL AS REQUIRED.</li> <li>PERFORM PRELIMINARY GRADING ON SITE AS REQUIRED.</li> <li>STABILIZE CLEARED AREAS AND STOCKPILES AS SOON AS PRACTICABLE.</li> <li>CONSTRUCT INLET PIPING.</li> <li>CONSTRUCT BIOACTIVATED MEDIA FILTER.</li> <li>COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD.</li> <li>WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED.</li> <li>COMPLETE AND SUBMIT NOTICE OF TERMINATION (NOT) TO FDEP.</li> </ol> <p><b>CONTROLS</b></p> <p>IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL STATE AND LOCAL EROSION AND SEDIMENT CONTROL PLAN AND AS REQUIRED TO MEET THE SEDIMENT AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.</p> <p><b>EROSION AND SEDIMENT CONTROLS</b></p> <p><b>STABILIZATION PRACTICES</b></p> <ol style="list-style-type: none"> <li>FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT. B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2.0 ACRES.</li> <li>BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.</li> <li>STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.</li> <li>EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, ERODIBLE SOIL EXPOSED BY CLEARING GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 2.0 ACRES. THIS REQUIREMENT MAY BE WAIVED BY THE OWNER WITH A DETAILED EROSION CONTROL PLAN PREPARED BY THE CONTRACTOR. THE DETAILED PLAN MUST INCLUDE A SCHEDULE, DESCRIPTION OF CONSTRUCTION MEANS AND METHODS AND EROSION CONTROL MANAGEMENT PRACTICES WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREA WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.</li> <li>TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 21 DAYS SHALL BE SEEDDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.</li> </ol> <p><b>INVENTORY FOR POLLUTION PREVENTION PLAN</b></p> <p>THE MATERIAL OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:</p> <table border="1"> <tr> <td>CONCRETE</td> <td>FERTILIZERS</td> <td>WOOD</td> </tr> <tr> <td>DETERGENTS</td> <td>PETROLEUM BASED PRODUCTS</td> <td></td> </tr> <tr> <td></td> <td>CLEANING SOLVENTS</td> <td></td> </tr> <tr> <td></td> <td>PAINTS</td> <td></td> </tr> </table>	CONCRETE	FERTILIZERS	WOOD	DETERGENTS	PETROLEUM BASED PRODUCTS			CLEANING SOLVENTS			PAINTS		<p><b>6. TEMPORARY REGRASSING:</b> IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT MAINTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.</p> <p><b>7. MAINTENANCE:</b> ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.</p> <p><b>8. PERMANENT EROSION CONTROL:</b> THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.</p> <p><b>9. PERMANENT SEEDING:</b> ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL BE SEEDDED.</p> <p><b>SPILL CONTROL PRACTICES</b></p> <p>IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:</p> <p>MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE METHODS AND POSTED LOCATION.</p> <p>MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE, BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (I.E. KITTY LITTER OR EQUAL), SAND SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.</p> <p>ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.</p> <p>THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.</p> <p>SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED IMMEDIATELY TO THE OWNER.</p> <p>THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.</p> <p>THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.</p>	<p><b>MATERIAL MANAGEMENT PRACTICES</b></p> <p>THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.</p> <p><b>GOOD HOUSEKEEPING</b></p> <p>THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.</p> <p>AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.</p> <p>ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.</p> <p>PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.</p> <p>SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.</p> <p>WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.</p> <p>MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.</p> <p><b>HAZARDOUS PRODUCTS</b></p> <p>THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.</p> <p>PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.</p> <p>ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.</p> <p>IF SURPLUS PRODUCT MUST BE DISPOSED OF MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.</p> <p><b>PRODUCT SPECIFIC PRACTICES</b></p> <p>THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:</p> <p><b>PETROLEUM PRODUCTS</b></p> <p>ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.</p> <p><b>FERTILIZERS</b></p> <p>FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.</p> <p><b>PAINTS</b></p> <p>ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.</p> <p><b>CONCRETE TRUCKS</b></p> <p>CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER TO DITCHES, PONDS OR OTHER WATERWAYS. WASHWATER SHALL BE COLLECTED IN A TEMPORARY SETTLING POND.</p> <p><b>OTHER CONTROLS</b></p> <p><b>WASTE DISPOSAL</b></p> <p><b>WASTE MATERIALS</b></p> <p>ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.</p> <p><b>HAZARDOUS WASTE</b></p> <p>ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.</p> <p><b>SANITARY WASTE</b></p> <p>ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.</p> <p><b>OFFSITE VEHICLE TRACKING</b></p> <p>A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED AREA ADJACENT TO THE SITE ENTRANCE WILL BE SWEEPED DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.</p>	<p><b>EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES</b></p> <p>THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.</p> <p>NO MORE THAN 2 ACRES OF THE SITE WILL BE CLEARED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.</p> <p>ALL CONTROL MEASURES WILL BE INSPECTED BY A CERTIFIED SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF ANY STORM EVENT OF 1/2" OR GREATER.</p> <p>ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.</p> <p>BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.</p> <p>SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.</p> <p>CONSTRUCTION ENTRANCES WILL BE INSPECTED FOR DEPTH OF CRUSHED STONE BED AND FILTER FABRIC CONDITION. THE BED SHALL HAVE A 6" THICKNESS AND THE FILTER FABRIC SHALL BE FREE OF TEARS AND FIRMLY SECURE. ENTRANCES SHALL BE REMOVED PRIOR TO CONSTRUCTION OF DRIVEWAYS.</p> <p>TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.</p> <p>A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE, AND LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED. THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.</p> <p>THE SITE SUPERINTENDENT WILL SELECT UP TO THREE CERTIFIED INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.</p> <p>PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT AND MUST ENFORCE THE FDEP NPDES SWPPP FOR THIS PROJECT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.</p> <p><b>NON-STORM WATER DISCHARGES</b></p> <p>IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD.</p> <p>UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).</p> <p>ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN OR OTHER APPROPRIATE AREA PRIOR TO DISCHARGE TO EXISTING DITCHES OR WETLANDS.</p> <p><b>CONTRACTORS CERTIFICATION</b></p> <p>I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE IDENTIFIED AS PART OF THIS CERTIFICATION.</p> <table border="1"> <tr> <td>SIGNATURE</td> <td>BUSINESS NAME &amp; ADDRESS OF CONTRACTOR, ALL SUBS</td> <td>RESPONSIBLE FOR/DUTIES GENERAL CONTRACTOR</td> </tr> <tr> <td></td> <td></td> <td>SUBCONTRACTOR</td> </tr> <tr> <td></td> <td></td> <td>SUBCONTRACTOR</td> </tr> <tr> <td></td> <td></td> <td>SUBCONTRACTOR</td> </tr> </table>	SIGNATURE	BUSINESS NAME & ADDRESS OF CONTRACTOR, ALL SUBS	RESPONSIBLE FOR/DUTIES GENERAL CONTRACTOR			SUBCONTRACTOR			SUBCONTRACTOR			SUBCONTRACTOR
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NOT FOR CONSTRUCTION

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

**JonesEdmunds**

CERTIFICATE OF AUTHORIZATION #1841  
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

STORMWATER TREATMENT AREA  
STORMWATER POLLUTION PREVENTION  
NOTES

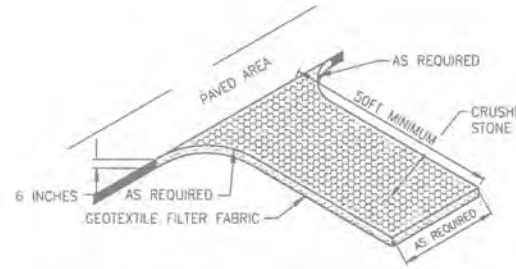
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		EC1-2



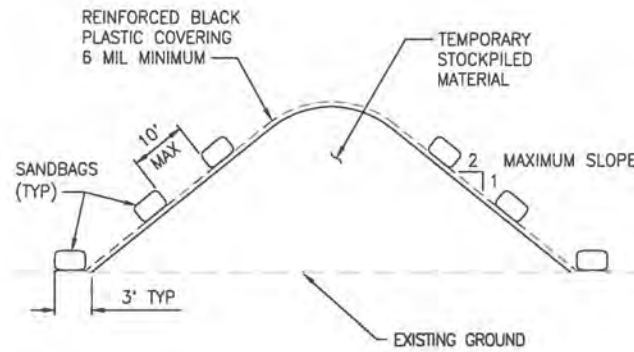
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**SEDIMENT AND EROSION CONTROL NOTES**

1. THE SITE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND SWALES AS WELL AS PROVIDE MEASURES TO PREVENT SILTATION OF STORMWATER TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL UTILIZE WHATEVER MEANS NECESSARY TO MANAGE STORMWATER SUCH THAT IMPACT TO CONSTRUCTION IS MINIMIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING PROVIDING EQUIPMENT, LABOR, FILL, ETC. NECESSARY TO REMEDIATE AND/OR RESTORE ALL AREAS IMPACTED BY EROSION, RUNOFF, AND STORMWATER.
2. BEST MANAGEMENT PRACTICES IN ADDITION TO THE ONES SHOWN ON THE PLAN SHEETS MUST BE PROVIDED IN ORDER TO PREVENT SILT FROM LEAVING THE PROJECT SITE DUE TO UNSEEN CONDITIONS AND ACCIDENTS.
3. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
4. NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
6. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR SHOULD BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
7. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
8. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL" AVAILABLE AT [HTTP://WWW.FDOT.GOV/ROADWAY/DRAINAGE/FILES/EROSION-SEDIMENT-CONTROL.PDF](http://www.fdot.gov/roadway/drainage/files/erosion-sediment-control.pdf) AND "FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL" AVAILABLE AT [HTTPS://WWW.DEP.STATE.FL.US/WATER/NONPOINT/DOCS/EROSION/EROSION-INSPECTORS-MANUAL.PDF](https://www.dep.state.fl.us/water/nonpoint/docs/erosion/erosion-inspectors-manual.pdf).
9. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL DOWNSTREAM AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL CONSTRUCTION.
10. SOD SHALL BE PLACED IN AREAS WHICH REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITIES ARE MAINTAINED.
11. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALLS.
12. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
13. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
14. THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRES, RELATIVE TO COMPLIANCE OF NFPWMD AND FDEP FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
15. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS AND SPECIFICATIONS AND THE NFPWMD AND FDEP RULES AND REGULATIONS.
16. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS AND PRESERVATION EASEMENTS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
17. THESE PLANS INCLUDING THE POLLUTION PREVENTION PLAN INDICATE THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES REQUIRED FOR THIS PROJECT. CONTRACTOR AS REQUIRED TO INSURE CONFORMANCE TO STATE AND FEDERAL WATER QUALITY STANDARDS AND MAY NEED TO INSTALL ADDITIONAL CONTROLS TO CONFORM TO AGENCIES REQUIREMENTS. IF A WATER QUALITY VIOLATION OCCURS, THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ALL DAMAGE AND ALL COSTS WHICH MAY RESULT INCLUDING LEGAL FEES, CONSULTANT FEES, CONSTRUCTION COSTS, AND FINES.



**STABILIZED CONSTRUCTION ENTRANCE**  
NTS



- NOTES:**
1. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH. ALL SEAMS SHALL HAVE A MINIMUM 12" OVERLAP.
  2. SEAMS PARALLEL TO THE SLOPE CONTOUR SHALL HAVE THE UPHILL SHEET OVERLAP THE DOWN HILL SHEET.
  3. NO SURFACE RUN-OFF SHALL BE ALLOWED TO RUN UNDER THE PLASTIC COVERING.
  4. DRAINAGE FROM AREAS COVER BY REINFORCED PLASTIC SHEETING SHALL BE CONTROLLED SUCH THAT NO DISCHARGE OCCURS DIRECTLY ONTO UNCONTROLLED DISTURBED AREAS OF THE CONSTRUCTION SITE.

**TEMPORARY STOCKPILE COVERING**  
NTS

**STORMWATER POLLUTION PREVENTION PLAN**

INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER

INSPECTOR: \_\_\_\_\_ FDEP NPDES STORMWATER IDENTIFICATION NUMBER: \_\_\_\_\_

LOCATION	RAIN DATA	TYPE OF CONTROL (SEE BELOW)	DATE INSTALLED / MODIFIED	CURRENT CONDITION (SEE BELOW)	CORRECTIVE ACTION / OTHER REMARKS

CONDITION CODE:  
G = GOOD M = MARGINAL, NEEDS MAINTENANCE OR REPLACEMENT SOON P = POOR, NEEDS IMMEDIATE MAINTENANCE OR REPLACEMENT  
C = NEEDS TO BE CLEARED O = OTHER

CONTROL TYPE CODES			
1. SILT FENCE	10. STORM DRAIN INLET PROTECTION	19. REINFORCED SOIL RETAINING SYSTEM	28. TREE PROTECTION
2. EARTH DIKES	11. VEGETATIVE BUFFER STRIP	20. GABION	29. DETENTION POND
3. STRUCTURAL DIVISION	12. VEGETATIVE PRESERVATION AREA	21. SEDIMENT BASIN	30. RETENTION POND
4. SWALE	13. RETENTION POND	22. TEMPORARY SEED / SOD	31. WASTE DISPOSAL / HOUSEKEEPING
5. SEDIMENT TRAP	14. CONSTRUCTION ENTRANCE STABILIZATION	23. PERMANENT SEED / SOD	32. DAM
6. CHECK DAM	15. PERIMETER DITCH	24. MULCH	33. SAND BAG
7. PIPE SLOPE DRAIN	16. CURB AND CUTTER	25. HAY BALES	34. OTHER
8. LEVEL SPREADERS	17. PAVED ROAD SURFACE	26. GEOTEXTILE	
9. LEVEL SPREADERS	18. ROCK OUTLET PROTECTION	27. RIP-RAP	

INSPECTOR INFORMATION:

NAME: \_\_\_\_\_ QUALIFICATION \_\_\_\_\_ DATE \_\_\_\_\_

THE ABOVE SIGNATURE ALSO SHALL CERTIFY THAT THIS FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES IF THERE ARE NOT ANY INCIDENTS OF NON-COMPLIANCE IDENTIFIED ABOVE.

\*\*\*\*\*

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

NAME (RESPONSIBLE AUTHORITY) \_\_\_\_\_ DATE \_\_\_\_\_



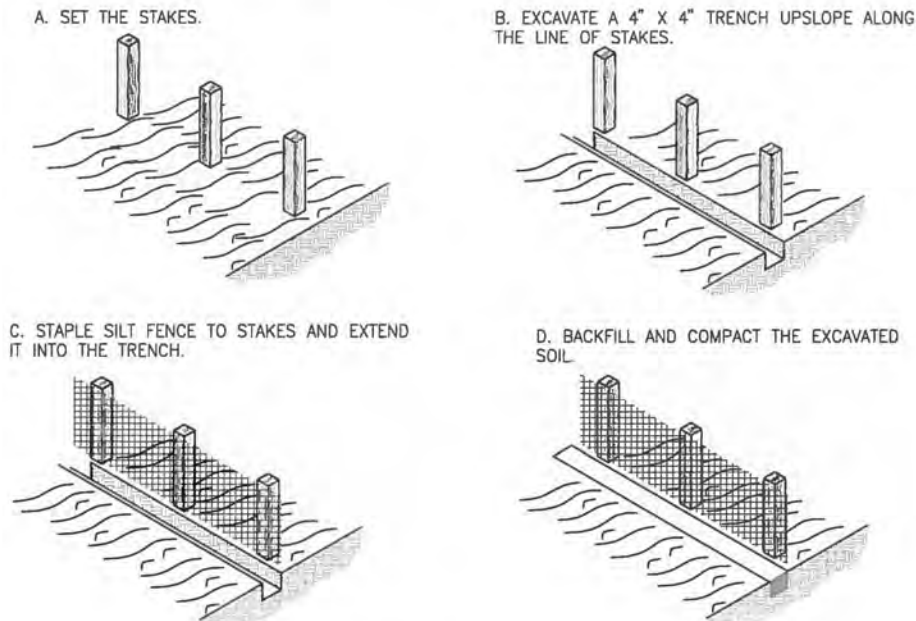
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NOT FOR CONSTRUCTION

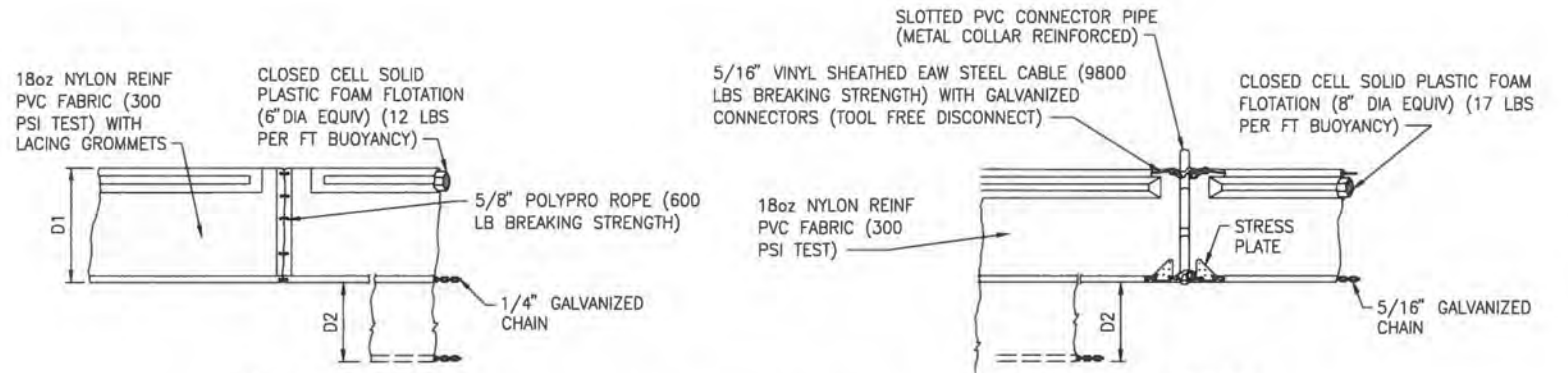
DESIGNED	A GOODDEN	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<b>CRANE CREEK M-1 CANAL FLOW RESTORATION</b> <b>ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b>	<b>EROSION CONTROL DETAILS</b>	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
DRAWN	D HAUBRICH				APPROVED BY:	19750-066-01	DEC 2019
CHECKED	R KOLLER				A. GOODDEN	INDEX NO:	DWG NO:
LTR.	DATE	REVISIONS	BY	APPRD.	P.E. # 60097		EC1-3



PLOTTED: 1/20/2020 11:57 AM DEAN HAUBRICH



**CONSTRUCTION OF A SILT FENCE DETAIL** 1  
NTS



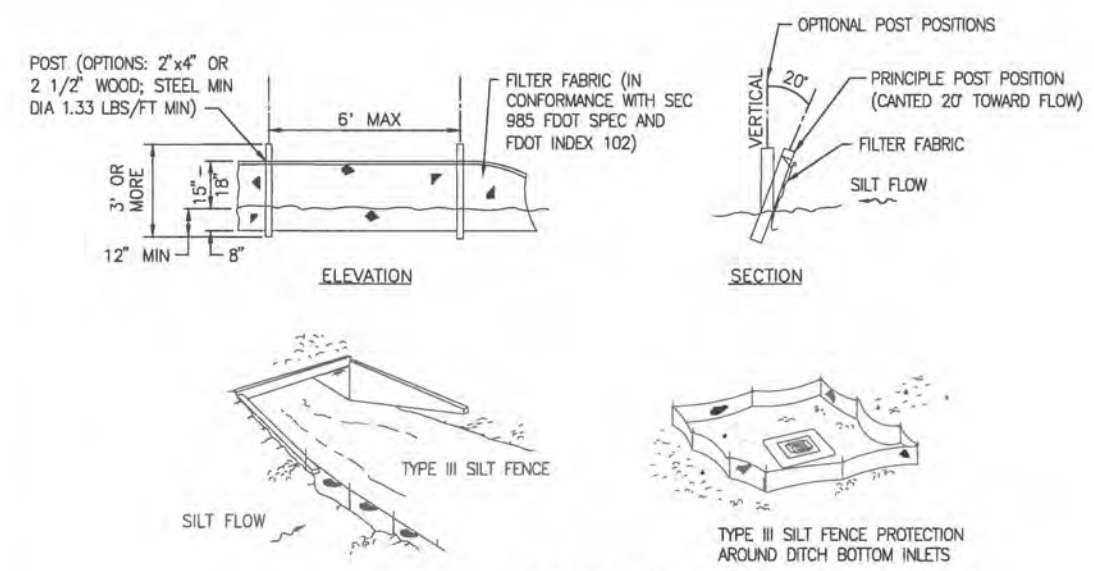
**TYPE 1**      **TYPE 2**

D1 = 5' STD (SINGLE PANEL FOR DEPTHS 5' OR LESS)  
D2 = 5' STD (ADDITIONAL PANEL FOR DEPTHS 5')

CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALL FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES 1 AND 2 MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES 1 AND 2 SHALL BE AS APPROVED BY THE ENGINEER.

**TYPICAL FLOATING TURBIDITY BARRIER DETAIL**



**TYPE III SILT FENCE**

**NOTES:**

A. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

B. WHEN JOINING BUTT ENDS OF SILT FENCE FABRIC; JOIN FABRIC ENDS, WRAP AROUND A POST 360-DEGREES, AND SET POST.

**FDOT INDEX NUMBER 102 SILT FENCE DETAIL** 3  
NTS



NOT FOR CONSTRUCTION

SAVED: 11/14/2019 4:00 PM DHAUBRICH Y:\19750-SJRWMD\PROJECTS\066-01\_CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\ENV\1975006601-EC1-4.DWG

DESIGNED <u>A GOODDEN</u> DRAWN <u>D HAUBRICH</u> CHECKED <u>R KOLLER</u>				CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	EROSION CONTROL DETAILS	CERTIFICATE OF AUTHORIZATION #60097 APPROVED BY A. GOODDEN P.E. # 60097	PROJECT NO: 19750-066-01	DATE: DEC 2019
LTR. DATE REVISIONS BY APPR.		INDEX NO: EC1-4	DWG NO: EC1-4						



SAINT JOHNS RIVER WATER MANAGEMENT DISTRICT

UTILITY PLANS

CRANE CREEK M-1 CANAL  
FLOW RESTORATION

INDEX OF UTILITY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	GENERAL NOTES
3-6	UTILITY PLAN
7-10	UTILITY PROFILE
11	SUMMARY OF VERIFIED UTILITIES



UTILITY PLANS

ENGINEER OF RECORD:

CLINTON C. SMITH, P.E. NO. 67711  
HANSON PROFESSIONAL SERVICES INC.  
8075 GATE PARKWAY WEST, SUITE 204  
JACKSONVILLE, FL 32216-3685  
(904) 737-0090



GOVERNING STANDARD PLANS:

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

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

APPLICABLE IRs:

Standard Plans for Bridge Construction are included in the Structures Plans Component

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2018 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

PERMITTING SUBMITTAL

SHEET NO.
1

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



GENERAL NOTES

1. BENCHMARK ELEVATIONS SHOWN ON THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
3. UTILITY/AGENCY OWNERS:

<u>COMPANY</u>	<u>TELEPHONE NUMBER</u>
BREVARD COUNTY PUBLIC WORKS - TRAFFIC SIGNALS & FIBER	(321) 633-2077
FLORIDA CITY GAS - GAS	(321) 638-3424
FLA GAS TRANS. - MELBOURNE - GAS PIPELINE	(407) 838-7171
FLORIDA POWER & LIGHT - BREVARD - ELECTRIC	(386) 586-6403
LEVEL 3 COMMUNICATIONS - FIBER OPTIC	(877) 366-8344 x2
CITY OF MELBOURNE UTILITIES ADMINISTRATION - WATER DISTRIBUTION	(321) 608-5106
CITY OF MELBOURNE UTILITIES ADMINISTRATION - WASTEWATER RE-USE	(321) 608-5106
CITY OF MELBOURNE UTILITIES ADMINISTRATION - SEWAGE COLLECTION	(321) 608-5106
CENTURYLINK (FORMERLY QWEST COMMUNICATIONS) - FIBER OPTIC	(303) 992-9931
AT&T DISTRIBUTION - TELEPHONE	(561) 997-0240
UNITI FIBER LLC - FIBER OPTIC	(251) 259-0807
BRIGHT HOUSE NETWORKS, LLC BREVARD - FIBER OPTIC	(321) 757-6451
CITY OF WEST MELBOURNE - WATER	(321) 837-7771
CITY OF WEST MELBOURNE - SEWER	(321) 984-0485
CROWN CASTLE FIBER	(786) 610-7059

4. SPECIAL EVENT DAYS FOR THIS PROJECT INCLUDE: TBD

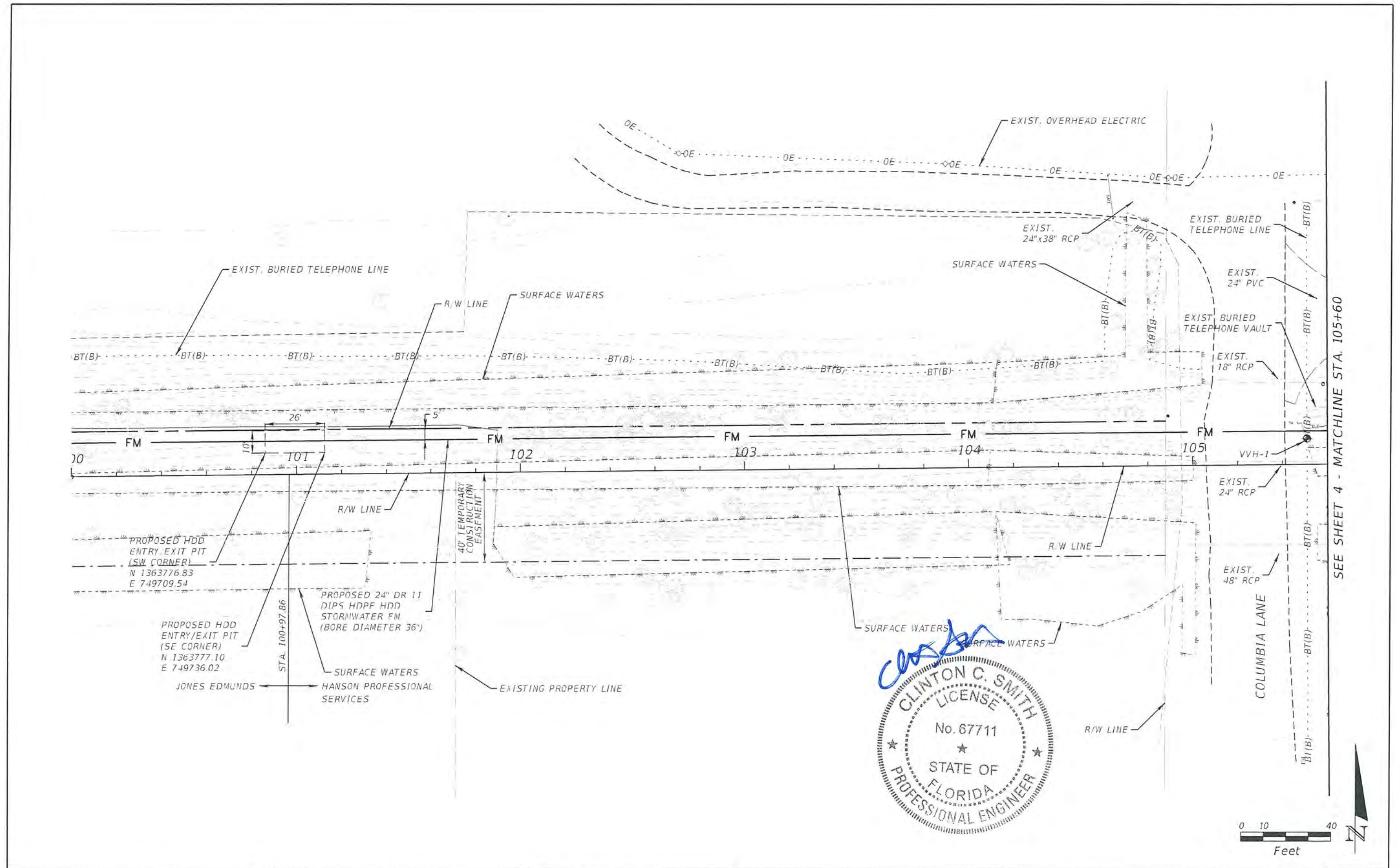


ENVIRONMENTAL RESOURCE REQUIREMENTS

1. THE USE OF DRILLING FLUIDS SHALL NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF STATE GROUND WATER QUALITY CRITERIA OR STANDARDS, AS DEFINED IN CHAPTER 62-520, F.A.C.
2. AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF ANY DIRECTIONAL DRILLING ACTIVITIES, CONTRACTOR SHALL PROVIDE ALL-HOURS TELEPHONE CONTACT INFORMATION OF ALL CONTRACTORS RESPONSIBLE FOR DRILLING AND FOR CONTAINMENT AND CLEANUP IN THE EVENT OF A DRILLING FLUID FRAC-OUT OR SPILL.
3. THE CONTRACTOR SHALL AT ALL TIMES DURING DIRECTIONAL DRILLING ACTIVITIES, MAINTAIN APPROPRIATE EQUIPMENT AND MATERIALS IN A READILY-ACCESSIBLE LOCATION AND CONDITION, TO EFFECTIVELY CONTAIN AND CLEAN UP A DRILLING FLUID FRAC-OUT OR SPILL.
4. THE CONTRACTOR SHALL AT ALL TIMES DURING DIRECTIONAL DRILLING ACTIVITIES, ENSURE THAT APPROPRIATELY-TRAINED PERSONNEL MONITOR DOWNHOLE EQUIPMENT POSITION, DRILLING FLUID CIRCULATION AND PRESSURES, AND ACTIVELY MONITOR THE ENTIRE UTILITY LINE ROUTE FOR SURFACE FRAC-OUT OF DRILLING FLUIDS.
5. ALL DRILLING ACTIVITIES SHALL BE DISCONTINUED AND THE DRILLING FLUID OR SLURRY SHALL BE CONTAINED USING APPROPRIATE METHODS AS SOON AS POSSIBLE. IN THE EVENT OF A DRILLING FLUID FRAC-OUT OR SPILL, REMOVAL OF DRILLING FLUID OR SLURRY FROM WETLANDS AND OTHER SURFACE WATERS SHALL BE INITIATED AND COMPLETED IN THE MOST EXPEDITIOUS MANNER PRACTICAL. REMOVED DRILLING FLUID SHALL BE CONTAINED OR DISPOSED OF IN AN APPROPRIATE UPLAND LOCATION. ANY FRAC-OUT OR SPILL OF DRILLING FLUID INTO WETLANDS OR OTHER SURFACE WATERS SHALL BE REPORTED TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION WITHIN 24 HOURS FOLLOWING DETECTION OF THE SPILL OR FRAC-OUT.
6. FOR A TRENCH WITH A TOP WIDTH GREATER THAN THREE FEET IN HERBACEOUS WETLANDS, THE UPPER LAYER OF THE SOIL HORIZON SHALL INITIALLY BE SCRAPED AND SEGREGATED INTO A SOIL BANK THAT IS SEPARATED FROM THE SPOIL BANK RESULTING FROM THE EXCAVATION OF THE TRENCH FOR THE UTILITY LINE. THE UPPER LAYER OF THE SOIL HORIZON SHALL BE REPLACED AS THE LAST STEP OF RESTORED GRADES TO FACILITATE NATURAL REVEGETATION.

REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY BREVARD		GENERAL NOTES	SHEET NO. 2
DATE	DESCRIPTION	DATE	DESCRIPTION					

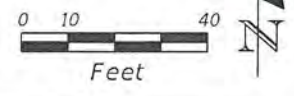
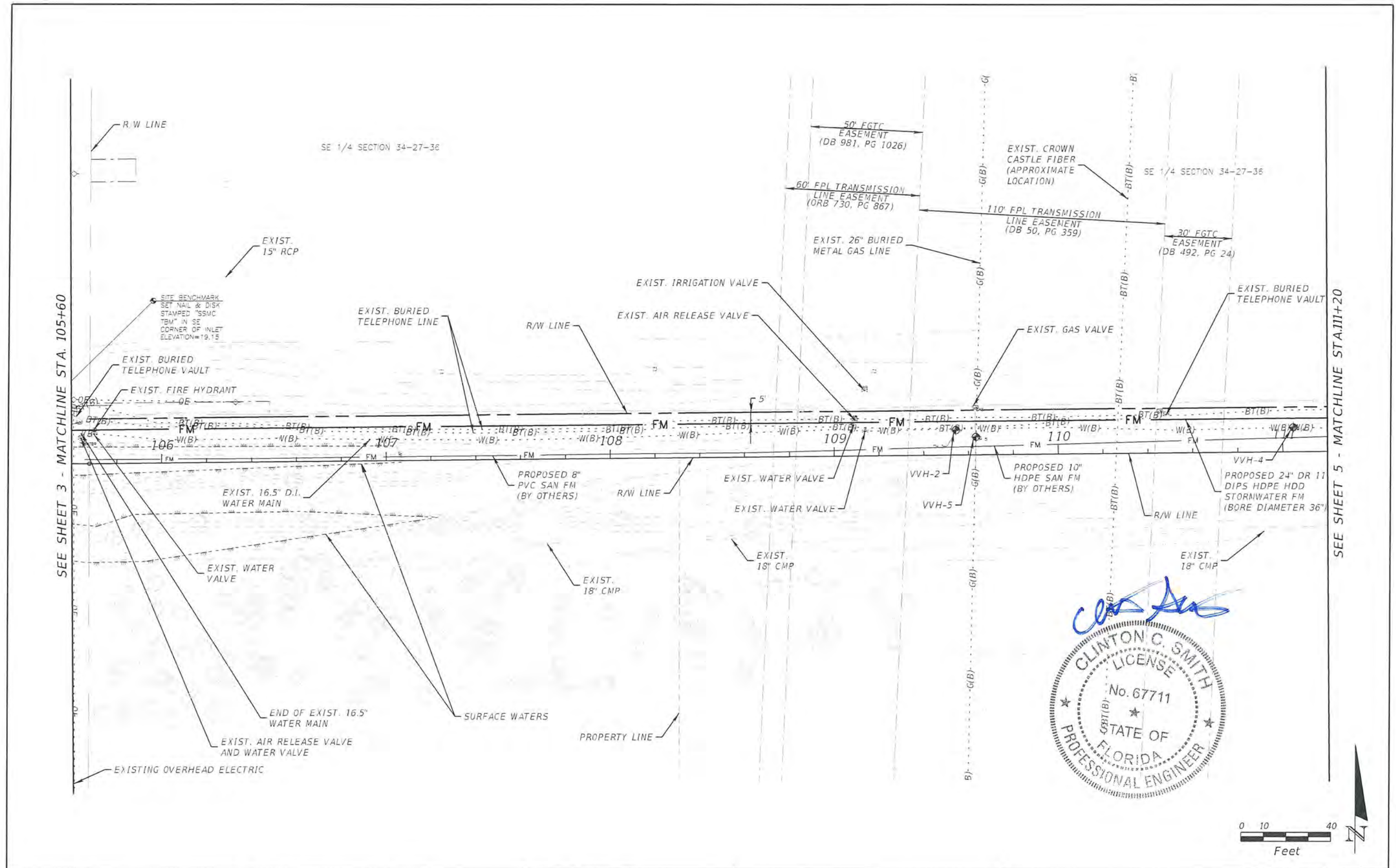




SEE SHEET 4 - MATCHLINE STA. 105+60

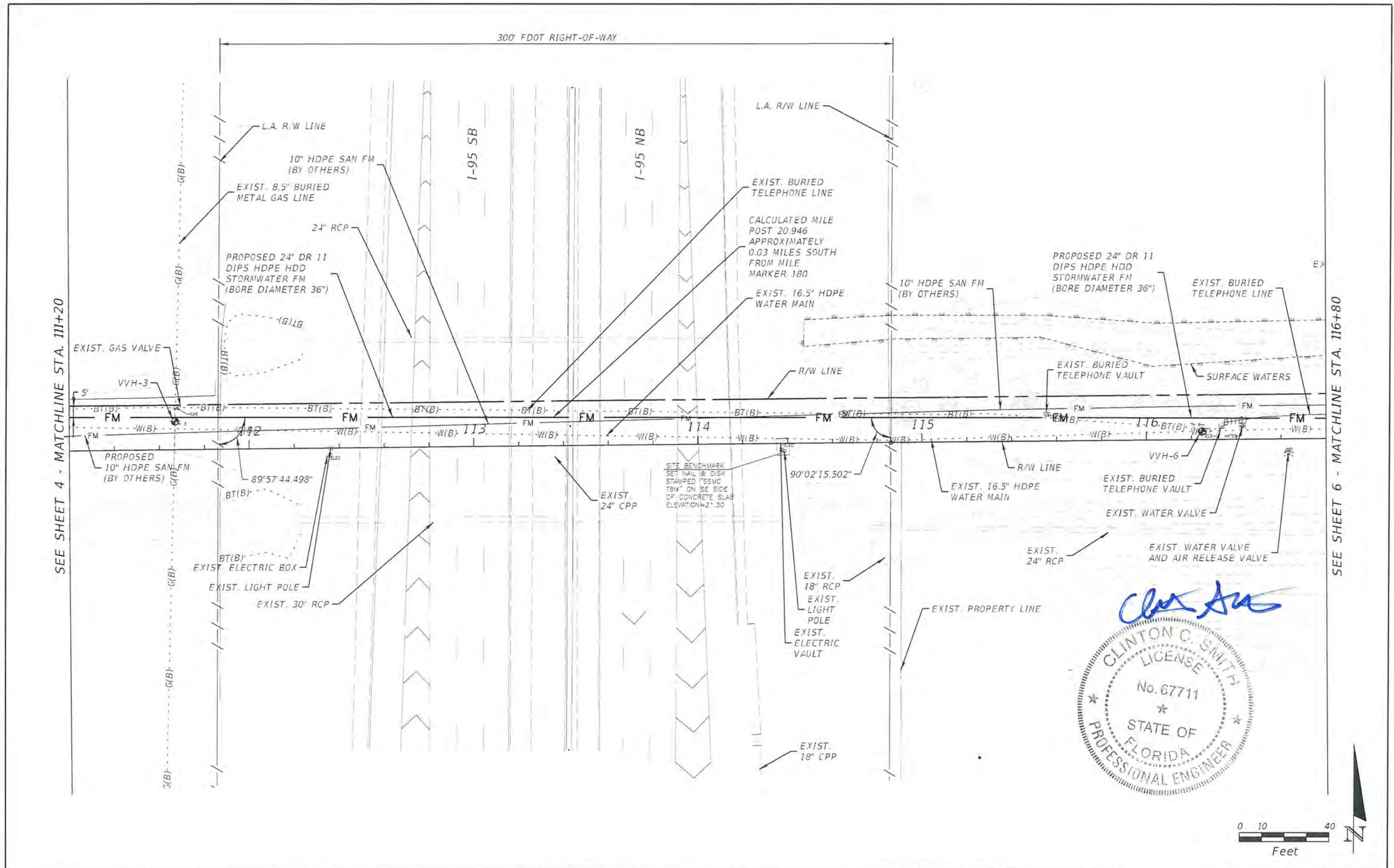
REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		UTILITY PLAN	SHEET NO. 3
DATE	DESCRIPTION	DATE	DESCRIPTION					
					BREVARD			





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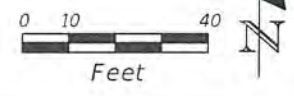




SEE SHEET 4 - MATCHLINE STA. 113+20

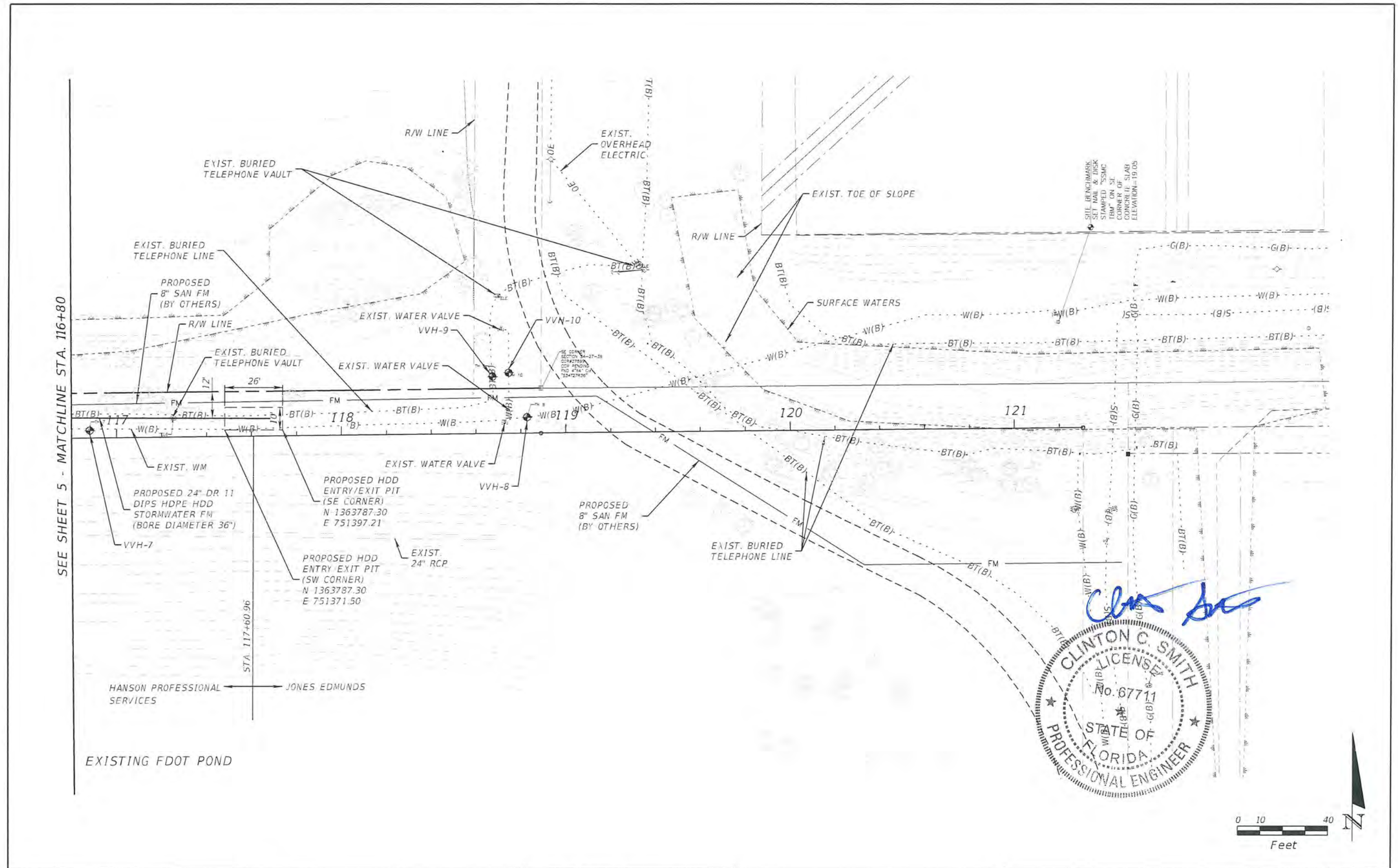
SEE SHEET 6 - MATCHLINE STA. 116+80

*Clinton C. Smith*  
 CLINTON C. SMITH  
 LICENSE  
 No. 67711  
 STATE OF  
 FLORIDA  
 PROFESSIONAL ENGINEER



REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		UTILITY PLAN	SHEET NO. 5
DATE	DESCRIPTION	DATE	DESCRIPTION		BREVARD			

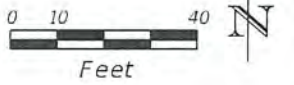




SEE SHEET 5 - MATCHLINE STA. 116+80

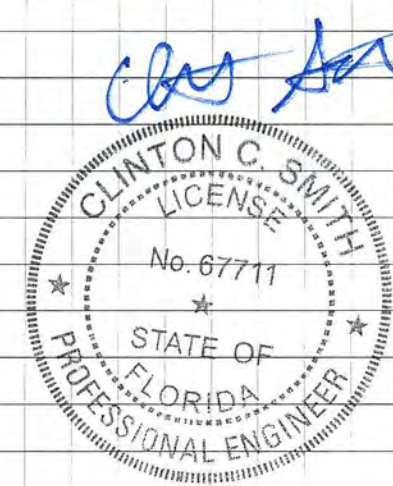
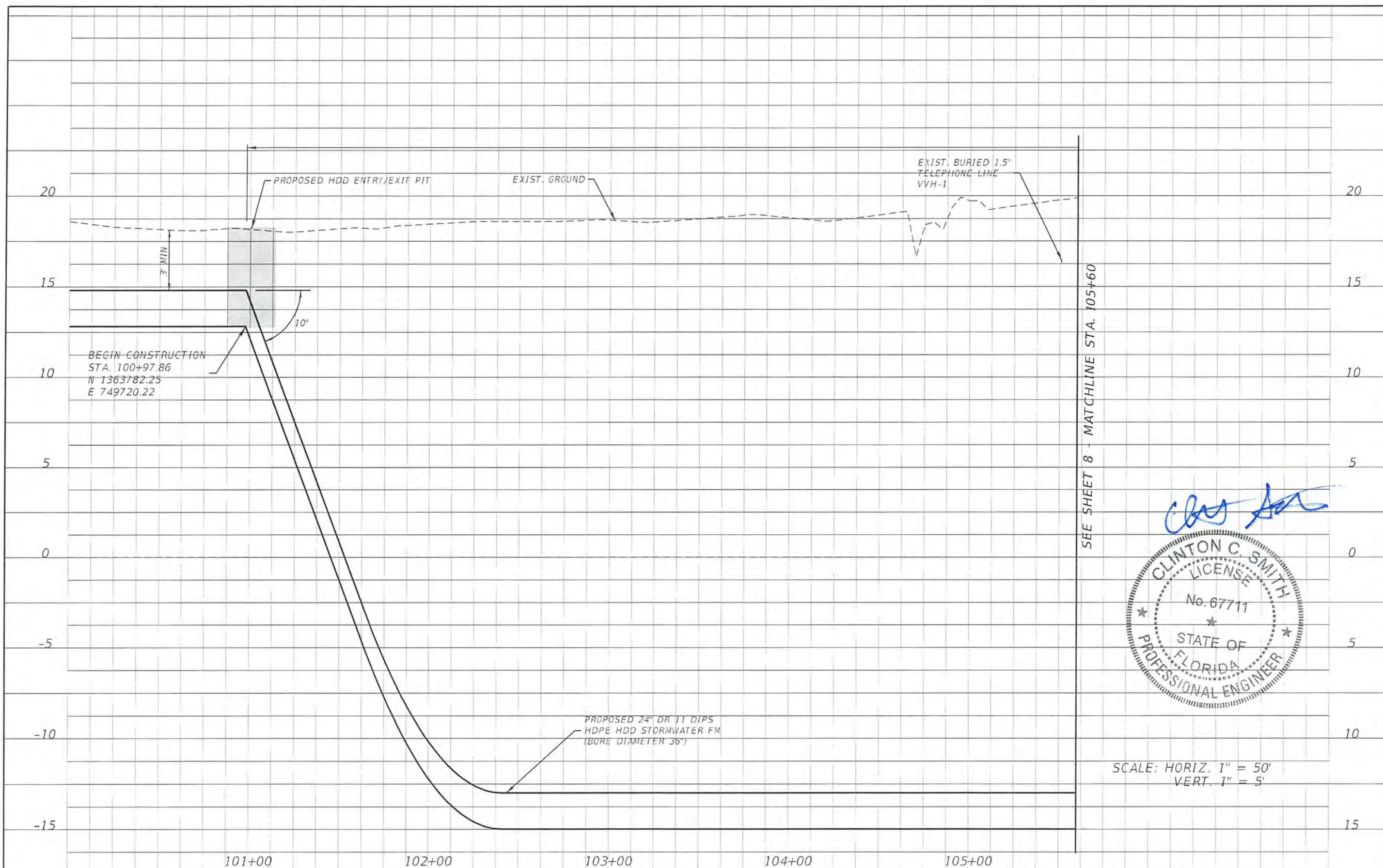
HANSON PROFESSIONAL SERVICES ← JONES EDMUNDS

EXISTING FDOT POND



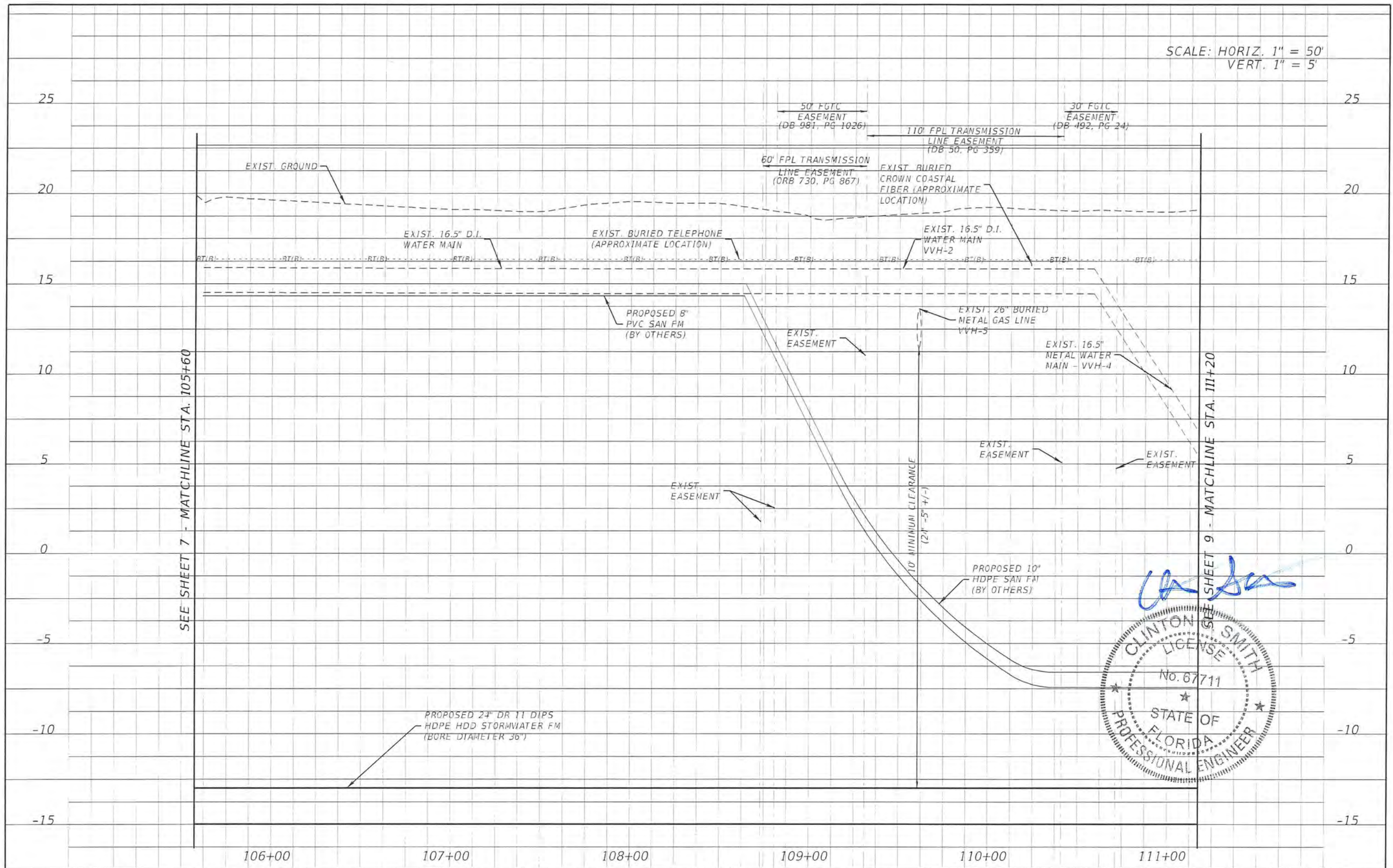
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DATE	DESCRIPTION	DATE	DESCRIPTION		BREVARD			





REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		UTILITY PROFILES	SHEET NO. 7
DATE	DESCRIPTION	DATE	DESCRIPTION		BREVARD			





SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

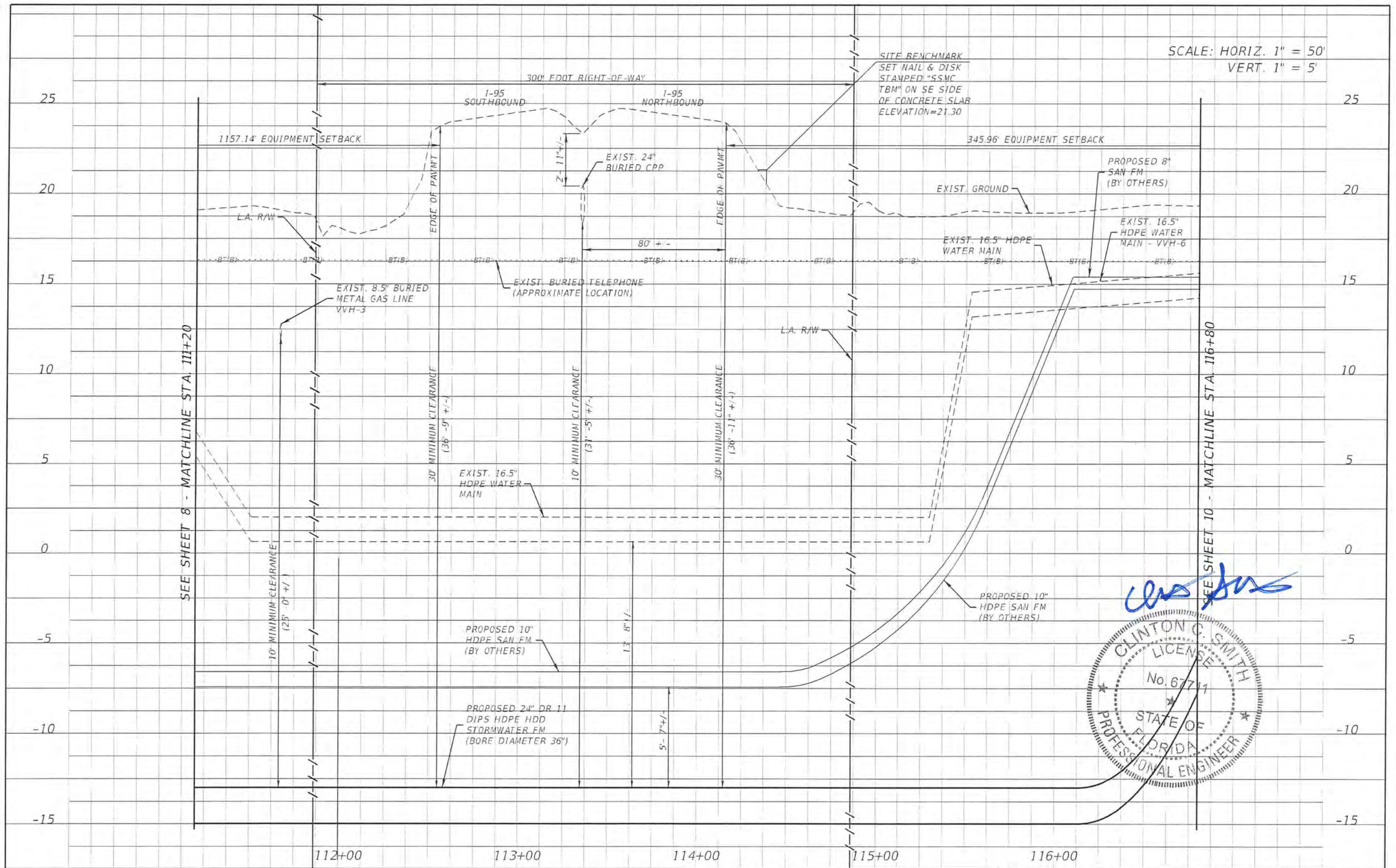
SEE SHEET 7 - MATCHLINE STA. 105+60

SEE SHEET 9 - MATCHLINE STA. 111+20



REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		UTILITY PROFILES	SHEET NO. 8
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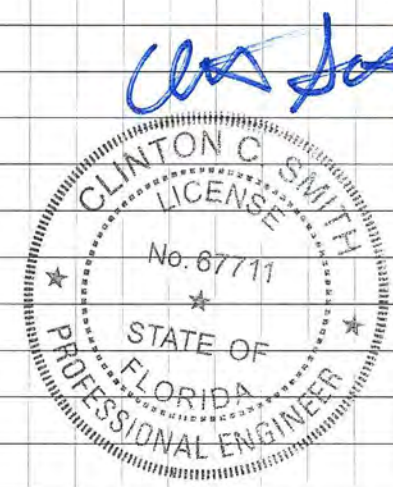
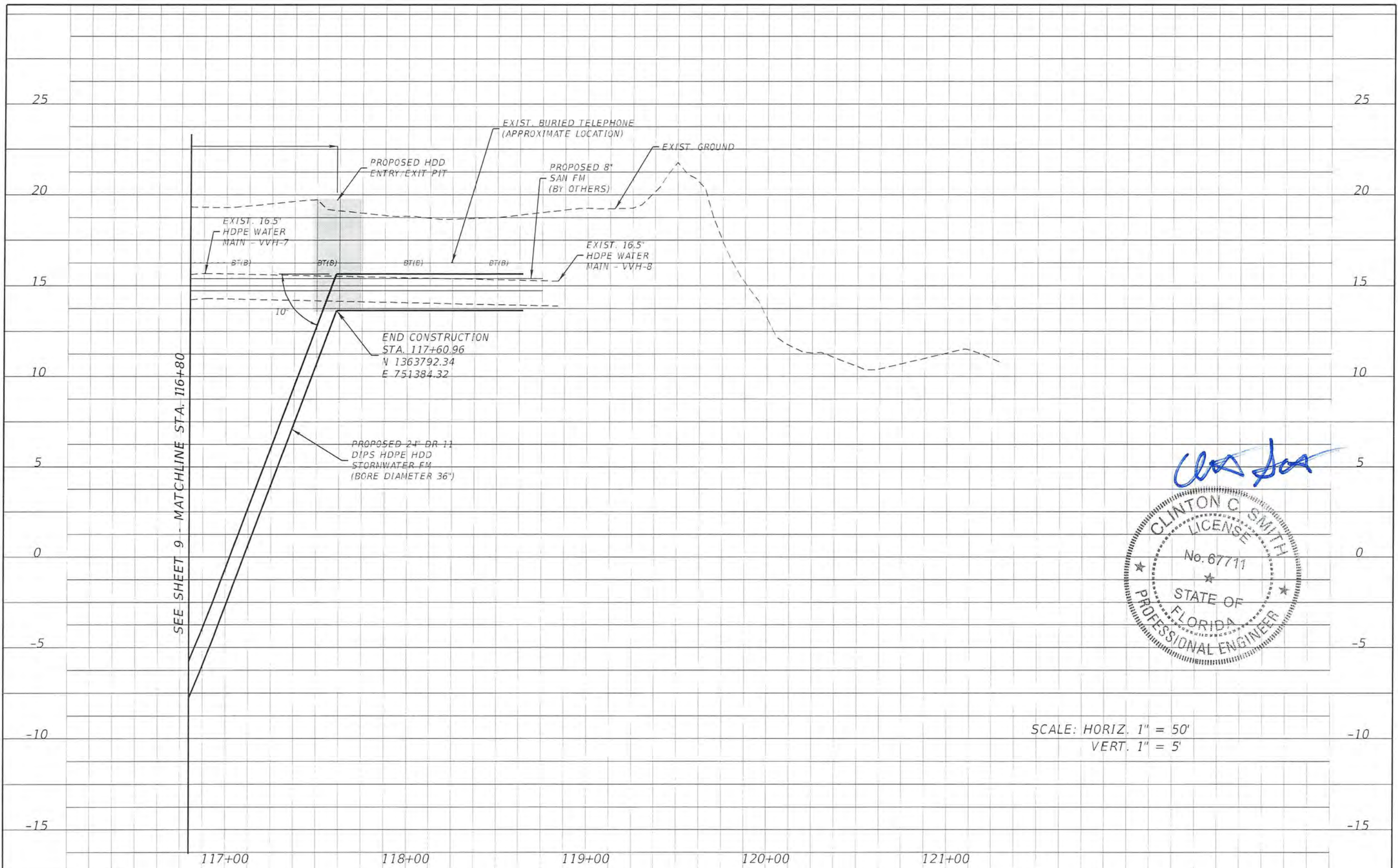




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DATE	DESCRIPTION	DATE	DESCRIPTION			

UTILITY PROFILES





SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		UTILITY PROFILES	SHEET NO. 10
DATE	DESCRIPTION	DATE	DESCRIPTION					
					BREVARD			

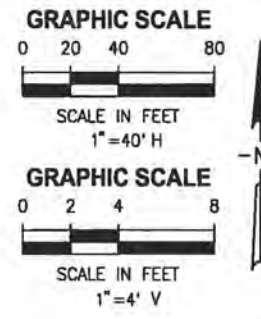
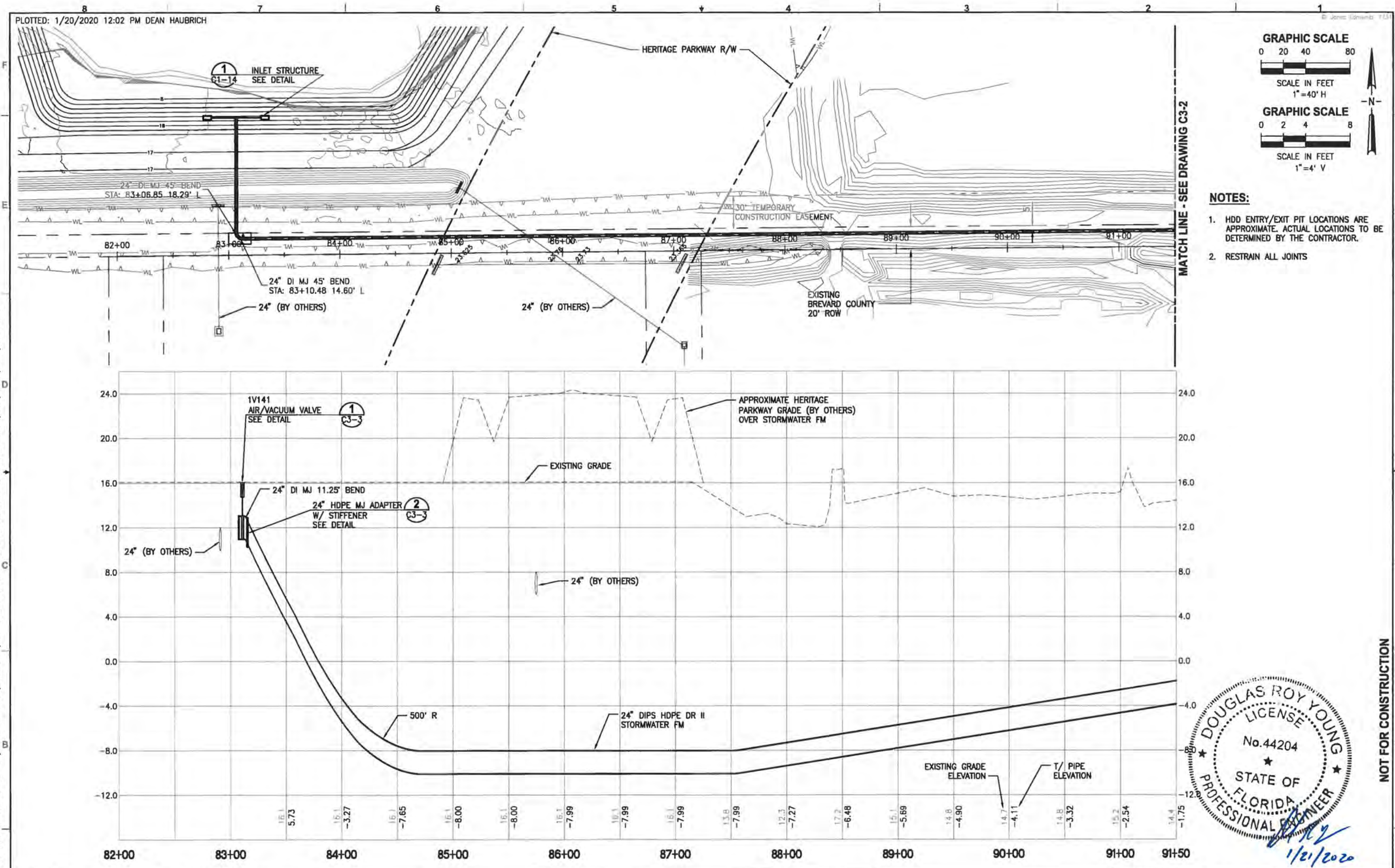


SUMMARY OF VERIFIED UTILITIES									
Vvh #	UTILITY DESCRIPTION (Owner, Type)	SIZE	MATERIALS	B and/or C			EXISTING GROUND ELEVATION	TOP ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
VVH-1	BT, AT&T	1.5"	DBC	105+50.90	11.57	LT	19.69	16.44	
VVH-2	WM, BREVARD COUNTY	16.5"	DIP	109+54.36	11.15	LT	18.82	15.82	
VVH-3	GM, ENERGY TRANSFER	8.5"	MET	111+66.92	12.62	LT	19.01	12.76	
VVH-4	WM, BREVARD COUNTY	16.5"	MET	111+04.71	10.96	LT	18.88	9.13	
VVH-5	GM, ENERGY TRANSFER	26"	MET	109+63.32	8.05	LT	18.86	13.61	
VVH-6	WM, BREVARD COUNTY	16.5"	HDPE	116+24.59	3.59	LT	18.38	14.88	
VVH-7	WM, BREVARD COUNTY	16.5"	HDPE	116+88.03	3.35	LT	18.78	15.68	
VVH-8	WM, BREVARD COUNTY	16.5"	HDPE	118+83.85	7.13	LT	19.01	15.26	
VVH-9	BT, AT&T	1"	DBC	118+67.49	25.38	LT	19.00	16.25	
VVH-10	WM, BREVARD COUNTY	16.5"	HDPE	118+74.66	27.03	LT	19.02	14.87	



REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		SUMMARY OF VERIFIED UTILITIES	SHEET NO. 11
DATE	DESCRIPTION	DATE	DESCRIPTION			BREVARD		





- NOTES:**
1. HDD ENTRY/EXIT PIT LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED BY THE CONTRACTOR.
  2. RESTRAIN ALL JOINTS

SAVED: 11/15/2019 11:42 AM JKRAMER Y:\19750-SURVMD\PROJECTS\066-01\_CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\CIVIL\C3-1.DWG

NOT FOR CONSTRUCTION

DESIGNED	D YOUNG			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

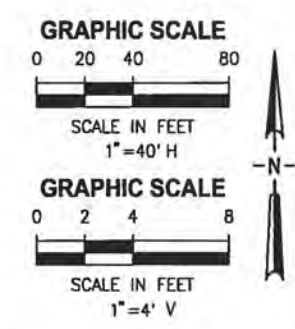
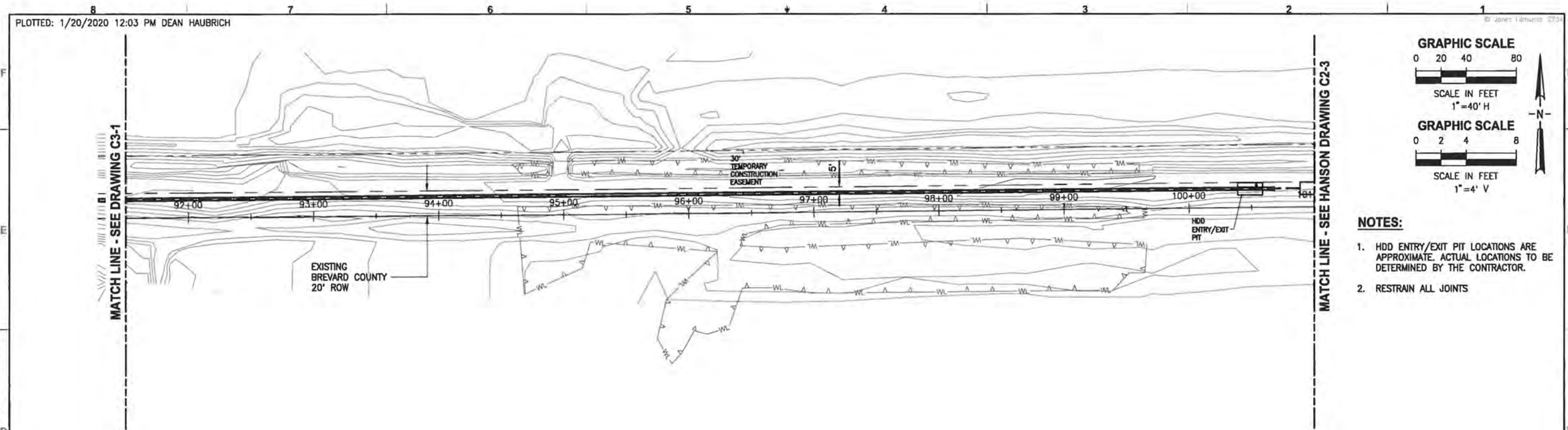
**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

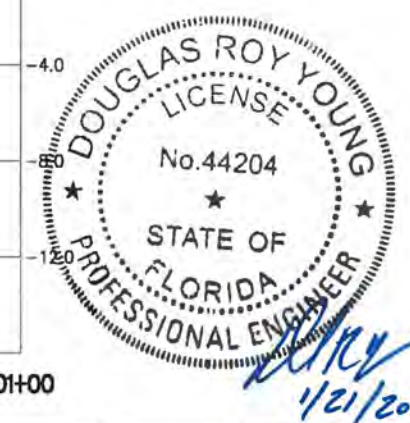
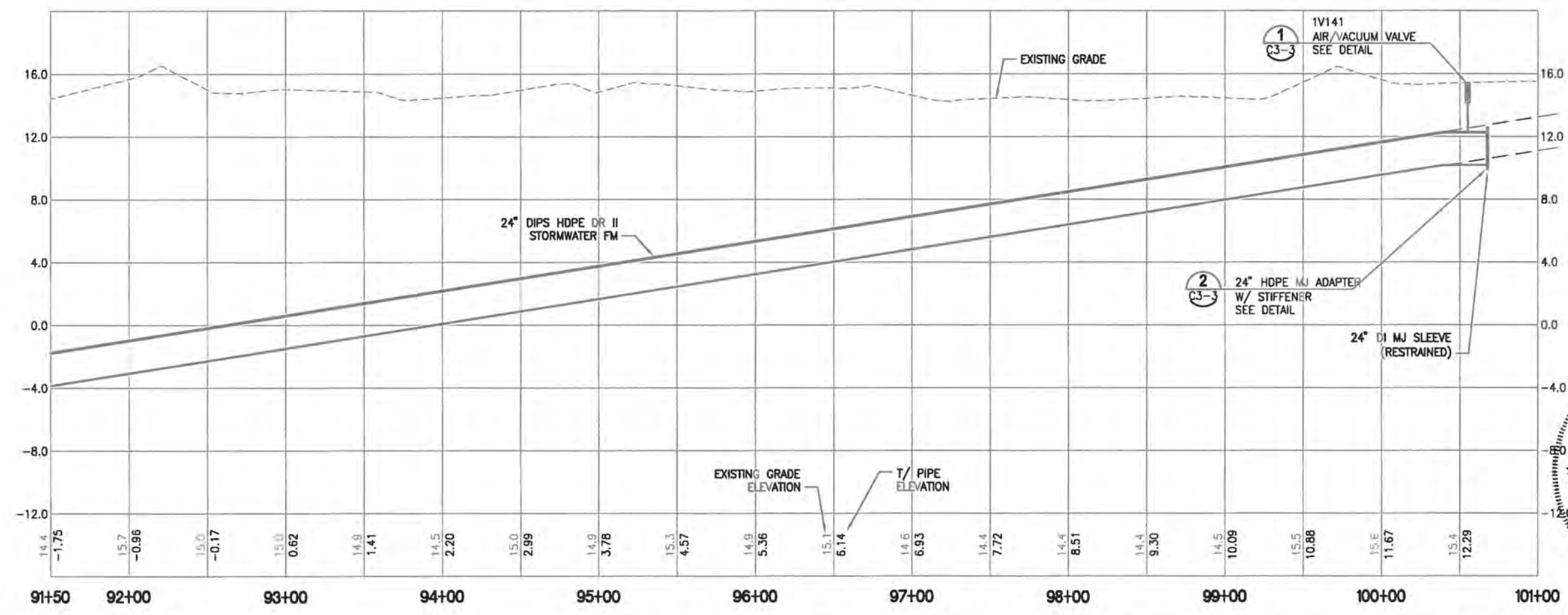
**STORMWATER FORCE MAIN PLAN &  
 PROFILE**

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY D. YOUNG P.E. # 44204	PROJECT NO: 19750-066-01	DATE: DEC 2019
	INDEX NO:	DWG NO: C3-1





- NOTES:**
1. HDD ENTRY/EXIT PIT LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED BY THE CONTRACTOR.
  2. RESTRAIN ALL JOINTS

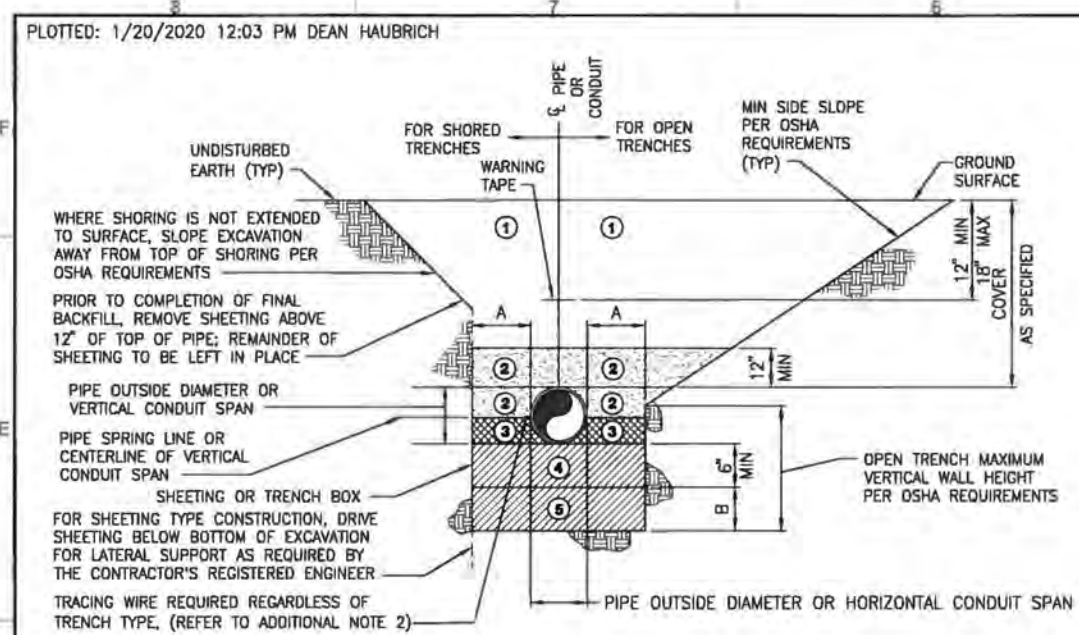


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DESIGNED D YOUNG		<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT		STORMWATER FORCE MAIN PLAN & PROFILE		CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY		PROJECT NO: 19750-066-01	DATE: DEC 2019
DRAWN D HAUBRICH							D. YOUNG		INDEX NO:	DWG NO: C3-2
CHECKED R KOLLER							P.E. # 44204			
LTR.	DATE	REVISIONS	BY	APPRD.						





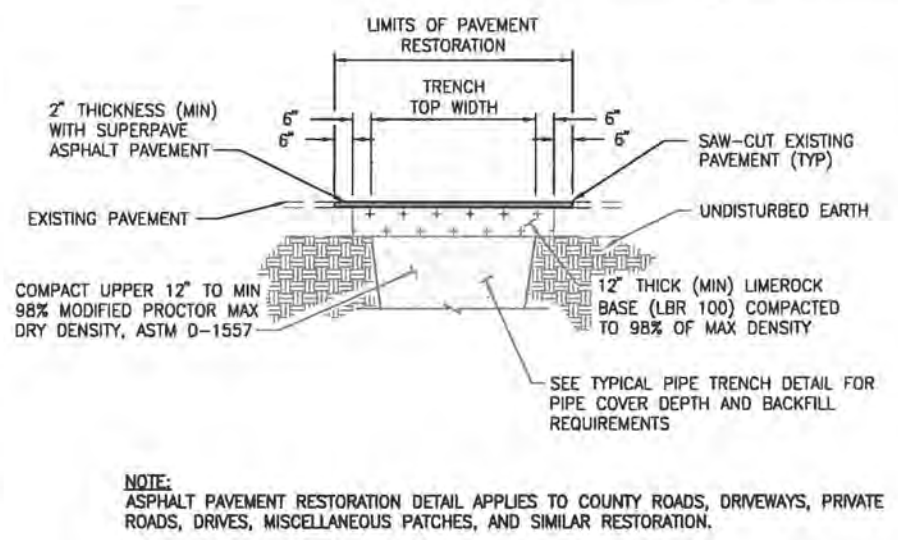
NOMINAL PIPE DIAMETER OR HORIZONTAL CONDUIT SPAN (INCHES)	MINIMUM SIDEWALL CLEARANCE A (INCHES)	ADDITIONAL EXCAVATION DEPTH (1) B (INCHES)
LESS THAN 24	12	12
24 AND GREATER	18	18

ZONE NO.	ZONE NAME	MATERIAL	COMPACTION
1	FINAL BACKFILL	AS SPECIFIED	AT LEAST 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY ASTM D-1557 (98% WHEN UNDER PAVEMENT)
2	INITIAL BACKFILL		
3	HAUNCHING		
4	BEDDING		
5	FOUNDATION		

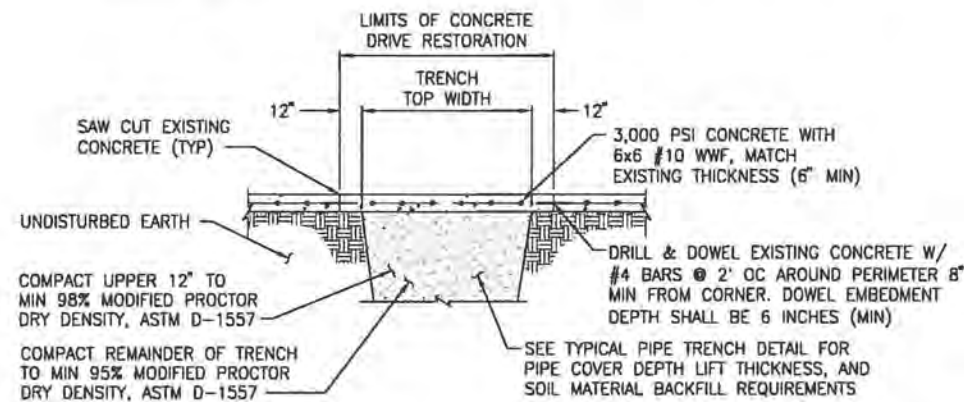
- TRENCH ZONE NOTES:**
- FINAL BACKFILL SHALL BE INSTALLED IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT. REFER TO ADDITIONAL NOTE 3.
  - INITIAL BACKFILL SHALL BE INSTALLED IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT. ALL LIFTS SHALL BE COMPACTED BY HAND TAMPING OR AN APPROVED METHOD OF MECHANICAL TAMPING. REFER TO ADDITIONAL NOTE 3.
  - HAUNCHING SHALL BE IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT. ALL LIFTS SHALL BE COMPACTED BY HAND TAMPING. HAUNCHING SHALL BE BROUGHT UP EQUALLY ON BOTH SIDES OF THE PIPE.
  - BEDDING SHALL BE INSTALLED IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT, AND SHALL BE COMPACTED BY HAND OR MECHANICAL TAMPING. PROPERLY SHAPED BELL HOLES SHALL BE EXCAVATED IN THE BEDDING TO PERMIT ASSEMBLY OF THE PIPE. REFER TO ADDITIONAL NOTE 3.
- NATIVE, UNDISTURBED MATERIAL IN COMPLETELY DEWATERED TRENCHES MEETING THE COMPACTION AND MATERIAL REQUIREMENTS FOR COMPACTED BEDDING MATERIAL NEED NOT BE REPLACED OR REWORKED, EXCEPT FOR SHAPING OF THE BELL HOLES, AND WHERE REFILL IS REQUIRED.
- FOUNDATION SHALL BE REQUIRED WHERE UNSUITABLE MATERIAL IS ENCOUNTERED. FOUNDATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS FOR BEDDING. REFER TO ADDITIONAL NOTE 3.

- ADDITIONAL NOTES:**
- FOR TRENCHES IN VEHICULAR TRAFFIC AREAS OR BENEATH SURFACE IMPROVEMENTS (EG, SLABS, ASPHALT, ETC.) SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL COMPACTION REQUIREMENTS. SEE DRAWINGS FOR SURFACE IMPROVEMENT AND /OR RESTORATION DETAILS WHERE APPLICABLE.
  - TRACING WIRE SHALL BE INSTALLED ON THE SIDE OF THE PIPE AND ATTACHED TO THE PIPE EVERY 10' W/ A NYLON WIRE TIE. IF THE WIRE IS DAMAGED OR NEEDS TO BE EXTENDED A 3M WATERPROOF TYPE UF SPLICE SHALL BE INSTALLED TO REPAIR THE WIRE. THE ENDS OF THE TRACING WIRE SHALL BE BROUGHT UP IN EVERY VALVE BOX ON THE LINE AND AT THE HYDRANT VALVES. THERE SHALL BE A MINIMUM COIL OF 3' LEFT UNDER THE VALVE BOX COVER. THE WIRE SHALL BE TESTED TO VERIFY CONDUCTIVITY.
  - ALTERNATIVE LIFT THICKNESSES, NOT EXCEEDING 12 INCHES LOOSE MEASUREMENT, ARE ACCEPTABLE IN TRENCH ZONES 1, 2, 4, AND 5 PROVIDED 1) THE LIFT THICKNESS DOES NOT EXCEED THE MAXIMUM VALUE RECOMMENDED IN WRITING BY THE APPLICABLE PIPE MANUFACTURER AND 2) FIELD TEST RESULTS CONFIRM THAT THE SPECIFIED COMPACTION REQUIREMENTS ARE BEING MET.

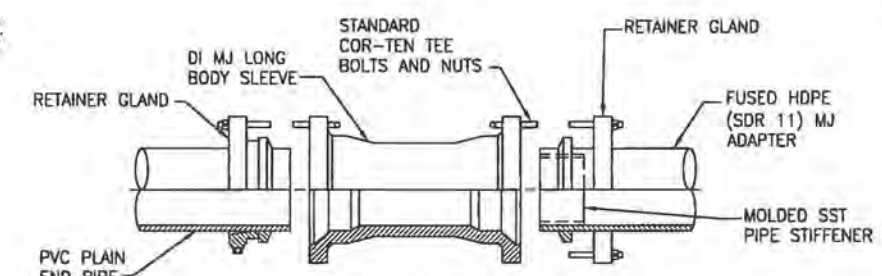
**TYPICAL UTILITY TRENCH DETAIL**  
NTS



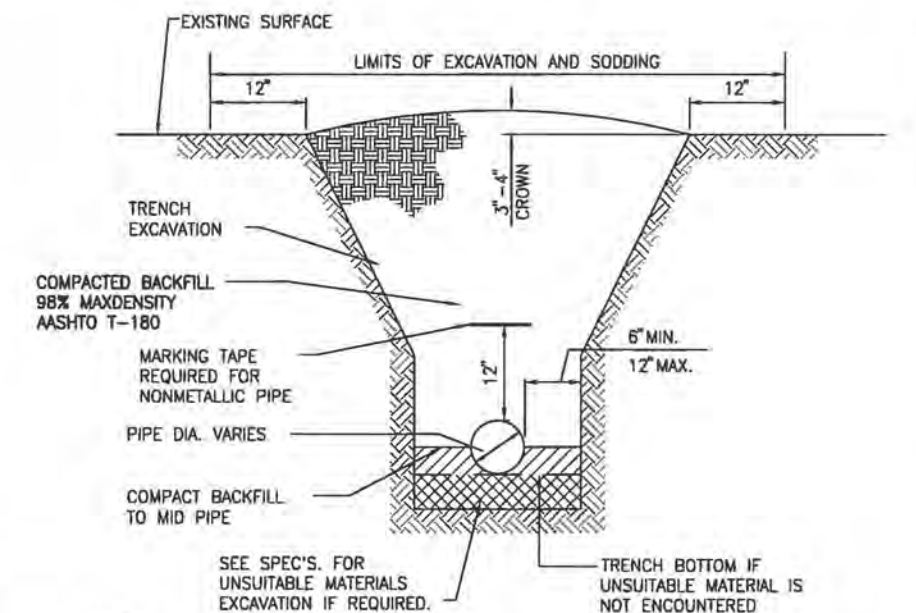
**TYPICAL ASPHALT PAVEMENT RESTORATION DETAIL**  
NTS



**TYPICAL CONCRETE DRIVEWAY RESTORATION DETAIL**  
NTS

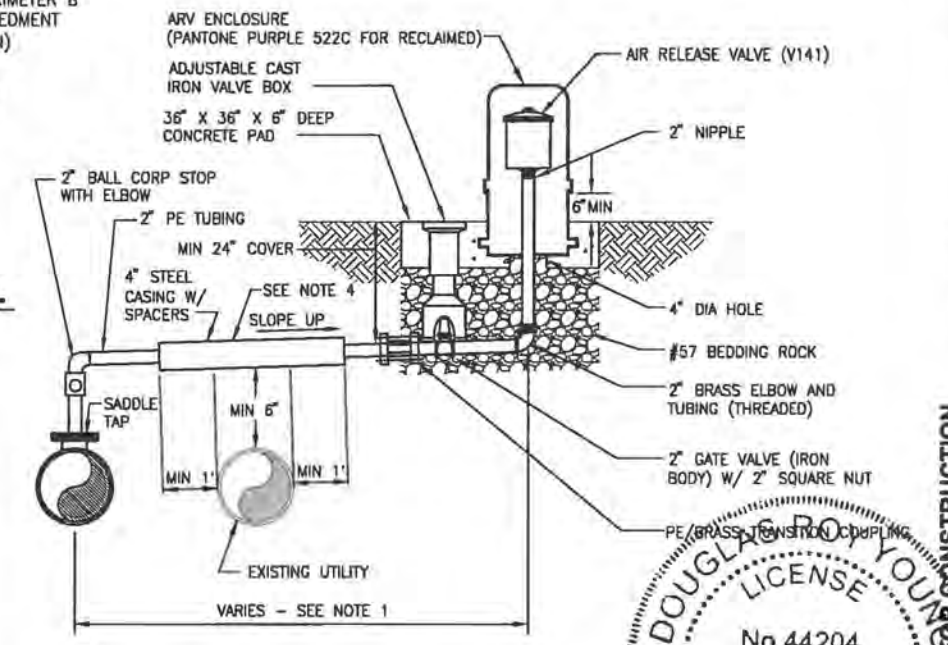


**HDPE MJ ADAPTER W/ STIFFENER PIPE MATERIAL TRANSITION FITTING DETAIL**  
NTS



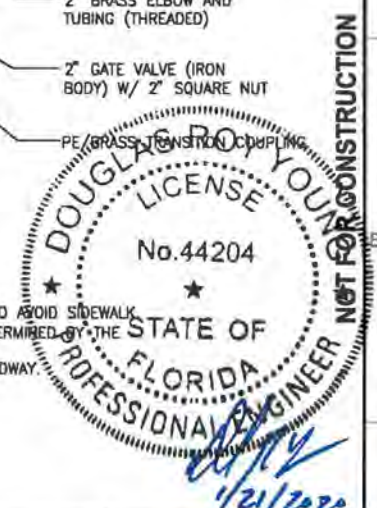
- NOTES:**
- DEWATERING SHALL CONTINUE UNTIL BACKFILL IS COMPACTED AT LEAST 2 FEET ABOVE PIPE.
  - SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
  - CONTRACTOR SHALL SLOPE TRENCH IN ACCORDANCE WITH OSHA STANDARDS SHOW IN ABOVE TABLE B-1.

**TYPICAL TRENCH IN UNPAVED AREAS DETAIL**  
NTS



- NOTES:**
- OFFSET DISTANCE TO BE FIELD DETERMINED BY THE ENGINEER.
  - ADJUST HORIZONTAL LOCATION OF ARV ENCLOSURE, AS REQUIRED TO AVOID SIDEWALKS. LOCATE ARV ENCLOSURE WITHIN 1' OF R/W OR AS OTHERWISE DETERMINED BY THE ENGINEER.
  - IF REQUIRED MARKERS SHALL BE PLACED ON ARV BOX FACING ROADWAY.
  - CASING ONLY REQUIRED IF CROSSING AN EXISTING UTILITY.

**OFFSET AIR RELEASE VALVE DETAIL**  
NTS



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LTR.	DATE	REVISIONS	BY	APPRD.	CHECKED
					R. KOLLER

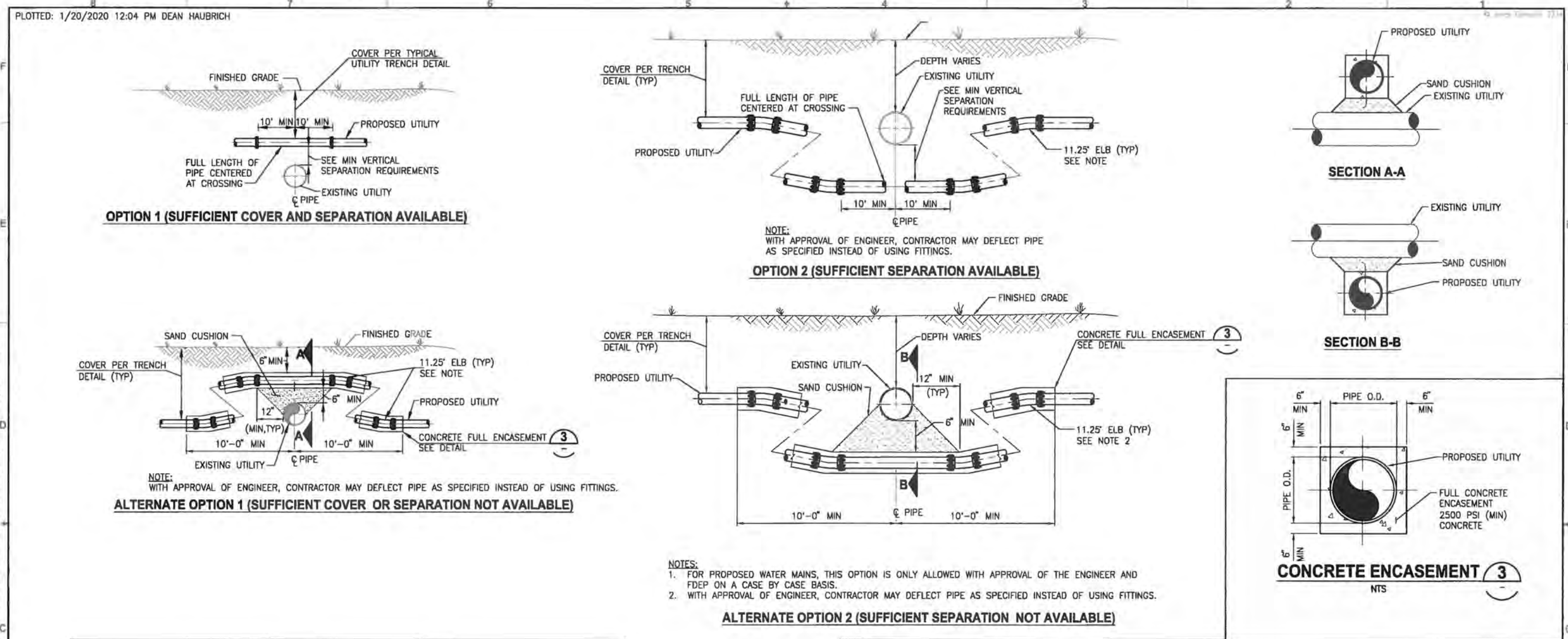
**JonesEdmunds**  
CERTIFICATE OF AUTHORIZATION #1841  
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER FORCE MAIN - DETAILS**

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY D. YOUNG P.E. # 44204	PROJECT NO: 19750-066-01	DATE: DEC 2019
	INDEX NO:	DWG NO: C3-3





PROPOSED UTILITY	EXISTING UTILITY						COMMENTS
	POTABLE WATER	GRAVITY SANITARY SEWER	SEWAGE FORCE MAIN	STORM	RECLAIMED WATER	ELECTRIC TELECOMMUNICATIONS	
POTABLE WATER	1'-0"	1'-6"	1'-5"	1'-0"	1'-0"	1'-0"	SEE NOTE 1
GRAVITY SANITARY SEWER	1'-6"	1'-0"	1'-0"	1'-6"	1'-6"	1'-0"	
SEWAGE FORCE MAIN	1'-6"	1'-0"	1'-0"	1'-0"	1'-6"	1'-0"	SEE NOTE 2
STORM	1'-0"	1'-6"	1'-0"	1'-0"	1'-0"	1'-0"	
RECLAIMED WATER	1'-0"	1'-6"	1'-6"	1'-0"	1'-0"	1'-0"	SEE NOTE 2
ELECTRIC TELECOMMUNICATIONS	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	

**NOTE:**  
1. ONLY OPTION 1 CONSTRUCTION IS ALLOWED WITHOUT APPROVAL OF ENGINEER.

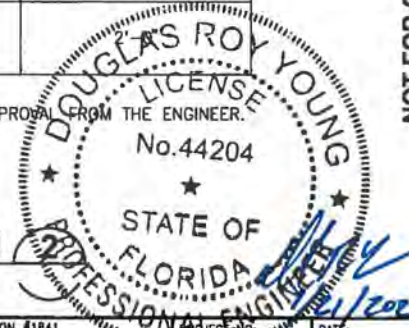
**MINIMUM VERTICAL SEPARATION REQUIREMENTS**



PROPOSED UTILITY	MINIMUM HORIZONTAL SEPARATION EXISTING UTILITY					
	POTABLE WATER	GRAVITY SANITARY SEWER	SEWAGE FORCE MAIN	STORM	RECLAIMED WATER	ELECTRIC TELECOMMUNICATIONS
POTABLE WATER	1'-0"	10'-0"	10'-0"	3'-0"	3'-0"	3'-0"
GRAVITY SANITARY SEWER	10'-0"	1'-0"	1'-0"	3'-0"	3'-0"	3'-0"
SEWAGE FORCE MAIN	10'-0"	1'-0"	1'-0"	3'-0"	3'-0"	3'-0"
STORM	3'-0"	3'-0"	3'-0"	1'-0"	3'-0"	3'-0"
RECLAIMED WATER	3'-0"	3'-0"	3'-0"	3'-0"	1'-0"	3'-0"
ELECTRIC TELECOMMUNICATIONS	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	

**NOTE:**  
UTILITIES SHALL NOT BE INSTALLED WITHIN THE DRIP LINE OF TREES WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

**UTILITY HORIZONTAL SEPARATION**  
NTS

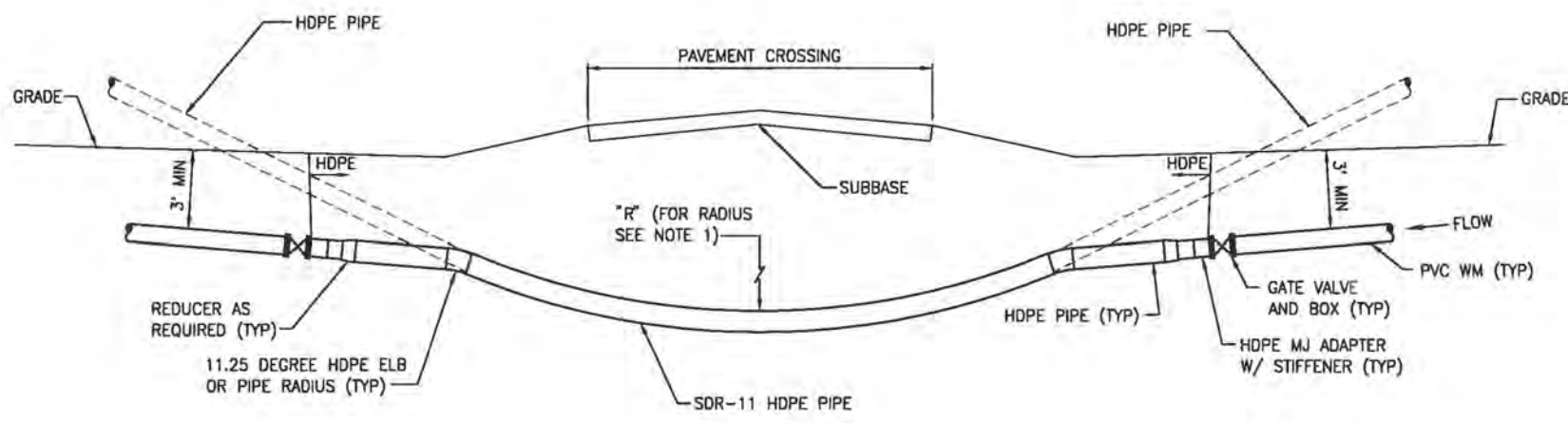
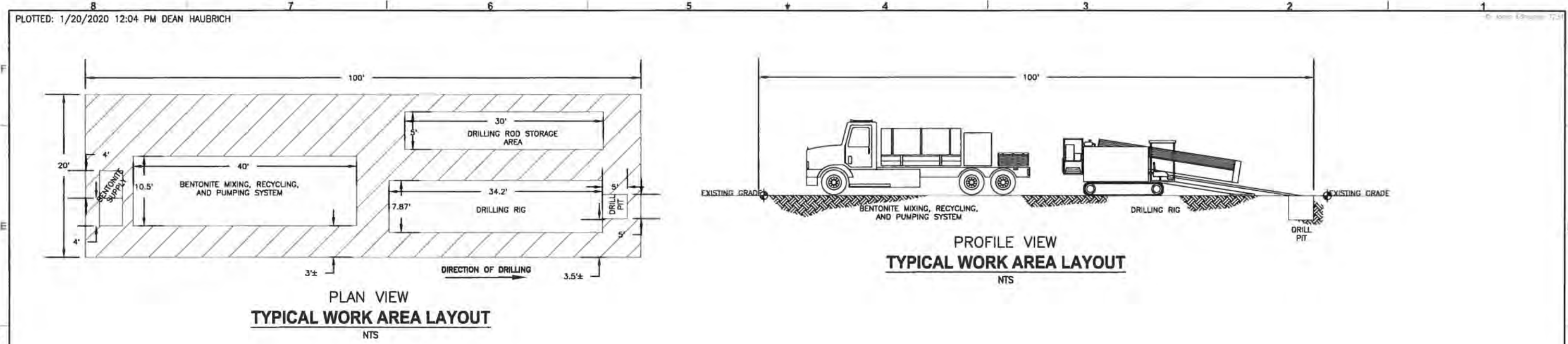


DESIGNED: D. YOUNG	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	STORMWATER FORCE MAIN - DETAILS	CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY: [Signature]	DATE: DEC 2019
DRAWN: D. HAUBRICH		D. YOUNG P.E. # 44204	INDEX NO: 19750-066-01	DWG NO: C3-4	
CHECKED: R. KOLLER					

11/14/2019 3:27 PM JKRAMER Y:\19750-SJRWMD\PROJECTS\066-01-CRANE CREEK M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\CIVIL\C3-4.DWG  
 PLOTTED: 1/20/2020 12:04 PM DEAN HAUBRICH

NOT FOR CONSTRUCTION





- NOTES:**
- "R" IS EQUAL TO 125% OF THE MANUFACTURER'S RECOMMENDED MINIMUM RADIUS FOR PIPE BEING INSTALLED BY HDD, OR 125% OF MINIMUM RADIUS FOR DRILLING RODS, WHICHEVER IS GREATER.
  - WHEN BORING UNDER ROADWAY PAVEMENT AND DRIVEWAYS THE BORE DEPTH SHALL BE EQUAL TO TEN (10) TIMES THE BORED DIAMETER OR GREATER AS MEASURED FROM THE TOP OF PAVEMENT OR DRIVEWAY TO THE TOP OF THE BORE. IN NO CASE SHALL THE PIPE COVER BE LESS THAN 4 FEET DEEP.
  - CONTRACTOR SHALL PROVIDE NECESSARY FITTINGS, SLEEVES AND ADAPTERS FOR CONNECTIONS. FITTINGS ETC. MAY VARY.
  - CONTRACTOR SHALL CONFIRM ELEV AND LOCATION OF ALL EXISTING UTILITIES BEFORE DRILLING.
  - CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY EASEMENTS NECESSARY FOR EXECUTION OF THE WORK.
  - GATE VALVES AND VALVE BOXES ARE NOT TO BE INSTALLED ON WATER SERVICE ASSEMBLIES.
  - SEE PROFILE DRAWINGS FOR FURTHER DETAIL.

**NOTE:**  
HORIZONTAL DIRECTIONAL DRILL DETAILS ARE FOR GENERAL DESCRIPTION ONLY. THE CONTRACTOR SHALL DETERMINE ACTUAL WORK AREA LAYOUT.



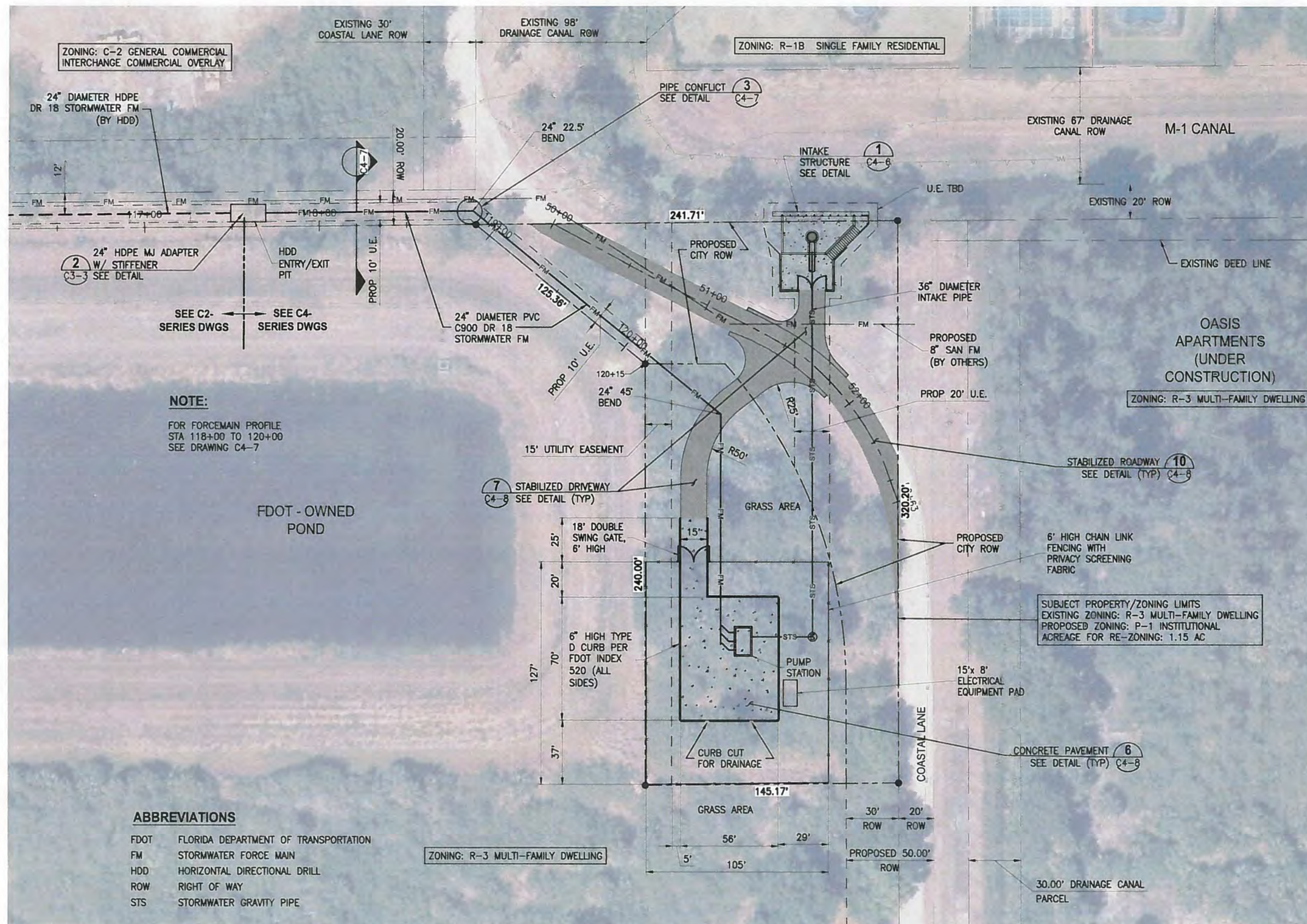
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DESIGNED: D. YOUNG		<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT		HORIZONTAL DIRECTIONAL DRILL DETAILS		CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY: [Signature] D. YOUNG P.E. # 44204		PROJECT NO: 19750-066-01	DATE: DEC 2019
DRAWN: D. HAUBRICH									INDEX NO:	DWG NO: M3-1
CHECKED: R. KOLLER										
LTR.	DATE	REVISIONS	BY	APPRD.						



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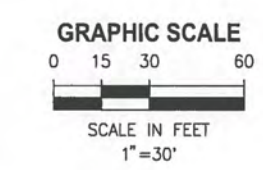
**NOTE:**  
FOR FORCEMAIN PROFILE  
STA 118+00 TO 120+00  
SEE DRAWING C4-7

**ABBREVIATIONS**

FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FM	STORMWATER FORCE MAIN
HDD	HORIZONTAL DIRECTIONAL DRILL
ROW	RIGHT OF WAY
STS	STORMWATER GRAVITY PIPE



- PROJECT INFORMATION:**
- NO BUILDINGS
  - NO AUDIBLE ALARMS
  - EQUIPMENT PANELS UNDER 8 FEET OF HEIGHT
  - SOLID 6 FOOT FENCING
  - EXISTING ROAD WITHIN SUBJECT PROPERTY TO BE STABILIZED AND COMPACTED



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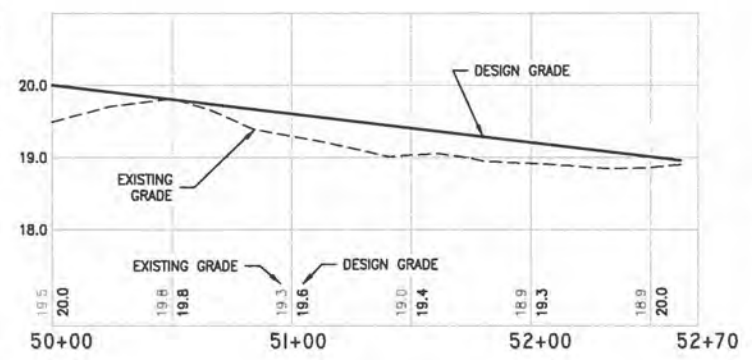
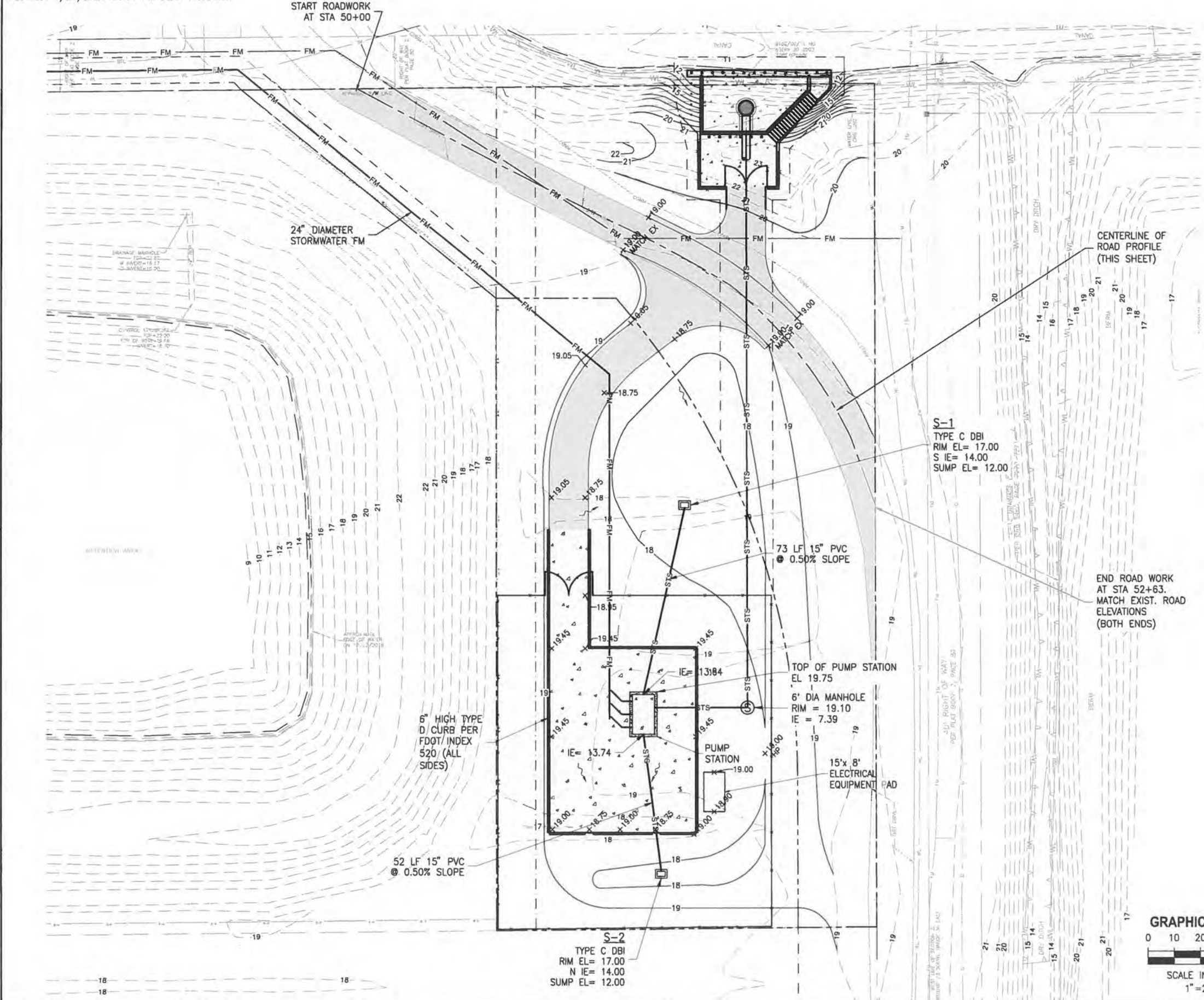
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DESIGNED	W NICKEL	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<p><b>CRANE CREEK M-1 CANAL FLOW RESTORATION</b> <b>ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b></p>	<p><b>PUMP STATION SITE PLAN</b></p>	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
DRAWN	D HAUBRICH				APPROVED BY	19750-066-01	DEC 2019
CHECKED	R KOLLER				W. NICKEL	INDEX NO:	DWG NO:
LTR.	DATE	REVISIONS	BY	APPRO.	P.E. # 68638		C4-1



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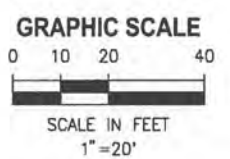
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 1/24/2020 8:43 AM DHAUBRICH



**ROAD PROFILE**  
 1"=40' HORIZ  
 1"=1' VERT



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DRAWN	D HAUBRICH			
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LTR.	DATE	REVISIONS	BY	APPRD.
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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

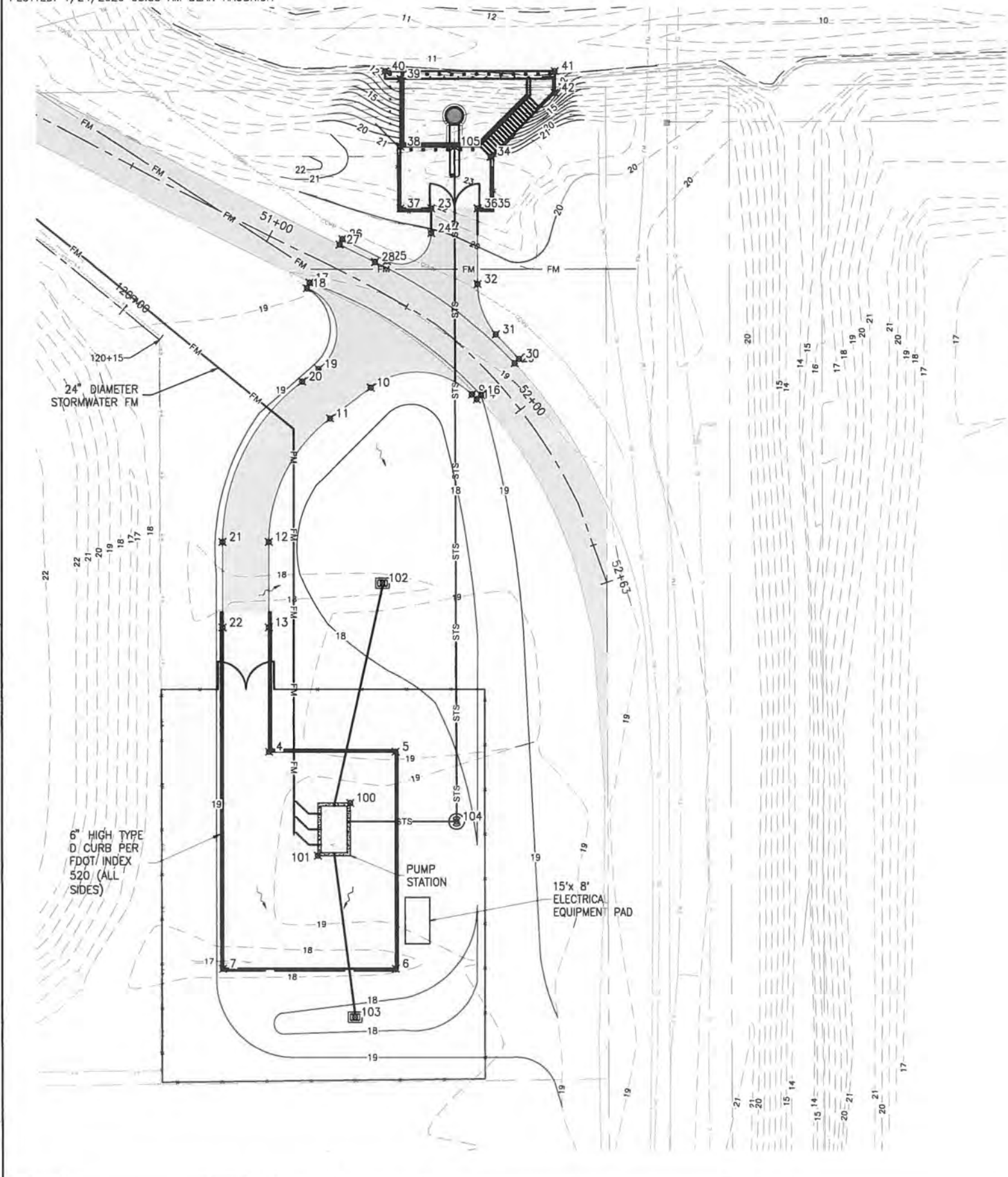
**PUMP STATION GRADING PLAN**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C4-2



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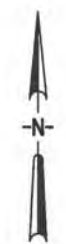
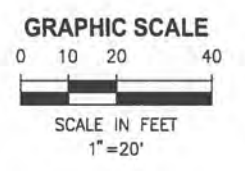


PAVING COORDINATE TABLE		
POINT	NORTHING	EASTING
1	1363503.63	751685.93
2	1363613.63	751629.93
3	1363613.63	751644.93
4	1363573.64	751644.93
5	1363573.63	751685.93
6	1363503.63	751685.93
7	1363503.64	751629.93
8	1363687.22	751712.27
9	1363688.81	751710.69
10	1363691.06	751677.92
11	1363681.09	751664.74
12	1363641.22	751644.93
13	1363613.63	751644.93
14	1363687.22	751712.27
15	1363688.60	751713.72
16	1363688.60	751713.72
17	1363724.88	751658.09
18	1363723.08	751657.21
19	1363697.07	751661.01
20	1363693.05	751655.69

PAVING COORDINATE TABLE		
POINT	NORTHING	EASTING
21	1363641.22	751629.93
22	1363613.63	751629.93
23	1363748.84	751697.53
24	1363740.85	751697.53
25	1363731.87	751683.12
26	1363738.97	751668.70
27	1363737.17	751667.82
28	1363731.54	751679.28
29	1363698.92	751724.60
30	1363700.30	751726.05
31	1363708.22	751718.47
32	1363724.40	751712.53
33	1363748.84	751712.53
34	1363765.59	751716.76
35	1363748.84	751716.76
36	1363748.84	751712.53
37	1363748.84	751687.53
38	1363768.84	751687.53
39	1363790.75	751687.53
40	1363793.25	751682.53

PAVING COORDINATE TABLE		
POINT	NORTHING	EASTING
41	1363793.25	751737.53
42	1363786.24	751737.53
100	1363557.11	751671.17

GRADING COORDINATE TABLE		
POINT	NORTHING	EASTING
100	1363557.11	751671.17
101	1363540.13	751660.68
102	1363627.95	751681.74
103	1363488.02	751672.66
104	1363551.13	751705.64
105	1363768.84	751705.04



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DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

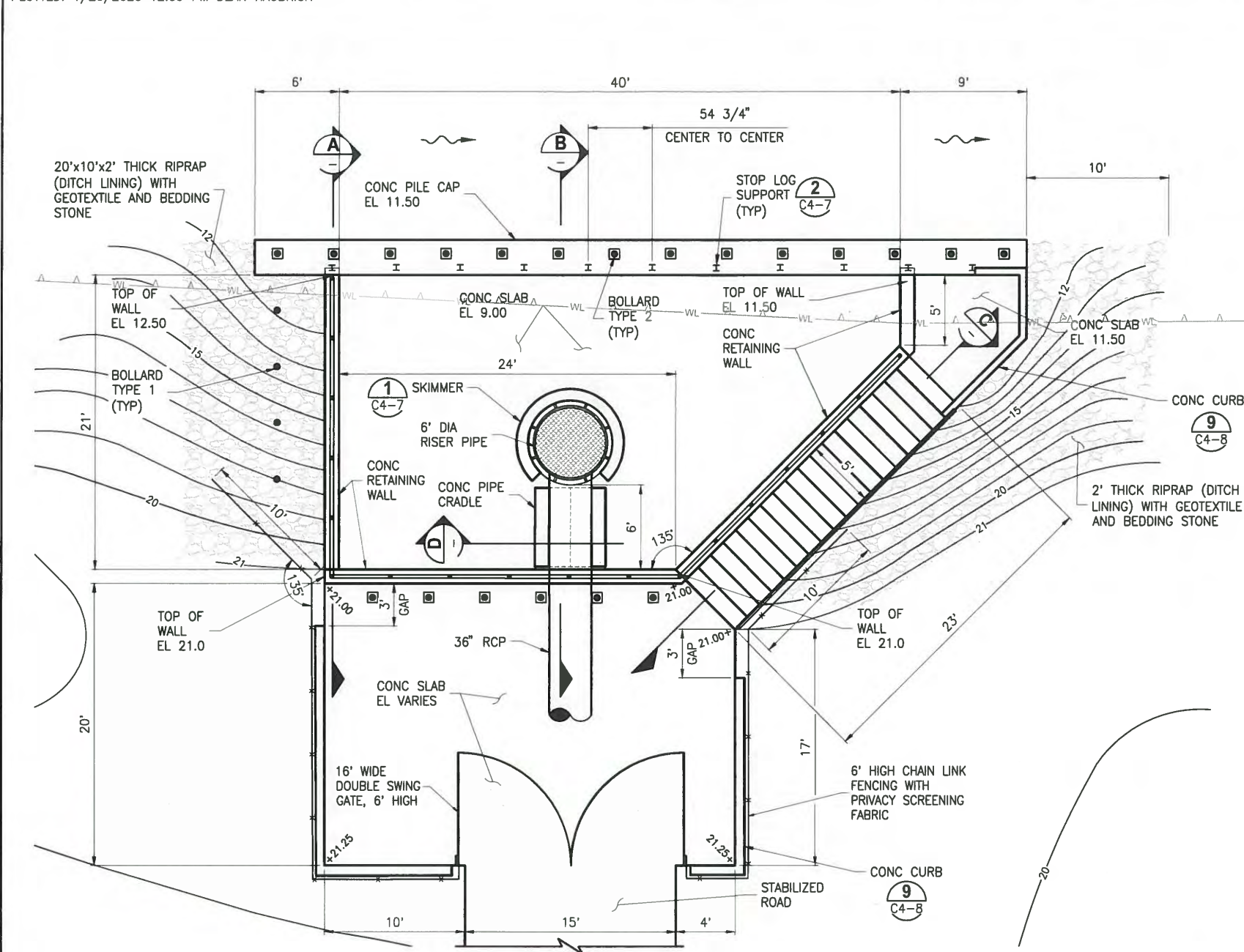
**PUMP STATION  
 GEOMETRIC CONTROL  
 PLAN**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C4-3



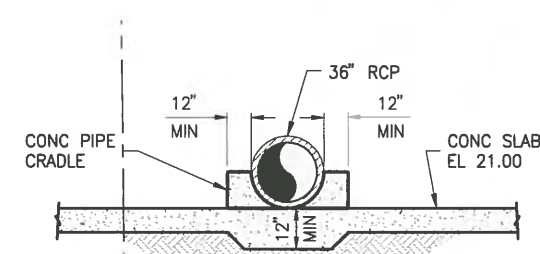
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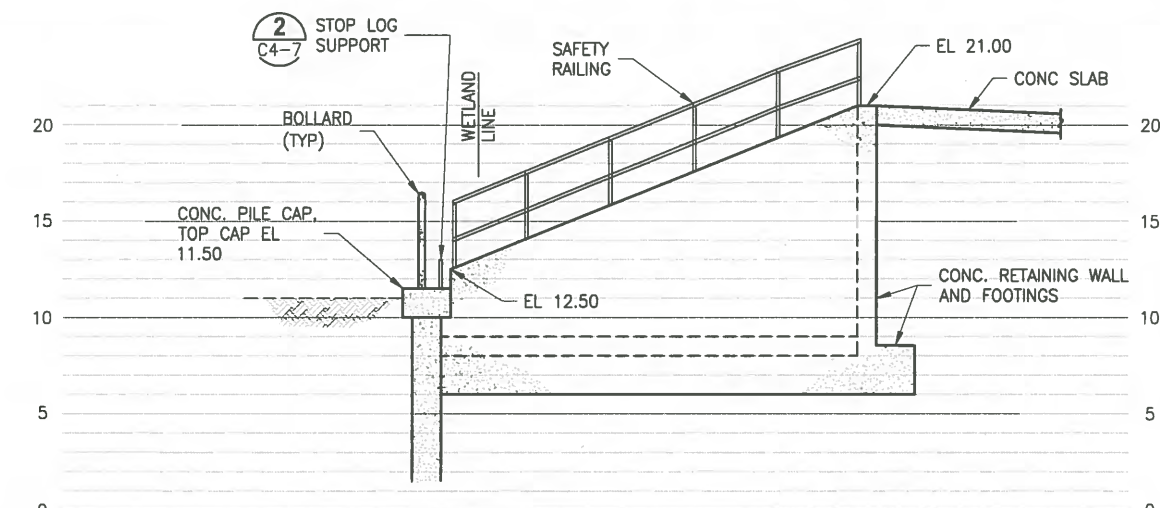


**DETAIL 1**  
1"=5'

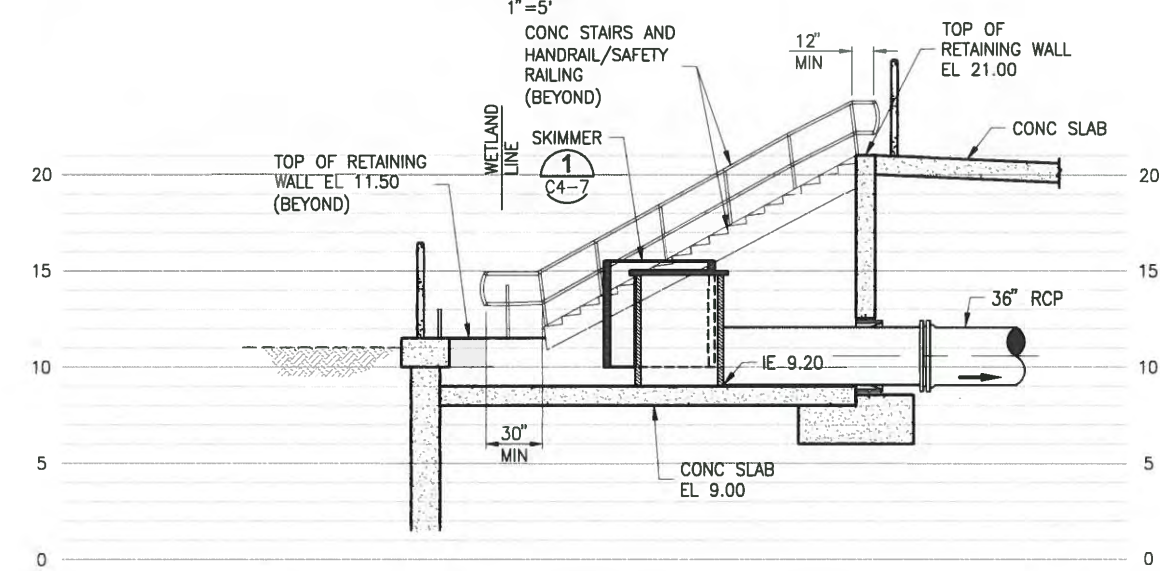
**NOTE:**  
SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS AND DETAILS.



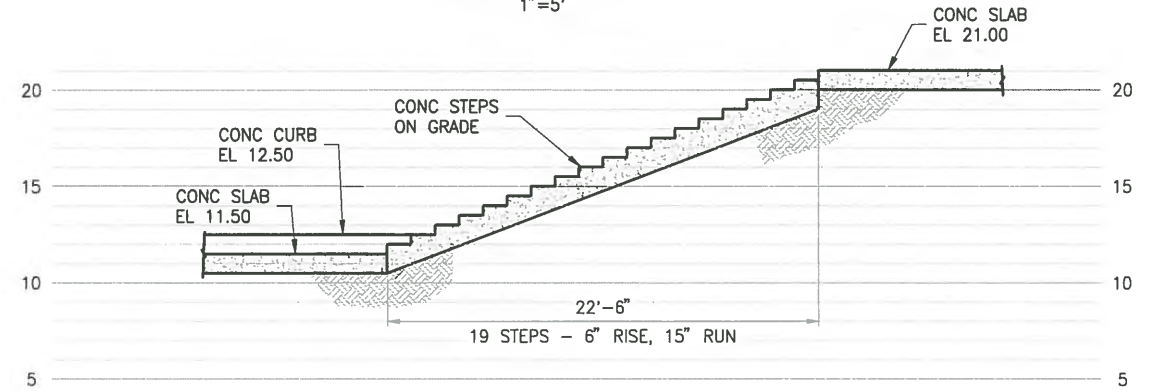
**SECTION D-D**  
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**SECTION A-A**  
1"=5'

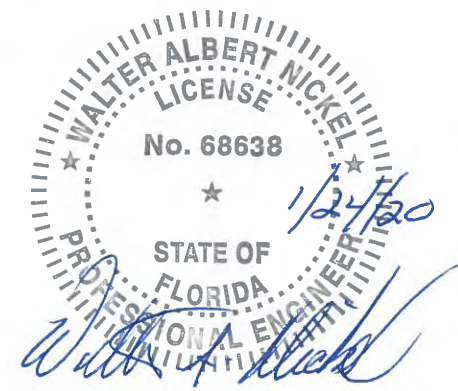


**SECTION B-B**  
1"=5'



**SECTION C-C**  
1"=5'

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DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER
LTR.	DATE
A	12/20/19
REVISIONS	BY
REVISED PER COMM	RK
	RK

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 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

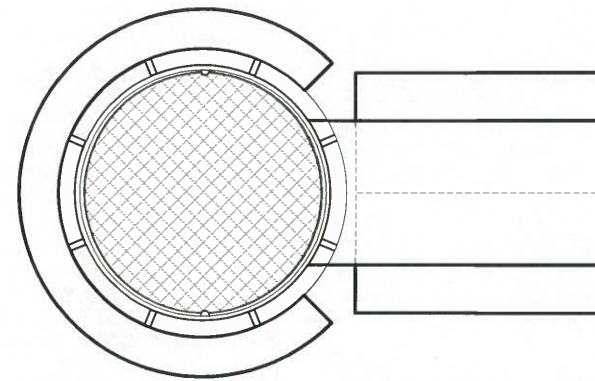
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**PUMP STATION INTAKE**  
**PLAN & SECTIONS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C4-6

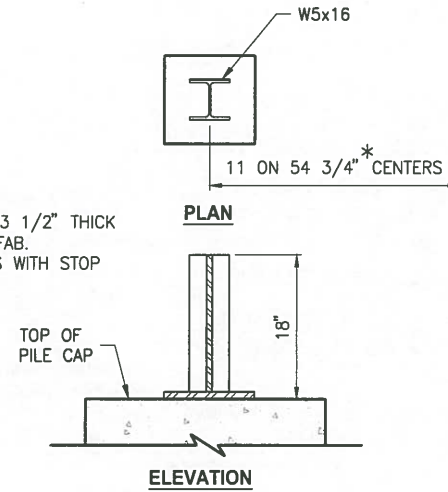


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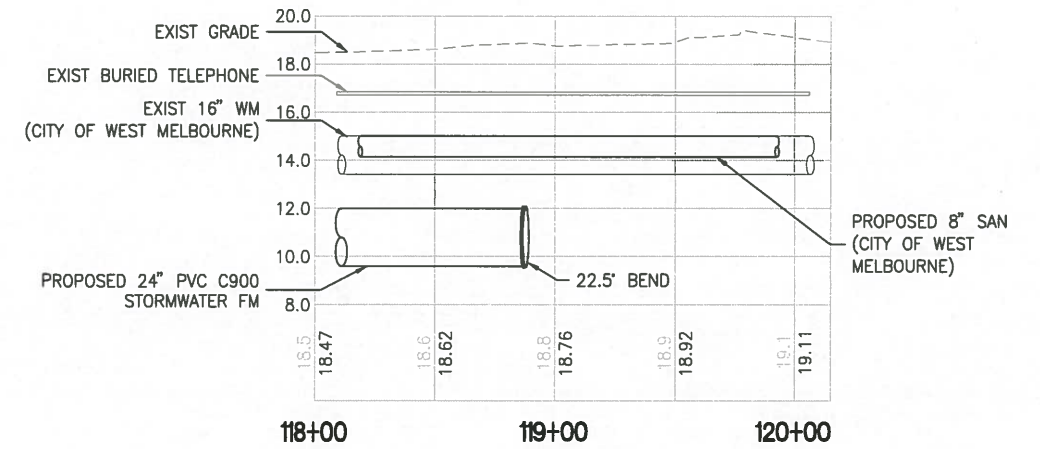


PLAN

**NOTE:**  
 \* DIMENSIONS BASED ON 3 1/2" THICK STOP LOGS BY PLASTI FAB. COORDINATE DIMENSIONS WITH STOP LOG PROVIDER.

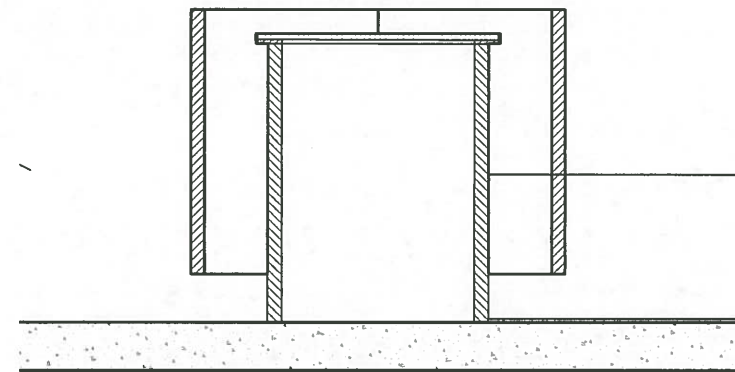


**STOP LOG SUPPORT DETAIL** 2  
 NTS C4-6



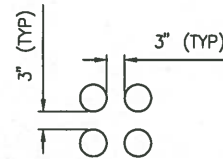
**FORCEMAIN PROFILE**

1"=40' HORIZ  
 1"=4' VERT

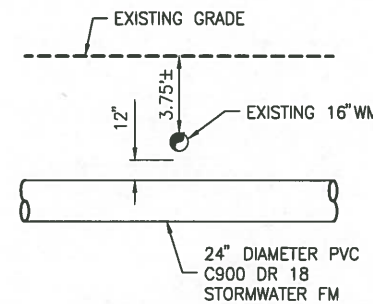


ELEVATION

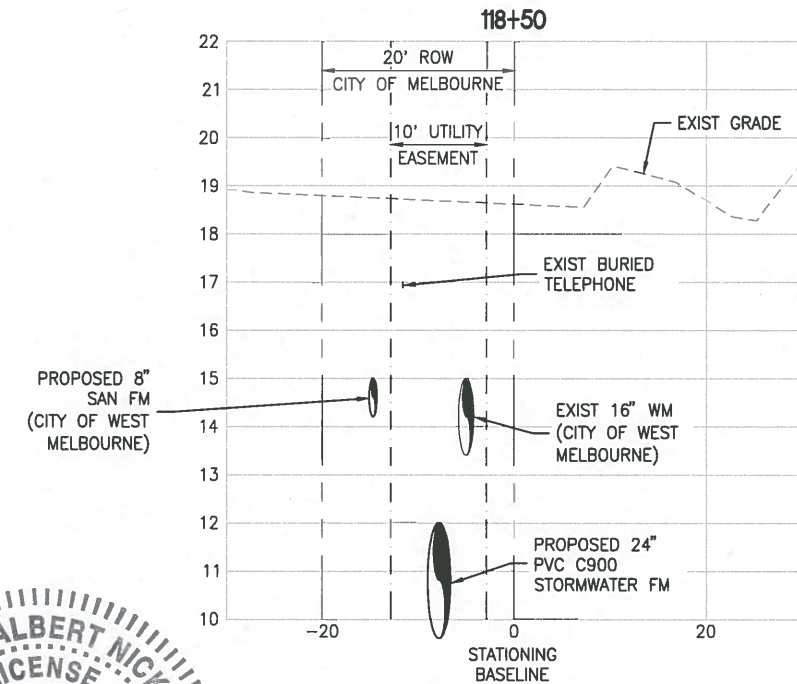
**SKIMMER DETAIL** 1  
 1'=2' C4-6



**HOLE PATTERN**  
 NTS

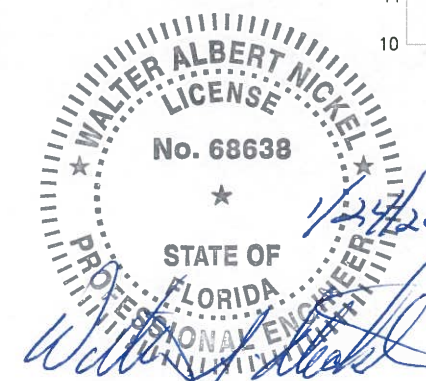


**PIPE CONFLICT DETAIL** 3  
 NTS C4-1



**SECTION 118+50**

1"=10' HORIZ  
 1"=2' VERT



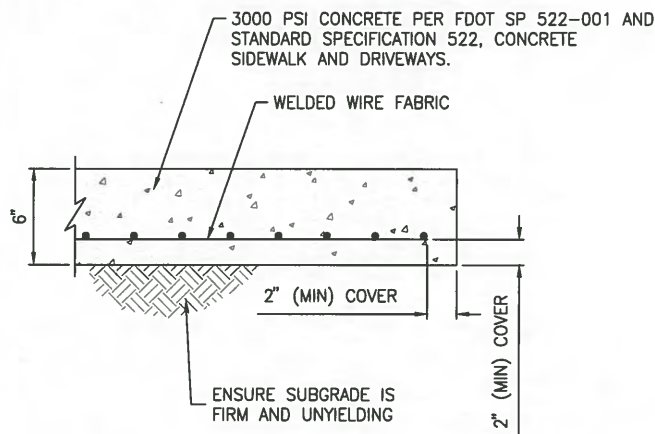
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NOT FOR CONSTRUCTION

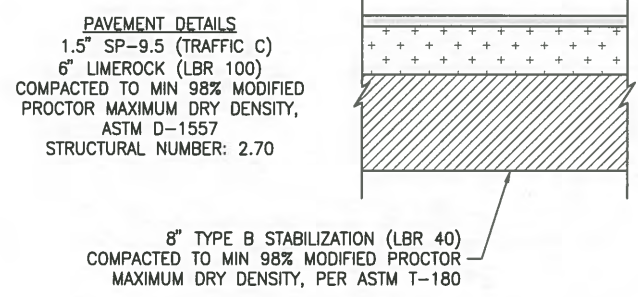
DESIGNED <u>W NICKEL</u>		<p>CERTIFICATE OF AUTHORIZATION #1841                  730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821                  8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<b>CRANE CREEK M-1 CANAL FLOW RESTORATION                  ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b>		<b>CIVIL DETAILS</b>		CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY W. NICKEL P.E. # 68638		PROJECT NO: 19750-066-01	DATE: DEC 2019
DRAWN <u>D HAUBRICH</u>							INDEX NO: W. NICKEL	DWG NO: C4-7		
CHECKED <u>R KOLLER</u>										
LTR.	DATE	REVISIONS	BY	APPRD.						



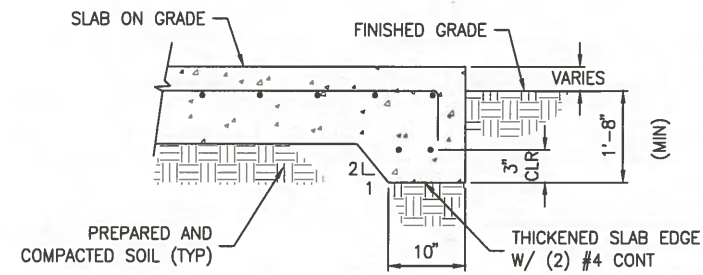
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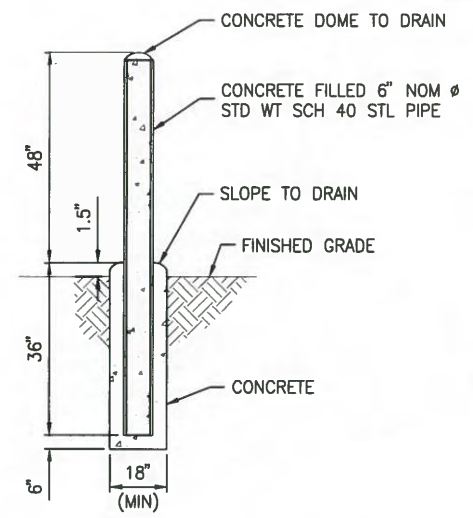
**TYPICAL CONCRETE SLAB DETAIL (1)**  
NTS



**TYPICAL ASPHALT PAVEMENT DETAIL (2)**  
NTS

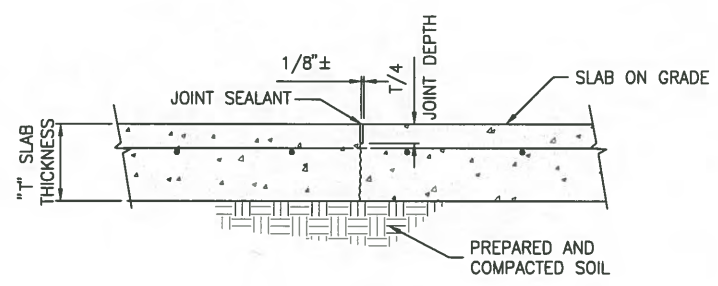


**THICKENED SLAB EDGE (TS) DETAIL (3)**  
NTS



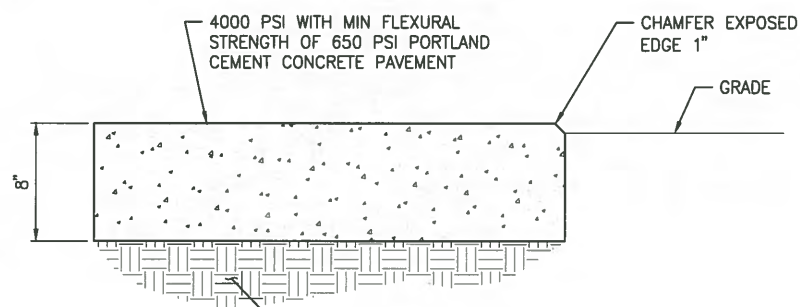
**NOTES:**  
A. ACTUAL INSTALLATION LOCATION OF EACH BOLLARD SHALL BE AS SHOWN ON THE DRAWINGS OR AS DIRECTED IN THE FIELD.  
B. PAINT ALL PIPING MATERIALS OSHA SAFETY YELLOW.

**BOLLARD DETAIL (4)**  
NTS

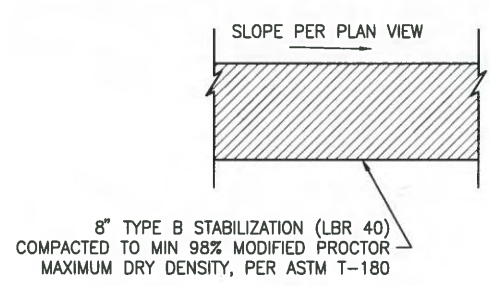


**SAW-CUT CONTRACTION JOINT (SCJ) DETAIL (5)**  
NTS

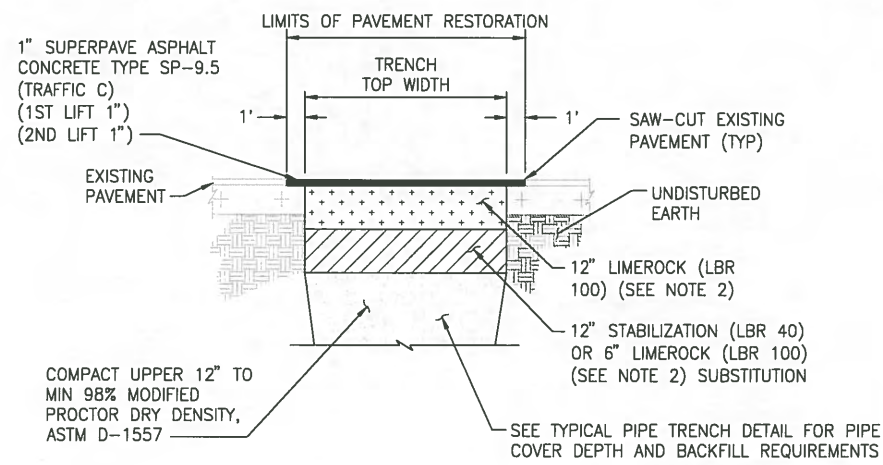
**NOTE:**  
SAW-CUT JOINTS SHALL BE PERFORMED WITHIN 4 TO 8 HOURS AFTER CONCRETE PLACEMENT.



**CONCRETE PAVEMENT DETAIL (6)**  
NTS

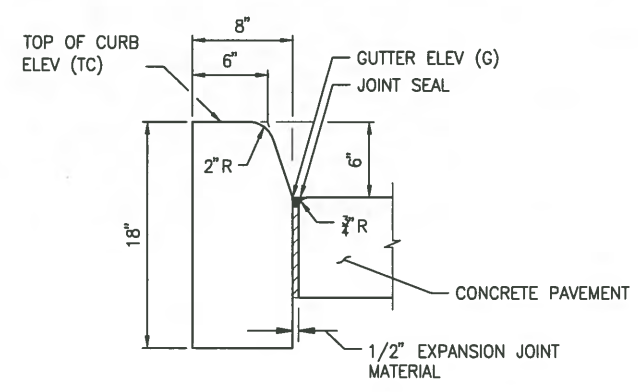


**STABILIZED ROAD DETAIL (7)**  
NTS

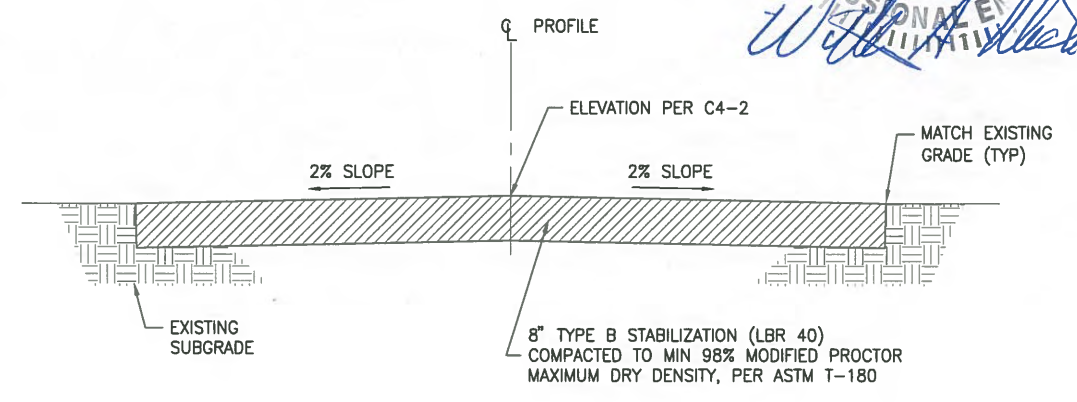


**NOTES:**  
1. ASPHALT PAVEMENT RESTORATION DETAIL APPLIES TO COUNTY ROADS, DRIVEWAYS, PRIVATE ROADS, DRIVES, MISCELLANEOUS PATCHES, AND SIMILAR RESTORATION.  
2. NEW LIMEROCK TO BE COMPACTED TO NOT LESS THAN 95% MODIFIED PROCTOR DRY DENSITY, ASTM D-1557.

**ASPHALT PAVEMENT RESTORATION DETAIL (8)**  
NTS



**FDOT TYPE D CURB DETAIL (9)**  
NTS



**TYPICAL STABILIZED ROAD SECTION (10)**  
NTS

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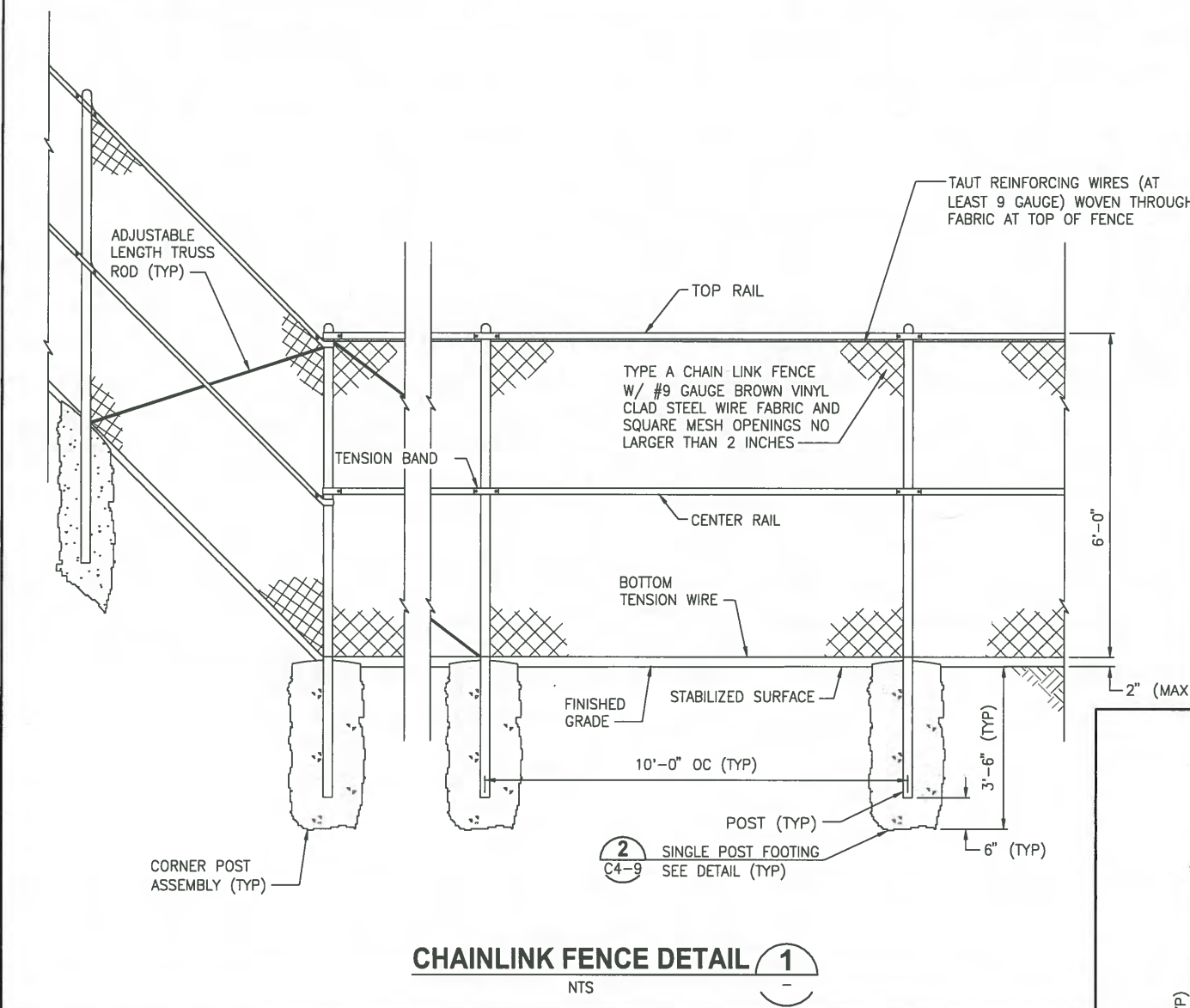
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DESIGNED <u>W NICKEL</u>		<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<b>CRANE CREEK M-1 CANAL FLOW RESTORATION</b> <b>ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b>		<b>CIVIL DETAILS</b>		CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY _____		PROJECT NO: 19750-066-01	DATE: DEC 2019
DRAWN <u>D HAUBRICH</u>							INDEX NO: _____		DWG NO: C4-8	
CHECKED <u>R KOLLER</u>							P.E. # 68638			

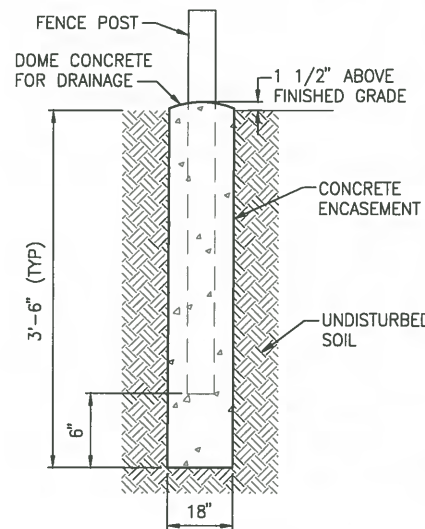


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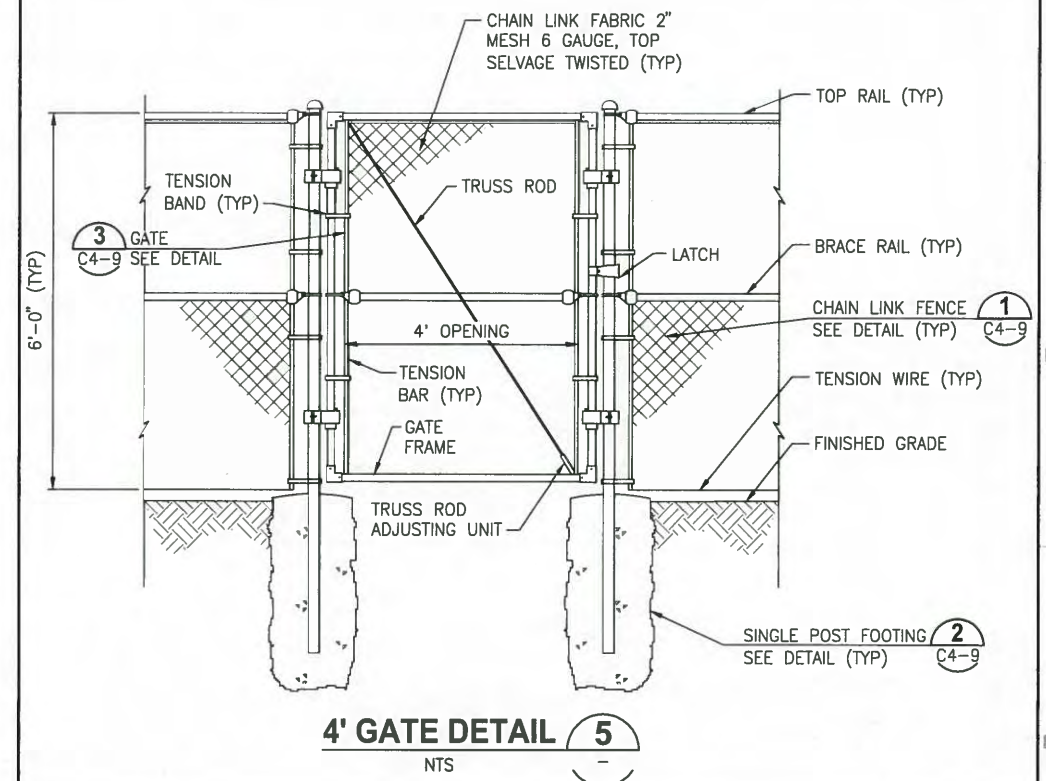
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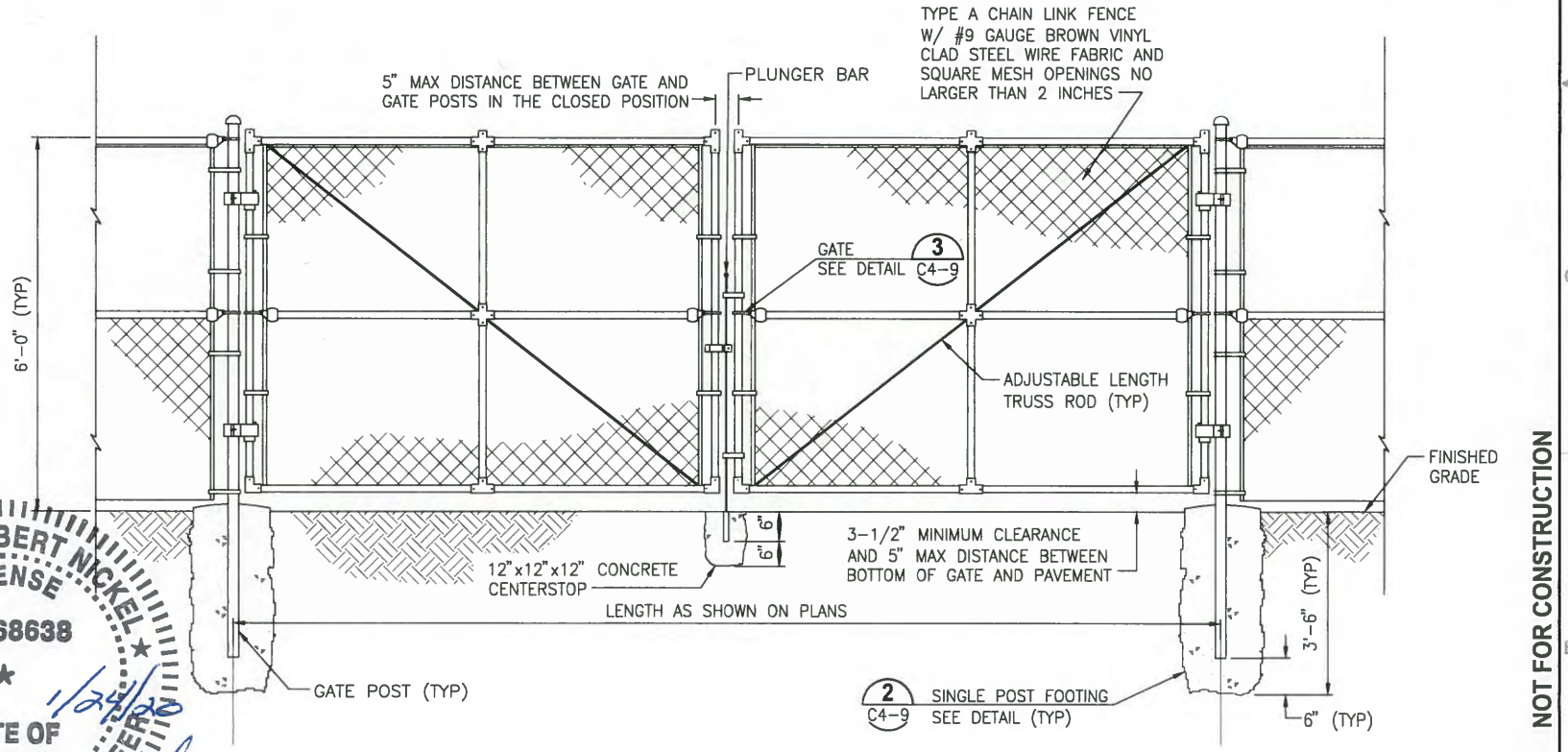
**CHAINLINK FENCE DETAIL 1**  
NTS



**SINGLE POST FOOTING DETAIL 2**  
NTS

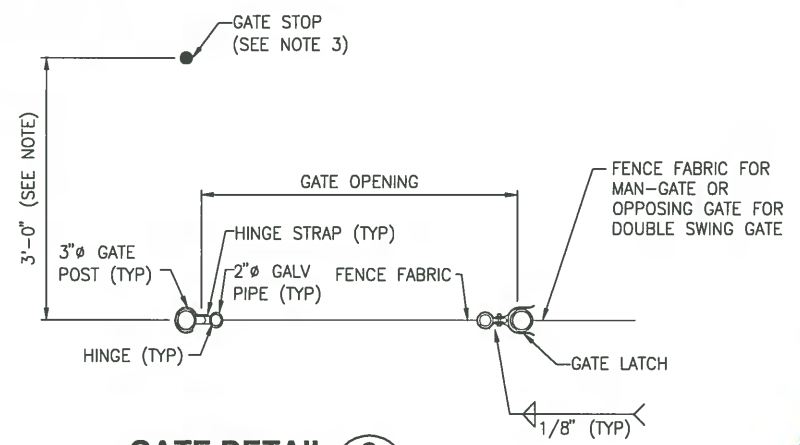


**4' GATE DETAIL 5**  
NTS

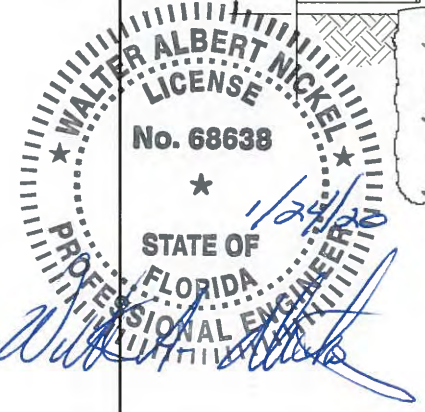


**DOUBLE SWING GATE DETAIL 4**  
NTS

- NOTES:**
- ALL GATES SHALL BE PROVIDED WITH A PAD-LOCKABLE MECHANISM.
  - "L" = GATE WIDTH.
  - GATE STOP SHALL BE 1" DIAMETER GALVANIZED STEEL DRIVEN 3' INTO THE GROUND AND PROTRUDING 8" ABOVE FINISHED GRADE (TYP OF EACH GATE).



**GATE DETAIL 3**  
NTS



NOT FOR CONSTRUCTION

DESIGNED <u>W NICKEL</u>		<p><b>JonesEdmunds</b> CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<b>CRANE CREEK M-1 CANAL FLOW RESTORATION</b> <b>ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b>		<b>CIVIL DETAILS</b>		CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY W. NICKEL P.E. # 68638		PROJECT NO: 19750-066-01	DATE: DEC 2019
DRAWN <u>D HAUBRICH</u>							INDEX NO:		DWG NO:	
CHECKED <u>R KOLLER</u>							C4-9			
LTR.	DATE	REVISIONS	BY	APPRD.						

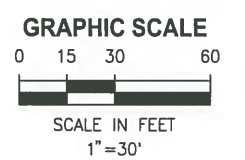
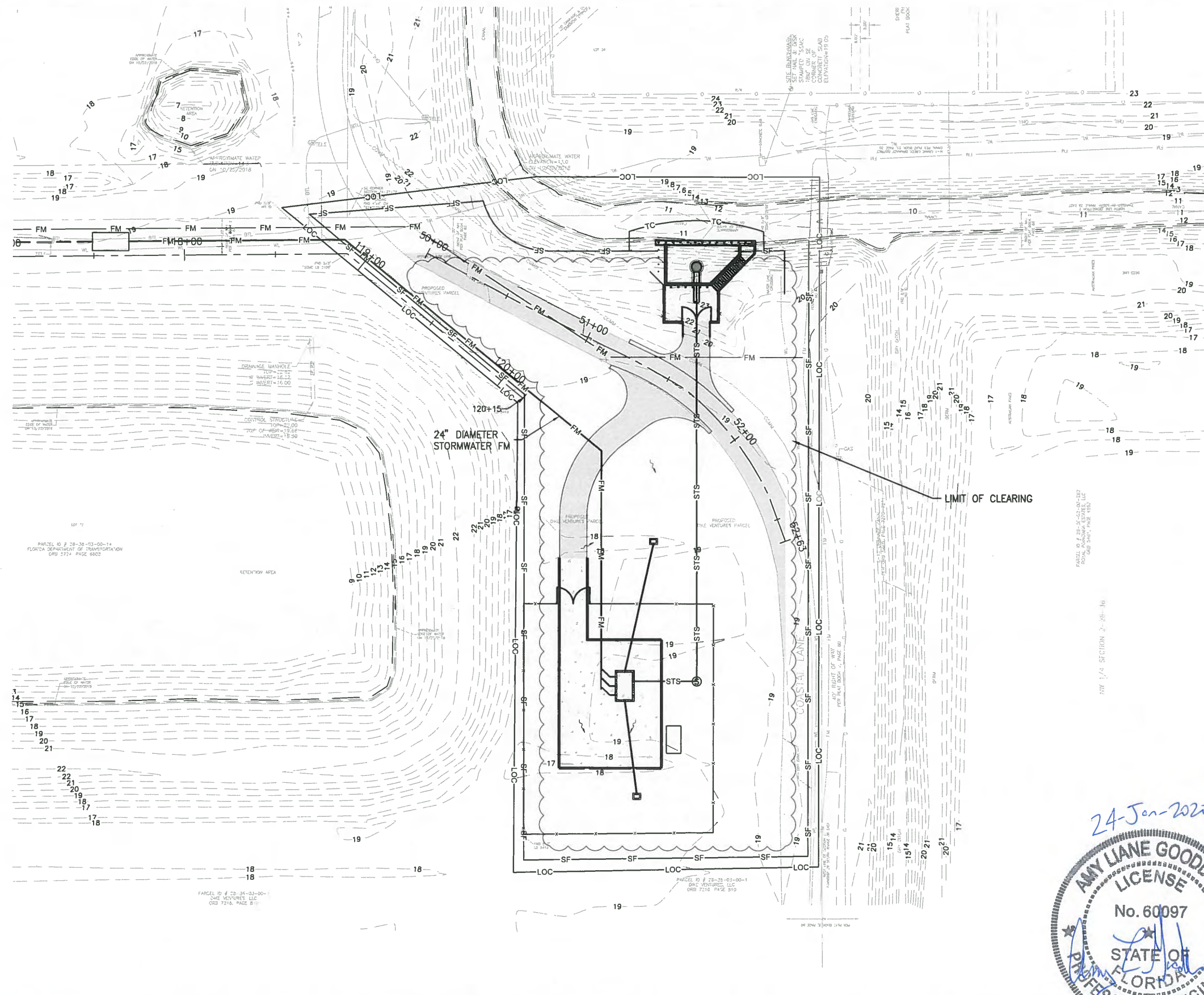


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**GENERAL NOTES:**

1. CONTRACTOR IS RESPONSIBLE TO RESTORE COASTAL LANE TO IT'S ORIGINAL CONDITION.

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LTR.	DATE	REVISIONS	BY	APPR.
A	12/20/19	REVISED PER COWM	RK	RK

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**DEWATERING & EROSION CONTROL  
 PLAN**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		EC4-1

PROJECT NO:	DATE:
19750-066-01	DEC 2019
INDEX NO:	DWG NO:
	EC4-1



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CONTRACTOR REQUIREMENTS

Main body of the permit form containing sections: SITE DESCRIPTION, GENERAL, SEQUENCE OF MAJOR ACTIVITIES, CONTROLS, SPILL CONTROL PRACTICES, SPILL PREVENTION, MAINTENANCE/INSPECTION PROCEDURES, POLLUTION PREVENTION PLAN CERTIFICATION, TIMING OF CONTROLS/MEASURES, and INVENTORY FOR POLLUTION PREVENTION PLAN.

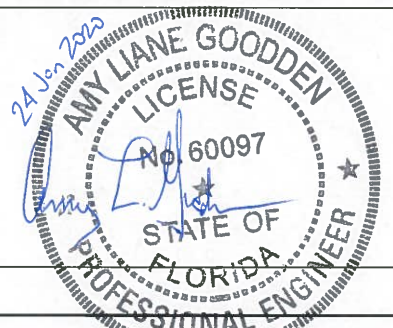


Table with columns: LTR, DATE, REVISIONS, BY, APPROV. Includes entries for A GOODDEN, D HAUBRICH, and R KOLLER.

JonesEdmunds logo and contact information: 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

STORMWATER POLLUTION PREVENTION NOTES

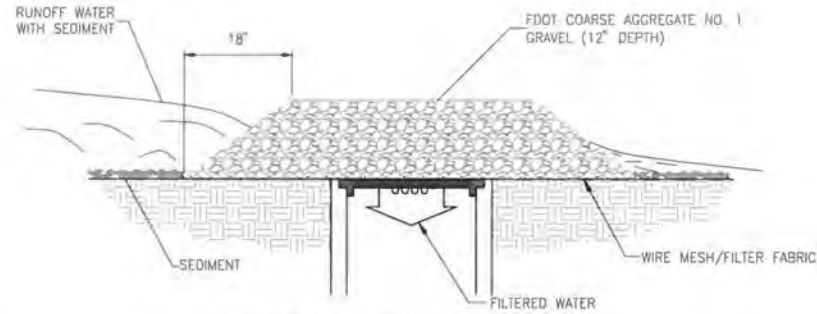
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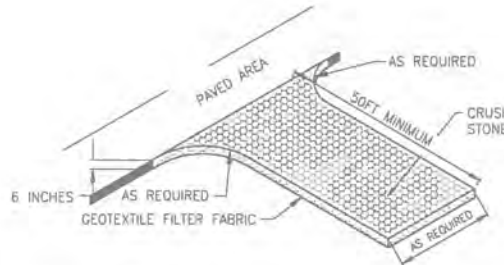
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**SEDIMENT AND EROSION CONTROL NOTES**

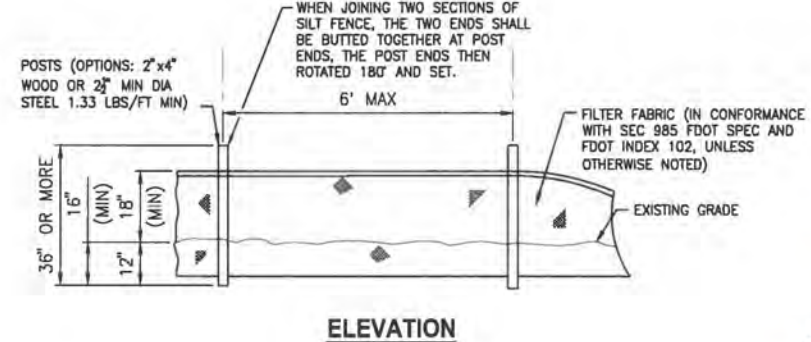
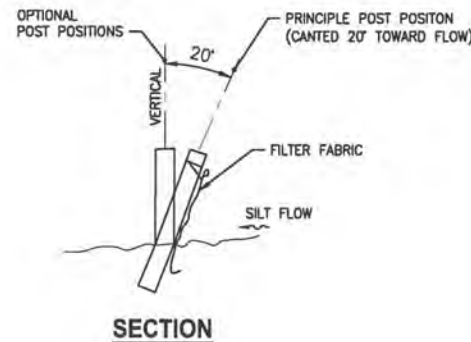
1. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
2. BEST MANAGEMENT PRACTICES IN ADDITION TO THE ONES SHOWN ON THE PLAN SHEETS MUST BE PROVIDED IN ORDER TO PREVENT SILT FROM LEAVING THE PROJECT SITE DUE TO UNSEEN CONDITIONS AND ACCIDENTS.
3. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
4. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM IF 12" BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 3/8" OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
5. FDOT NO.1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ON SEDIMENT FILTER DETAIL (SEE DETAIL THIS SHEET). THE DEPTH OF STONE SHALL BE AT LEAST 12" OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18" ON ALL SIDES.
6. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.
7. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 4". THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
8. NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.
9. ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
10. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR SHOULD BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
11. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
12. THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND SWALES AS WELL AS PROVIDE MEASURES TO PREVENT SILTATION OF STORMWATER TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL MANAGE STORMWATER SUCH THAT IMPACT TO CONSTRUCTION IS MINIMIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING PROVIDING EQUIPMENT, LABOR, FILL, ETC. NECESSARY TO REMEDIATE AND/OR RESTORE ALL AREAS IMPACTED BY EROSION, RUNOFF, AND STORMWATER.
13. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL" AVAILABLE AT [HTTP://WWW.FDOT.GOV/ROADWAY/DRAINAGE/FILES/EROSION-SEDIMENT-CONTROL.PDF](http://www.fdot.gov/roadway/drainage/files/erosion-sediment-control.pdf) AND "FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL" AVAILABLE AT [HTTPS://WWW.DEP.STATE.FL.US/WATER/NONPOINT/DOCS/EROSION/EROSION-INSPECTORS-MANUAL.PDF](https://www.dep.state.fl.us/water/nonpoint/docs/erosion/erosion-inspectors-manual.pdf).
14. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL DOWNSTREAM AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL CONSTRUCTION.
15. SOD SHALL BE PLACED IN AREAS WHICH REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITIES ARE MAINTAINED.
16. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE M-1 CANAL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS IN THE M-1 CANAL.
17. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
18. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
19. THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRES, RELATIVE TO COMPLIANCE OF NFWMD AND FDEP FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
20. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS AND SPECIFICATIONS AND THE SJRWMD AND FDEP RULES AND REGULATIONS.



**GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER DETAIL** (Sd2)  
NTS



**STABILIZED CONSTRUCTION ENTRANCE** (Co)  
NTS



**TYPICAL SILT FENCE** (Sd1)  
NTS

**STORMWATER POLLUTION PREVENTION PLAN**

INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER

INSPECTOR: \_\_\_\_\_ FDEP NPDES STORMWATER IDENTIFICATION NUMBER: \_\_\_\_\_

LOCATION	RAIN DATA	TYPE OF CONTROL (SEE BELOW)	DATE INSTALLED / MODIFIED	CURRENT CONDITION (SEE BELOW)	CORRECTIVE ACTION / OTHER REMARKS

CONDITION CODE:  
G = GOOD M = MARGINAL, NEEDS MAINTENANCE OR REPLACEMENT SOON P = POOR, NEEDS IMMEDIATE MAINTENANCE OR REPLACEMENT  
C = NEEDS TO BE CLEARED O = OTHER

CONTROL TYPE CODES

1. SILT FENCE	10. STORM DRAIN INLET PROTECTION	19. REINFORCED SOIL RETAINING SYSTEM	28. TREE PROTECTION
2. EARTH DIKES	11. VEGETATIVE BUFFER STRIP	20. GABION	29. DETENTION POND
3. STRUCTURAL DIVISION	12. VEGETATIVE PRESERVATION AREA	21. SEDIMENT BASIN	30. RETENTION POND
4. SWALE	13. RETENTION POND	22. TEMPORARY SEED / SOO	31. WASTE DISPOSAL / HOUSEKEEPING
5. SEDIMENT TRAP	14. CONSTRUCTION ENTRANCE STABILIZATION	23. PERMANENT SEED / SOO	32. DAM
6. CHECK DAM	15. PERIMETER DITCH	24. MULCH	33. SAND BAG
7. PIPE SLOPE DRAIN	16. CURB AND GUTTER	25. WATLES	34. OTHER
8. LEVEL SPREADERS	17. PAVED ROAD SURFACE	26. GEOTEXTILE	
9. LEVEL SPREADERS	18. ROCK OUTLET PROTECTION	27. RIP-RAP	

INSPECTOR INFORMATION:

NAME: \_\_\_\_\_ QUALIFICATION: \_\_\_\_\_ DATE: \_\_\_\_\_

THE ABOVE SIGNATURE ALSO SHALL CERTIFY THAT THIS FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES IF THERE ARE NOT ANY INCIDENTS OF NON-COMPLIANCE IDENTIFIED ABOVE.

\*\*\*\*\*

\*I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.\*

NAME (RESPONSIBLE AUTHORITY) \_\_\_\_\_ DATE \_\_\_\_\_



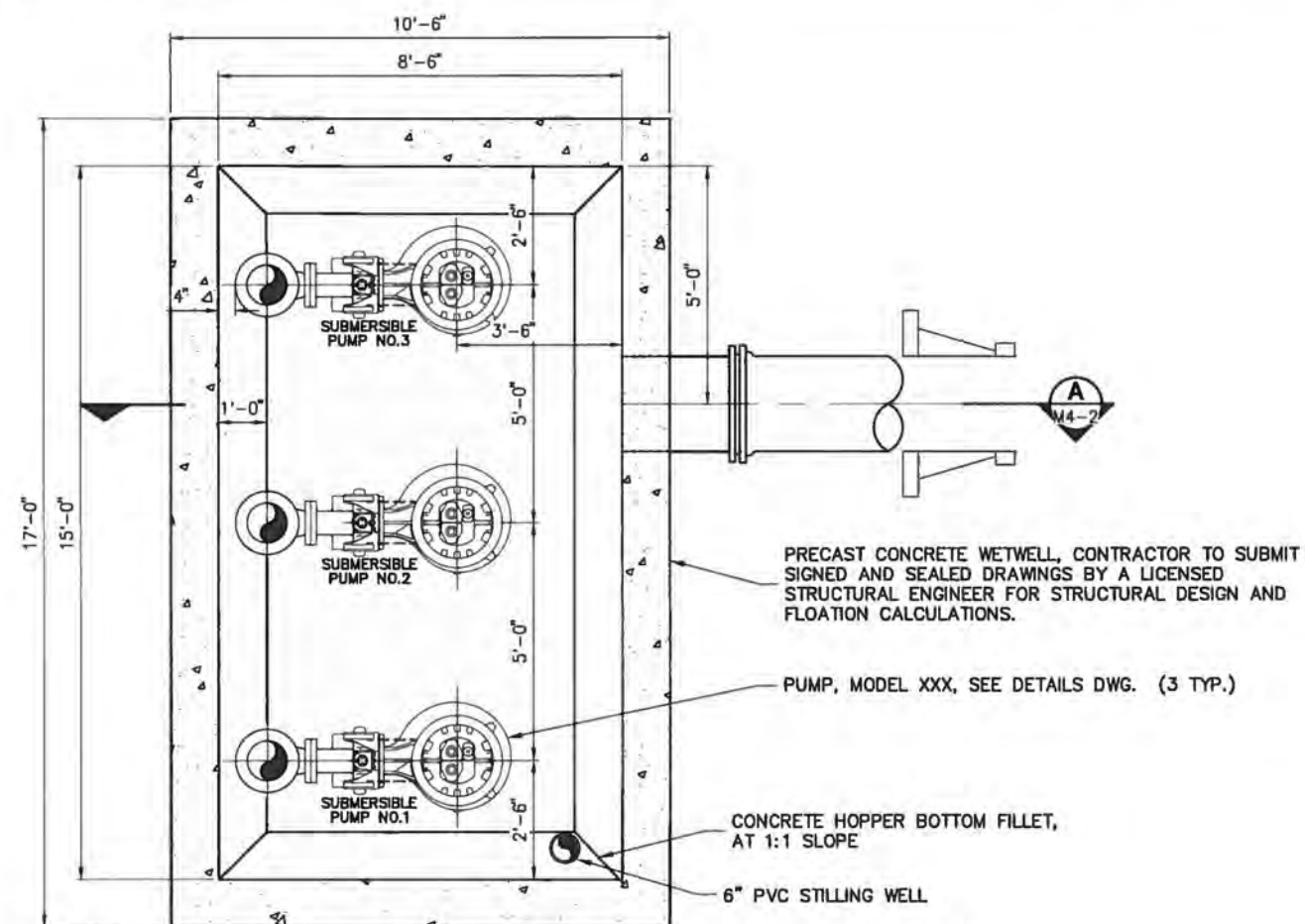
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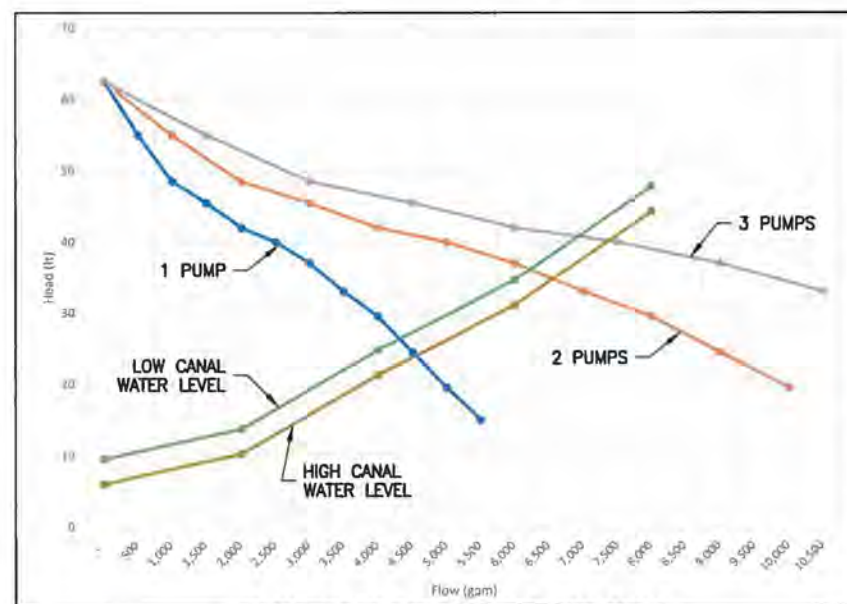
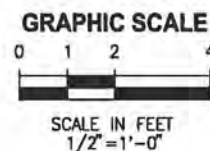
DESIGNED: A GOODDEN	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<p align="center"><b>CRANE CREEK M-1 CANAL FLOW RESTORATION</b> <b>ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b></p>	<p align="center"><b>EROSION CONTROL NOTES AND DETAILS</b></p>	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
DRAWN: D HAUBRICH				APPROVED BY:	19750-066-01	DEC 2019
CHECKED: R KOLLER				A. GOODDEN	INDEX NO:	DWG NO:
LTR. DATE REVISIONS BY APPRD.				P.E. # 60097		EC4-3



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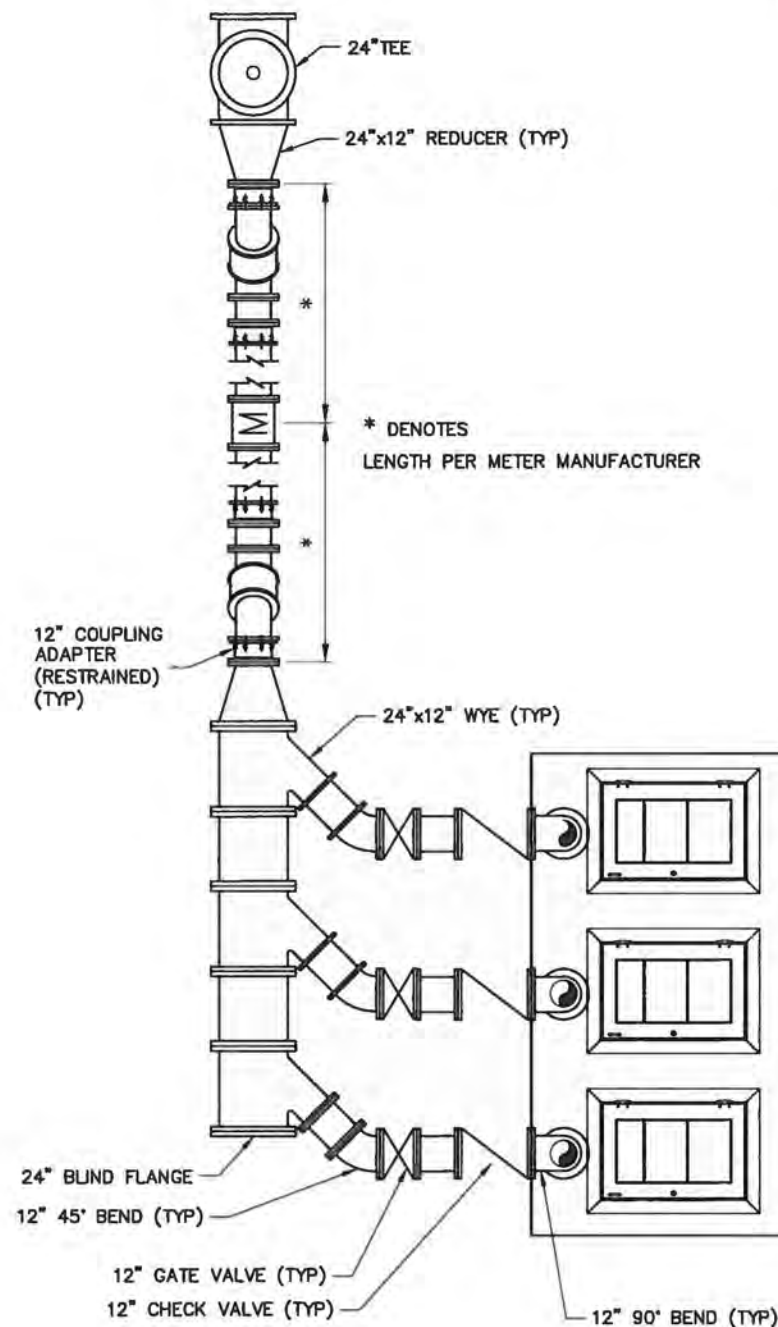


LOWER PLAN 1

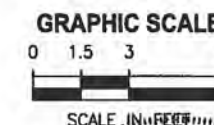


PUMP AND SYSTEM CURVES

**BASIS OF DESIGN**  
 HYDROMATIC S12LXP  
 12.38 IN. IMPELLER  
 40 HP



UPPER PLAN 1



NOT FOR CONSTRUCTION

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DESIGNED	D. YOUNG			
DRAWN	D. HAUBRICH			
CHECKED	R. KOLLER			
LTR.	DATE	REVISIONS	BY	APPRO.

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CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

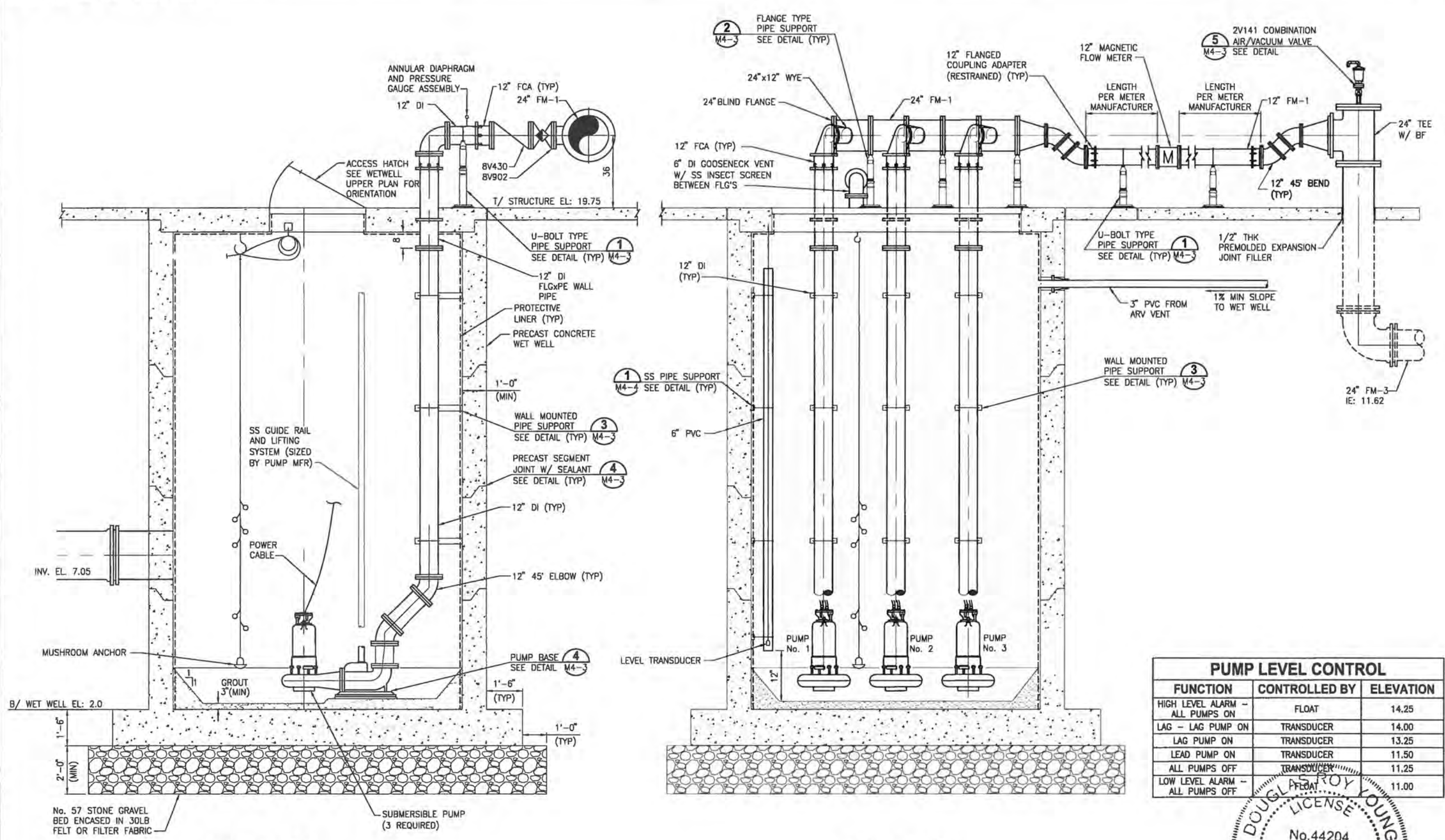
PUMP STATION PLAN

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
D. YOUNG	INDEX NO:	DWG NO:
P.E. # 44204		M4-1



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Y:\19750-SJRWMD\PROJECTS\066-01\_CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\MECH\M4-2.DWG  
 11/15/2019 4:10 PM JKRAMER



PUMP LEVEL CONTROL		
FUNCTION	CONTROLLED BY	ELEVATION
HIGH LEVEL ALARM - ALL PUMPS ON	FLOAT	14.25
LAG - LAG PUMP ON	TRANSDUCER	14.00
LAG PUMP ON	TRANSDUCER	13.25
LEAD PUMP ON	TRANSDUCER	11.50
ALL PUMPS OFF	TRANSDUCER	11.25
LOW LEVEL ALARM - ALL PUMPS OFF	FLOAT	11.00



**SECTION A**  
N.T.S.

**SECTION B**  
N.T.S.

NOT FOR CONSTRUCTION

DATE	REVISIONS	BY	APPROV.

DESIGNED D. YOUNG  
 DRAWN D. HAUBRICH  
 CHECKED R. KOLLER

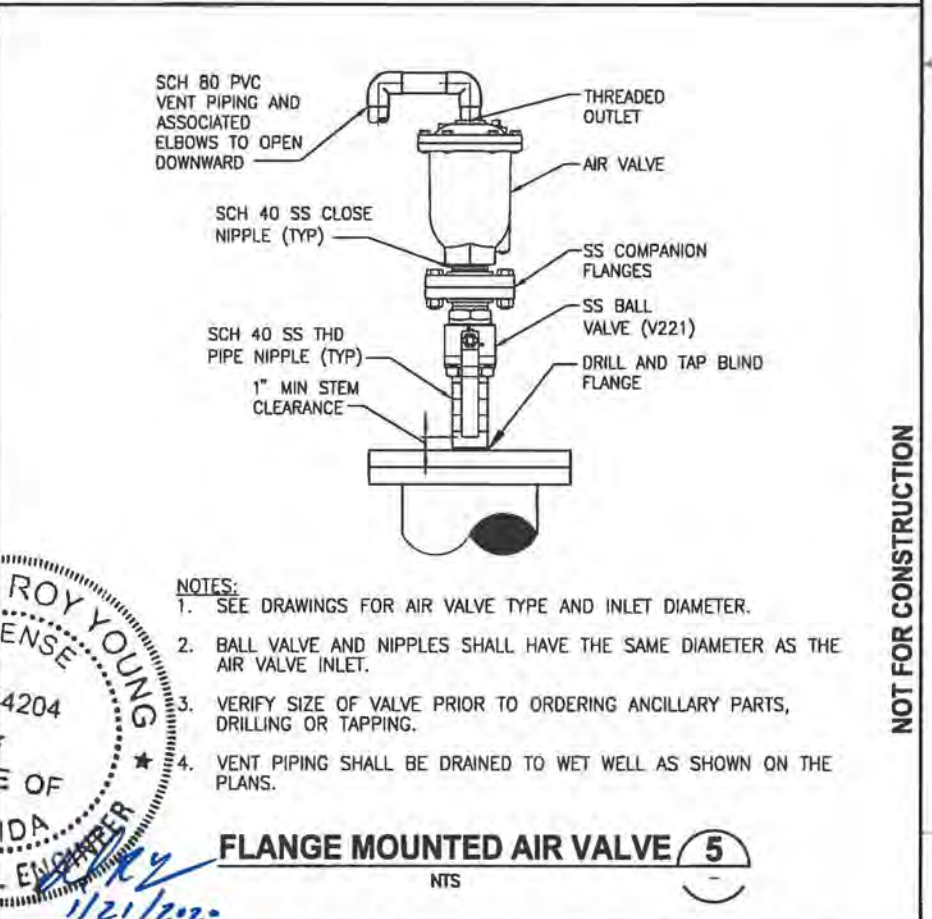
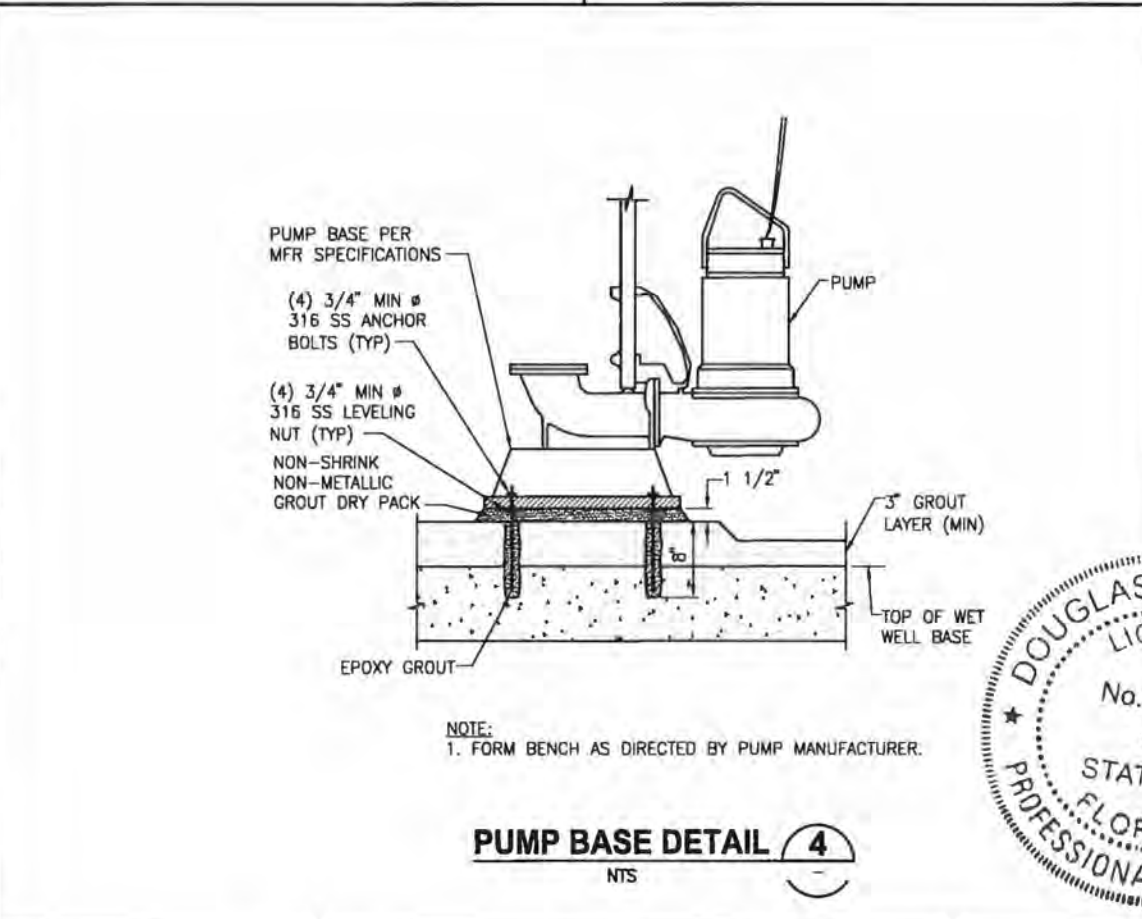
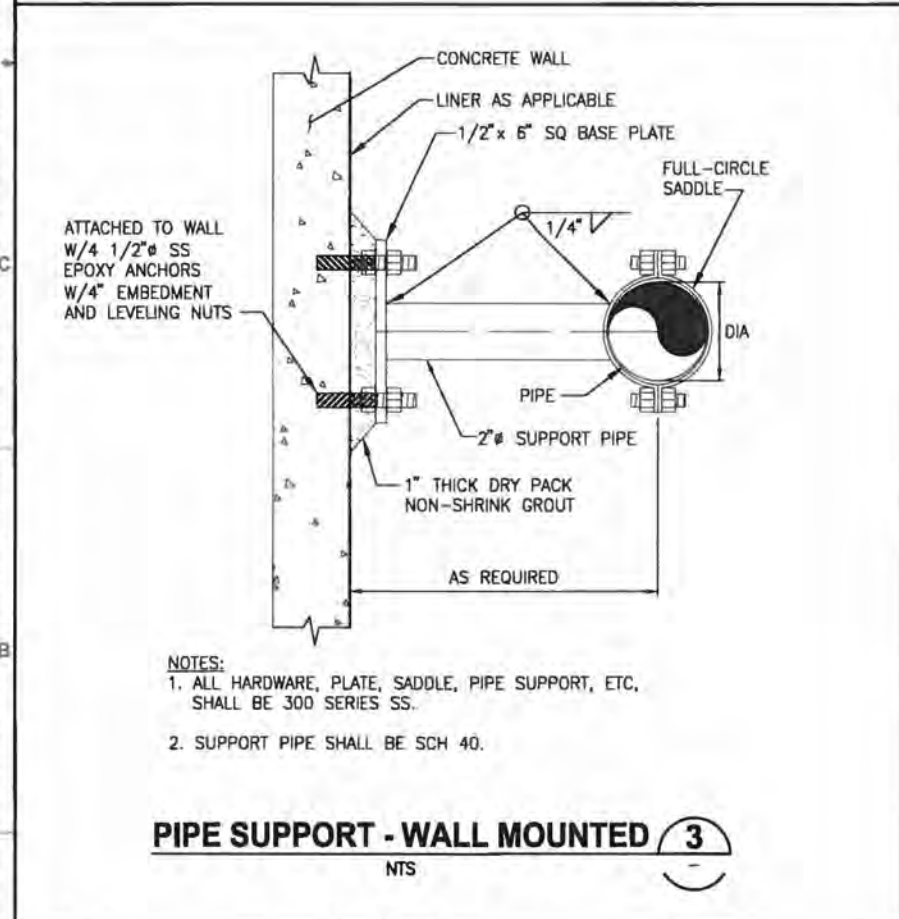
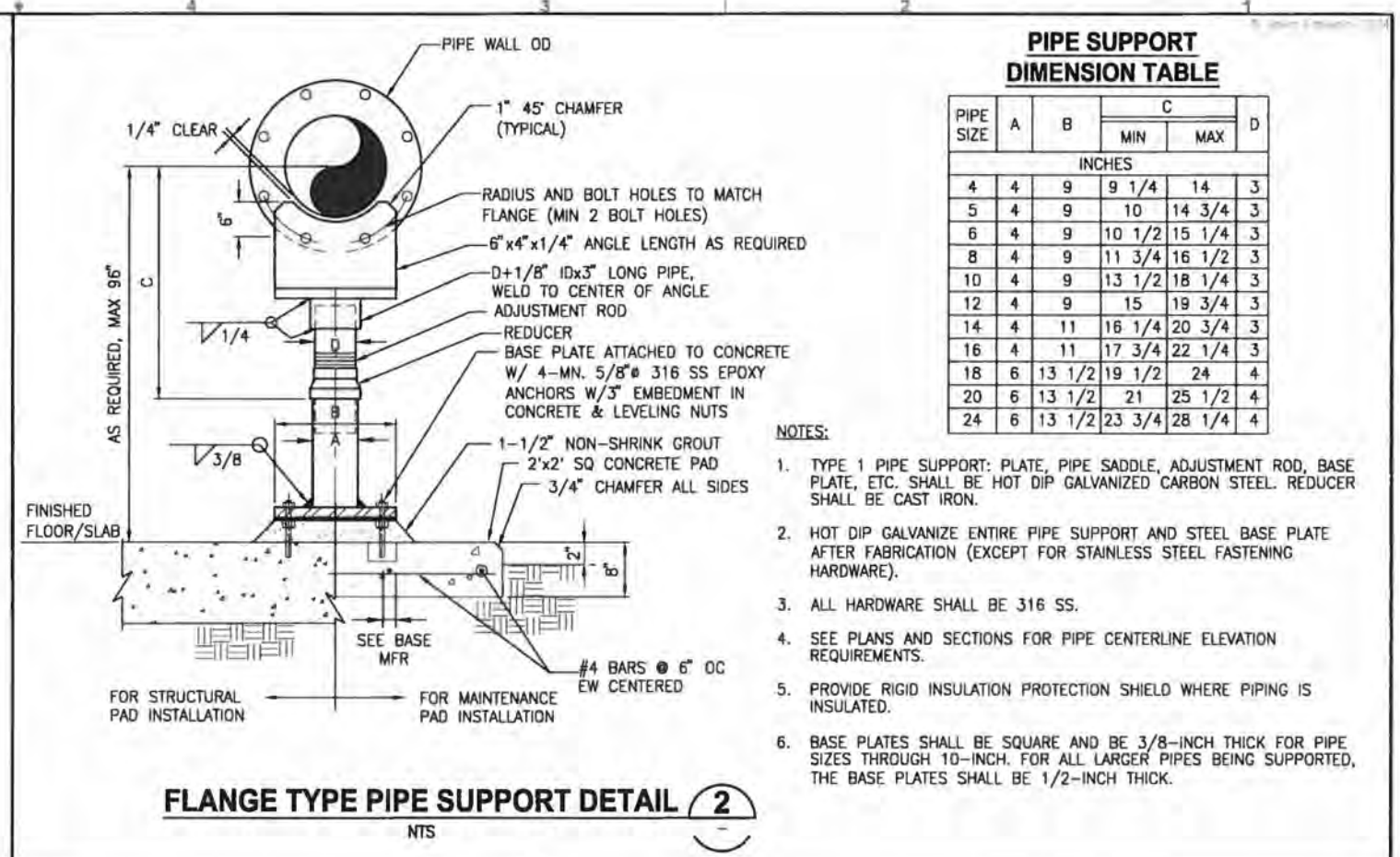
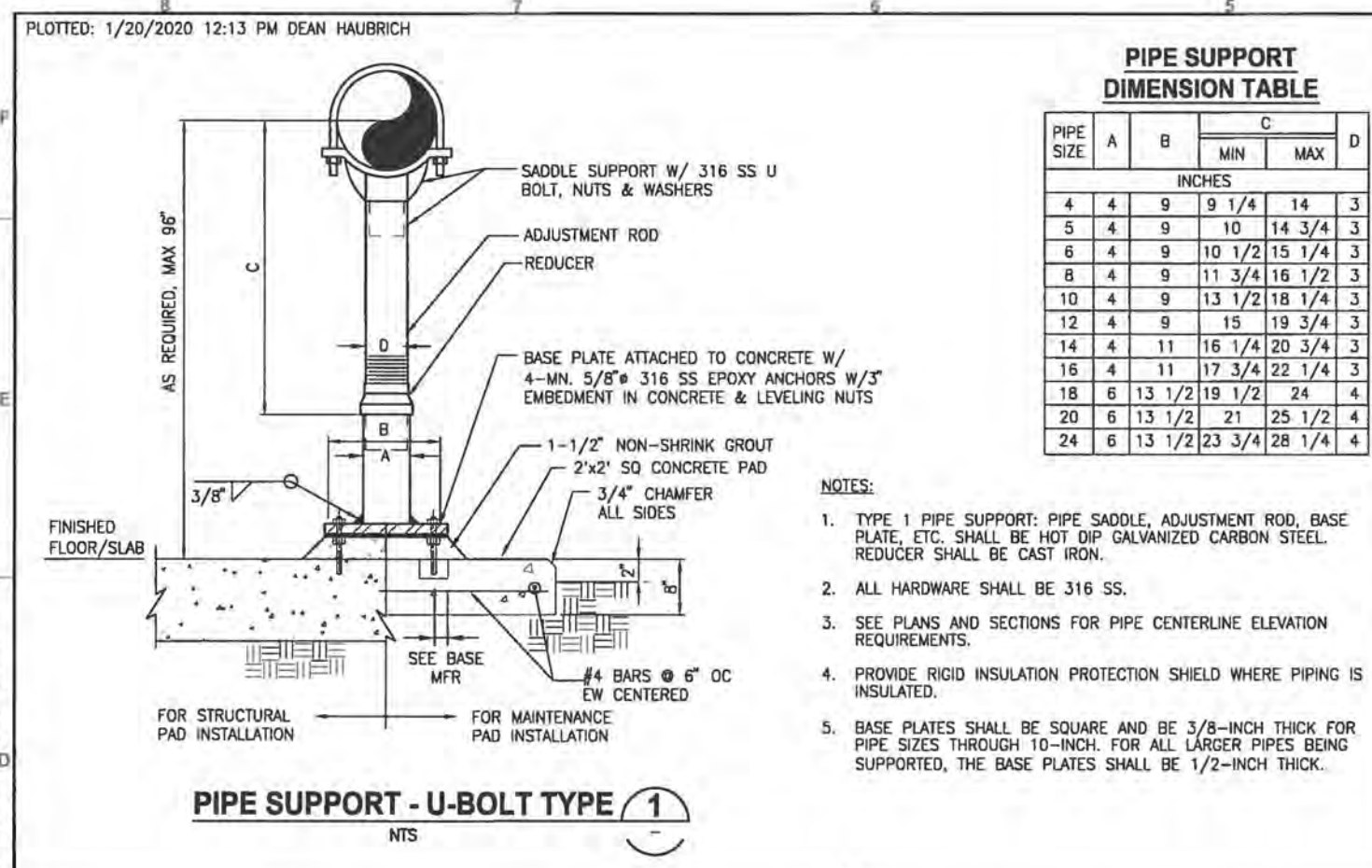
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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**PUMP STATION SECTIONS**

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY D. YOUNG P.E. # 44204	PROJECT NO: 19750-066-01	DATE: DEC 2019
	INDEX NO: M4-2	DWG NO: M4-2





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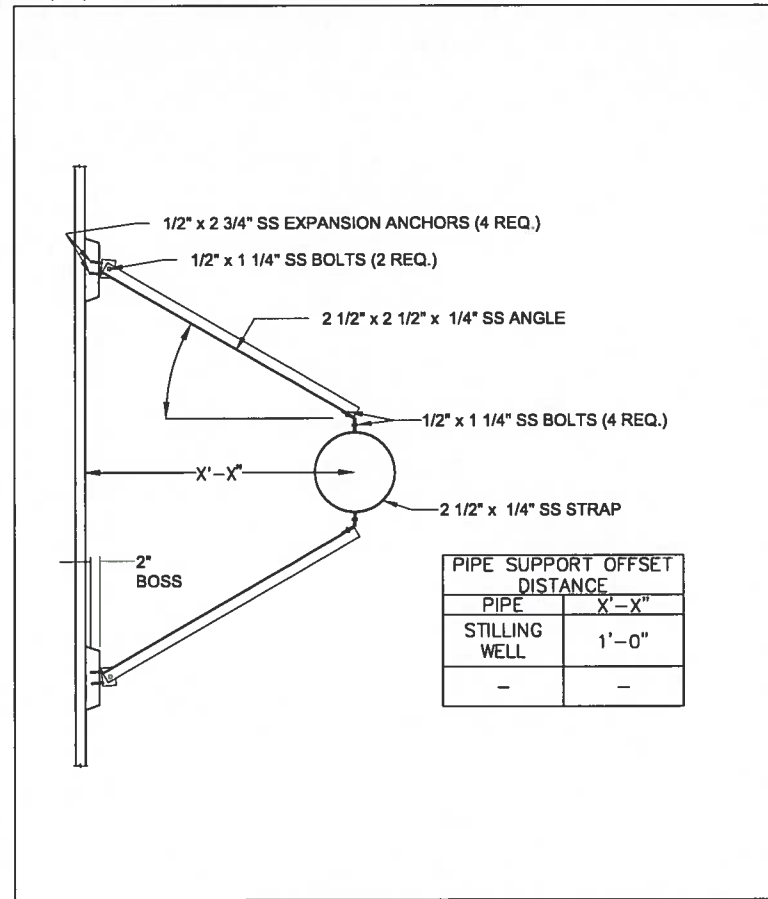


DESIGNED	D. YOUNG	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	<b>CRANE CREEK M-1 CANAL FLOW RESTORATION</b> <b>ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT</b>	<b>PUMP STATION DETAILS</b>	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
DRAWN	D. HAUBRICH				APPROVED BY:	19750-066-01	DEC 2019
CHECKED	R. KOLLER				D. YOUNG	INDEX NO:	DWG NO:
LTR.	DATE	REVISIONS	BY	APPRD.	P.E. # 44204		M4-3



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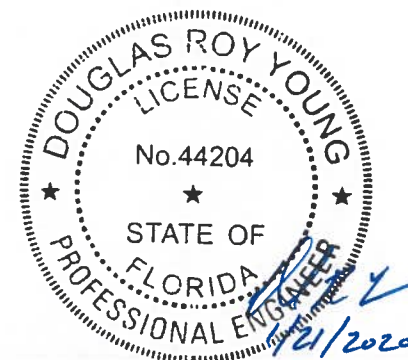


PIPE SUPPORT OFFSET DISTANCE	
PIPE	X'-X"
STILLING WELL	1'-0"
-	-

**SS PIPE SUPPORT DETAIL 1**  
NTS

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					R KOLLER
					D HAUBRICH
					D YOUNG

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**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

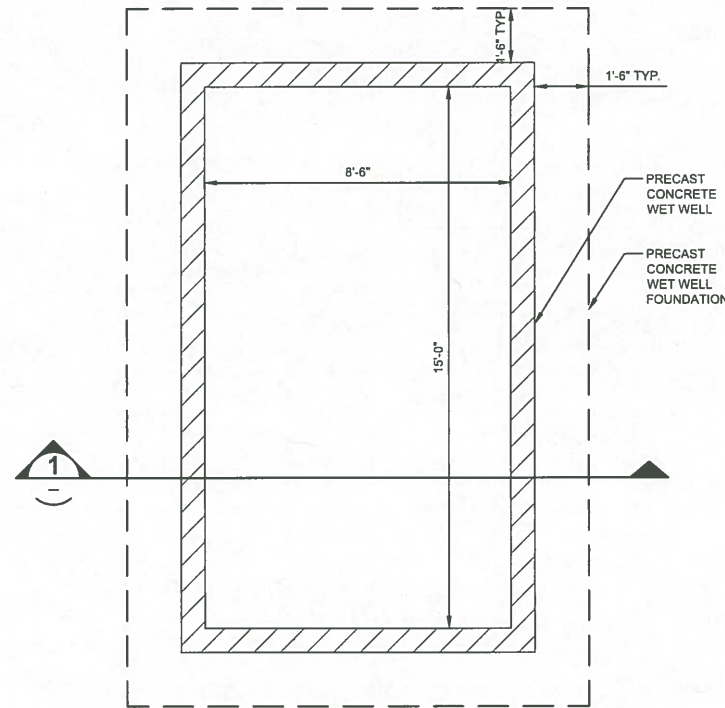
**PUMP STATION DETAILS**

<small>CERTIFICATE OF AUTHORIZATION #1841                  APPROVED BY</small> D. YOUNG P.E. # 44204		<small>PROJECT NO:</small> 19750-066-01	<small>DATE:</small> DEC 2019
		<small>INDEX NO:</small> M4-4	<small>DWG NO:</small> M4-4

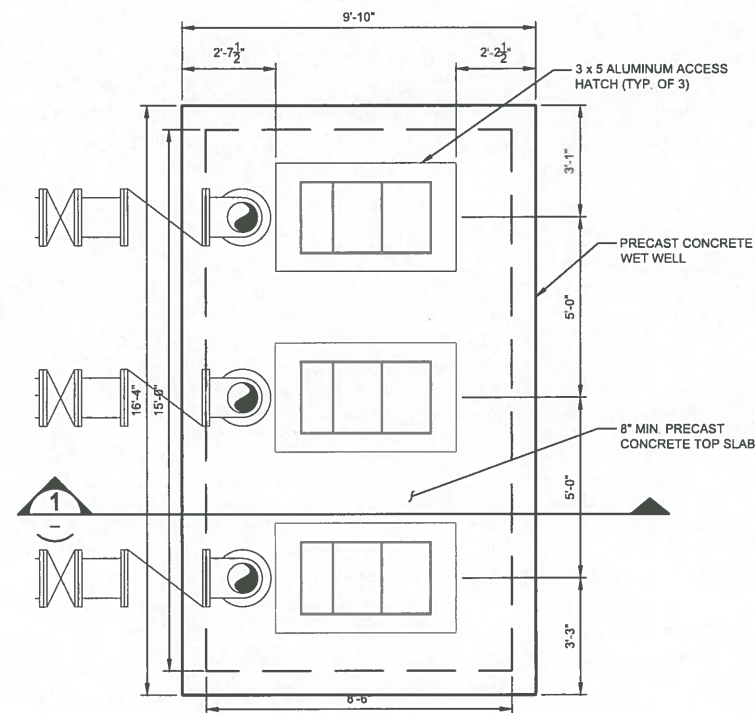


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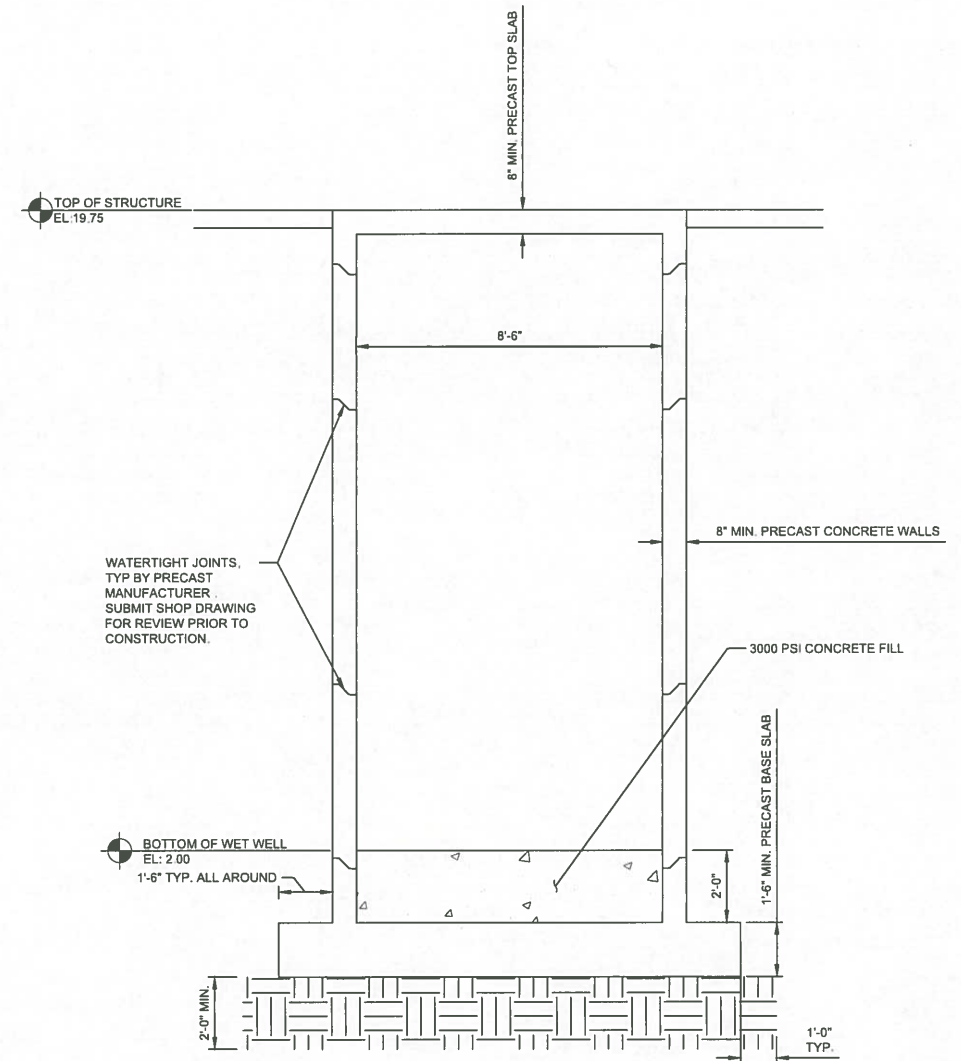
- NOTES:
- SEE SHEET 07 FOR GENERAL NOTES AND OTHER INFORMATION.
  - COORDINATE LOCATION OF ALL MECHANICAL EQUIPMENT AND PIPING WITH MECHANICAL DRAWINGS PRIOR TO CONSTRUCTION.
  - PRECAST STRUCTURE SHALL BE DESIGNED FOR A WATER TABLE AT GRADE AND A LIVE LOAD ON TOP SLAB = 200 PSF.
  - UNDER THE PRECAST SLAB ON GRADE FOUNDATION, COMPACT SUBGRADE TO A MINIMUM OF 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) FOR A DEPTH OF 2 FEET. COMPACT MINIMUM LIFTS OF 1 FOOT.



**PUMP STATION BASE PLAN (A)**  
 $\frac{3}{8}'' = 1'-0''$   
 S4-1



**PUMP STATION TOP PLAN (B)**  
 $\frac{3}{8}'' = 1'-0''$   
 S4-1



**SECTION 1 (S4-1)**  
 $\frac{3}{8}'' = 1'-0''$

SAVED: 11/15/2019 11:21 AM JOVO Q:\PROJECTS\13972 M-1 CANAL RESTORATION\13972 ACAD\STRUCTURAL PLAN.DWG

Professional Engineer Seal for **MONRAD R. TRUE**, License No. 32077, State of Florida. The seal is dated 11/27/2020. The company is **GSE Engineering & Consulting, Inc.**, located at 5590 SW 64th Street, Suite B, Gainesville, Florida 32608. Certificate of Authorization #27432.



LTR.	DATE	REVISIONS	BY	APPRD.	CHECKED

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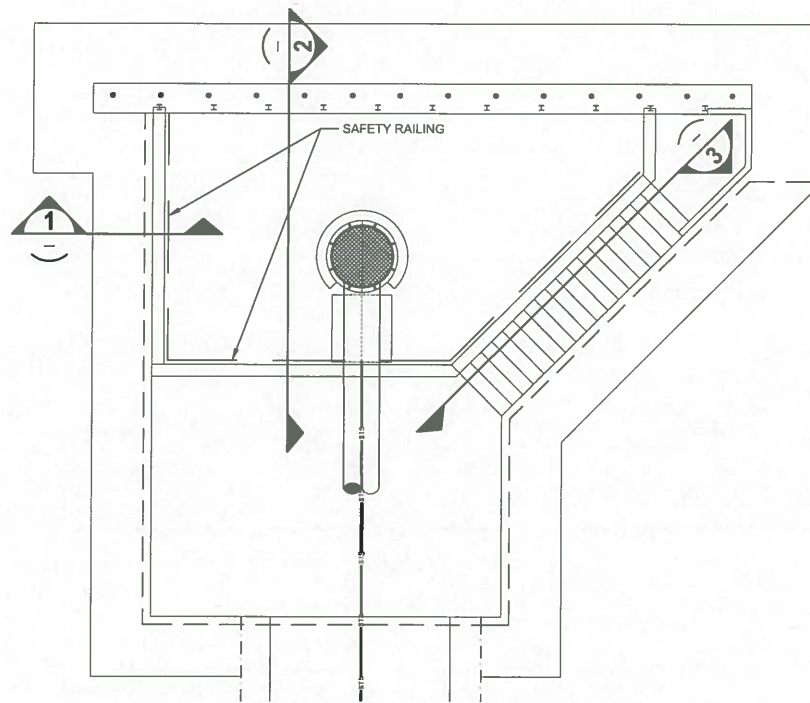
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**PUMP STATION PLAN**

PROJECT NO: 19750-066-01	DATE: OCT 2019
INDEX NO:	DWG NO: S4-1



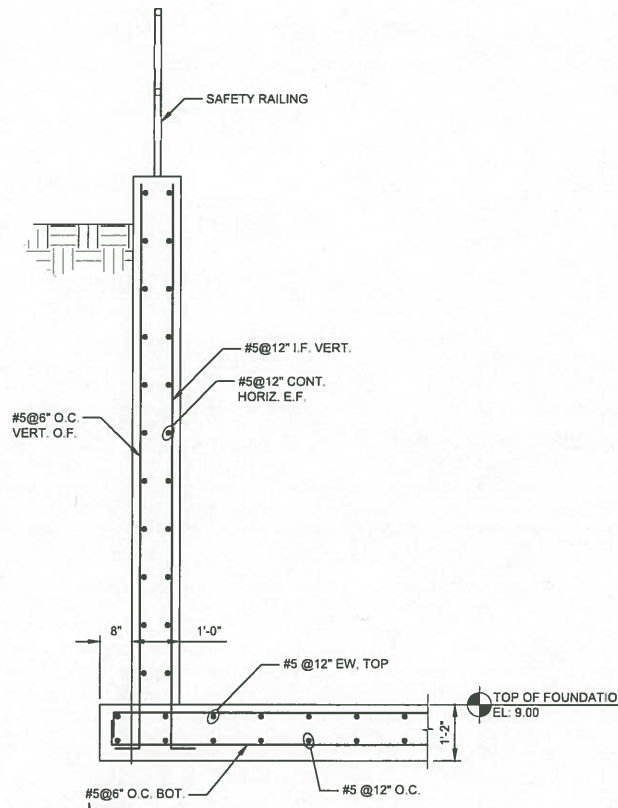
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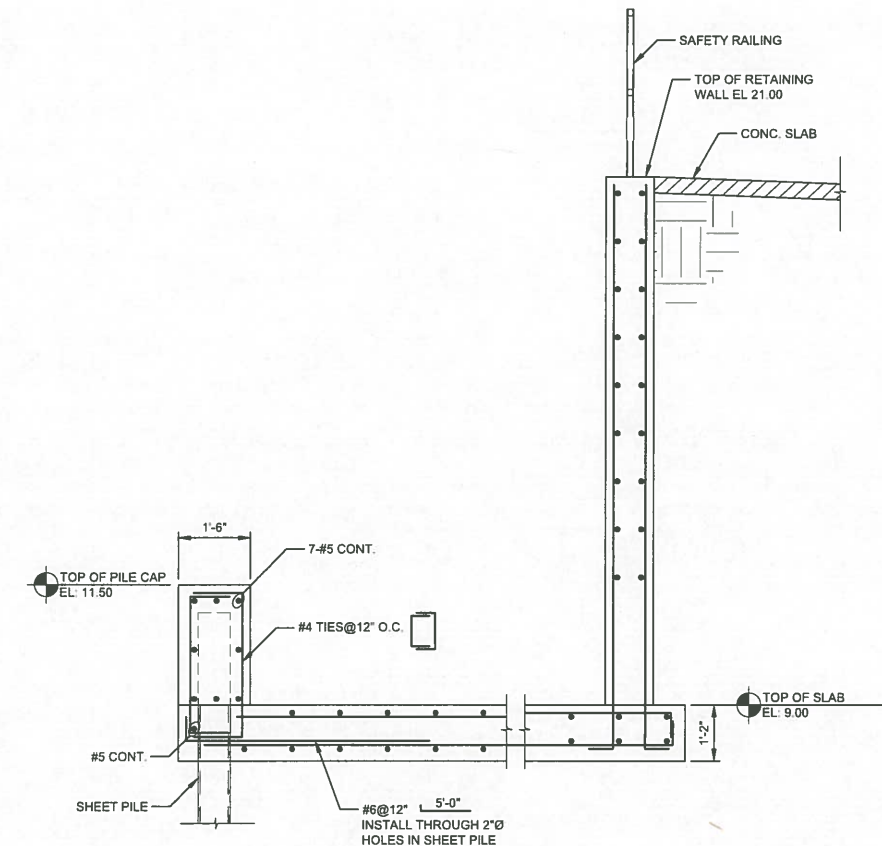
**PUMP INTAKE TOP PLAN**

1/2" = 1'-0"

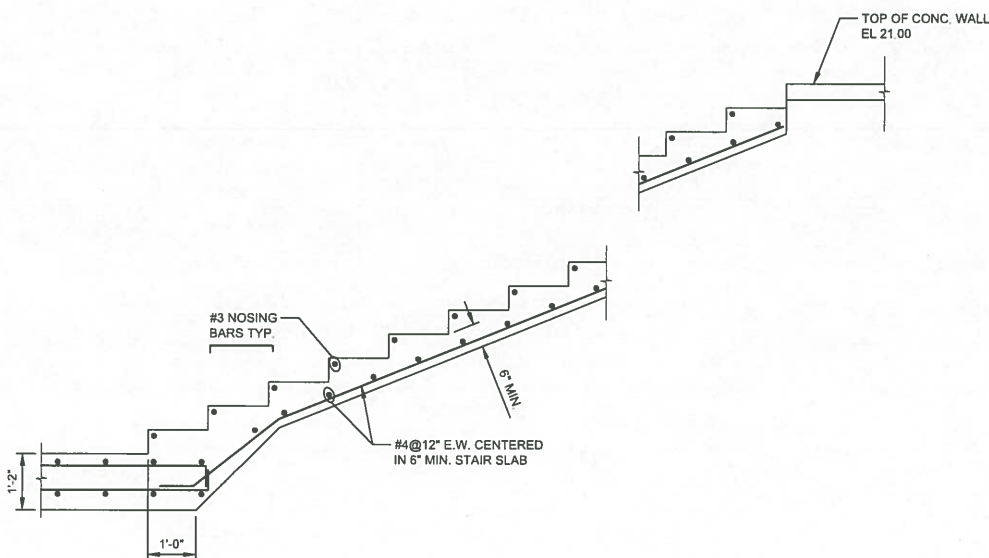
**A**  
S4-2



**SECTION 1**  
1/2" = 1'-0"  
S4-2



**SECTION 2**  
1/2" = 1'-0"  
S4-2



**SECTION 3**  
1/2" = 1'-0"  
S4-2

**GSE**  
Engineering & Consulting, Inc.  
GSE PROJECT #13972  
5590 SW 64th Street, Suite G  
Gainesville, Florida 32608  
Certificate of Authorization #27439  
MONRAD T. THUE  
P.P.E. # 32071  
NOV 27 2020  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER



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DESIGNED	_____			
DRAWN	_____			
CHECKED	_____			
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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

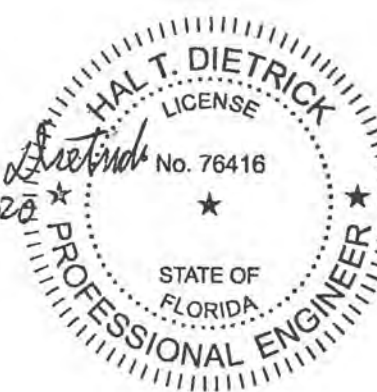
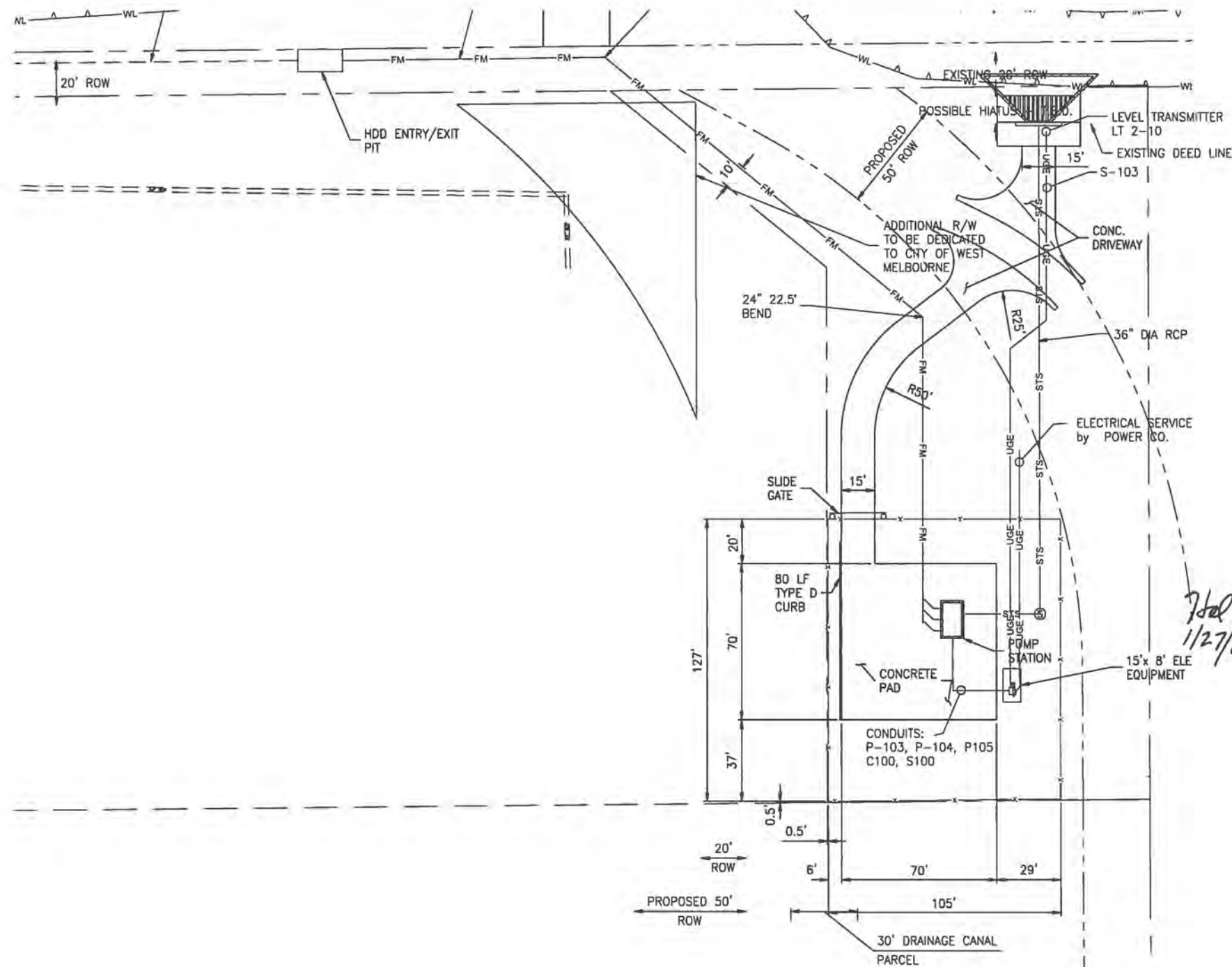
**SECTIONS AND DETAILS**

PROJECT NO:	DATE:
19750-066-01	OCT 2019
INDEX NO:	DWG NO:
	S4-2

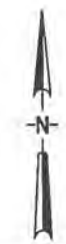
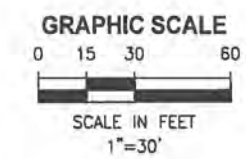


PLOTTED: 11/15/2019 12:04 PM HAL DIETRICK

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*Hal T. Dietrick*  
1/27/2020



11/14/2019 11:38 PM HAL D:\3. EPC PROJECTS\19750-066-01 CRANE CREEK M-1 CANAL - STANDARD\ELEC\LATEST CAD FILES - REVISED 11-14-19\E2.DWG

DESIGNED	HAL DIETRICK			
DRAWN	HAL DIETRICK			
CHECKED	MICHAEL CLARK			
LTR.	DATE	REVISIONS	BY	APPRD.

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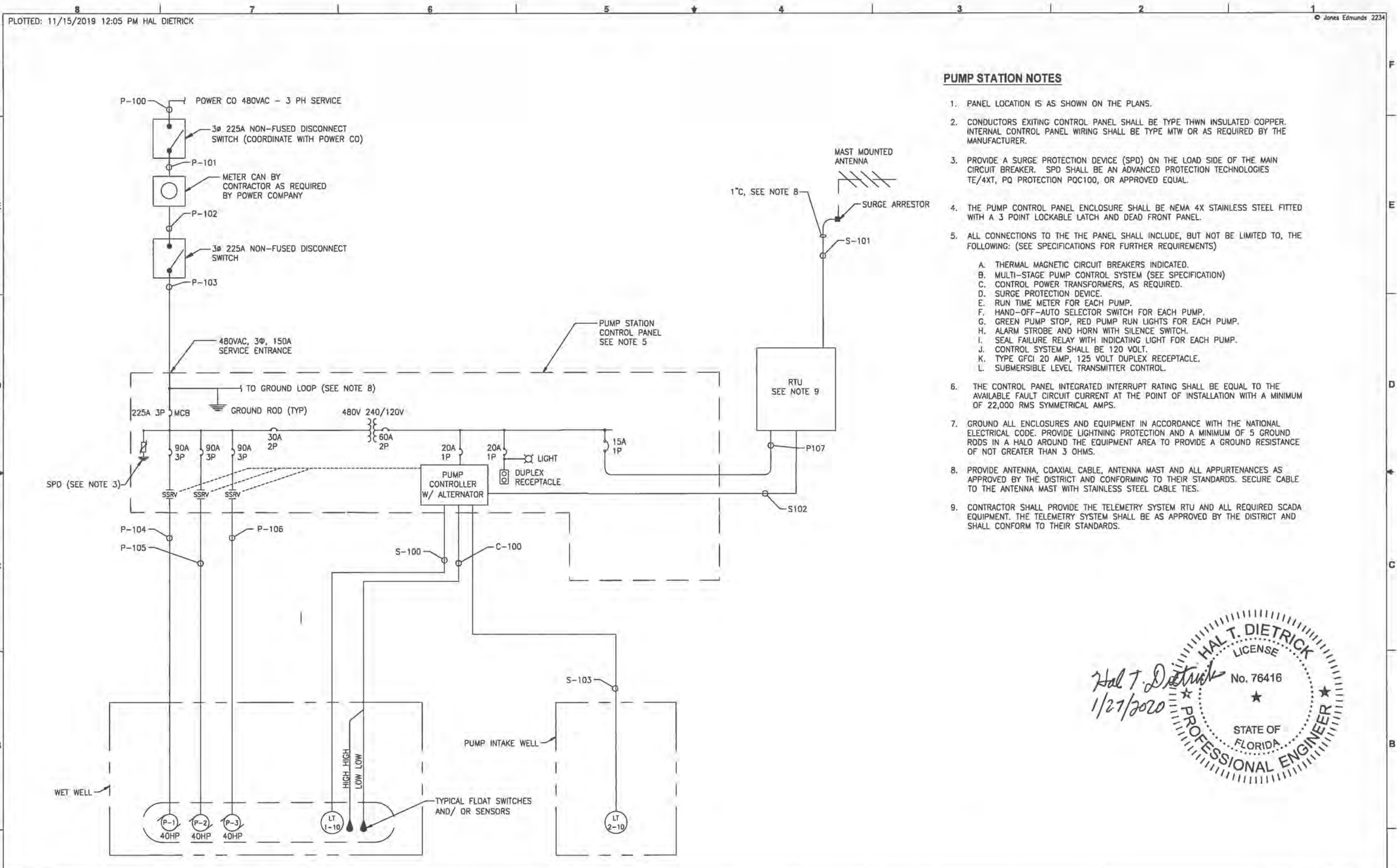
CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

PUMP STATION ELECTRICAL SITE PLAN

APPROVED BY  
 HAL DIETRICK  
 P.E. # 76416

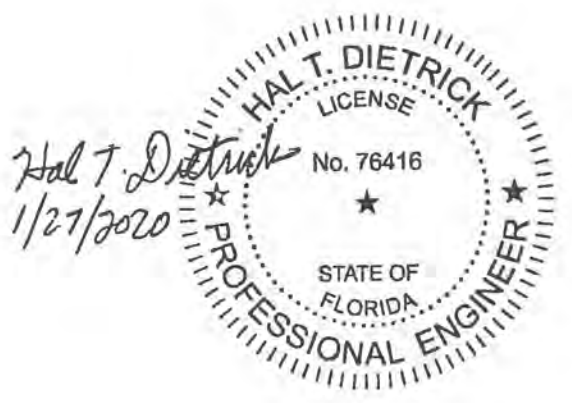
PROJECT NO:	19750-066-01	DATE:	NOV 2019
INDEX NO:		DWG NO:	E-2





**PUMP STATION NOTES**

1. PANEL LOCATION IS AS SHOWN ON THE PLANS.
2. CONDUCTORS EXITING CONTROL PANEL SHALL BE TYPE THWN INSULATED COPPER. INTERNAL CONTROL PANEL WIRING SHALL BE TYPE MTW OR AS REQUIRED BY THE MANUFACTURER.
3. PROVIDE A SURGE PROTECTION DEVICE (SPD) ON THE LOAD SIDE OF THE MAIN CIRCUIT BREAKER. SPD SHALL BE AN ADVANCED PROTECTION TECHNOLOGIES TE/4XT, PQ PROTECTION PQC100, OR APPROVED EQUAL.
4. THE PUMP CONTROL PANEL ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL FITTED WITH A 3 POINT LOCKABLE LATCH AND DEAD FRONT PANEL.
5. ALL CONNECTIONS TO THE THE PANEL SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: (SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS)
  - A. THERMAL MAGNETIC CIRCUIT BREAKERS INDICATED.
  - B. MULTI-STAGE PUMP CONTROL SYSTEM (SEE SPECIFICATION)
  - C. CONTROL POWER TRANSFORMERS, AS REQUIRED.
  - D. SURGE PROTECTION DEVICE.
  - E. RUN TIME METER FOR EACH PUMP.
  - F. HAND-OFF-AUTO SELECTOR SWITCH FOR EACH PUMP.
  - G. GREEN PUMP STOP, RED PUMP RUN LIGHTS FOR EACH PUMP.
  - H. ALARM STROBE AND HORN WITH SILENCE SWITCH.
  - I. SEAL FAILURE RELAY WITH INDICATING LIGHT FOR EACH PUMP.
  - J. CONTROL SYSTEM SHALL BE 120 VOLT.
  - K. TYPE GFCI 20 AMP, 125 VOLT DUPLEX RECEPTACLE.
  - L. SUBMERSIBLE LEVEL TRANSMITTER CONTROL.
6. THE CONTROL PANEL INTEGRATED INTERRUPT RATING SHALL BE EQUAL TO THE AVAILABLE FAULT CIRCUIT CURRENT AT THE POINT OF INSTALLATION WITH A MINIMUM OF 22,000 RMS SYMMETRICAL AMPS.
7. GROUND ALL ENCLOSURES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE LIGHTNING PROTECTION AND A MINIMUM OF 5 GROUND RODS IN A HALO AROUND THE EQUIPMENT AREA TO PROVIDE A GROUND RESISTANCE OF NOT GREATER THAN 3 OHMS.
8. PROVIDE ANTENNA, COAXIAL CABLE, ANTENNA MAST AND ALL APPURTENANCES AS APPROVED BY THE DISTRICT AND CONFORMING TO THEIR STANDARDS. SECURE CABLE TO THE ANTENNA MAST WITH STAINLESS STEEL CABLE TIES.
9. CONTRACTOR SHALL PROVIDE THE TELEMETRY SYSTEM RTU AND ALL REQUIRED SCADA EQUIPMENT. THE TELEMETRY SYSTEM SHALL BE AS APPROVED BY THE DISTRICT AND SHALL CONFORM TO THEIR STANDARDS.



11/15/2019 11:15 AM HAL D:\3. EPC PROJECTS\19750-066-01 CRANE CREEK M-1 CANAL - STANDARD\ELEC\LATEST CAD FILES - REVISED 11-14-19\E3.DWG

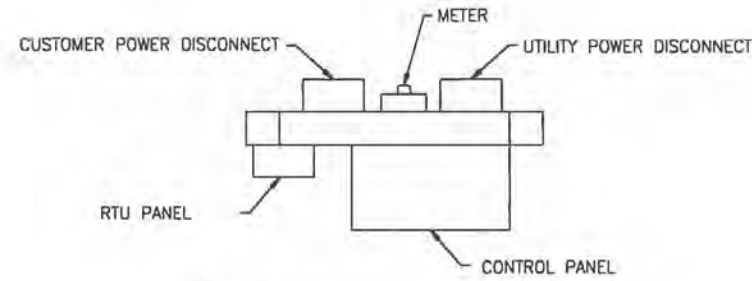
DESIGNED: HAL DIETRICK		<p>CERTIFICATE OF AUTHORIZATION #1841                  730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821                  8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	PROJECT NO: 19750-066-01		DATE: NOV 2019
DRAWN: HAL DIETRICK			APPROVED BY: HAL DIETRICK		INDEX NO: E3
CHECKED: MICHAEL CLARK			P.E. # 76416		
LTR.	DATE	REVISIONS	BY	APPRO.	

CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT  
 PUMP STATION ONE LINE DIAGRAM



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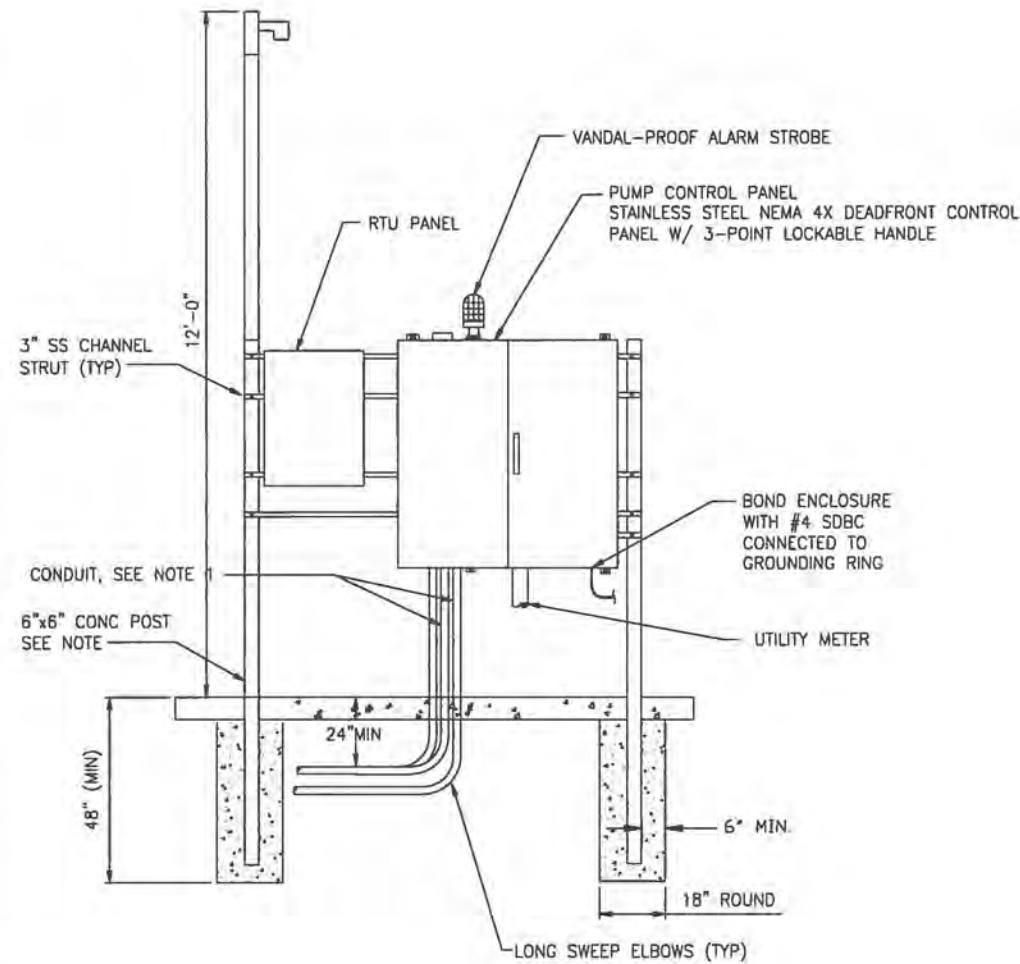
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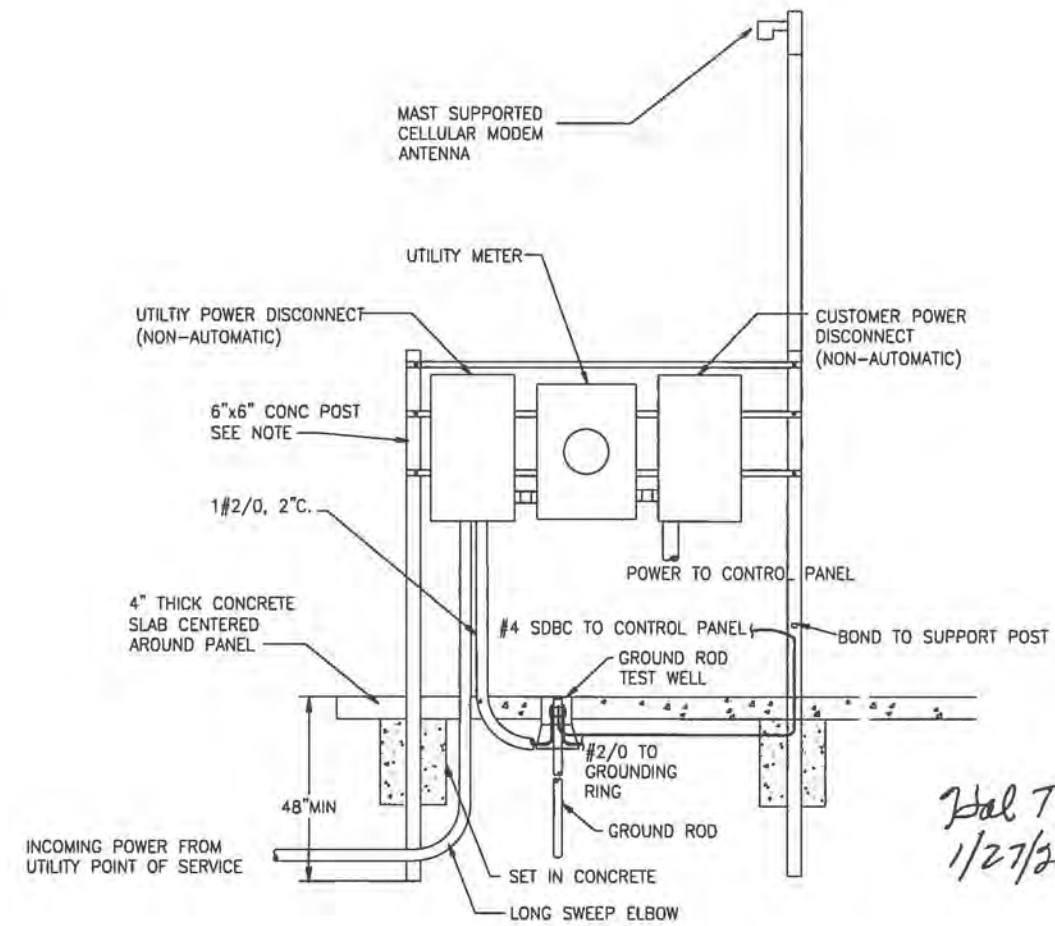
**PLAN VIEW**

**NOTES:**

1. PUMP MOTOR CONDUIT SHALL BE SIZED TO MAX 40% CONDUIT FILL. MINIMUM CONDUIT SIZE SHALL BE 2 1/2". ABOVE GROUND CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL DOWN TO BELOW THE FIRST ELBOW BELOW GRADE. UNDERGROUND CONDUITS BETWEEN THE JUNCTION BOX AND WETWELL SHALL BE SCHEDULE 80 PVC ENCASED WITH A MINIMUM OF 2" OF CONCRETE. REFER TO NEC 501.10(A)(1)(a) AND THE EXCEPTION FOR THE INSTALLATION OF THESE CONDUITS. ANALOG SIGNAL CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL ABOVE AND BELOW GRADE. ALL OTHER UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC.
2. INSTALL AN ELECTRICAL GROUNDING SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS WELL AS LOCAL CODES AND ORDINANCES. INSTALL AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, AUTOMATIC TRANSFER SWITCH, AND ANTENNA MANUAL DISCONNECT SWITCH, AND METAL FENCE.
3. THE STATION NAME, PCU I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
4. ALL MOUNTING HARDWARE & BRACKETS SHALL BE 316 STAINLESS STEEL.
5. COAT PORTIONS OF ALUMINUM IN CONTACT WITH CONCRETE WITH COAL TAR EPOXY.



**FRONT VIEW**



**REAR VIEW**

**ELECTRICAL SERVICE AND CONTROL PANEL DETAIL 1**

NTS

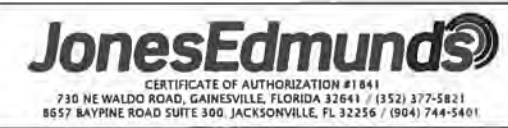
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E-2



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 Xref Xref Xref TB.dwg

REV.	DATE	REVISIONS	BY	APPROV.

DESIGNED HAL DIETRICK  
 DRAWN HAL DIETRICK  
 CHECKED MICHAEL CLARK



CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

**PUMP STATION ELECTRICAL DETAILS**

APPROVED BY	PROJECT NO:	DATE
HAL DIETRICK	19750-066-01	NOV 2019
P.E. # 76416	INDEX NO:	DWG NO:
		E6



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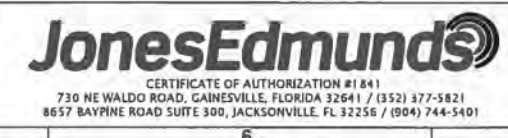
**POWER AND CONTROL WIRING SCHEDULE**

CIRCUIT NUMBER	FROM	TO	HP	VOLTS	QARC	WIRE DATA		CONDUIT	REMARKS
						POWER OR CONTROL	GROUNDING (G) NEUTRAL (N)		
P100	INCOMING SERVICE	SERVICE DISC.		480		-	-	3"	BY POWER COMPANY
P101	SERVICE DISC.	METER		480		4-3/0	1-1	3"	
P102	METER	CUSTOMER DISCONNECT		480		3-3/0	1-1	3"	
P103	CUSTOMER DISCONNECT	PUMP CONTROL PANEL		480		3-3/0	1-1	3"	
P104	PUMP CONTROL PANEL	PUMP 1		480		4-6(+)	1-10	2"	P1 POWER (INCLUDE OTHER CONDUCTERS AS PER MOTOR MPR02)
P105	PUMP CONTROL PANEL	PUMP 2		480		4-6(+)	1-10	2"	P2 POWER (INCLUDE OTHER CONDUCTERS AS PER MOTOR MPR02)
P106	PUMP CONTROL PANEL	PUMP 3		480		4-6(+)	1-10	2"	P3 POWER (INCLUDE OTHER CONDUCTERS AS PER MOTOR MPR02)
P107	PUMP CONTROL PANEL	RTU		120		2-12	1-12	1"	
P200	INCOMING SERVICE	SERVICE DISC.		480		4-8(+)	1-10	1"	
P201	SERVICE DISC.	METER		480		4-8(+)	1-10	1"	
P202	METER	CUSTOMER DISCONNECT SWITCH		480		4-8(+)	1-10	1"	
P203	CUSTOMER DISCONNECT SWITCH	WEIR CONTROL PANEL		480		4-8(+)	1-10	1"	
P204	WEIR CONTROL PANEL	AIR COMPRESSOR 1		480		4-10(+)	1-10	1"	
P205	WEIR CONTROL PANEL	AIR COMPRESSOR 2		480		4-10(+)	1-10	1"	
P206	WEIR CONTROL PANEL	RTU		120		2-12	1-12	1"	
C100	PUMP CONTROL PANEL	WETWELL		120		6-12	1-12	1"	FLOAT
C200	WEIR CONTROL PANEL	AIR COMPRESSOR 1		120		6-12	1-12	1"	
C201	WEIR CONTROL PANEL	AIR COMPRESSOR 2		120		6-12	1-12	1"	
C202	WEIR CONTROL PANEL	MECHANICAL VALVE PANEL		120		6-12	1-12	1"	
C203	WEIR CONTROL PANEL	MECHANICAL VALVE PANEL		120		6-12	1-12	1"	
S100	PUMP CONTROL PANEL	LT 1-10		4/20		1 / TSP		3/4"	ANALOG SIGNAL LEVEL
S101	PUMP CONTROL PANEL	ANTENNA		-		CFWE		3/4"	AS REQD BY MFR
S102	PUMP CONTROL PANEL	RTU		-		SEE REMARKS		3/4"	AS REQD BY MFR
S103	PUMP CONTROL PANEL	LT 2-10		4/20		1 / TSP		3/4"	ANALOG SIGNAL LEVEL
S200	WEIR CONTROL PANEL	MECHANICAL VALVE PANEL							
S201	PUMP CONTROL PANEL	ANTENNA		-		CFWE		3/4"	AS REQD BY MFR
S202	PUMP CONTROL PANEL	RTU		-		SEE REMARKS		3/4"	AS REQD BY MFR
S203	MECHANICAL VALVE PANEL	IT-1		4/20		CFWE		3/4"	ANALOG FROM LT
S204	MECHANICAL VALVE PANEL	IT-2		4/20		CFWE		3/4"	ANALOG FROM LT
S205	MECHANICAL VALVE PANEL	LT 2-10		4/20		CFWE		3/4"	ANALOG FROM LT
S206	MECHANICAL VALVE PANEL	LT 2-11		4/20		CFWE		3/4"	ANALOG FROM LT



SAVED: 11/15/2019 11:17 AM HAL D:\3. EPC PROJECTS\19750-066-01 CRANE CREEK M-1 CANAL - STANDARD\ELEC\LATEST CAD FILES - REVISED 11-14-19\E5.DWG  
 Xref: XREF TO TB.DWG

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK
BY	
APPROD.	



CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

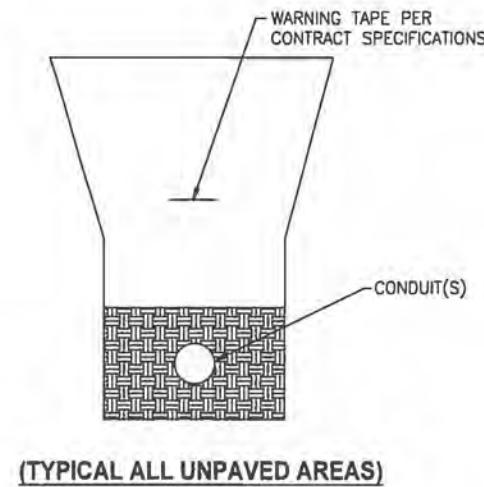
POWER CONTROL WIRING SCHEDULE

APPROVED BY	PROJECT NO:	DATE:
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P.E. # 76416	INDEX NO:	DWG NO:
		E5

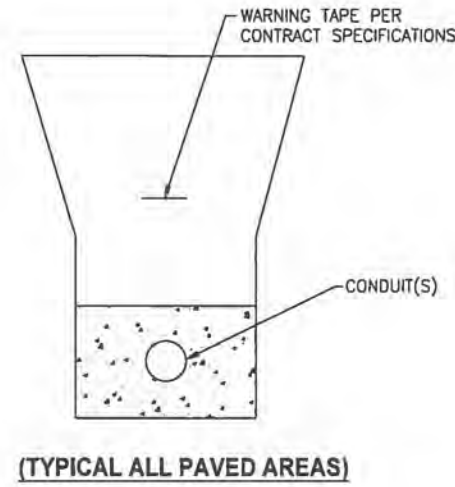


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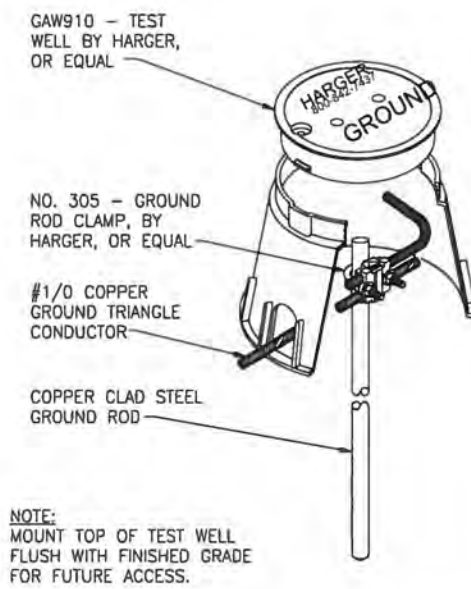
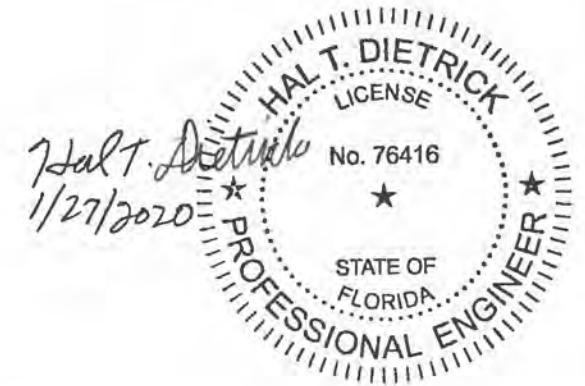
© Jones Edmunds 2234



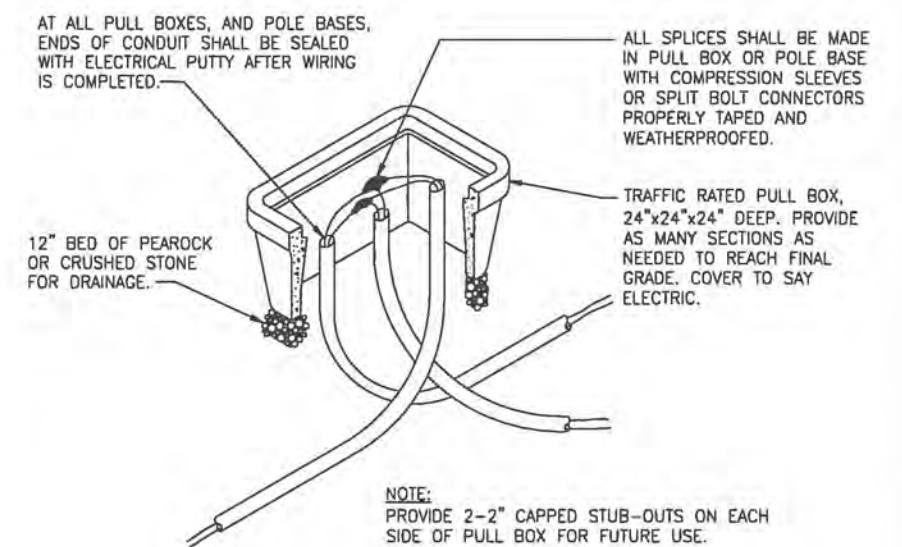
**UNDERGROUND TRENCH DETAIL**  
NTS



**UNDERGROUND TRENCH DETAIL**  
NTS



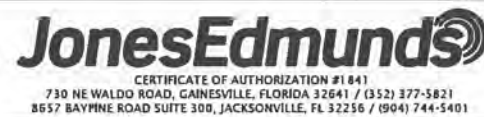
**GROUND ROD TEST WELL DETAIL** 4  
NTS



**PULLBOX DETAIL** 6  
NTS

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 11/15/2019 11:20 AM HAL D:\3. EPC PROJECTS\19750-066-01 CRANE CREEK M-1 CANAL - STANDARD\ELEC\LATEST CAD FILES - REVISED 11-14-19\EB.DWG

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK
APP'D	

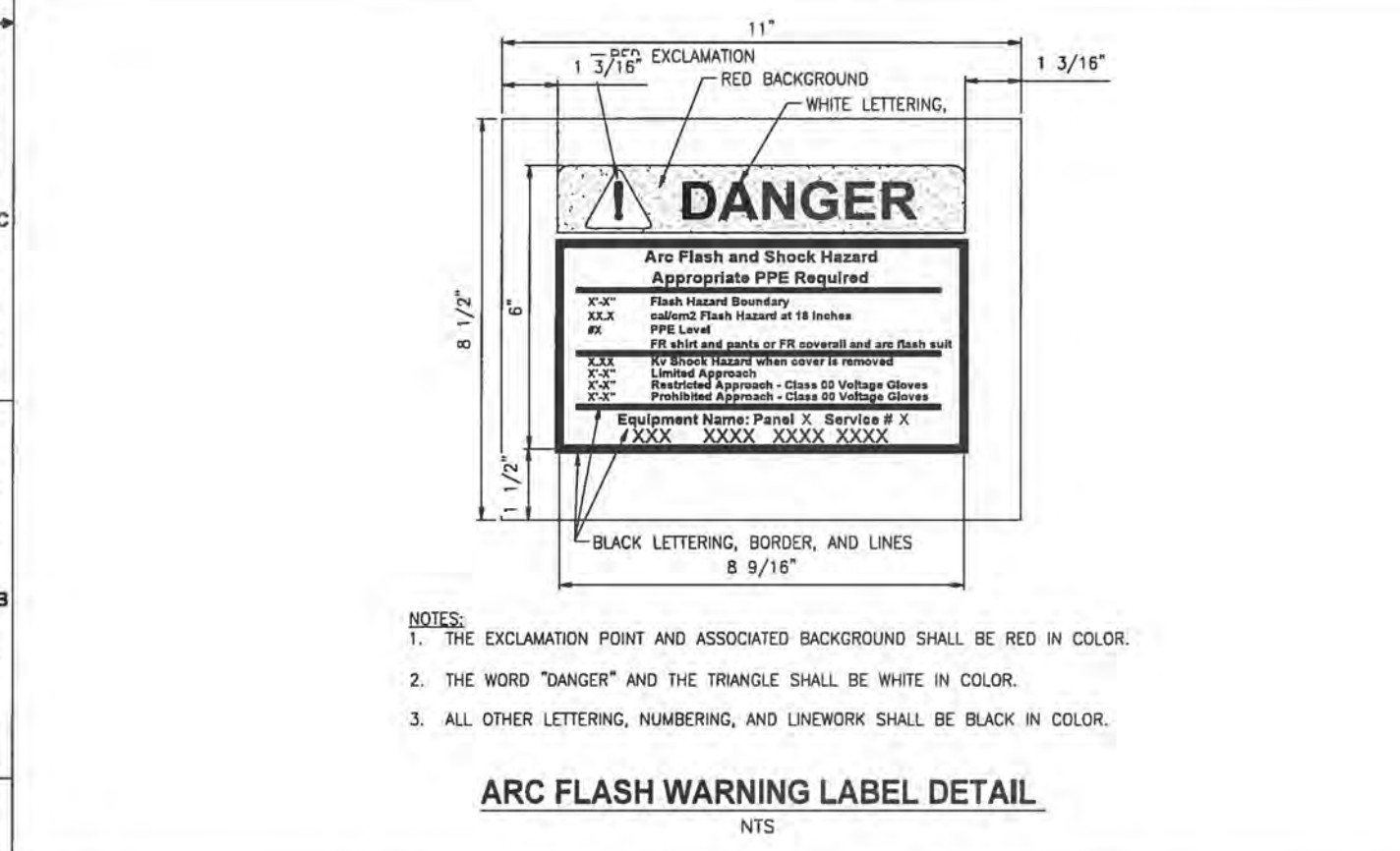
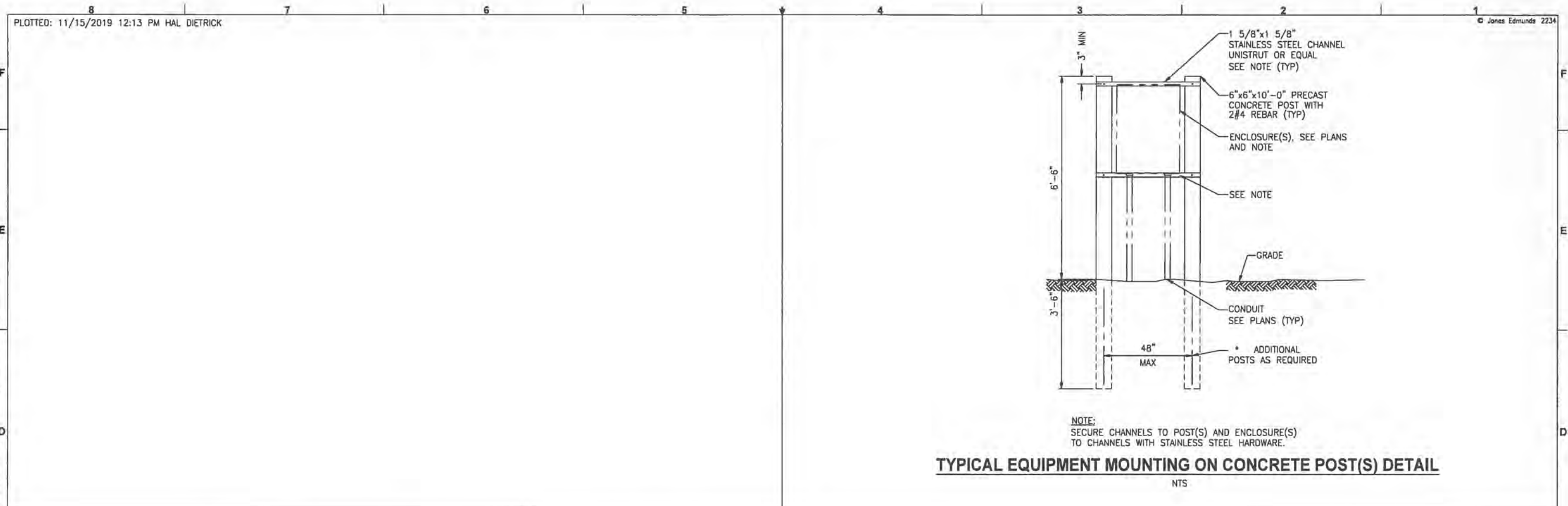


CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

ELECTRICAL DETAILS

APPROVED BY	PROJECT NO:	DATE:
HAL DIETRICK	19750-066-01	NOV 2019
P.E. # 76416	INDEX NO:	DWG NO:
		E8





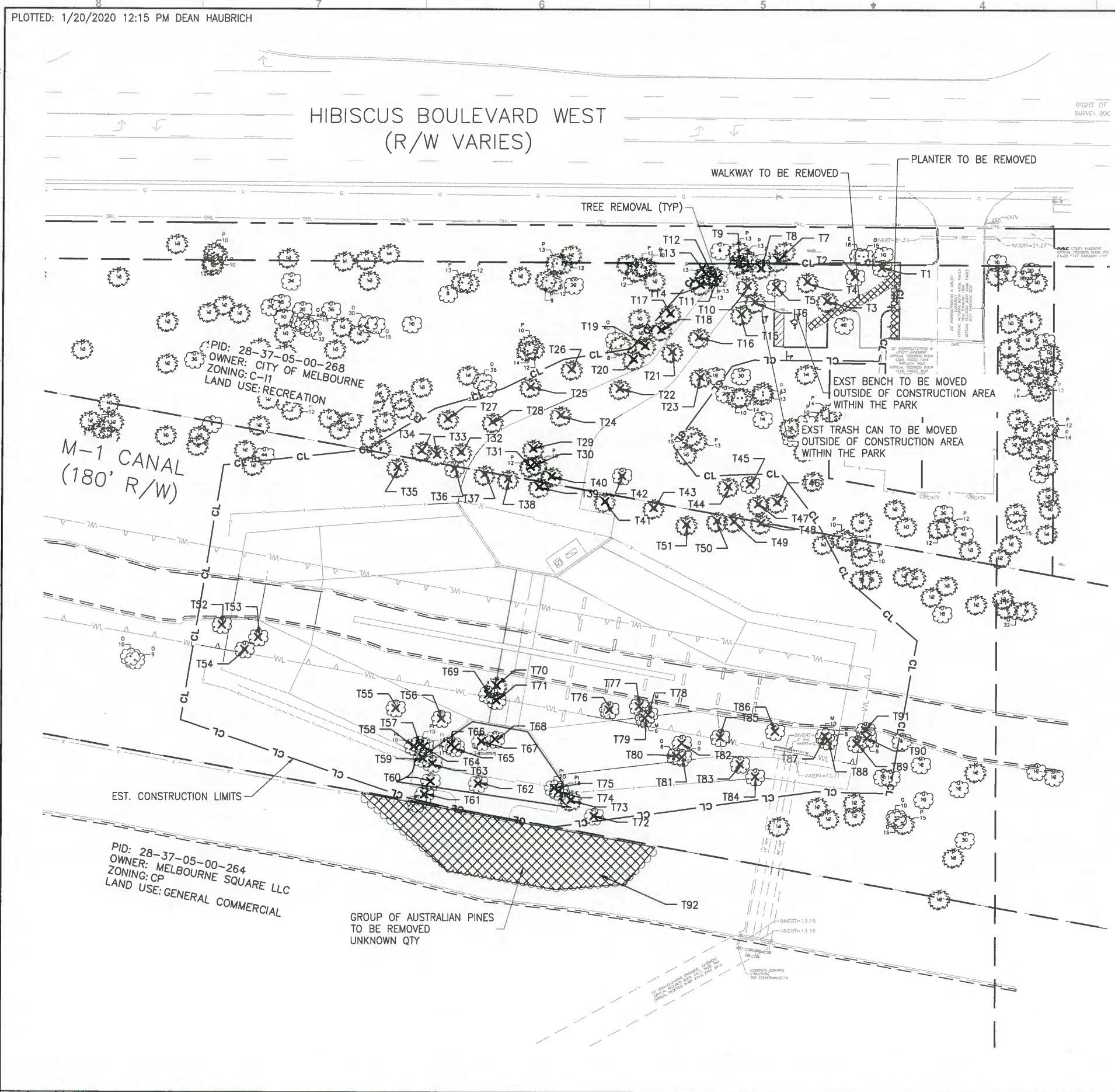
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 Xref: \\xref\XR018-TB.dwg

DESIGNED	HAL DIETRICK	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	ELECTRICAL DETAILS	APPROVED BY	PROJECT NO:	DATE:
DRAWN	HAL DIETRICK				19750-066-01	NOV 2019	
CHECKED	MICHAEL CLARK				INDEX NO:	DWG NO:	
					HAL DIETRICK		E9
					P.E. # 76416		



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Y:\19750-SURJWMD\PROJECTS\066-01\_CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\DESIGN\CAD\DWGS\DEMOS\05-1.DWG  
 11/15/2019 12:52 PM MHOFFMAN



TREE REMOVAL DATA			
NO.	SPECIES	DBH (IN)	JURISDICTION
T1	O	15	MELBOURNE
T2	O	13	MELBOURNE
T3	P	12	MELBOURNE
T4	P	14	MELBOURNE
T5	CA	12	MELBOURNE
T6	P	12	MELBOURNE
T7	P	12	MELBOURNE
T8	P	14	MELBOURNE
T9	P	13	MELBOURNE
T10	P	13	MELBOURNE
T11	O	13	MELBOURNE
T12	P	13	MELBOURNE
T13	P	13	MELBOURNE
T14	P	13	MELBOURNE
T15	P	13	MELBOURNE
T16	P	13	MELBOURNE
T17	P	12	MELBOURNE
T18	P	12	MELBOURNE
T19	P	12	MELBOURNE
T20	P	10	MELBOURNE
T21	P	12	MELBOURNE
T22	P	15	MELBOURNE
T23	P	13	MELBOURNE
T24	P	12	MELBOURNE
T25	P	12	MELBOURNE
T26	P	12	MELBOURNE
T27	P	12	MELBOURNE
T28	P	14	MELBOURNE
T29	P	10	MELBOURNE
T30	P	10	MELBOURNE
T31	P	12	MELBOURNE
T32	P	12	MELBOURNE
T33	P	11	MELBOURNE
T34	P	8	MELBOURNE
T35	P	12	BREVARD
T36	O	18	BREVARD
T37	P	10	BREVARD
T38	P	10	BREVARD
T39	P	10	BREVARD
T40	P	10	MELBOURNE
T41	P	10	BREVARD
T42	O	42	MELBOURNE
T43	P	12	BREVARD
T44	P	13	MELBOURNE
T45	CA	6	MELBOURNE
T46	P	13	MELBOURNE
T47	P	13	MELBOURNE
T48	P	10	BREVARD
T49	P	15	BREVARD
T50	P	10	BREVARD
T51	P	13	BREVARD

TREE REMOVAL DATA			
NO.	SPECIES	DBH (IN)	JURISDICTION
T52	M	12	BREVARD
T53	M	15	BREVARD
T54	O	12	BREVARD
T55	PI	28	BREVARD
T56	PI	10	BREVARD
T57	PI	10	BREVARD
T58	PI	10	BREVARD
T59	PI	11	BREVARD
T60	PI	6	BREVARD
T61	PI	10	BREVARD
T62	PI	28	BREVARD
T63	PI	9	BREVARD
T64	PI	13	BREVARD
T65	PI	24 (CLUSTER)	BREVARD
T66	PI	11	BREVARD
T67	PI	13	BREVARD
T68	PI	13	BREVARD
T69	M	10	BREVARD
T70	P	13	BREVARD
T71	PI	12	BREVARD
T72	PI	15	BREVARD
T73	P	12	BREVARD
T74	PI	18	BREVARD
T75	PI	20	BREVARD
T76	M	10	BREVARD
T77	M	6	BREVARD
T78	M	6	BREVARD
T79	M	6	BREVARD
T80	O	8	BREVARD
T81	O	8	BREVARD
T82	O	8	BREVARD
T83	O	10	BREVARD
T84	O	6	BREVARD
T85	M	6	BREVARD
T86	M	8	BREVARD
T87	M	10	BREVARD
T88	M	8	BREVARD
T89	M	8	BREVARD
T90	M	8	BREVARD
T91			BREVARD

TREE REMOVAL DBH (IN) / TREE QTY SUMMARY			
SPECIES	BREVARD	MELBOURNE	TOTAL
CA (CAMPHOR)	0 / 0	18 / 2	18 / 2
M (MANGROVE)	122 / 14	0 / 0	122 / 14
O (OAK)	70 / 7	83 / 4	153 / 11
P (PALM)	137 / 12	415 / 34	552 / 46
PI (PINE)	237 / 18	0 / 0	237 / 18

WALTER ALBERT NICKEL  
 LICENSE No. 68638  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 1/20/2020  
 GRAPHIC SCALE  
 0 15 30 60  
 SCALE IN FEET  
 1" = 30'  
 NOT FOR CONSTRUCTION

DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

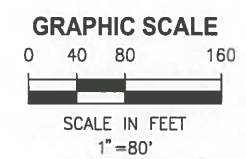
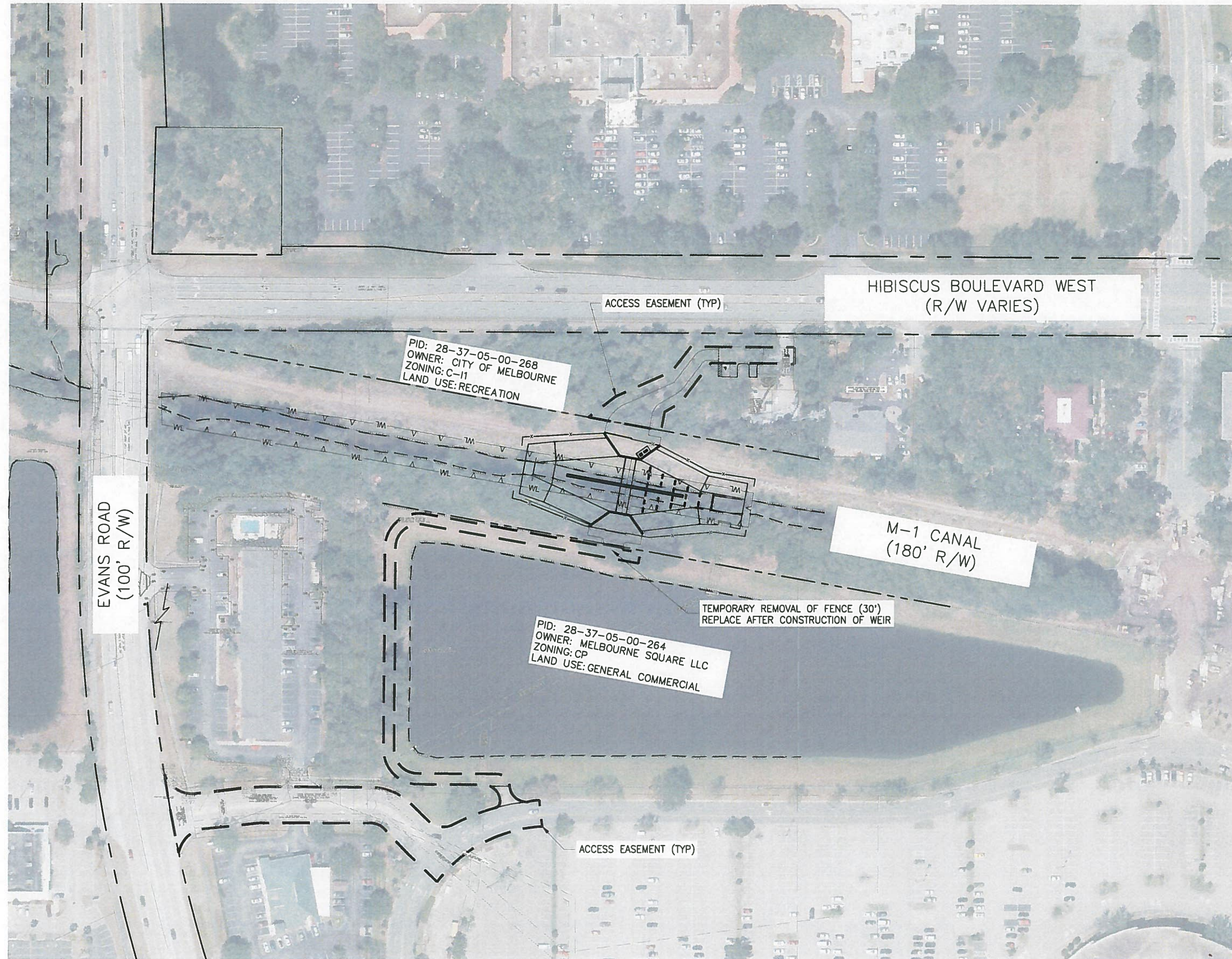
TREE REMOVAL AND DEMO PLAN

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		D5-1



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Y:\19750-SJRWMD\PROJECTS\066-01\_CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\CIVIL\C5-1.DWG  
 12/19/2019 10:35 AM DHAUBRICH



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DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

**JonesEdmunds**  
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION  
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR ACCESS PLAN**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-1



PLOTTED: 1/20/2020 12:17 PM DEAN HAUBRICH

RIGHT OF WAY VARIES  
SURVEY BOOK 4, PAGE 33

HIBISCUS BOULEVARD WEST  
(R/W VARIES)

(4) REMOVABLE BOLLARDS, SPACED 4' O.C.,  
INSTALL PER MANUFACTURER'S  
SPECIFICATION

PID: 28-37-05-00-268  
OWNER: CITY OF MELBOURNE  
ZONING: C-11  
LAND USE: RECREATION

3 ACCESS PATH  
C5-8 SEE DETAIL

24' SLIDE GATE  
PER FDOT SPI 550  
PROVIDE GUARDS ON ALL ROLLERS  
AND A STOP BAR TO LIMIT GATE TRAVEL TO 24'

CHAINLINK FENCE (TYP)  
PER FDOT SPI 550

3' CURB TAPER  
6" CURB (TYP)

2 PARKING LOT  
C5-8 SEE DETAIL  
COMPRESSOR  
(6.1' X 2.6')

CONDUIT  
SEE ELEC  
PLANS

CONTROL CABINET  
(2' X 3')

WEIR CONTROL PAD  
(10' X 20' X 4")

FLOW ATTENUATION BLOCKS

STILLING WELL  
C5-9 SEE DETAIL

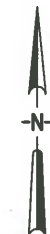
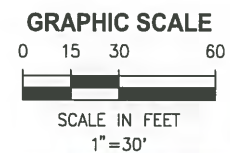
M-1 CANAL  
(180' R/W)

PID: 28-37-05-00-274  
OWNER: KALEIDOSCOPE INTERVENTIONS LLC  
ZONING: C1A  
LAND USE: GENERAL COMMERCIAL

28-37-05-00-268 SITE DATA		
DESC	AREA	PERCENT OF SITE
PROPERTY AREA	2.24 AC	100%
NEW PAVEMENT/ CONCRETE	0.06 AC	3%
NEW GRASSPAVE (10% IMP)	0.10 AC	4%
TOTAL NEW IMPERVIOUS	0.07 AC	3%

NOTES:

1. ACCESSING PARKING STRIPES, ACCESSIBLE AISLE STRIPING, AND UNIVERSAL ACCESSIBLE SYMBOL PER FDOT INDEX 711-001,
2. ALL OTHER PARKING STRIPES TO BE 6" WHITE.
3. HANDICAP PARKING SIGN PER FDOT INDEX 700-102, MOUNTED PER FDOT INDEX 700-010



PID: 28-37-05-00-264  
OWNER: MELBOURNE SQUARE LLC  
ZONING: CP  
LAND USE: GENERAL COMMERCIAL

3 ACCESS PATH  
C5-8 SEE DETAIL

24' SLIDE GATE  
PER FDOT SPI 550  
PROVIDE GUARDS ON ALL ROLLERS  
AND A STOP BAR TO LIMIT GATE TRAVEL TO 24'

1 WEIR  
C5-7 SEE DETAIL

SAVED: 11/25/2019 10:53 AM MHOFFMAN Y:\19750-SURVIMD\PROJECTS\066-01\_CRANE\_CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\CIVIL\C5-2.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED W NICKEL  
DRAWN D HAUBRICH  
CHECKED R KOLLER

**JonesEdmunds**  
CERTIFICATE OF AUTHORIZATION #1841  
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR SITE PLAN

CERTIFICATE OF AUTHORIZATION #1841  
APPROVED BY  
W. NICKEL  
P.E. # 68638

PROJECT NO: 19750-066-01  
DATE: DEC 2019  
INDEX NO:  
DWG NO: C5-2

NOT FOR CONSTRUCTION



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### HIBISCUS BOULEVARD WEST (R/W VARIES)

RIGHT OF WAY VARIES  
SURVEY BOOK 4 PAGE 33

MATCH EXISTING

ACCESS PATH CROSS SLOPES TO  
COMPLY WITH DETAIL ON C5-8 UNLESS  
OTHERWISE NOTED WITH SPOT ELEV.

PID: 28-37-05-00-268  
OWNER: CITY OF MELBOURNE  
ZONING: C-II  
LAND USE: RECREATION

PID: 28-37-05-00-274  
OWNER: KALEIDOSCOPE INTERVENTIONS LLC  
ZONING: C1A  
LAND USE: GENERAL COMMERCIAL

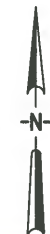
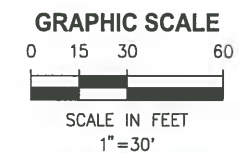
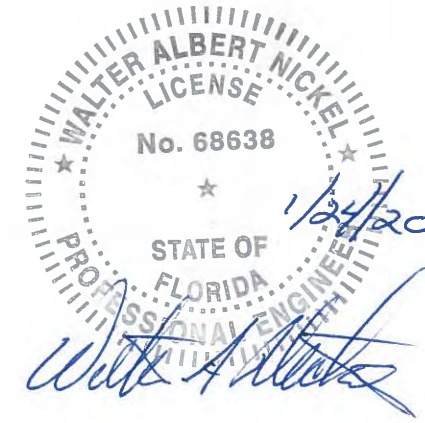
### M-1 CANAL (180' R/W)

MATCH EXISTING CANAL  
SIDE SLOPES

WEIR ①  
SEE DETAIL C5-7

MATCH EXISTING CANAL  
SIDE SLOPES

PID: 28-37-05-00-264  
OWNER: MELBOURNE SQUARE LLC  
ZONING: CP  
LAND USE: GENERAL COMMERCIAL



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DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

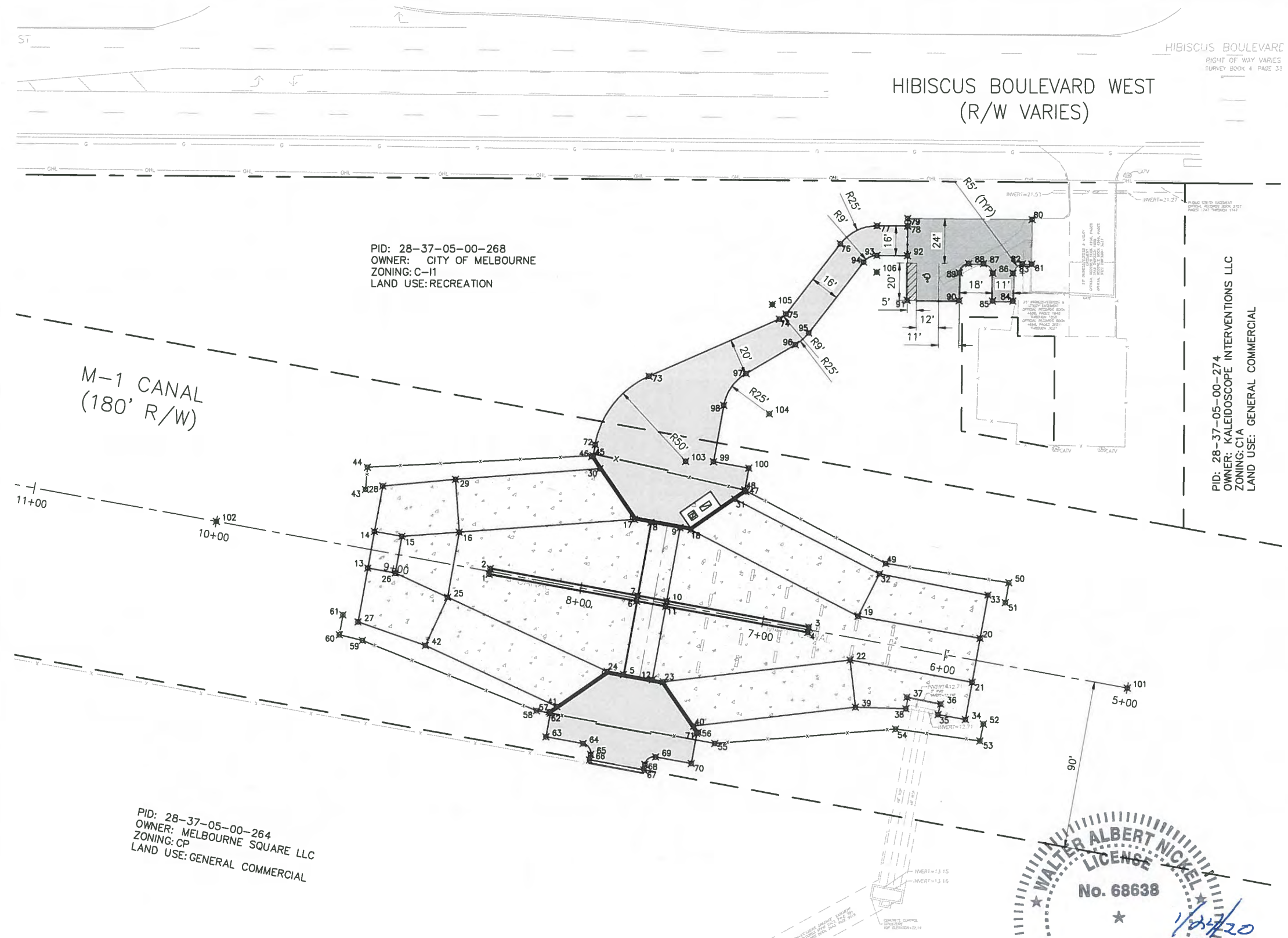
CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR GRADING PLAN

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-3



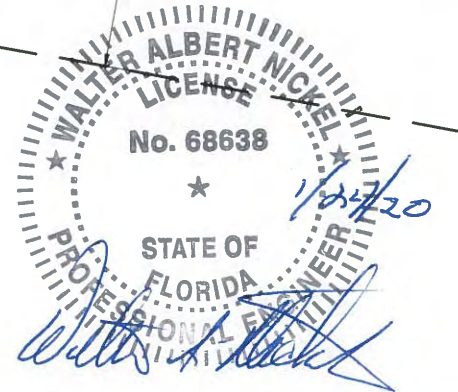
PLOTTED: 1/20/2020 12:19 PM DEAN HAUBRICH



PID: 28-37-05-00-268  
 OWNER: CITY OF MELBOURNE  
 ZONING: C-11  
 LAND USE: RECREATION

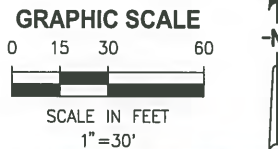
PID: 28-37-05-00-274  
 OWNER: KALEIDOSCOPE INTERVENTIONS LLC  
 ZONING: C1A  
 LAND USE: GENERAL COMMERCIAL

PID: 28-37-05-00-264  
 OWNER: MELBOURNE SQUARE LLC  
 ZONING: CP  
 LAND USE: GENERAL COMMERCIAL



COORDINATE TABLE		
POINT	NORTHING	EASTING
1	1363673.60	768208.40
2	1363676.55	768208.93
3	1363645.62	768381.17
4	1363642.67	768380.64
5	1363619.91	768281.05
6	1363659.28	768288.12
7	1363662.24	768288.65
8	1363701.61	768295.72
9	1363698.78	768311.47
10	1363659.41	768304.40
11	1363656.45	768303.87
12	1363617.08	768296.80
13	1363676.72	768142.92
14	1363696.41	768146.45
15	1363693.76	768161.22
16	1363696.08	768192.11
17	1363703.20	768286.66
18	1363697.72	768317.38
19	1363651.54	768407.63
20	1363639.69	768473.58
21	1363616.07	768469.34
22	1363627.91	768403.39
23	1363616.02	768302.71
24	1363621.50	768272.19
25	1363661.15	768185.84
26	1363674.07	768157.68
27	1363647.77	768137.72
28	1363720.80	768150.83
29	1363724.50	768189.98
30	1363730.36	768267.97
31	1363714.22	768341.10
32	1363674.24	768419.25
33	1363662.95	768477.76
34	1363596.05	768465.74
35	1363598.73	768451.07
36	1363604.37	768452.46
37	1363607.98	768434.27
38	1363601.81	768433.67
39	1363602.59	768406.38
40	1363592.30	768319.21
41	1363602.61	768245.03
42	1363635.24	768173.95
43	1363718.98	768141.50
44	1363730.91	768142.51
45	1363737.43	768264.28
46	1363736.86	768263.45
47	1363718.27	768346.93
48	1363719.09	768346.36
49	1363679.83	768422.57
50	1363669.67	768489.08
51	1363658.96	768487.16
52	1363593.83	768475.46
53	1363584.73	768473.59

COORDINATE TABLE		
POINT	NORTHING	EASTING
54	1363591.02	768428.14
55	1363583.01	768330.52
56	1363588.93	768321.55
57	1363599.81	768241.00
58	1363600.32	768234.14
59	1363637.88	768140.04
60	1363640.88	768127.57
61	1363651.56	768129.48
62	1363598.98	768241.57
63	1363586.31	768239.29
64	1363582.72	768259.29
65	1363576.92	768263.33
66	1363573.91	768262.80
67	1363568.61	768292.32
68	1363571.61	768292.86
69	1363575.65	768298.66
70	1363572.21	768317.83
71	1363588.36	768320.73
72	1363743.26	768265.32
73	1363780.21	768294.44
74	1363811.10	768364.81
75	1363813.84	768368.32
76	1363851.62	768397.46
77	1363861.35	768417.38
78	1363861.27	768433.97
79	1363865.27	768433.99
80	1363864.94	768501.07
81	1363840.94	768500.96
82	1363840.96	768495.87
83	1363835.99	768490.85
84	1363820.99	768490.77
85	1363821.04	768479.77
86	1363836.04	768479.85
87	1363841.07	768474.87
88	1363841.10	768466.87
89	1363836.13	768461.85
90	1363821.13	768461.77
91	1363821.27	768433.77
92	1363845.27	768433.89
93	1363845.35	768417.30
94	1363841.85	768410.13
95	1363803.64	768380.65
96	1363797.34	768373.50
97	1363781.70	768346.82
98	1363764.55	768334.86
99	1363734.33	768329.43
100	1363730.90	768348.48
101	1363613.21	768553.15
102	1363701.59	768061.02
103	1363734.52	768314.41
104	1363760.13	768359.47
105	1363818.91	768360.86
106	1363836.35	768417.26



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DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

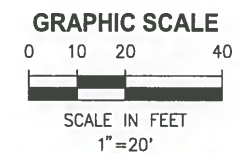
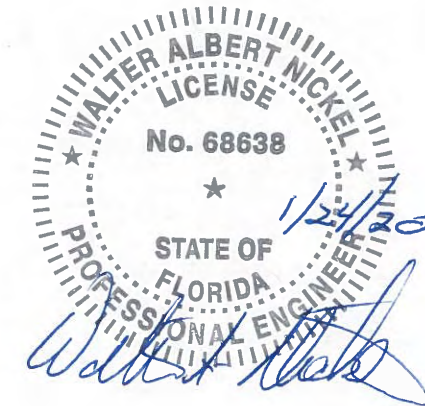
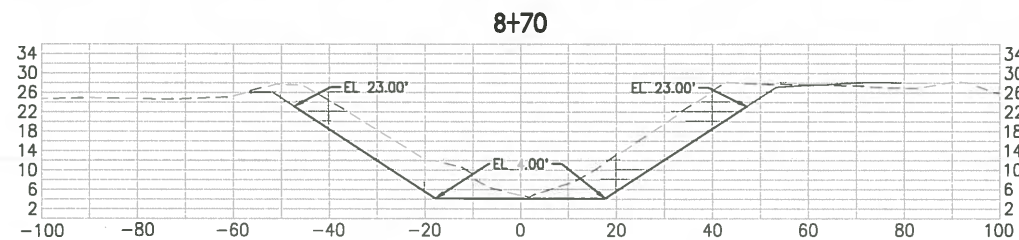
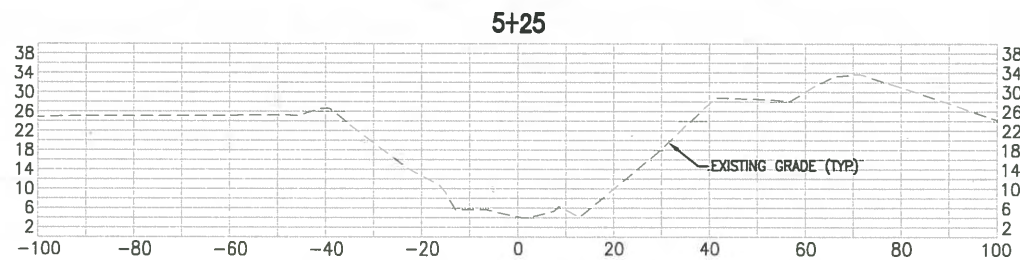
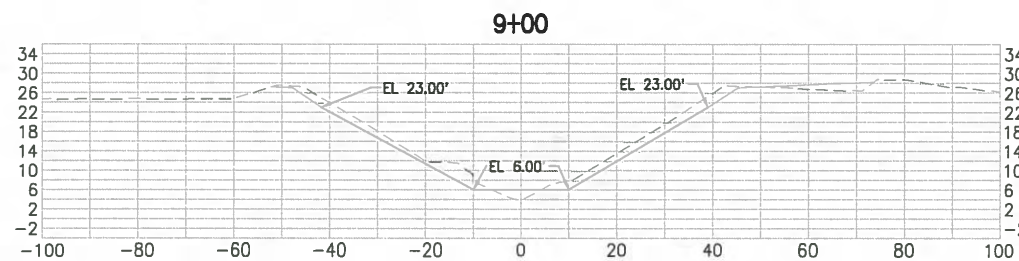
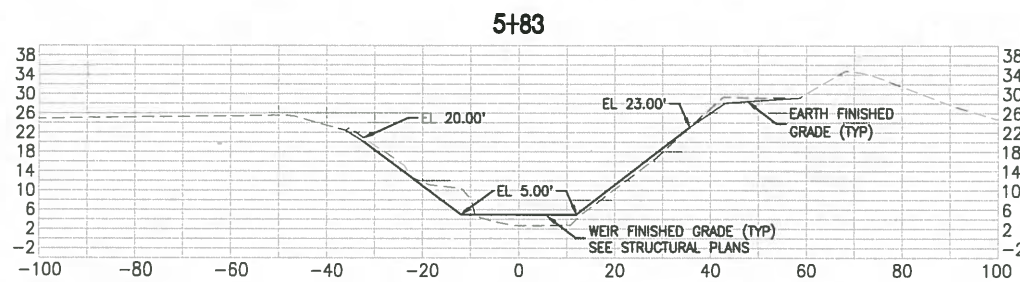
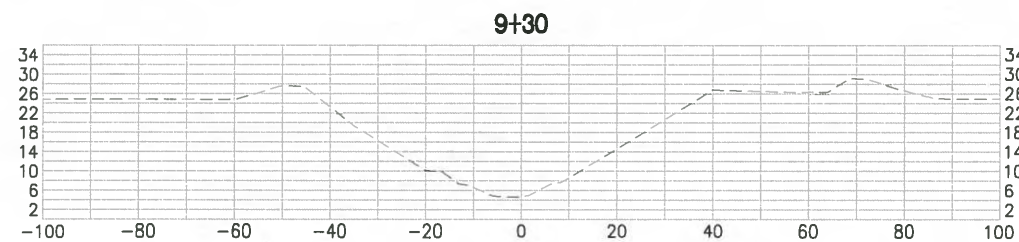
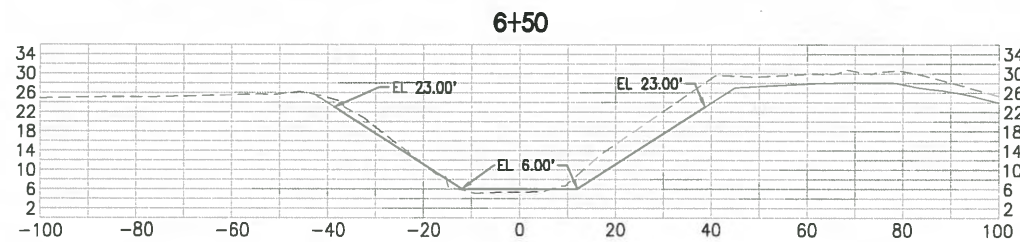
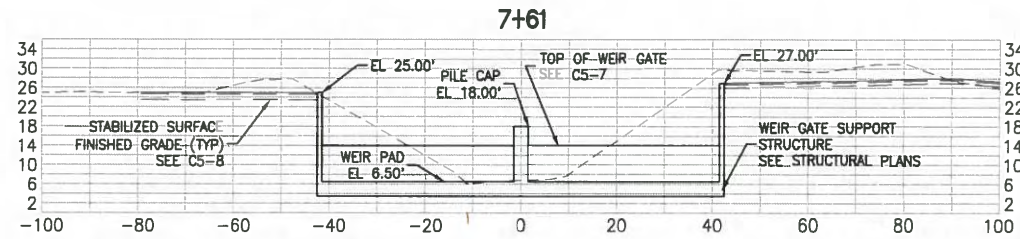
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR GEOMETRIC CONTROL TABLE**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-4



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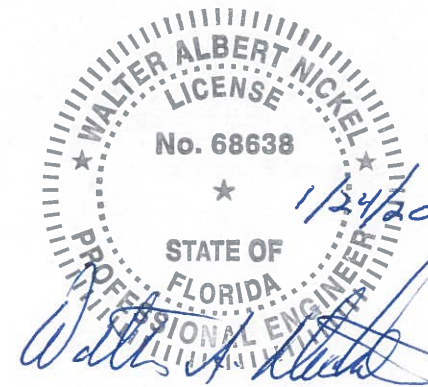
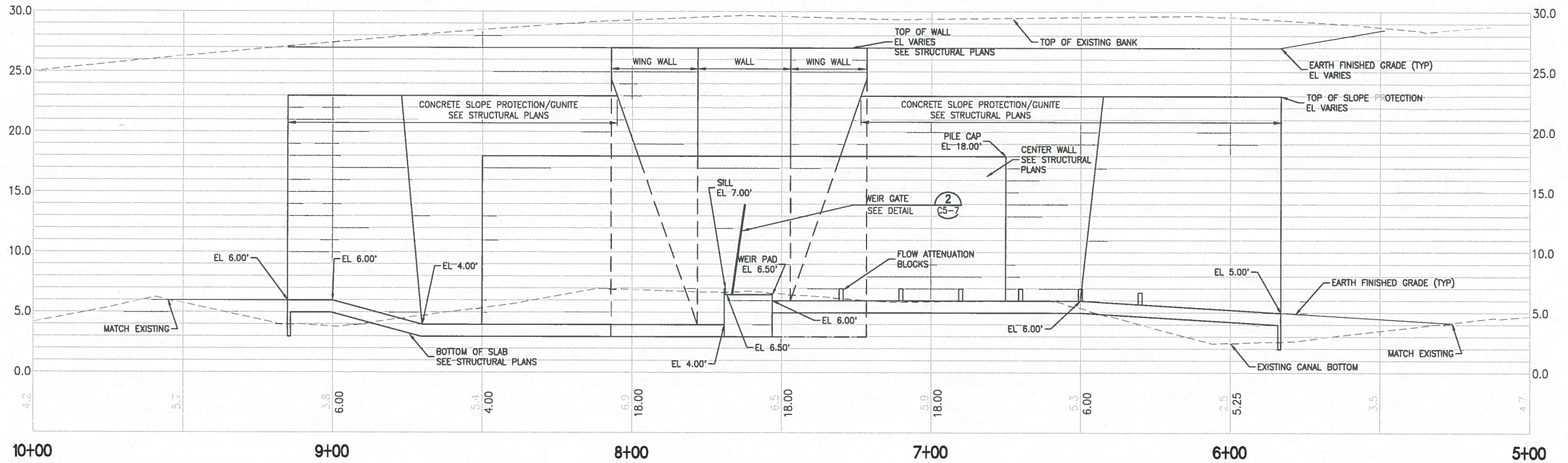
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 11/15/2019 9:56 AM MHOFFMAN

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DESIGNED <u>W NICKEL</u> DRAWN <u>D HAUBRICH</u> CHECKED <u>R KOLLER</u>				<p>730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821                  8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	WEIR CROSS SECTIONS	CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY W. NICKEL P.E. # 68638		PROJECT NO: 19750-066-01	DATE: DEC 2019					
<table border="1"> <thead> <tr> <th>LTR.</th> <th>DATE</th> <th>REVISIONS</th> <th>BY</th> <th>APPRD.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>							LTR.	DATE	REVISIONS	BY	APPRD.				
LTR.	DATE	REVISIONS	BY	APPRD.											



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GRAPHIC SCALE  
0 2.5 5 10

SCALE IN FEET  
1"=5' V

GRAPHIC SCALE  
0 10 20 40

SCALE IN FEET  
1"=20' H

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DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

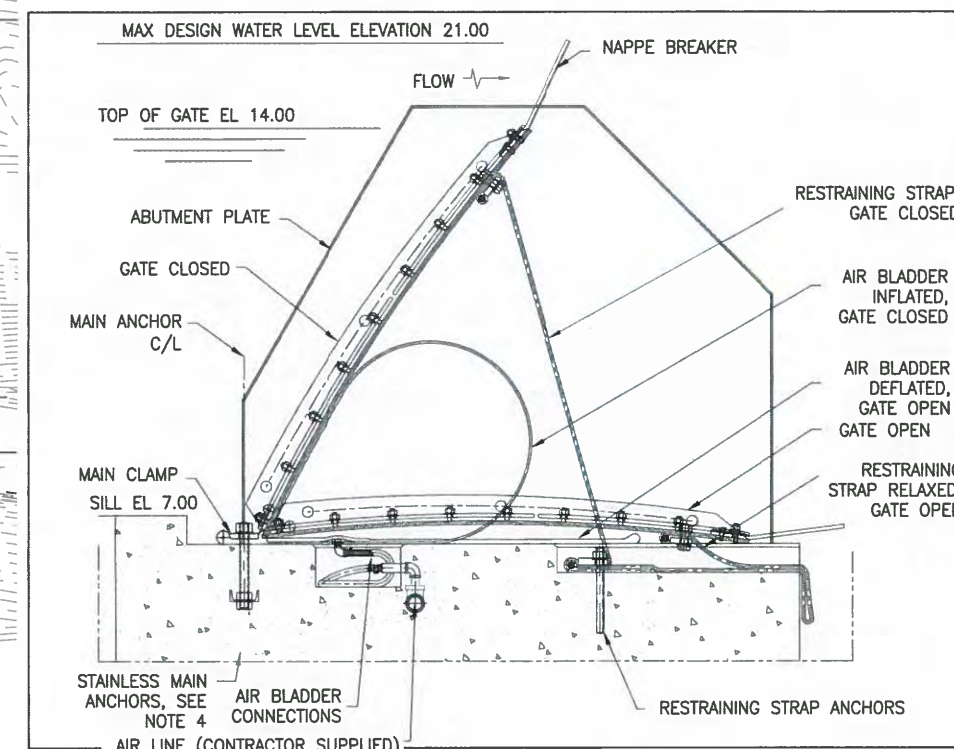
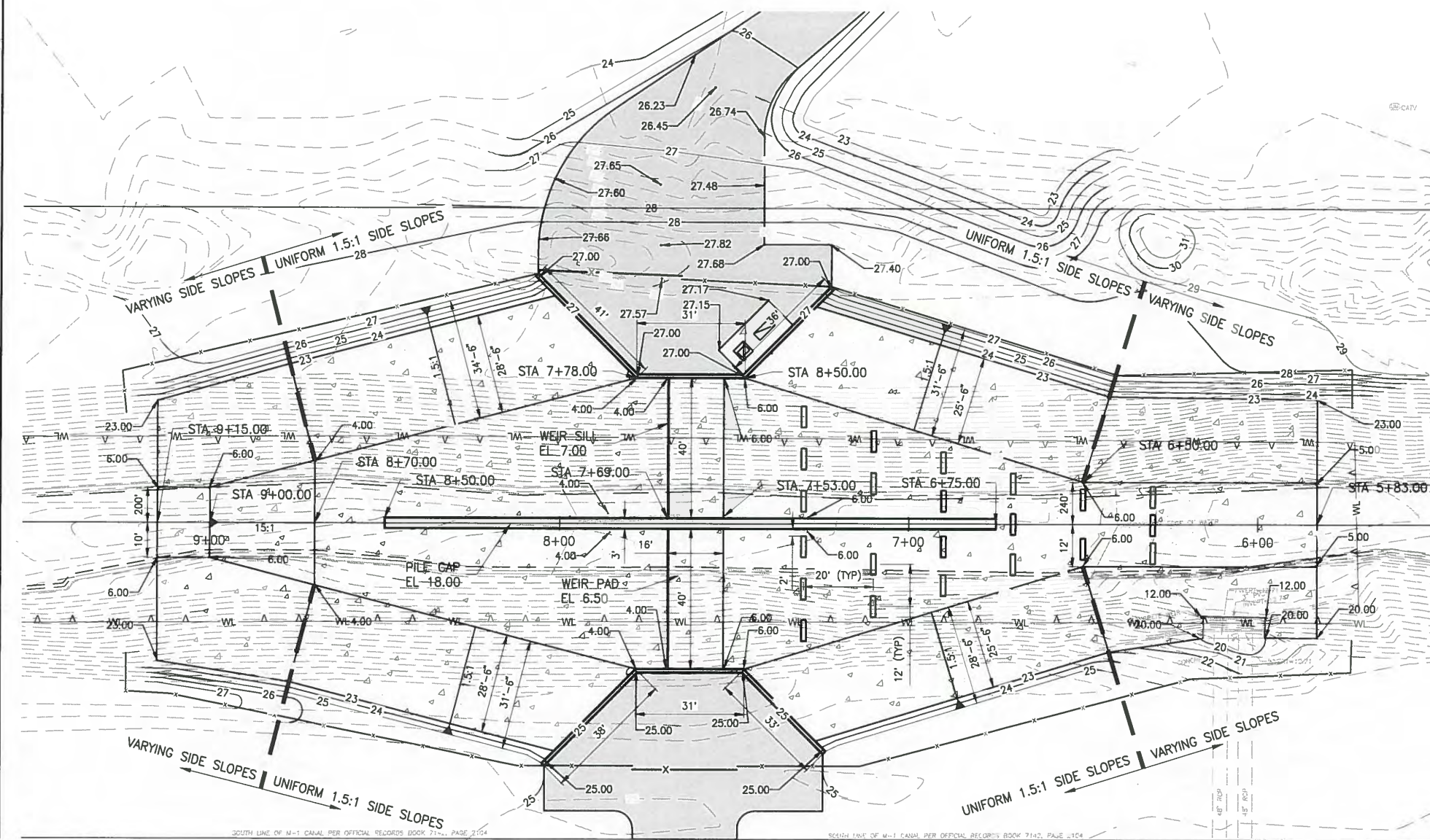
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR PROFILE**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-6

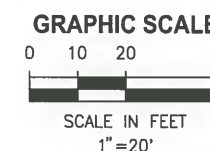
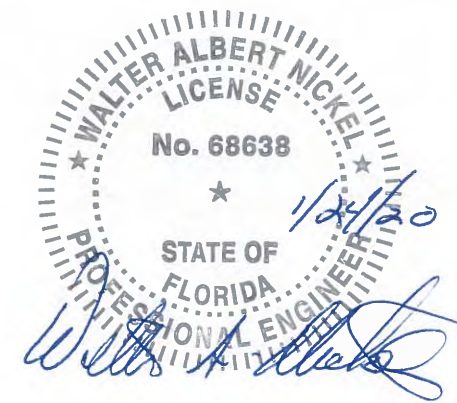


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**DETAIL 2**  
N.T.S. C5-7

**DETAIL 1**  
1"=20' C5-7

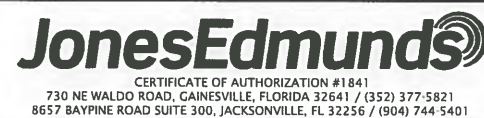


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LTR.	DATE	REVISIONS	BY	APPRD.

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DRAWN D HAUBRICH  
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**CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

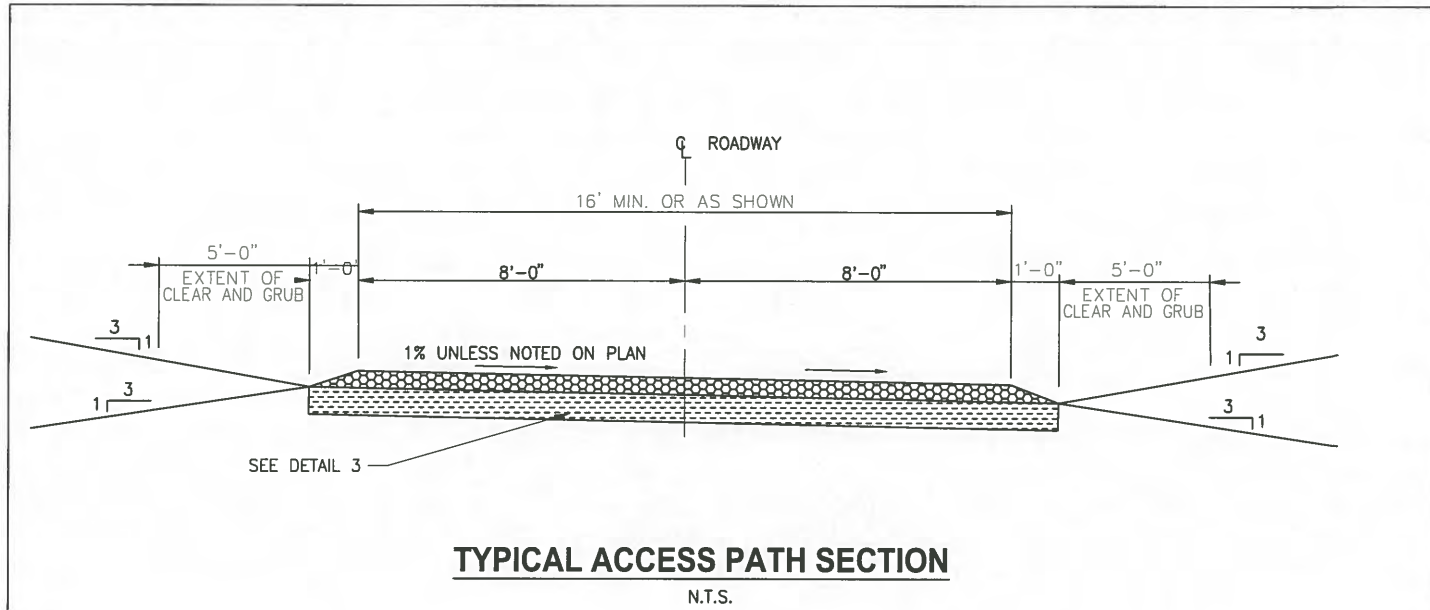
**WEIR DETAILS**

CERTIFICATE OF AUTHORIZATION #1841  
APPROVED BY  
W. NICKEL  
P.E. # 68638

PROJECT NO: 19750-066-01  
DATE: DEC 2019  
INDEX NO:  
DWG NO: C5-7

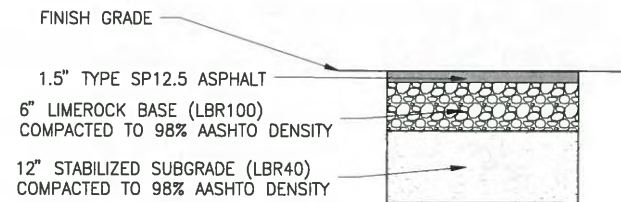


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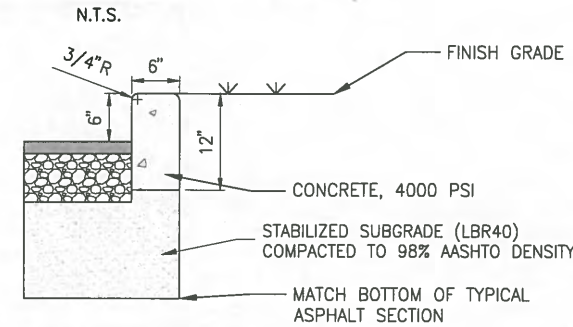


**TYPICAL ACCESS PATH SECTION**  
N.T.S.

**DETAIL 1**  
C5-8

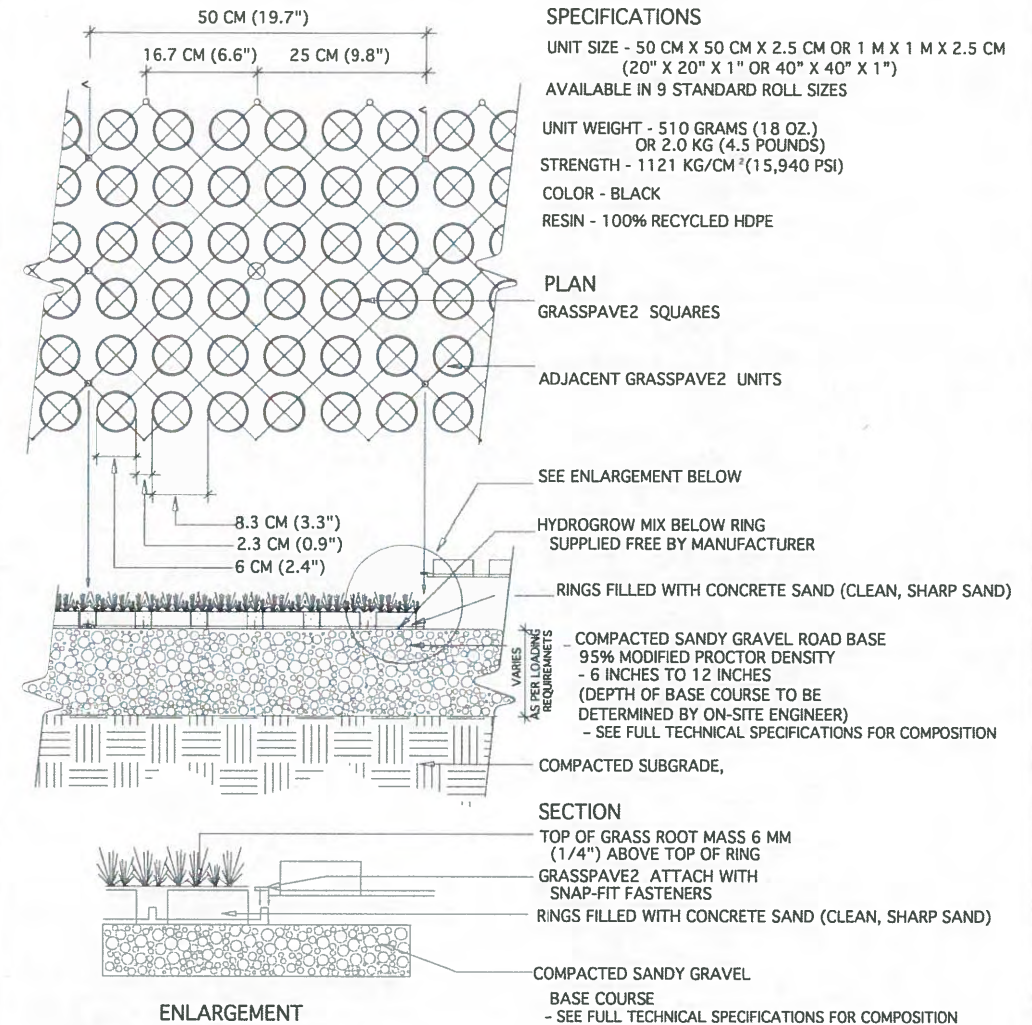


**TYPICAL ASPHALT SECTION**  
N.T.S.



**TYPICAL CURB SECTION**  
N.T.S.

**DETAIL 2**  
C5-8



**SPECIFICATIONS**

- UNIT SIZE - 50 CM X 50 CM X 2.5 CM OR 1 M X 1 M X 2.5 CM (20" X 20" X 1" OR 40" X 40" X 1")
- AVAILABLE IN 9 STANDARD ROLL SIZES
- UNIT WEIGHT - 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)
- STRENGTH - 1121 KG/CM<sup>2</sup> (15,940 PSI)
- COLOR - BLACK
- RESIN - 100% RECYCLED HDPE

**PLAN**

GRASSPAVE2 SQUARES

ADJACENT GRASSPAVE2 UNITS

SEE ENLARGEMENT BELOW

HYDROGROW MIX BELOW RING SUPPLIED FREE BY MANUFACTURER

RINGS FILLED WITH CONCRETE SAND (CLEAN, SHARP SAND)

COMPACTED SANDY GRAVEL ROAD BASE 95% MODIFIED PROCTOR DENSITY - 6 INCHES TO 12 INCHES (DEPTH OF BASE COURSE TO BE DETERMINED BY ON-SITE ENGINEER) - SEE FULL TECHNICAL SPECIFICATIONS FOR COMPOSITION

COMPACTED SUBGRADE,

**SECTION**

TOP OF GRASS ROOT MASS (1/4") ABOVE TOP OF RING

GRASSPAVE2 ATTACH WITH SNAP-FIT FASTENERS

RINGS FILLED WITH CONCRETE SAND (CLEAN, SHARP SAND)

COMPACTED SANDY GRAVEL

BASE COURSE - SEE FULL TECHNICAL SPECIFICATIONS FOR COMPOSITION

NOTE: GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.

**TYPICAL GRASSPAVE2 DETAIL**

CHOOSE THIS PRODUCT FOR REINFORCING GRASS WEARING SURFACES

**1**  
1 OF 1

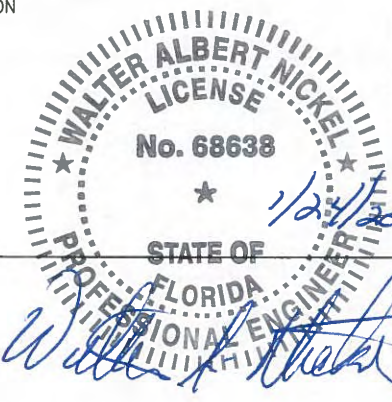
NOT TO SCALE



Invisible Structures, Inc.  
GPDET18.DWG

16265 E. 33RD DR., SUITE 20  
AURORA, COLORADO 80011  
800-233-1510 OR 303-233-8383  
FAX: 800-233-1522 OR  
303-233-8282  
www.invisiblestructures.com  
rev. 1/18

**DETAIL 3**  
C5-8



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DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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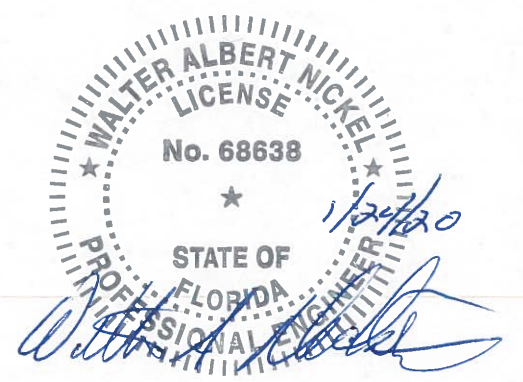
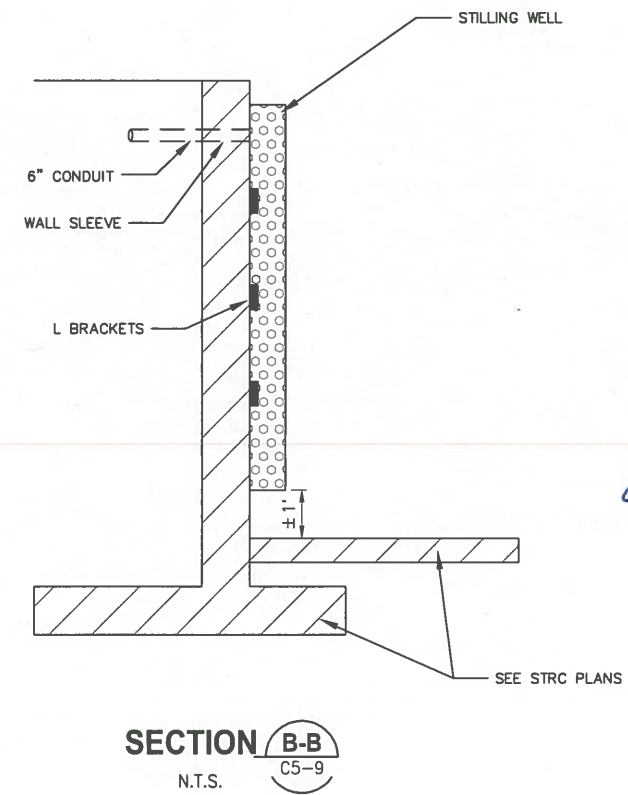
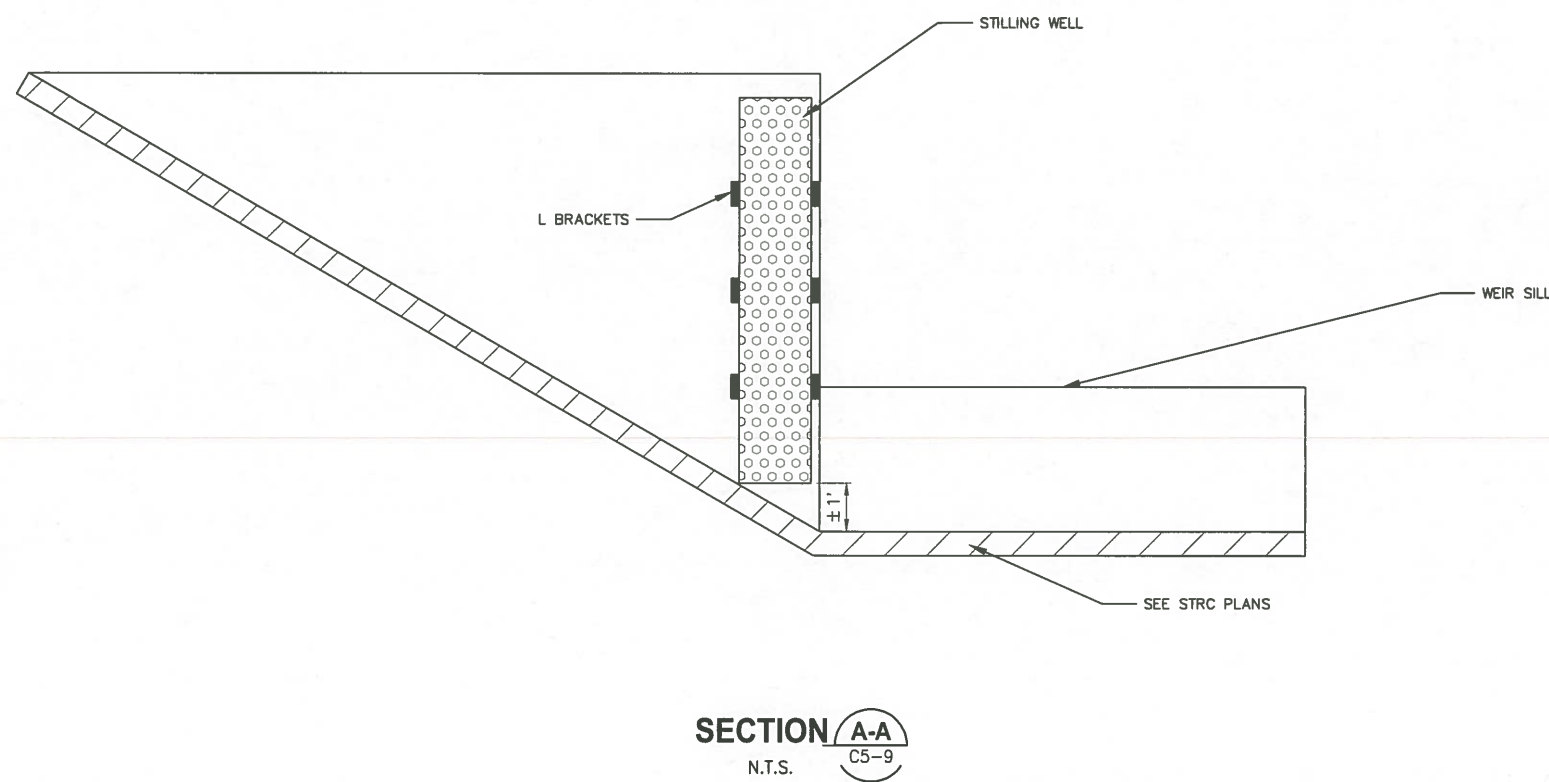
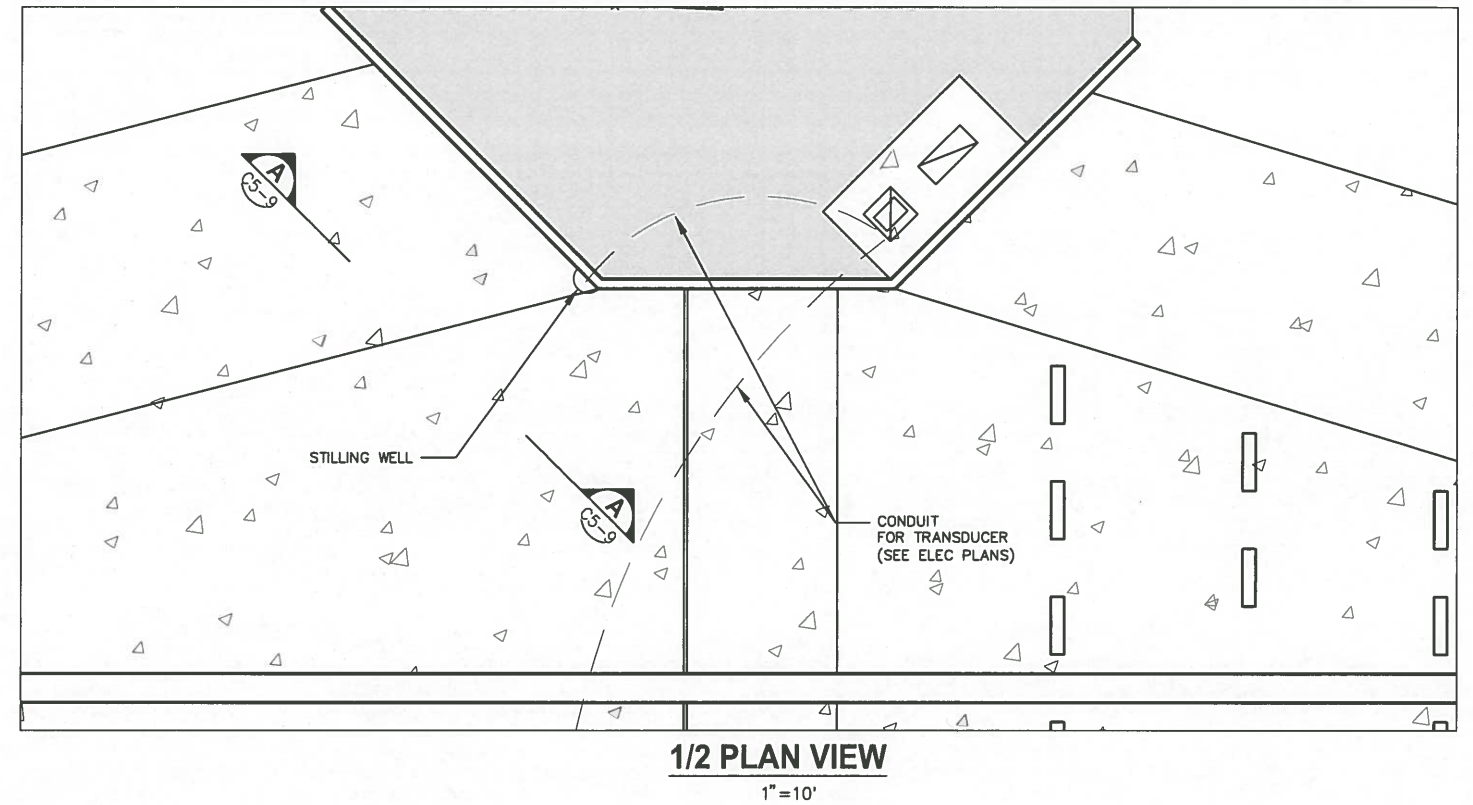
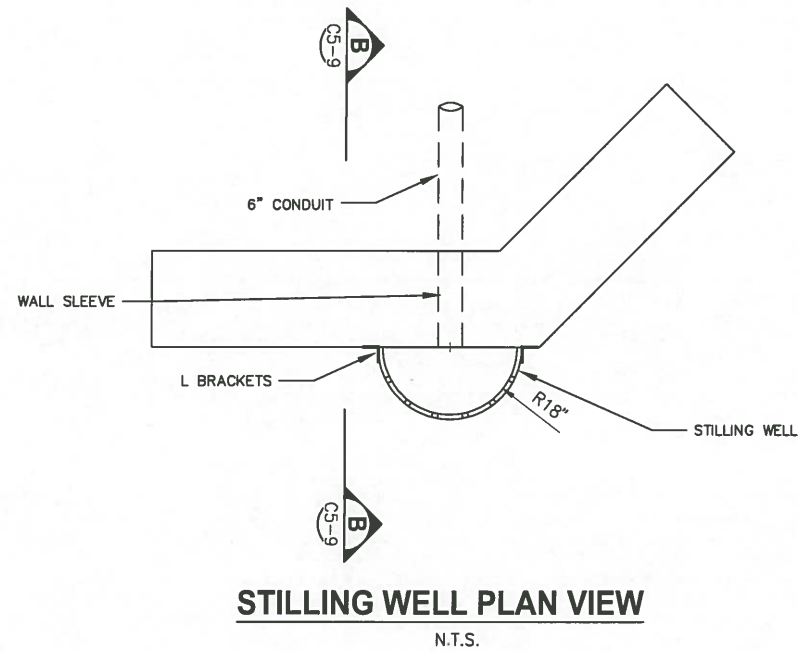
**CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**ACCESS DETAILS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-8



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DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

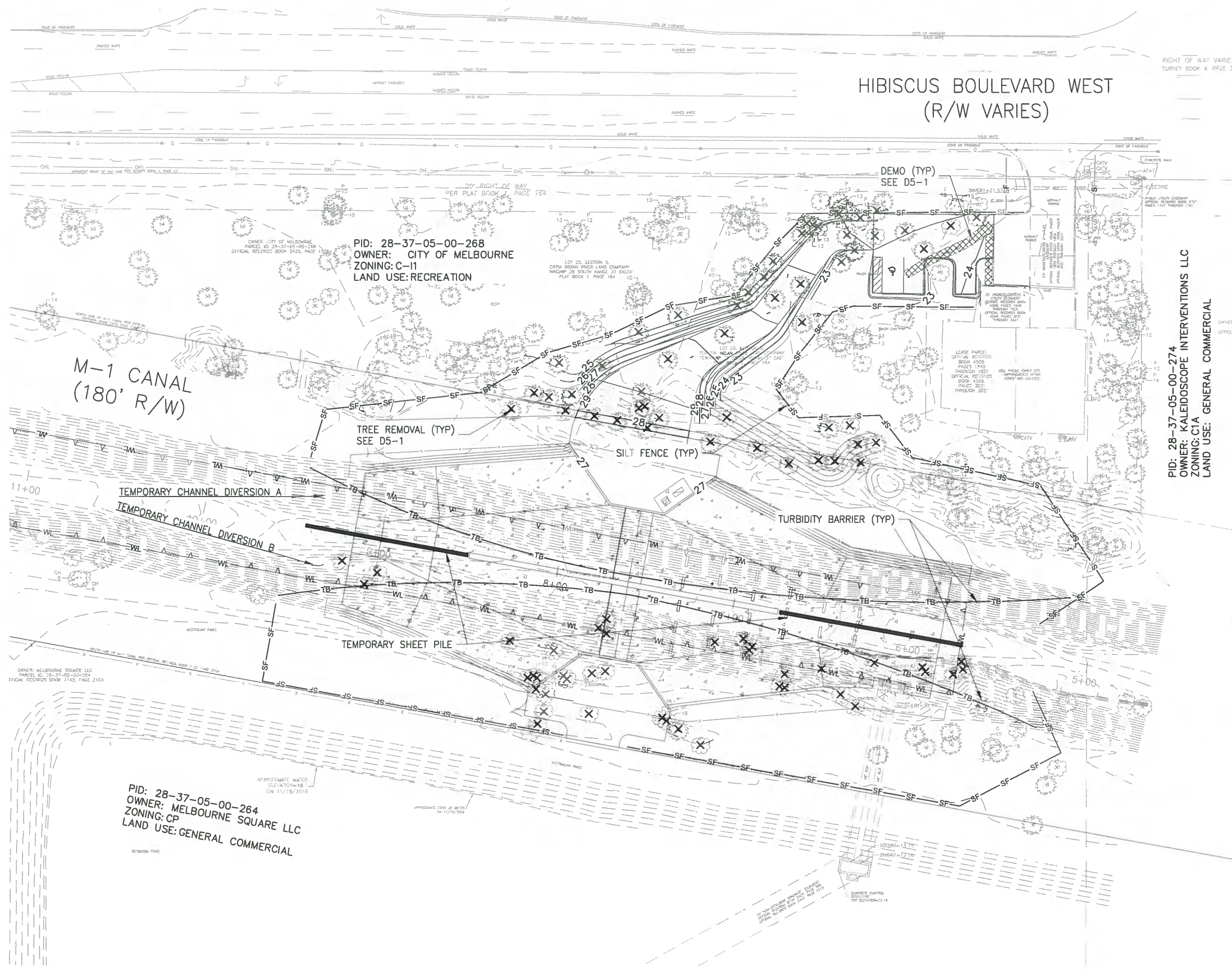
**STILLING WELL DETAILS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-9

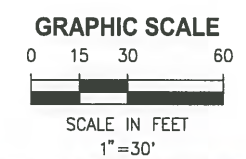


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### HIBISCUS BOULEVARD WEST (R/W VARIES)



- NOTES:
- CONTRACTOR SHALL PREPARE A CONSTRUCTION PLAN INCORPORATING THE FOLLOWING:
    - SCHEDULE
    - MEANS AND METHODS
    - MAINTENANCE OF FLOW IN THE M-1 CANAL
    - EROSION CONTROL
    - DEWATERING
    - TURBIDITY CONTROL
  - THE PLAN SHALL BE SUBMITTED TO THE OWNER FOR REVIEW PRIOR TO MOBILIZING FOR CONSTRUCTION.
  - THE WIDENING OF THE CHANNEL ALLOWS THE WEIR TO BE CONSTRUCTED IN 2 SECTIONS. THE ALTERNATE SIDE MAY BE USED TO DIVERT THE FLOW OF THE M-1 CANAL AROUND THE ACTIVE WORK SITE.



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LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

**JonesEdmunds**

CERTIFICATE OF AUTHORIZATION #1841  
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**EROSION CONTROL PLAN - WEIR**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		EC5-1



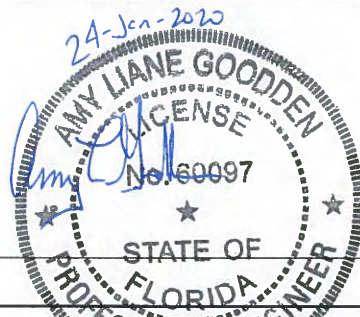
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CONTRACTOR REQUIREMENTS

SITE DESCRIPTION	GENERAL	SPILL CONTROL PRACTICES	SPILL PREVENTION	MAINTENANCE/INSPECTION PROCEDURES																														
<p><b>PROJECT NAME(S) AND LOCATION:</b> CRANE CREEK M-1 CANAL FLOW RESTORATION, WEIR COUNTY: SECTIONS 03, TOWNSHIP 28S; RANGE 37E</p> <p><b>PROPERTY OWNER AND PERMISSIONS:</b></p> <p>THE WEIR CONSTRUCTION INVOLVES 3 PROPERTIES: 1) CITY OF MELBOURNE, MONOPOLE PARK-EASEMENT TO SJRWMD 2) BREVARD COUNTY, M-1 CANAL RIGHT-OF-WAY, RIGHT-OF-WAY PERMIT. 3) MELBOURNE SQUARE MALL - EASEMENT TO SJRWMD.</p> <p><b>DESCRIPTION:</b></p> <p>THIS PROJECT WILL CONSIST OF: THE CONSTRUCTION OF A NEW ACCESS DRIVEWAY, SHEETPILE, CONCRETE CANAL IMPROVEMENT, CONCRETE WEIR FOUNDATION, PNEUMATIC WEIR AND CONTROL SYSTEM, AND ASSOCIATED GRADING.</p> <p><b>SOIL DISTURBING ACTIVITIES WILL INCLUDE:</b> CLEARING, GRUBBING; INSTALLING STABILIZED CONSTRUCTION ENTRANCE, PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; GRADING; EXCAVATION FOR CHANNEL IMPROVEMENTS, CONSTRUCTION OF ACCESS DRIVEWAY.</p> <p><b>SOILS:</b> SEE GEOTECHNICAL REPORT FOR SOILS DATA.</p> <p><b>SITE MAPS:</b></p> <p>SEE ATTACHED GRADING PLAN FOR PRE &amp; POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS.</p> <p>SEE ATTACHED EROSION &amp; TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS.</p> <p>SEE GENERAL NOTES AND SPECIFICATIONS FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.</p> <p><b>SITE AREA:</b> TOTAL AREA OF SITE - 1.5 ACRES TOTAL AREA TO BE DISTURBED - 1.10 ACRES</p> <p><b>NAME OF RECEIVING WATERS:</b> M-1 CANAL TURBIDITY STANDARD &lt; 29 NTU ABOVE BACKGROUND, UNLESS OTHERWISE SPECIFIED IN FDEP OR USACE PERMITS.</p> <p><b>FLOW</b> 2.33 YR 8 HR PEAK HOURLY FLOW RATE 385 CFS AT 17.5 FT 100 YR 8 HR PEAK FLOW RATE = 596 CFS AT EL 19.6 FT 100 YR 24 HR PEAK FLOW RATE = 708 CFS AT EL 21.0 FT</p>	<p><b>SEQUENCE OF MAJOR ACTIVITIES</b></p> <table border="0"> <tr> <td>1. SUBMIT DETAILED PLAN TO MAIN FLOW, CONSTRUCT WEIR, AND CONTROL EROSION AND TURBIDITY.</td> <td>11. CONSTRUCT 1/2 WEIR FOUNDATION AND CONCRETE CHANNEL.</td> </tr> <tr> <td>2. COMPLETE AND SUBMIT NOTICE OF INTENT (NOI) TO FDEP.</td> <td>12. INSTALL WEIR PANEL.</td> </tr> <tr> <td>3. INSPECT AND DOCUMENT CONDITION OF MONOPOLE PARK, M-1 CANAL, MELBOURNE SQUARE MALL PROPERTY.</td> <td>13. DIVERT M-1 THROUGH COMPLETED WORK OF 1/2 CHANNEL.</td> </tr> <tr> <td>4. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND PERIMETER CONTROLS.</td> <td>14. CONSTRUCT SECOND 1/2 WEIR FOUNDATION AND CONCRETE CHANNEL.</td> </tr> <tr> <td>5. INSTALL SHEET PILE CENTER WALL.</td> <td>15. WHEN CHANNEL IMPROVEMENTS AND WEIR CONSTRUCTION ACTIVITY IS COMPLETE, LOOSEN SOIL ALONG ACCESS ROAD.</td> </tr> <tr> <td>6. INSTALL SHEET PILE GRADE CONTROL.</td> <td>16. INSTALL GRASSPAVE AND FINAL STABILIZATION FOR ACCESS ROAD.</td> </tr> <tr> <td>7. INSTALL TURBIDITY CURTAIN, AND EXCAVATE TEMPORARY DIVERSION CHANNEL.</td> <td>17. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED.</td> </tr> <tr> <td>8. STOCK PILE TOP SOIL AS REQUIRED.</td> <td>18. COMPLETE AND SUBMIT NOTICE OF TERMINATION (NOT) TO FDEP.</td> </tr> <tr> <td>9. STABILIZE CLEARED AREAS AND STOCKPILES AS SOON AS PRACTICABLE.</td> <td></td> </tr> </table> <p><b>10. DIVERT M-1 CANAL</b></p> <p><b>CONTROLS</b></p> <p>IT IS THE CONTRACTORS RESPONSIBILITY TO DEVELOP THE EROSION AND TURBIDITY CONTROLS SPECIFIC TO THEIR SCHEDULE AND METHODS OF CONSTRUCTION. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND SEDIMENT CONTROL PLAN AND AS REQUIRED TO MEET THE SEDIMENT AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.</p> <p><b>EROSION AND SEDIMENT CONTROLS</b></p> <p><b>STABILIZATION PRACTICES</b></p> <ol style="list-style-type: none"> <li>1. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT. B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2.0 ACRES.</li> <li>2. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.</li> <li>3. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL UP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.</li> <li>4. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.</li> <li>5. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, ERODIBLE SOIL EXPOSED BY CLEARING GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 2.0 ACRES. THIS REQUIREMENT MAY BE WAIVED BY THE OWNER WITH A DETAILED EROSION CONTROL PLAN PREPARED BY THE CONTRACTOR. THE DETAILED PLAN MUST INCLUDE A SCHEDULE, DESCRIPTION OF CONSTRUCTION MEANS AND METHODS AND EROSION CONTROL MANAGEMENT PRACTICES WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREA WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.</li> <li>6. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 21 DAYS SHALL BE SEED WITH A QUICK GROWING GRASS. SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.</li> </ol> <p><b>INVENTORY FOR POLLUTION PREVENTION PLAN</b></p> <p>THE MATERIAL OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:</p> <table border="0"> <tr> <td>CONCRETE</td> <td>FERTILIZERS</td> <td>WOOD</td> </tr> <tr> <td>DETERGENTS</td> <td>PETROLEUM BASED PRODUCTS</td> <td></td> </tr> <tr> <td></td> <td>CLEANING SOLVENTS</td> <td></td> </tr> <tr> <td></td> <td>PAINTS</td> <td></td> </tr> </table>	1. SUBMIT DETAILED PLAN TO MAIN FLOW, CONSTRUCT WEIR, AND CONTROL EROSION AND TURBIDITY.	11. CONSTRUCT 1/2 WEIR FOUNDATION AND CONCRETE CHANNEL.	2. COMPLETE AND SUBMIT NOTICE OF INTENT (NOI) TO FDEP.	12. INSTALL WEIR PANEL.	3. INSPECT AND DOCUMENT CONDITION OF MONOPOLE PARK, M-1 CANAL, MELBOURNE SQUARE MALL PROPERTY.	13. DIVERT M-1 THROUGH COMPLETED WORK OF 1/2 CHANNEL.	4. 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TURBIDITY CURTAIN SHALL BE INSTALLED PARALLEL TO THE FLOW OF MOVING WATER IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.</p> <p>8. DEWATER AS NEEDED DIRECTING WATER TO DOWNSTREAM STABILIZED SECTIONS OF THE CANAL. TURBIDITY CONTROLS MEASURES SUCH AS JUTE BAFFLES WITH POLYACRYLAMIDE MAY BE USED.</p> <p>9. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT MAINTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.</p> <p>10. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.</p> <p>11. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.</p> <p>12. PERMANENT SODDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL BE SODDED.</p> <p><b>STRUCTURAL PRACTICES</b></p> <ol style="list-style-type: none"> <li>1. TEMPORARY CHANNEL DIVERSION: TEMPORARY CHANNEL DIVERSION SHALL BE USED TO DIVERT M-1 CANAL AROUND THE ACTIVE WORK ZONE.</li> </ol> <p><b>SPILL CONTROL PRACTICES</b></p> <p>IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:</p> <p>MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE METHODS AND POSTED LOCATION.</p> <p>MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE, BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (I.E. KITTY LITTER OR EQUAL), SAND SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.</p> <p>ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.</p> <p>THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.</p> <p>SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED IMMEDIATELY TO THE OWNER.</p> <p>THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.</p> <p>THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP, THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.</p>	<p><b>MATERIAL MANAGEMENT PRACTICES</b></p> <p>THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.</p> <p><b>GOOD HOUSEKEEPING</b></p> <p>THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.</p> <p>AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.</p> <p>ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.</p> <p>PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.</p> <p>SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.</p> <p>WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.</p> <p>MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.</p> <p><b>HAZARDOUS PRODUCTS</b></p> <p>THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.</p> <p>PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.</p> <p>ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.</p> <p>IF SURPLUS PRODUCT MUST BE DISPOSED OF MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.</p> <p><b>PRODUCT SPECIFIC PRACTICES</b></p> <p>THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:</p> <p><b>PETROLEUM PRODUCTS</b></p> <p>ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.</p> <p><b>FERTILIZERS</b></p> <p>FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.</p> <p><b>PAINTS</b></p> <p>ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.</p> <p><b>CONCRETE TRUCKS</b></p> <p>CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER TO DITCHES, PONDS OR OTHER WATERWAYS. WASHWATER SHALL BE COLLECTED IN A TEMPORARY SETTLING POND.</p> <p><b>OTHER CONTROLS</b></p> <p><b>WASTE DISPOSAL</b></p> <p><b>WASTE MATERIALS</b></p> <p>ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.</p> <p><b>HAZARDOUS WASTE</b></p> <p>ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.</p> <p><b>SANITARY WASTE</b></p> <p>ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.</p> <p><b>OFFSITE VEHICLE TRACKING</b></p> <p>A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.</p>	<p><b>EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES</b></p> <p>THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.</p> <p>NO MORE THAN 0.5 ACRES OF THE SITE WILL BE CLEARED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.</p> <p>ALL CONTROL MEASURES WILL BE INSPECTED BY A CERTIFIED SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF ANY STORM EVENT OF 1/2" OR GREATER.</p> <p>ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.</p> <p>BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.</p> <p>SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.</p> <p>CONSTRUCTION ENTRANCES WILL BE INSPECTED FOR DEPTH OF CRUSHED STONE BED AND FILTER FABRIC CONDITION. THE BED SHALL HAVE A 6" THICKNESS AND THE FILTER FABRIC SHALL BE FREE OF TEARS AND FIRMLY SECURE. ENTRANCES SHALL BE REMOVED PRIOR TO CONSTRUCTION OF DRIVEWAYS.</p> <p>THE SEDIMENT BASINS WILL BE INSPECTED FOR DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.</p> <p>DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.</p> <p>TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.</p> <p>A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE, AND LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED. THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.</p> <p>THE SITE SUPERINTENDENT WILL SELECT UP TO THREE CERTIFIED INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.</p> <p>PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT AND MUST ENFORCE THE FDEP NPDES SWPPP FOR THIS PROJECT. THEY WILL BE FOLLOWED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.</p> <p><b>NON-STORM WATER DISCHARGES</b></p> <p>IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD.</p> <p>UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).</p> <p>ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN OR OTHER APPROPRIATE AREA PRIOR TO DISCHARGE TO EXISTING DITCHES OR WETLANDS.</p>
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<p><b>CONTROLS</b></p> <p>THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF, AN EROSION &amp; TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS AS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE, AND LOCAL LAWS. REFER TO 'CONTRACTORS REQUIREMENTS' FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.</p> <p><b>CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS</b></p> <p>IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS REGARDING EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.</p> <p>FDEP ERP PERMIT / TBD U.S.A.C.E. PERMIT / N/A</p>																																		
<p><b>POLLUTION PREVENTION PLAN CERTIFICATION</b></p> <p>I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.</p> <p>SIGNED: _____ TITLE: _____ DATE: _____</p>				<p><b>CONTRACTORS CERTIFICATION</b></p> <p>I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE IDENTIFIED AS PART OF THIS CERTIFICATION.</p> <p>SIGNATURE _____ BUSINESS NAME &amp; ADDRESS _____ RESPONSIBLE FOR/DUTIES _____ OF CONTRACTOR, ALL SUBS _____ GENERAL CONTRACTOR</p> <p>SUBCONTRACTOR</p>																														
<p><b>TIMING OF CONTROLS/MEASURES</b></p> <p>AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES, STABILIZED CONSTRUCTION ENTRANCE AND TURBIDITY CURTAIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN ACCORDANCE WITH THE PLANS AND AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND STABILIZED IN ACCORDANCE WITH THE SEDIMENT AND EROSION CONTROL PLAN.</p>																																		



DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

**JonesEdmunds**

CERTIFICATE OF AUTHORIZATION #1841  
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

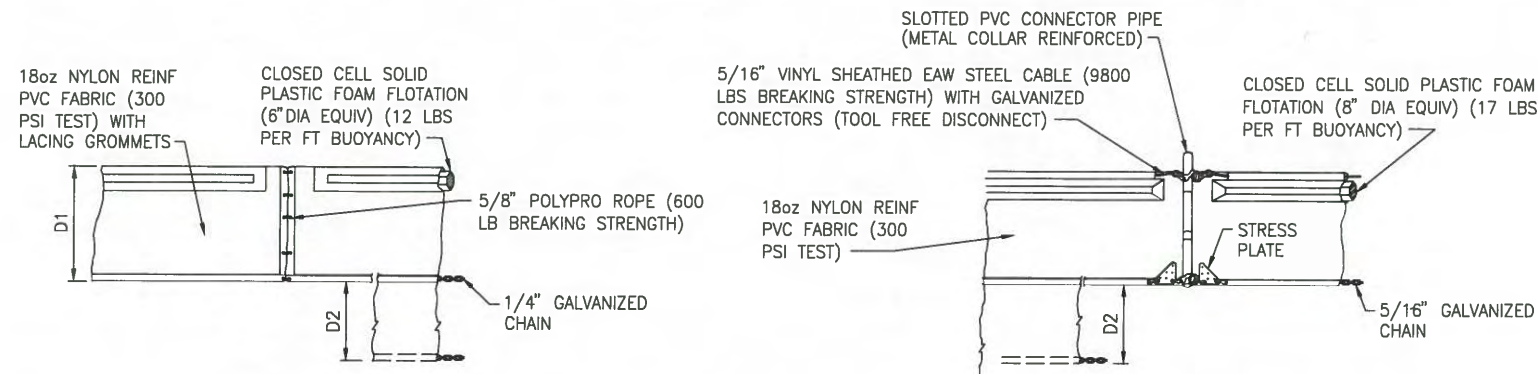
CRANE CREEK M-1 CANAL FLOW RESTORATION  
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

STORMWATER POLLUTION PREVENTION  
NOTES - WEIR

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	DEC 2019
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60997		ECS-2



PLOTTED: 1/20/2020 12:23 PM DEAN HAUBRICH



**TYPE 1**

D1 = 5' STD (SINGLE PANEL FOR DEPTHS 5' OR LESS)  
 D2 = 5' STD (ADDITIONAL PANEL FOR DEPTHS 5')

**TYPE 2**

CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALL FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES 1 AND 2 MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES 1 AND 2 SHALL BE AS APPROVED BY THE ENGINEER.

**TYPICAL FLOATING TURBIDITY BARRIER DETAIL**

**STORMWATER POLLUTION PREVENTION PLAN**

INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER

INSPECTOR: \_\_\_\_\_ FDEP NPDES STORMWATER IDENTIFICATION NUMBER: \_\_\_\_\_

LOCATION	RAIN DATA	TYPE OF CONTROL (SEE BELOW)	DATE INSTALLED / MODIFIED	CURRENT CONDITION (SEE BELOW)	CORRECTIVE ACTION / OTHER REMARKS

CONDITION CODE:  
 G = GOOD M = MARGINAL, NEEDS MAINTENANCE OR REPLACEMENT SOON P = POOR, NEEDS IMMEDIATE MAINTENANCE OR REPLACEMENT  
 C = NEEDS TO BE CLEARED O = OTHER

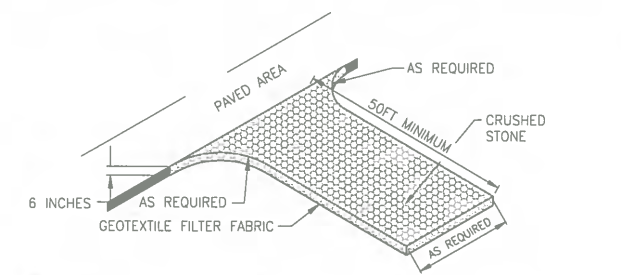
CONTROL TYPE CODES

1. SILT FENCE	10. STORM DRAIN INLET PROTECTION	19. REINFORCED SOIL RETAINING SYSTEM	28. TREE PROTECTION
2. EARTH DIKES	11. VEGETATIVE BUFFER STRIP	20. GABION	29. DETENTION POND
3. STRUCTURAL DIVISION	12. VEGETATIVE PRESERVATION AREA	21. SEDIMENT BASIN	30. RETENTION POND
4. SWALE	13. RETENTION POND	22. TEMPORARY SEED / SOD	31. WASTE DISPOSAL / HOUSEKEEPING
5. SEDIMENT TRAP	14. CONSTRUCTION ENTRANCE STABILIZATION	23. PERMANENT SEED / SOD	32. DAM
6. CHECK DAM	15. PERIMETER DITCH	24. MULCH	33. SAND BAG
8. PIPE SLOPE DRAIN	16. CURB AND GUTTER	25. MATLIES	34. OTHER
9. LEVEL SPREADERS	17. PAVED ROAD SURFACE	26. GEOTEXTILE	
9. LEVEL SPREADERS	18. ROCK OUTLET PROTECTION	27. RIP-RAP	

INSPECTOR INFORMATION:  
 NAME: \_\_\_\_\_ QUALIFICATION \_\_\_\_\_ DATE \_\_\_\_\_  
 THE ABOVE SIGNATURE ALSO SHALL CERTIFY THAT THIS FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES IF THERE ARE NOT ANY INCIDENTS OF NON-COMPLIANCE IDENTIFIED ABOVE.

\*I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.\*

NAME (RESPONSIBLE AUTHORITY) \_\_\_\_\_ DATE \_\_\_\_\_



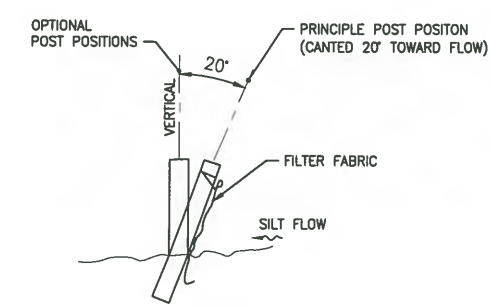
**STABILIZED CONSTRUCTION ENTRANCE**

NTS (Co)

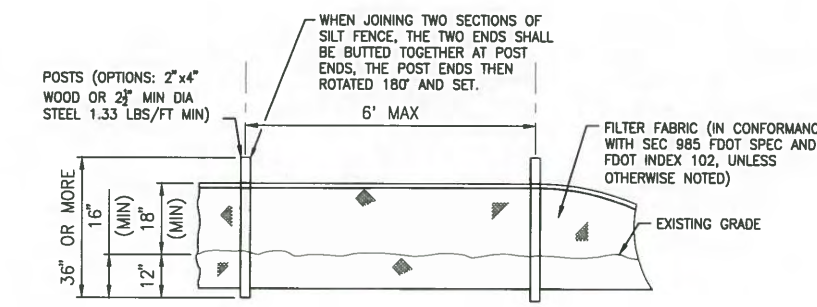
**CITY OF MELBOURNE EROSION & SEDIMENTATION CONTROL NOTES**

THE FOLLOWING PRINCIPLES ARE TO BE ADDED VERBATIM TO CONSTRUCTION DRAWINGS AS MINIMUM MEASURES TO BE INSTALLED FOR ANY LAND DISTURBING ACTIVITY:

- A. THE LAND-DISTURBING ACTIVITY SHALL CONFORM TO EXISTING TOPOGRAPHY AND SOIL TYPE SO AS TO CREATE THE LOWEST PRACTICAL EROSION POTENTIAL.
- B. LAND-DISTURBING ACTIVITIES SHALL BE CONDUCTED IN A MANNER MINIMIZING EROSION.
- C. THE DISTURBED AREA AND THE DURATION OF EXPOSURE TO EROSION ELEMENTS SHALL BE KEPT TO A PRACTICABLE MINIMUM.
- D. EROSION CONTROL MUST BE STRICTLY MAINTAINED DURING CUT AND FILL OPERATIONS.
- E. DISTURBED SOIL SHALL BE STABILIZED AS QUICKLY AS PRACTICABLE.
- F. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.
- G. TEMPORARY VEGETATION OR MULCHING SHALL BE EMPLOYED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT.
- H. PERMANENT VEGETATION AND STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICABLE.
- I. ADEQUATE PROVISIONS MUST BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACE OF FILLS.
- J. TO THE EXTENT NECESSARY, SEDIMENT IN RUNOFF WATER MUST BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED.
- K. CUTS AND FILLS MUST BE CONSTRUCTED IN SUCH A MANNER THAT EROSION AND RUNOFF FROM THE SITE DOES NOT ENDANGER ADJOINING PROPERTY.
- L. FILLS MAY NOT ENCRDACH UPON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER PROPERTY OWNERS WITHOUT ADEQUATE PROVISIONS FOR AN EQUIVALENT ALTERNATE SYSTEM WITH A POSITIVE OUTFALL.
- M. ALL R.O.W.'S, WATERWAYS, STREETS AND SIDEWALKS SHALL BE BUFFERED BY A TWENTY (20) FOOT WIDE STRIP OF GRASS OR OTHER SUITABLE MEANS.
- N. GRADING EQUIPMENT MUST CROSS FLOWING STREAMS BY MEANS OF BRIDGES OR CULVERTS EXCEPT WHEN SUCH METHODS ARE NOT FEASIBLE AND PROVIDED IN ANY CASE, THAT SUCH CROSSINGS ARE KEPT TO A MINIMUM AND SEDIMENTATION CONTROL DEVICES ARE PROVIDED.



**SECTION**



**ELEVATION**

**TYPICAL SILT FENCE**

NTS (Sd1)



SAVED: 11/15/2019 12:52 PM MHOFFMAN Y:\19750-SURWMD\PROJECTS\066-01-CRANE CREEK\_M-1\_FLOW\_RESTORATION\_DESIGN\CAD\DWGS\ENV\EC5-3.DWG

LTR.	DATE	REVISIONS	BY	APPR.

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**EROSION CONTROL NOTES AND DETAILS - WEIR**

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY A. GOODDEN P.E. # 60097	PROJECT NO: 19750-066-01 INDEX NO:	DATE: DEC 2019 DWG NO: EC5-3
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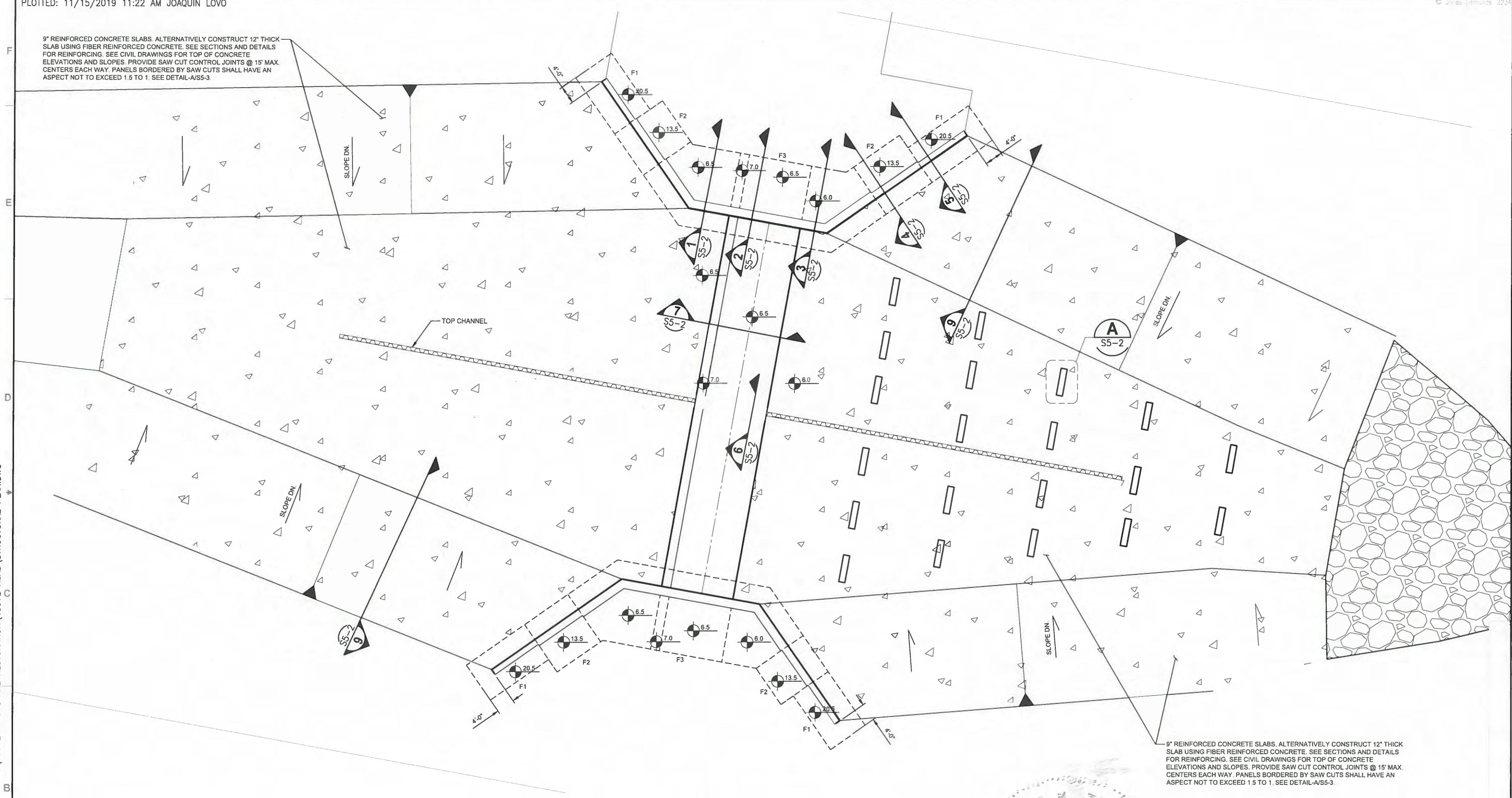
NOT FOR CONSTRUCTION



PLOTTED: 11/15/2019 11:22 AM JOAQUIN LOVO

9" REINFORCED CONCRETE SLABS. ALTERNATIVELY CONSTRUCT 12" THICK SLAB USING FIBER REINFORCED CONCRETE. SEE SECTIONS AND DETAILS FOR REINFORCING. SEE CIVIL DRAWINGS FOR TOP OF CONCRETE ELEVATIONS AND SLOPES. PROVIDE SAW CUT CONTROL JOINTS @ 15' MAX. CENTERS EACH WAY. PANELS BORDERED BY SAW CUTS SHALL HAVE AN ASPECT NOT TO EXCEED 1.5 TO 1. SEE DETAIL-A/S5-3.

SAVED: 11/15/2019 11:21 AM JLOVO G:\PROJECTS\13972 M-1 CANAL RESTORATION\13972 ACAD\STRUCTURAL PLAN.DWG



9" REINFORCED CONCRETE SLABS. ALTERNATIVELY CONSTRUCT 12" THICK SLAB USING FIBER REINFORCED CONCRETE. SEE SECTIONS AND DETAILS FOR REINFORCING. SEE CIVIL DRAWINGS FOR TOP OF CONCRETE ELEVATIONS AND SLOPES. PROVIDE SAW CUT CONTROL JOINTS @ 15' MAX. CENTERS EACH WAY. PANELS BORDERED BY SAW CUTS SHALL HAVE AN ASPECT NOT TO EXCEED 1.5 TO 1. SEE DETAIL-A/S5-3.

**PLAN**  
3/8" = 1'-0"

PLAN NOTES:  
1. SEE SECTIONS AND DETAILS FOR FOUNDATION SIZES AND REINFORCING.



MONRAD T. THUE  
P.E. # 32071  
GSE PROJECT #13972  
5590 SW 64th Street, Suite B  
Gainesville, Florida 32608  
Certificate of Authorization #27430

MONRAD T. THUE  
LICENSED PROFESSIONAL ENGINEER  
NO. 32071  
11/27/2020

LTR.	DATE	REVISIONS	BY	APPRD.	CHECKED

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

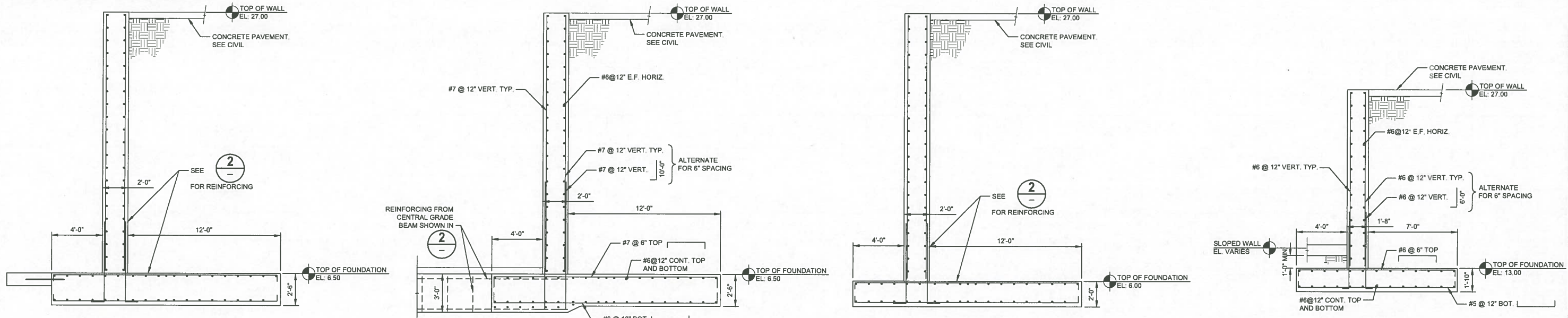
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR PLAN**

PROJECT NO: 19750-066-01	DATE: OCT 2019
INDEX NO:	DWG NO: S5-1



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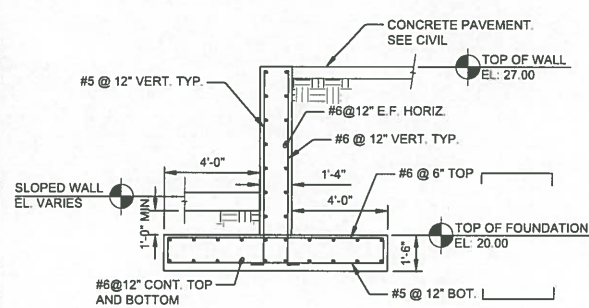


**WALL SECTION 1**  
1/2" = 1'-0" S5-2

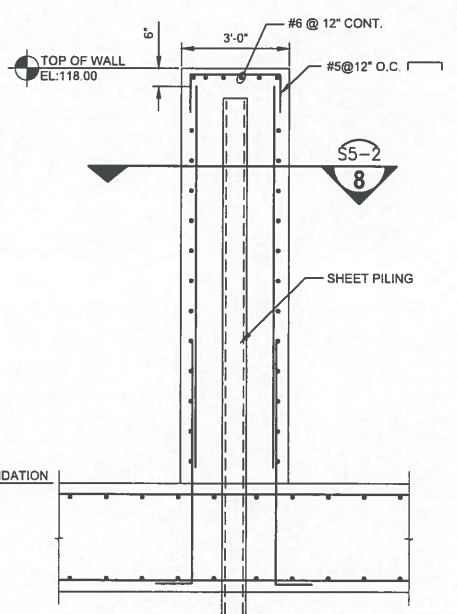
**WALL SECTION 2**  
1/2" = 1'-0" S5-2

**WALL SECTION 3**  
1/2" = 1'-0" S5-2

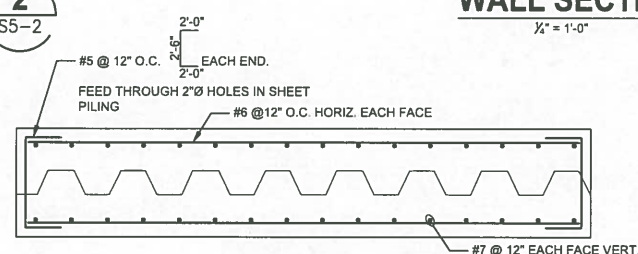
**WALL SECTION 4**  
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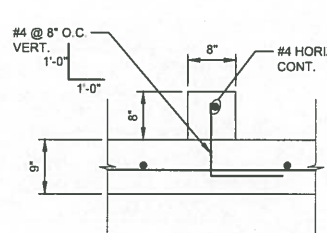
**WALL SECTION 5**  
1/2" = 1'-0" S5-2



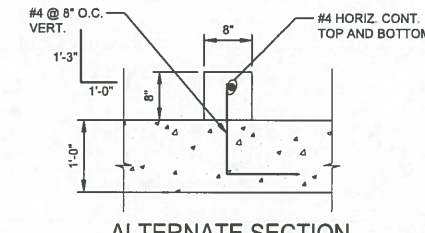
**CENTRAL WALL SECTION 6**  
3/4" = 1'-0" S5-2



**SECTION 8**  
3/4" = 1'-0" S5-2

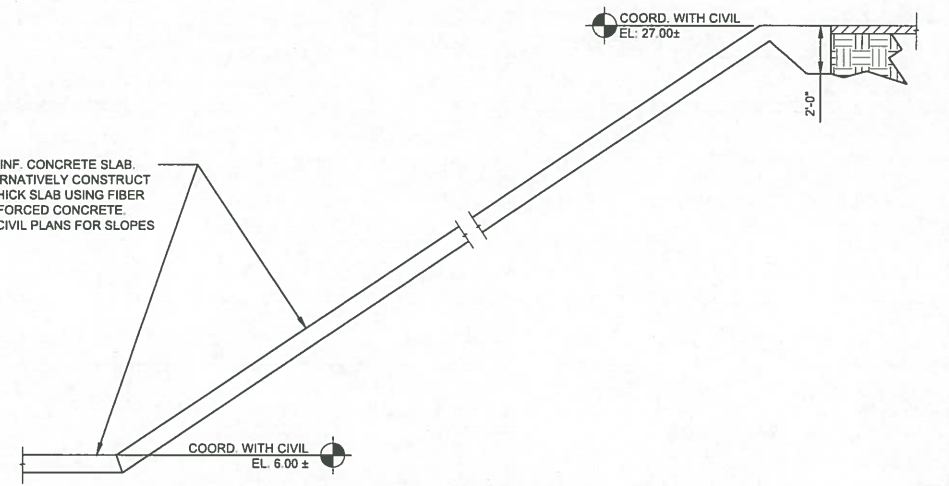


**SECTION**  
N.T.S.



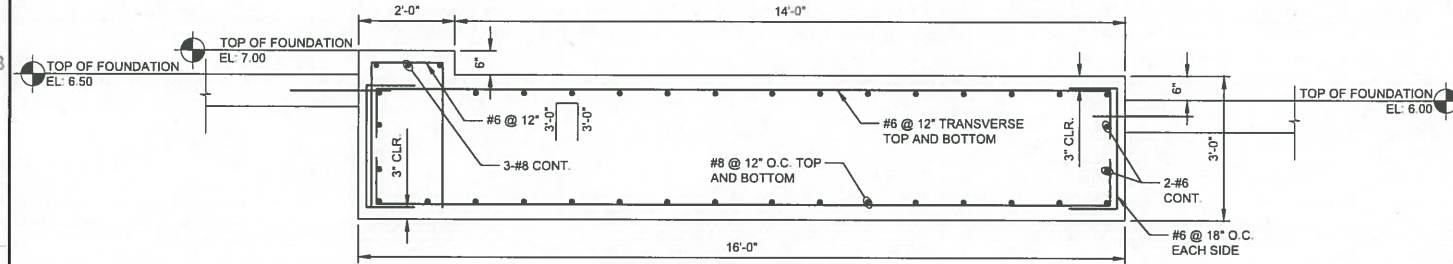
**ALTERNATE SECTION WITH FIBER REINFORCED CONCRETE SLAB**  
N.T.S.

9" REINF. CONCRETE SLAB. ALTERNATIVELY CONSTRUCT 12" THICK SLAB USING FIBER REINFORCED CONCRETE. SEE CIVIL PLANS FOR SLOPES.

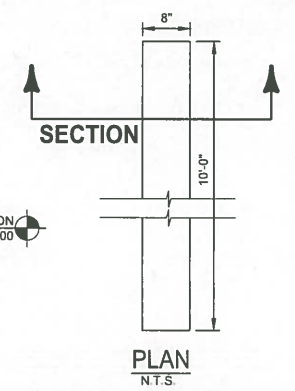


**SECTION 9**  
1/2" = 1'-0" S5-2

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**SECTION 7**  
1/8" = 1'-0" S5-2



**BAFFLE DETAIL A**  
3/4" = 1'-0" S5-2



LTR.	DATE	REVISIONS	BY	APPRD.	CHECKED

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

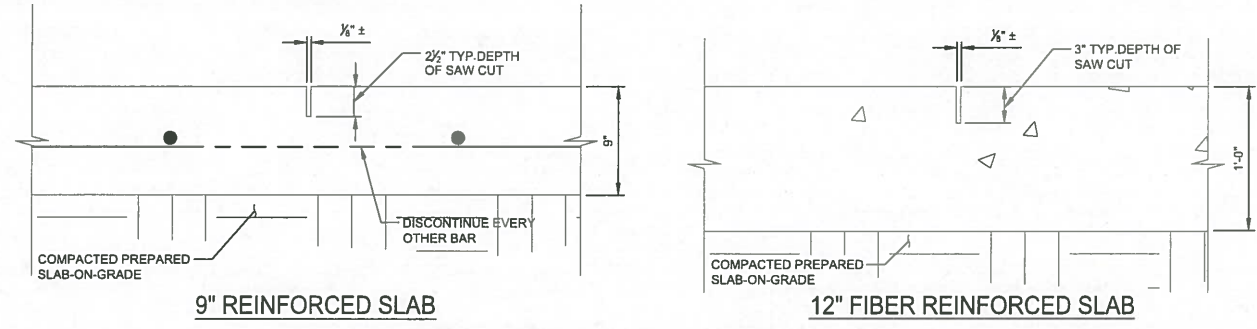
**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**SECTIONS AND DETAILS**

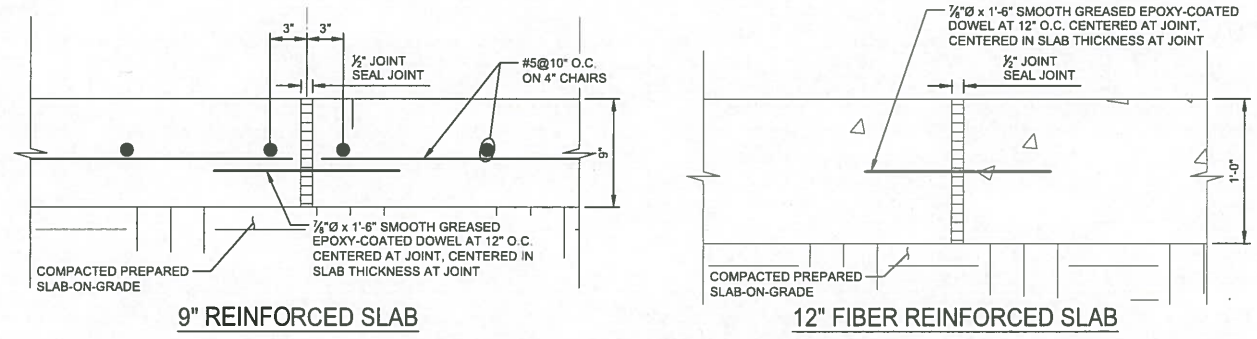
PROJECT NO: 19750-066-01	DATE: OCT 2019
INDEX NO:	DWG NO: S5-2



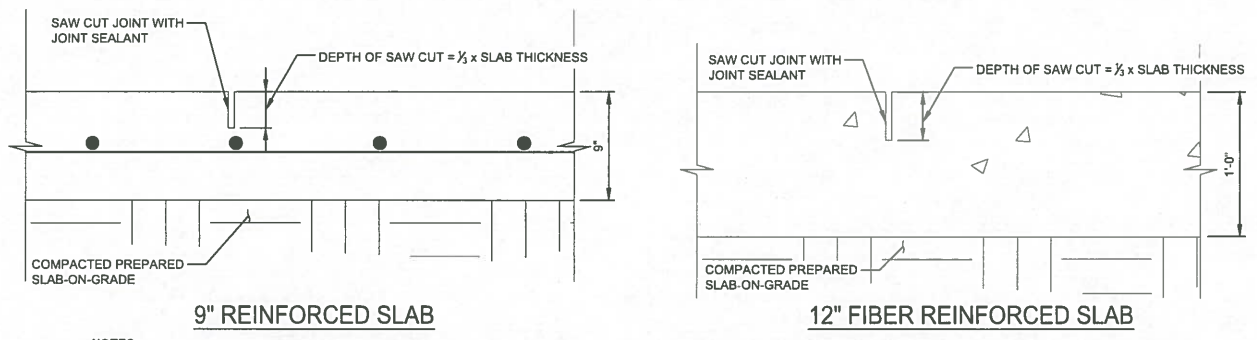
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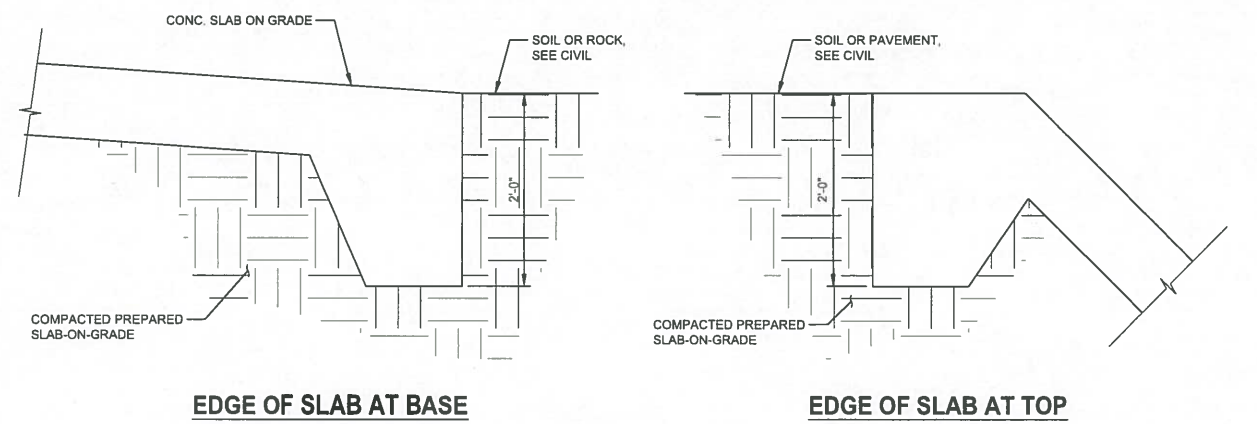
**CONTROL JOINTS @ 15' MAX. CENTERS**



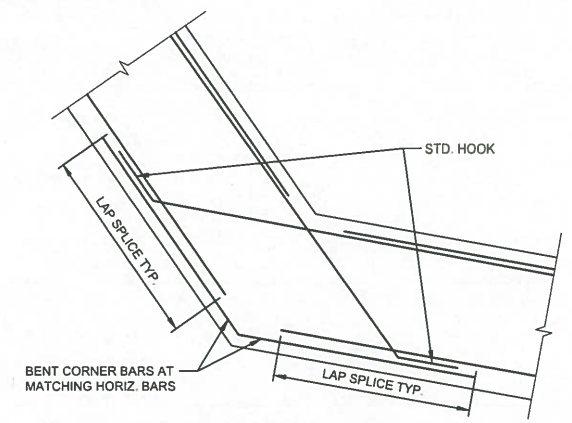
**CONSTRUCTION JOINTS AS REQUIRED**



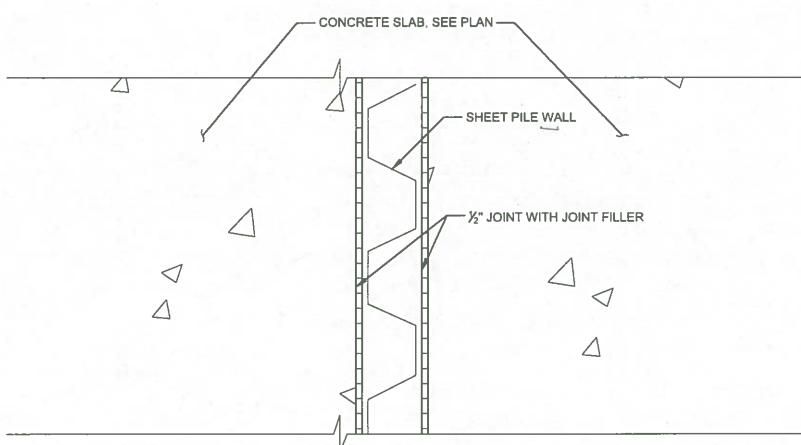
**SLAB SAW CUT JOINT USED BETWEEN CONSTRUCTION JOINTS, TYP.**



**SLAB DETAILS**



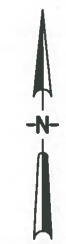
**CONCRETE WALL REINFORCEMENT AT CORNERS**



**CONCRETE SLAB AT SHEET PILE WALL**

**GSE**  
Engineering & Consulting, Inc.  
GSE PROJECT #13972  
5590 SW 64th Street, Suite B  
Gainesville, Florida, 32608  
Certificate of Authorization #27430  
P.E.# 32071

*Monrad T. Thue*  
11/27/2020



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DESIGNED	_____			
DRAWN	_____			
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LTR.	DATE	REVISIONS	BY	APPRD.

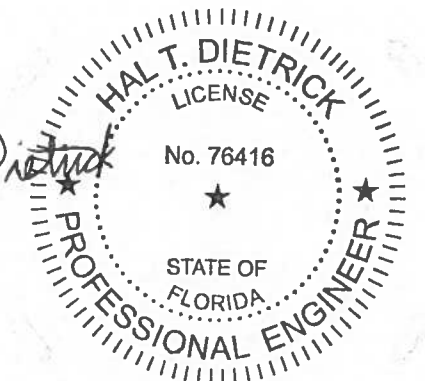
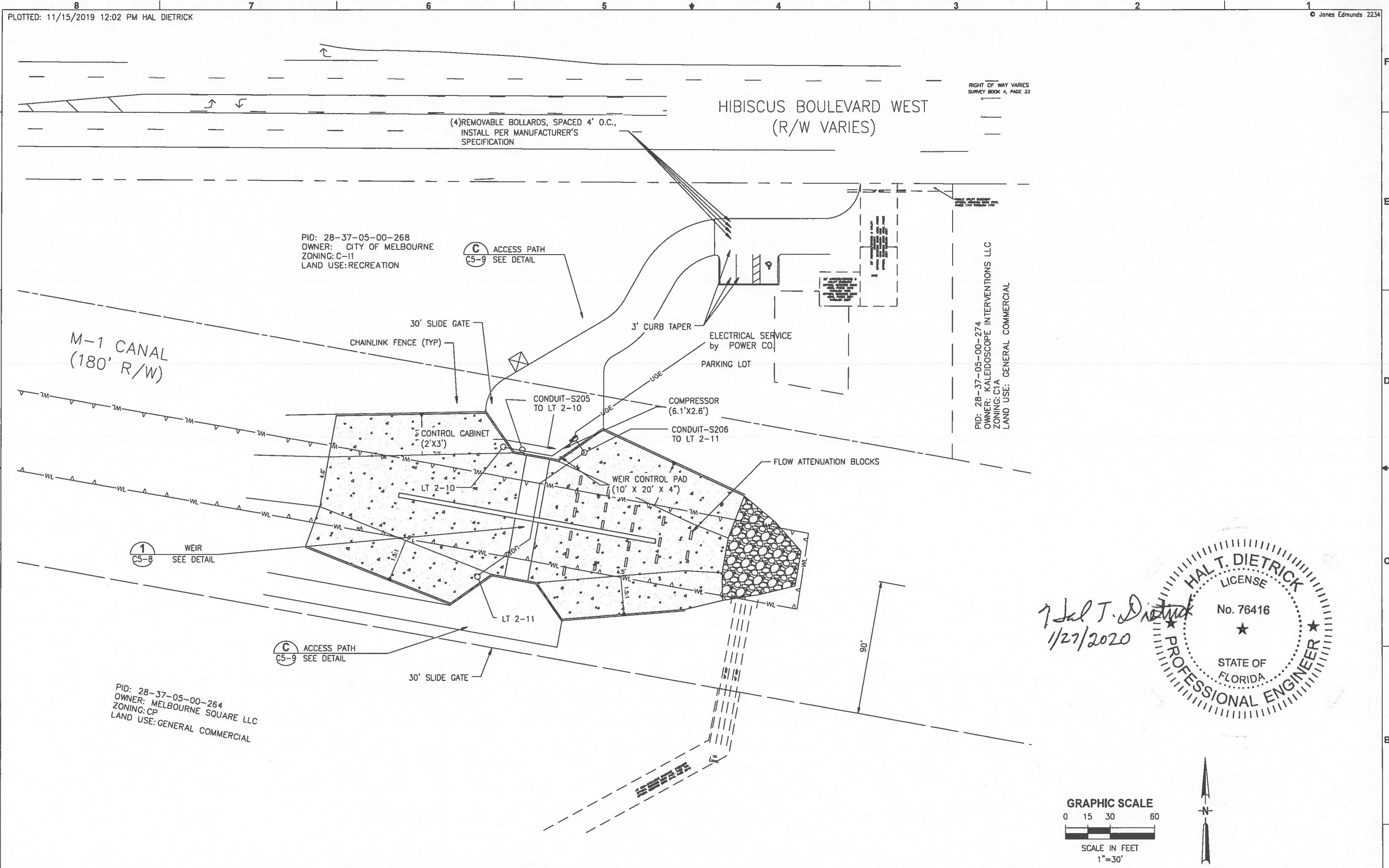
**JonesEdmunds**  
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730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

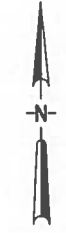
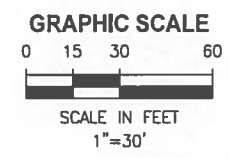
**SECTIONS AND DETAILS**

PROJECT NO:	19750-066-01	DATE:	OCT 2019
INDEX NO:		DWG NO:	S5-3





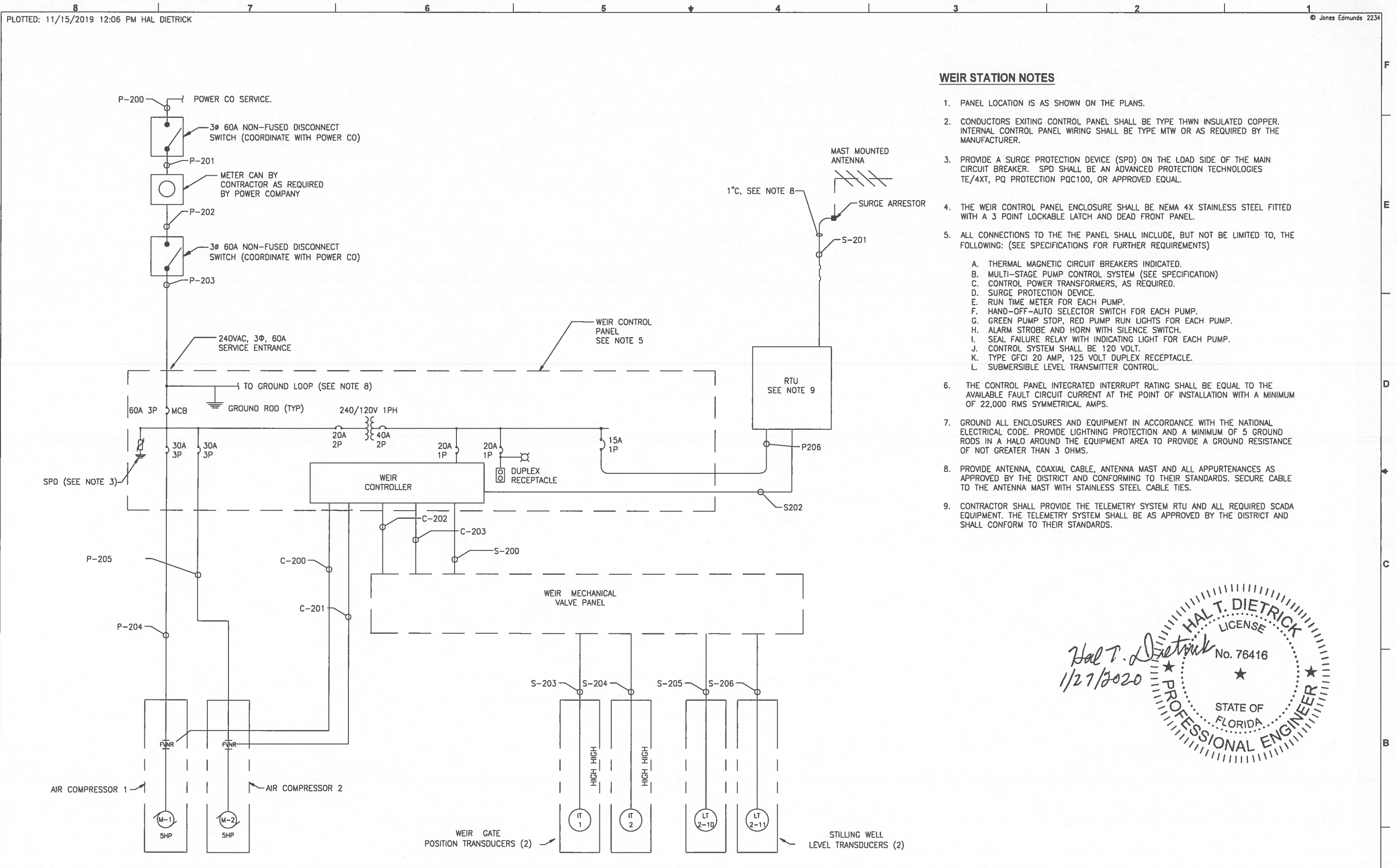
*Hal T. Dietrick*  
1/27/2020



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 Jones Edmunds 2234  
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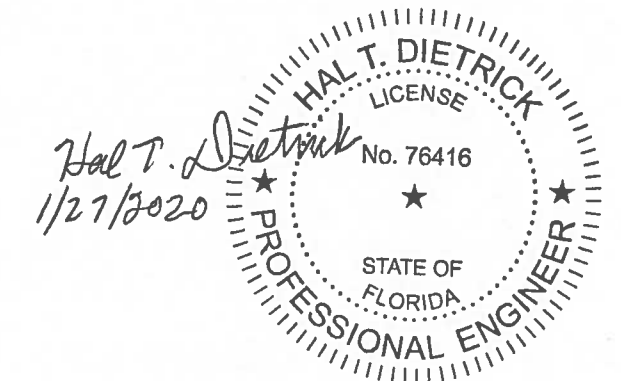
DESIGNED <u>HAL DIETRICK</u>				 CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401	CRANE CREEK M-1 CANAL FLOW RESTORATION		WEIR ELECTRICAL SITE PLAN	APPROVED BY	PROJECT NO:	DATE:
DRAWN <u>HAL DIETRICK</u>					ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT			HAL DIETRICK	19750-066-01	NOV 2019
CHECKED <u>MICHAEL CLARK</u>								P.E. # 76416	INDEX NO:	DWG NO:
LTR.	DATE	REVISIONS	BY	APPRD.					E-1	





**WEIR STATION NOTES**

1. PANEL LOCATION IS AS SHOWN ON THE PLANS.
2. CONDUCTORS EXITING CONTROL PANEL SHALL BE TYPE THWN INSULATED COPPER. INTERNAL CONTROL PANEL WIRING SHALL BE TYPE MTW OR AS REQUIRED BY THE MANUFACTURER.
3. PROVIDE A SURGE PROTECTION DEVICE (SPD) ON THE LOAD SIDE OF THE MAIN CIRCUIT BREAKER. SPD SHALL BE AN ADVANCED PROTECTION TECHNOLOGIES TE/4XT, PQ PROTECTION PQC100, OR APPROVED EQUAL.
4. THE WEIR CONTROL PANEL ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL FITTED WITH A 3 POINT LOCKABLE LATCH AND DEAD FRONT PANEL.
5. ALL CONNECTIONS TO THE THE PANEL SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: (SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS)
  - A. THERMAL MAGNETIC CIRCUIT BREAKERS INDICATED.
  - B. MULTI-STAGE PUMP CONTROL SYSTEM (SEE SPECIFICATION)
  - C. CONTROL POWER TRANSFORMERS, AS REQUIRED.
  - D. SURGE PROTECTION DEVICE.
  - E. RUN TIME METER FOR EACH PUMP.
  - F. HAND-OFF-AUTO SELECTOR SWITCH FOR EACH PUMP.
  - G. GREEN PUMP STOP, RED PUMP RUN LIGHTS FOR EACH PUMP.
  - H. ALARM STROBE AND HORN WITH SILENCE SWITCH.
  - I. SEAL FAILURE RELAY WITH INDICATING LIGHT FOR EACH PUMP.
  - J. CONTROL SYSTEM SHALL BE 120 VOLT.
  - K. TYPE GFCI 20 AMP, 125 VOLT DUPLEX RECEPTACLE.
  - L. SUBMERSIBLE LEVEL TRANSMITTER CONTROL.
6. THE CONTROL PANEL INTEGRATED INTERRUPT RATING SHALL BE EQUAL TO THE AVAILABLE FAULT CIRCUIT CURRENT AT THE POINT OF INSTALLATION WITH A MINIMUM OF 22,000 RMS SYMMETRICAL AMPS.
7. GROUND ALL ENCLOSURES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE LIGHTNING PROTECTION AND A MINIMUM OF 5 GROUND RODS IN A HALO AROUND THE EQUIPMENT AREA TO PROVIDE A GROUND RESISTANCE OF NOT GREATER THAN 3 OHMS.
8. PROVIDE ANTENNA, COAXIAL CABLE, ANTENNA MAST AND ALL APPURTENANCES AS APPROVED BY THE DISTRICT AND CONFORMING TO THEIR STANDARDS. SECURE CABLE TO THE ANTENNA MAST WITH STAINLESS STEEL CABLE TIES.
9. CONTRACTOR SHALL PROVIDE THE TELEMETRY SYSTEM RTU AND ALL REQUIRED SCADA EQUIPMENT. THE TELEMETRY SYSTEM SHALL BE AS APPROVED BY THE DISTRICT AND SHALL CONFORM TO THEIR STANDARDS.

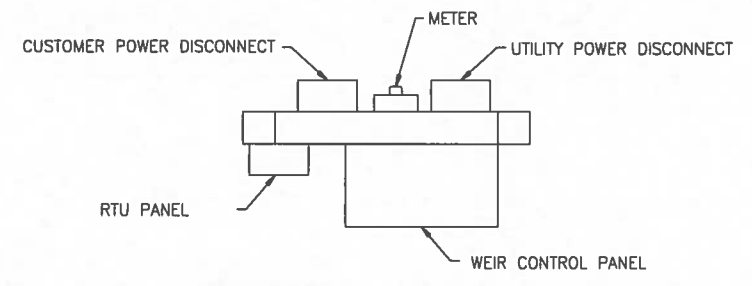


DESIGNED HAL DIETRICK		<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION		WEIR STATION ONE LINE DIAGRAM	APPROVED BY	PROJECT NO:	DATE:
DRAWN HAL DIETRICK			ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT			HAL DIETRICK	19750-066-01	NOV 2019
CHECKED MICHAEL CLARK						P.E. # 76416	INDEX NO:	DWG NO:
								E4

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 STANDARD\ELC\LATEST CAD FILES -  
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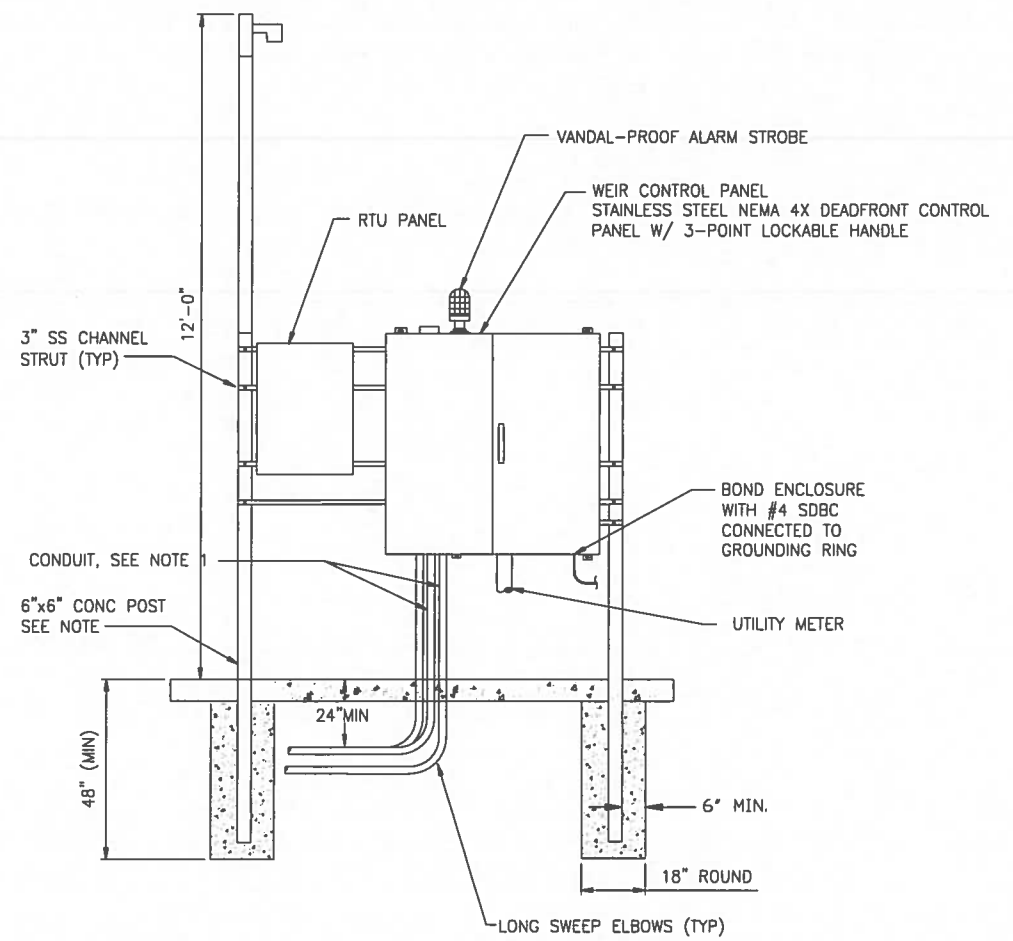
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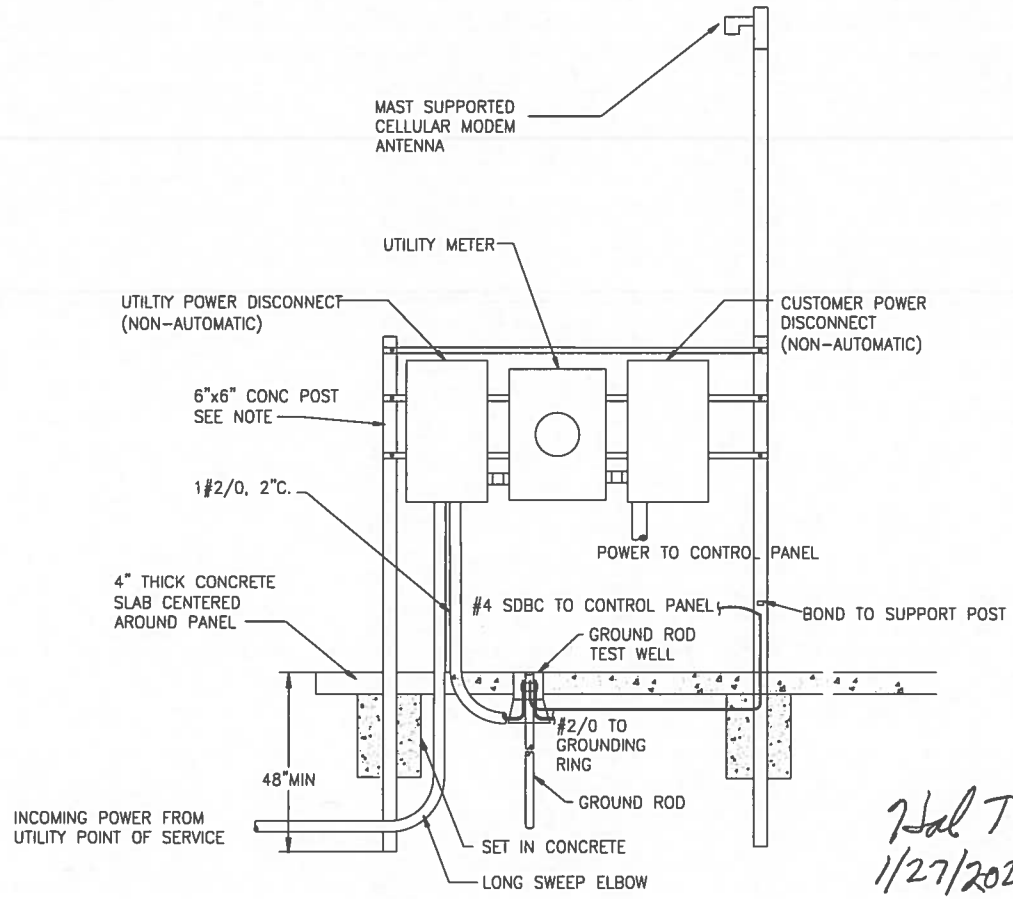
**PLAN VIEW**

**NOTES:**

1. MOTOR CONDUIT SHALL BE SIZED TO MAX 40% CONDUIT FILL. MINIMUM CONDUIT SIZE SHALL BE 2 1/2". ABOVE GROUND CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL DOWN TO BELOW THE FIRST ELBOW BELOW GRADE. UNDERGROUND CONDUITS BETWEEN THE JUNCTION BOX AND WETWELL SHALL BE SCHEDULE 80 PVC ENCASED WITH A MINIMUM OF 2" OF CONCRETE. REFER TO NEC 501.10(A)(1)(a) AND THE EXCEPTION FOR THE INSTALLATION OF THESE CONDUITS. ANALOG SIGNAL CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL ABOVE AND BELOW GRADE. ALL OTHER UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC.
2. INSTALL AN ELECTRICAL GROUNDING SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS WELL AS LOCAL CODES AND ORDINANCES. INSTALL AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, AUTOMATIC TRANSFER SWITCH, AND ANTENNA MANUAL DISCONNECT SWITCH, AND METAL FENCE.
3. THE STATION NAME, PCU I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
4. ALL MOUNTING HARDWARE & BRACKETS SHALL BE 316 STAINLESS STEEL.
5. COAT PORTIONS OF ALUMINUM IN CONTACT WITH CONCRETE WITH COAL TAR EPOXY.

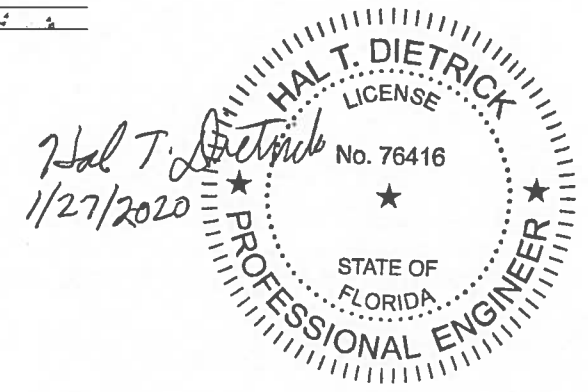


**FRONT VIEW**



**REAR VIEW**

**ELECTRICAL SERVICE AND CONTROL PANEL DETAIL 1**  
 NTS E-1



3. EPC PROJECTS\19750-066-01 CRANE CREEK M-1 CANAL - STANDARD\ELEC\LATEST CAD FILES - REVISED 11-14-19\E7.DWG  
 11/15/2019 11:19 AM HAL D:\3.

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED HAL DIETRICK  
 DRAWN HAL DIETRICK  
 CHECKED MICHAEL CLARK

**JonesEdmunds**  
 CERTIFICATE OF AUTHORIZATION #1841  
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821  
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION**  
**ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR STATION ELECTRICAL DETAILS**

APPROVED BY	PROJECT NO:	DATE:
HAL DIETRICK	19750-066-01	NOV 2019
P.E. # 76416	INDEX NO:	DWG NO:
		E7