

Calculation of K Value (K)

Project No.: 113-17-13-0115
Client: ORANGE COUNTY
Location/Facility: ORANGE COUNTY LANDFILL
Date: 2/9/2018

$$K = \frac{r^2 \ln(L/R)}{2 L T_0}$$

"MW-495S" (Falling Head)

r = Casing Radius (ft)	0.086
L = Length of Screen	5
R = Filter Pack Radius (ft)	0.34375
T ₀ = Basic Time Lag (sec) [recovery = 36.8%]	10
K = Hydraulic Conductivity (ft/sec)	0.000198588
K = Hydraulic Conductivity (ft/day)	17.16

"MW-495S" (Rising Head)

r = Casing Radius (ft)	0.086
L = Length of Screen	5
R = Filter Pack Radius (ft)	0.34375
T ₀ = Basic Time Lag (sec) [recovery = 36.8%]	17
K = Hydraulic Conductivity (ft/sec)	0.000116816
K = Hydraulic Conductivity (ft/day)	10.09

EXHIBIT C

ERP AND FDEP SOLID WASTE PERMIT



FLORIDA DEPARTMENT OF Environmental Protection

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Permittee/Authorized Entity:

Orange County Solid Waste Division
James W. Flynt, P.E., Chief Engineer
James.Flynt@ocfl.net
5901 Young Pine Road
Orlando, Florida 32803-1101

**Orange County Landfill Expansion
Pond 9A for Cells 11 and 12
DEP Solid Waste WACS No.: 21847**

Authorized Agent:

Neel-Schaffer, Inc.
Ron S. Beladi, P.E.
Ron.Beladi@neel-schaffer.com
2301 Lucien Way, suite 300
Maitland, FL 32751

Environmental Resource Permit – Individual

State-owned Submerged Lands Authorization – Not Applicable

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

Permit No.: 0177603-013-EI

Oculus Facility-Site ID Search: ERP_177603

Permit Issuance Date: December 27, 2018
Permit Construction Expiration Date: December 10, 2028



FLORIDA DEPARTMENT OF Environmental Protection

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Central District
3319 Maguire Boulevard, Suite 232
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Environmental Resource Permit

Permittee: Orange County Solid Waste Division
Attention: James W. Flynt
Permit No.: 0177603-013-EI

PROJECT LOCATION

The activities authorized by this permit are located north of SR528, east of SR417 and west of Innovation Way at 5901 Young Pine Road in Sections 21 and 28, Township 23 South, Range 31 East, Orlando, Orange County. The parcel identification number is 22-23-31-0000-00-001.

PROJECT DESCRIPTION

The permittee will be expanding the Class I solid waste disposal area of Orange County Landfill. The expansion will include the construction of Cells 11 and 12, road extensions and one wet detention area, Pond 9A.

Pond 9A was conceptually approved as Pond 9 and Pond 10 under ERP48-0177603-001-EI, Exhibit 2. Ponds 9 and 10 were conceptually approved to be merged into Pond 9A under ERP48-0177603-007-EC, Exhibit 8. The expansion described above does not include any impacts to wetlands. The mitigation for the permanent and temporary impacts within Cells 11 and 12, and Pond 9A were provided via the preservation of 2,038.96 acres in a perpetual conservation easement (Book 06774/Page 4650) dedicated to the Department under the original permit, ERP48-0177603-001-EI. This mitigation is within the Conceptual Mitigation Plan and is attached to the original permit.

The expiration date of this authorization is December 10, 2028. Pond 9A is expected to be constructed in more than five years and in different phases as landfill bays are constructed.

AUTHORIZATIONS

The permittee is authorized to construct Pond 9A, as depicted on Exhibit 1.

PERMITTING HISTORY

- ERP48-0177603-001-EI, Exhibit 2, is the conceptual approval permit for the stormwater management system associated with Orange County Landfill Cells 9 through 12. There were 39.41 acres of permanent wetland impacts and 15.60 acres of temporary wetland impacts associated with the conceptual approval. The approval was issued on January 28, 2003, with an expiration date of October 10, 2022.
- ERP48-0177603-002-EI, Exhibit 3, is the permit that authorized the construction of the SWMS associated with Orange County Landfill Cells 9 through 12. The SWMS included four wet detention areas; ponds 5, 6, 11 and 12. There were 35.70 acres of permanent wetland impacts and 16.03 acres of impact to the riparian habitat protection zone. The Mitigation Plan for the project included the preservation of 2,038.96 acres in a perpetual conservation dedication to the Department. This authorization was issued on January 28, 2003, with an expiration date of October 10, 2007.

- ERP48-0177603-004-EM, Exhibit 5, is a permit modification issued on April 19, 2007 that changed the ERP48-0177603-002-EI construction expiration date from October 10, 2007 to October 10, 2012.
- ERP48-0177603-003-EE, Exhibit 4, is an Hurricane Charley emergency permit issued on August 20, 2004 for a temporary access road to the Orange County Burn Site from Lee Vista Road. There were 1.5 acres of forested wetland impacts associated with this temporary access road.
- ERP48-0177603-005-EM, Exhibit 6, is the permit that authorized the construction of a new borrow area, the Western borrow area, and the expansion of two existing borrow areas, the Southern and Eastern borrow areas. This permit also authorized 3.61 acres of wetland impacts which were mitigated under ERP48-0177603-001-EI. This authorization was issued on April 3, 2008, with an expiration date of April 1, 2013.
 - ERP48-0177603-008-EM, Exhibit 9, is a permit modification issued on March 12, 2014 that changed the ERP48-0177603-005-EM construction expiration date from April 1, 2013 to April 1, 2015.
 - ERP48-0177603-011-EM, Exhibit 12, is a permit modification issued on November 6, 2014 that changed the ERP48-0177603-005-EM construction expiration date from April 1, 2015 to April 1, 2017.
 - ERP48-0177603-012-EM, Exhibit 13, is a permit modification issued on December 2, 2016 that changed the ERP48-0177603-005-EM construction of expiration date from April 1, 2017 to December 10, 2033.
- ERP48-0177603-006-EI, Exhibit 7, is the permit authorization to construct the SWMS associated with Orange County Landfill Cell 10. The SWMS consisted of two (2) wet detention areas; ponds 7 and 8. The wetland impacts associated with this authorization were mitigated under ERP48-0177603-001-EI. This permit authorization was issued on July 15, 2008, with an expiration date of July 15, 2013.
- ERP48-0177603-007-EC, Exhibit 8, is conceptual approval to merge two wet detention areas, ponds 9 and 10, into wet detention area, pond 9A. Ponds 9 and 10 were originally conceptually approved under ERP48-0177603-001-EI. This conceptual approval was issued on December 17, 2013, with an expiration date of December 16, 2018.
- ERP48-0177603-009-EM, Exhibit 10, is a permit modification issued on July 7, 2014 that added specific conditions into ERP48-0177603-001-EI.
- ERP48-0177603-010-EM, Exhibit 11, is a permit modification issued on August 15, 2014 that included the partial release of the conservation easement (0.21 acres) to complete the installation of water and wastewater infrastructure associated with the Lee Vista Pipeline Project, ERP48-0326578-001-EI.

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 Corps. 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.

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. This permit does not authorize any impacts outside the limits shown on the attached figures. The adjacent wetlands and conservation easement 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 fence or tall flagged stakes along the construction limits are possible methods.
3. Prior to initiation of any work authorized herein, all wetlands and surface waters outside the specific limits of construction authorized herein shall be protected from erosion, siltation, sedimentation, and/or scouring, including the placement of staked erosion control devices around the project area and staging area(s) that are located outside of any authorized impact areas.

SPECIFIC CONDITIONS – ADDITIONAL REGULATED ACTIVITIES

4. 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 – SWMS OPERATION AND MAINTENANCE ACTIVITIES

5. The following maintenance activities shall be performed as needed 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.
6. 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.
7. 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 a stormwater management system 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.

8. 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 Applicants Handbook Volume I.
9. 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 Applicants Handbook Volume I.
10. 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 Applicants Handbook Volume I.
11. 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 Applicants Handbook Volume I.

SPECIFIC CONDITIONS – DEWATERING

12. 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.
13. If dewatering is to occur any time, the surface water pump(s), wells or facilities are capable of withdrawing 1 million gallons of water per day (MGD) or more, a water use permit in accordance with Rule 40C-2.041, F.A.C., may be required from the St Johns River Water Management District (SJRWMD) prior to beginning any dewatering.

SPECIFIC CONDITIONS – POST-ISSUANCE SUBMITTALS

14. 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. All submittals shall include the project name and indicated permit number when referring to this project.

SPECIFIC CONDITIONS – CONSTRUCTED ACTIVITY

15. In accordance with 62-330.301(1), F.A.C., the activity authorized to be constructed and operated herein:
 - a. Will not cause adverse water quantity impacts to receiving waters and adjacent lands;
 - b. Will not cause adverse flooding to on-site or off-site property;
 - c. Will not cause adverse impacts to existing surface water storage and conveyance capabilities;
 - d. Will not adversely affect the quality of receiving waters such that the state water quality standards set forth in chapters 62-4, 62-302, 62-520, and 62-550, F.A.C., including the antidegradation provisions of paragraphs 62-4.242(1)(a) and (b), F.A.C., subsections 62-4.242(2) and (3), F.A.C., and rule 62-302.300, F.A.C., and any special standards for Outstanding Florida Waters and Outstanding National Resource Waters set forth in subsections 62-4.242(2) and (3), F.A.C.;
 - e. Will not adversely impact the maintenance of surface or ground water levels or surface water flows established pursuant to section 373.042, F.S.;
 - f. Will not cause adverse impacts to a Work of the District established pursuant to section 373.086, F.S.;
 - g. Will be capable, based on generally accepted engineering and scientific principles, of performing and functioning as proposed;
 - h. Will be conducted by a person with the financial, legal and administrative capability of ensuring that the activity will be undertaken in accordance with the terms and conditions herein.

16. In accordance with 62-330.350(1)(q), F.A.C., if the proposed activity authorized herein causes any adverse impacts, 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.

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 further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

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 Rule 28-106.201, 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 email address, any facsimile number, and telephone number of the petitioner; 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 are or 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. 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 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. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. 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.

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, before the applicable 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.

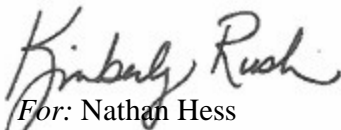
FLAWAC Review

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 Florida Land and Water Adjudicatory Commission (FLAWAC) 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 Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION


For: Nathan Hess
Program Administrator, Permitting and Waste Cleanup

Attachments:

- Exhibit 1: 0177603-013-EI Engineering Drawings, 16 pages
- Exhibit 2: [Oculus Link to ERP48-0177603-001-EI Permit and Exhibits, 167 pages](#)
- Exhibit 3: [Oculus Link to ERP48-0177603-002-EI Permit and Exhibits, 176 pages](#)
- Exhibit 4: [Oculus Link to ERP48-0177603-003-EE Permitting History, 17 pages](#)
- Exhibit 5: [Oculus Link to ERP48-0177603-004-EM Permitting History, 18 pages](#)
- Exhibit 6: [Oculus Link to ERP48-177603-005-EM Permit and Exhibits, 200 pages](#)
- Exhibit 7: [Oculus Link to ERP48-0177603-006-EI Permit, Drawings & As Built, 49 pages](#)
- Exhibit 8: [Oculus Link to ERP48-0177603-007-EC Permit and Exhibits, 27 pages](#)
- Exhibit 9: [Oculus Link to ERP48-0177603-008-EM Permit and Exhibits, 18 pages](#)
- Exhibit 10: [Oculus Link to ERP48-0177603-009-EM Permit and Exhibits, 25 pages](#)
- Exhibit 11: [Oculus Link to ERP48-0177603-010-EM Permit and Exhibits, 9 pages](#)
- Exhibit 12: [Oculus Link to ERP48-0177603-011-EM Permit and Exhibits, 29 pages](#)
- Exhibit 13: [Oculus Link to ERP48-0177603-012-EM Permit and Exhibits, 43 pages](#)
- Exhibit 14: [Oculus Link to ERP48-0326578-001-EI DEP ERP Permitting and Compliance History](#)
- Exhibit 15: [Oculus Link to WACS No. 21847 Solid Waste Permitting and Compliance History](#)
- Exhibit 16: [Internet Link to SJRWMD CUP for Orange County Landfill](#)
- Exhibit 17: [Oculus Link to 0177603 ERP Permitting and Compliance History](#)
- Exhibit 18: 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\(1\)](#)

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:

James W. Flynt, Orange County, James.Flynt@ocfl.net
Daniel Courcy, Orange County, Daniel.Courcy@ocfl.net
James W. Becker, Orange County, James.Becker@ocfl.net
Ron Beladi, Neel-Schaffer, Inc., Ron.Beladi@neel-schaffer.com
Bo Bruner, CH2MHill, Bo.Bruner@CH2M.com
Marjorie Cook, SJRWMD, MCook@sjrwmd.com
FDEP: Nathan Hess, Reggie Philips, Lu Burson, Gloria-Jean DePradine, Sirena Dávila, Leo Angleró

FILING AND ACKNOWLEDGMENT

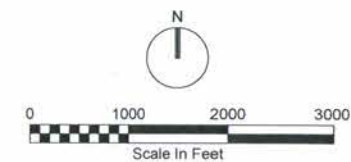
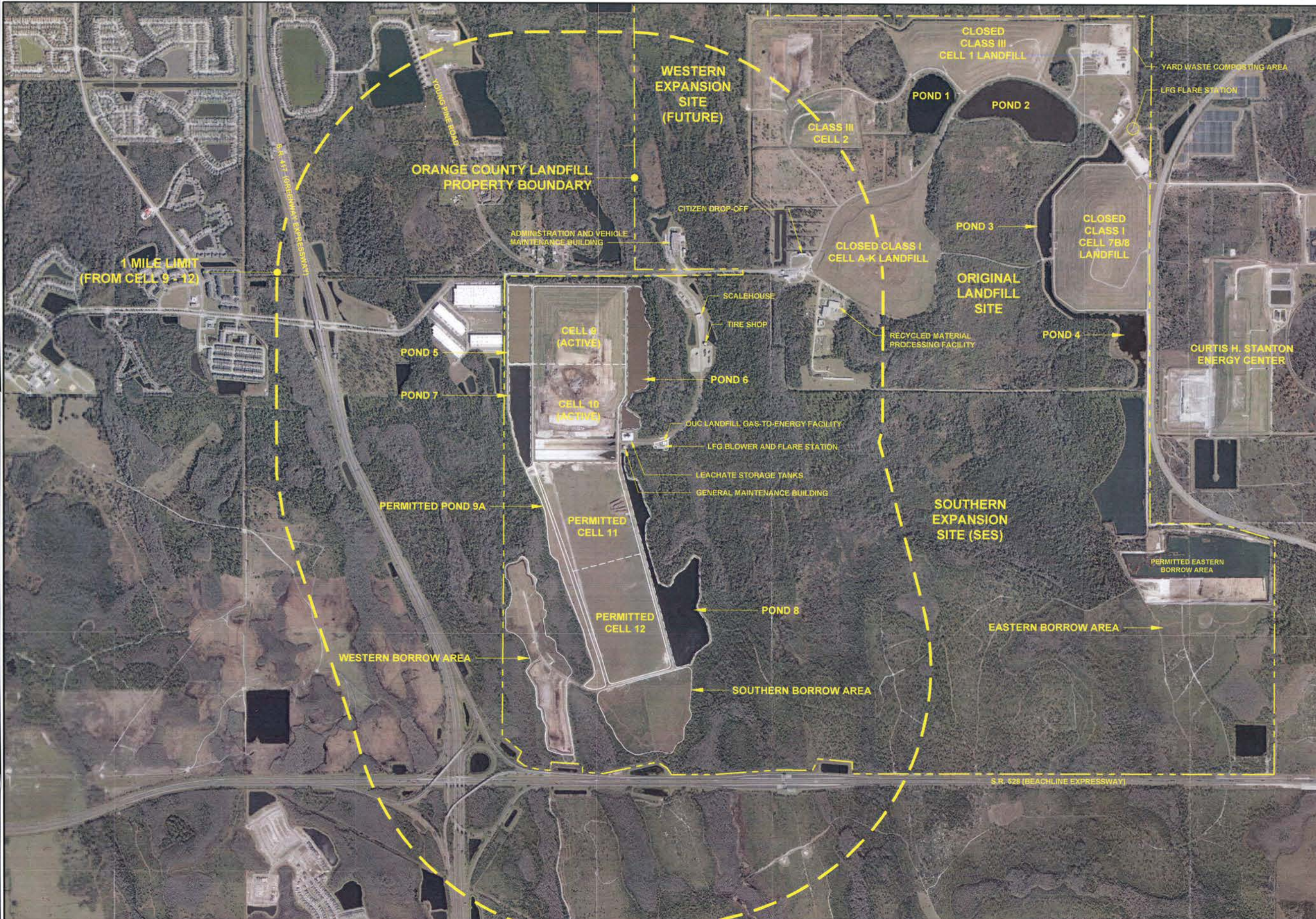
FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.



Clerk

December 27, 2018

Date



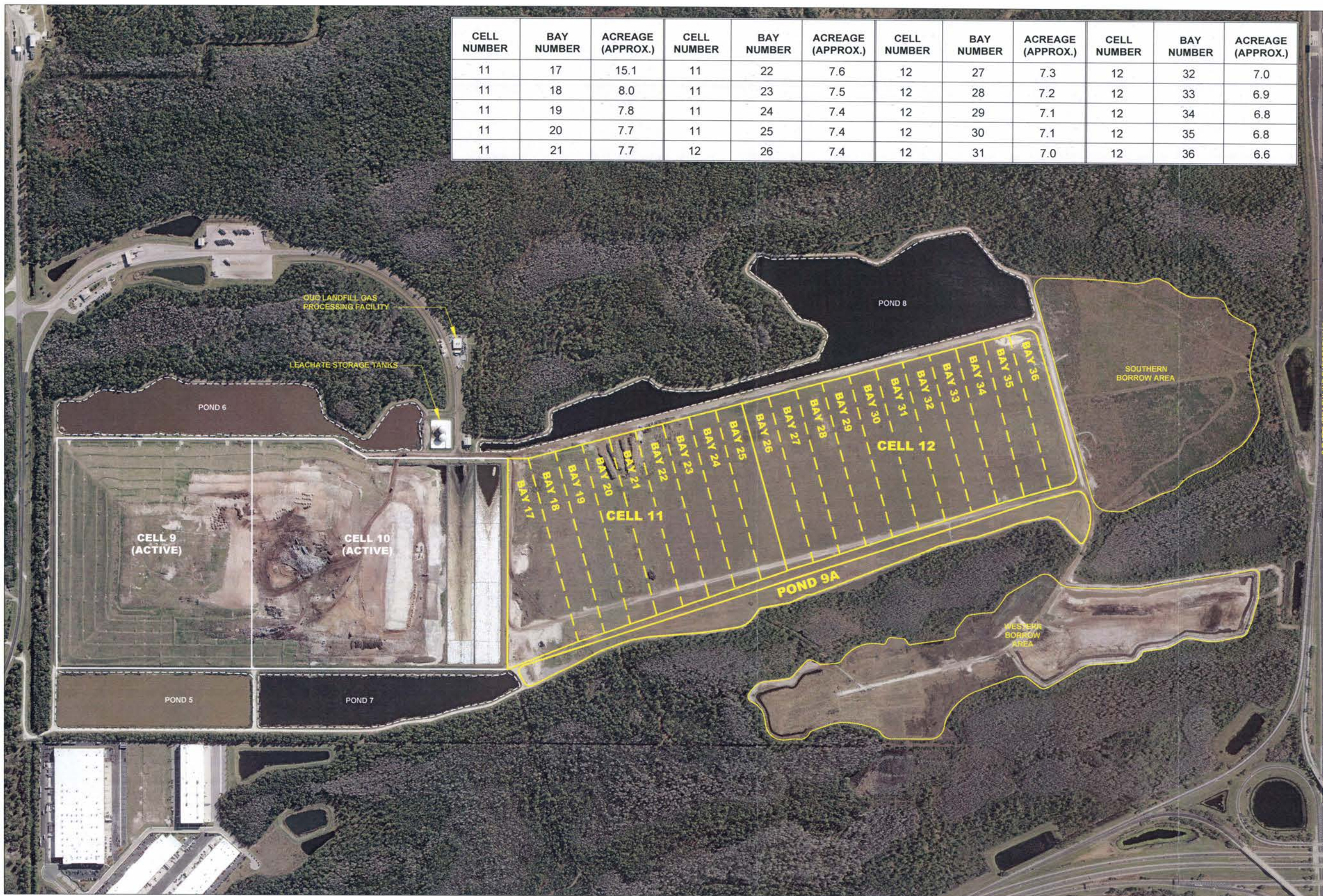
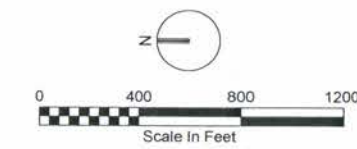
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		DRAWN	MAR				DATE
NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.		CHECKED	DATE	PERMIT PLANS FOR ORANGE COUNTY LANDFILL CELL 11-12 EXPANSION ORANGE COUNTY SOLID WASTE DIVISION ORANGE COUNTY, FLORIDA		SCALE:	AS SHOWN
NO.	BY	REVISIONS	DATE	FILE NAME	EXHIBIT A_OCL Aerial.dwg	PROJ. NO.	676802



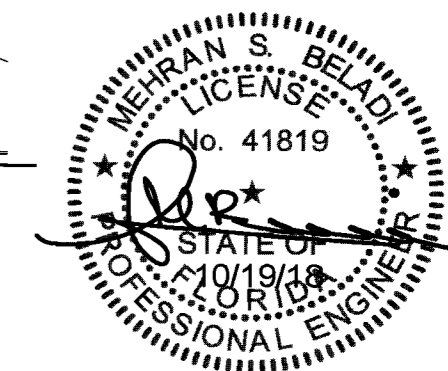
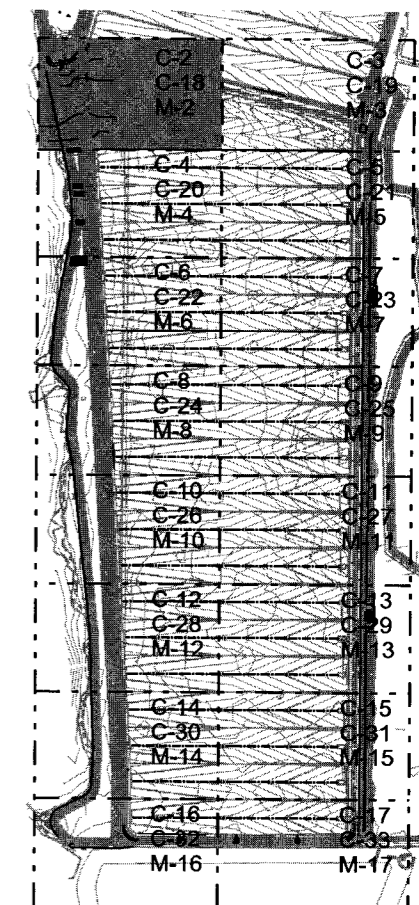
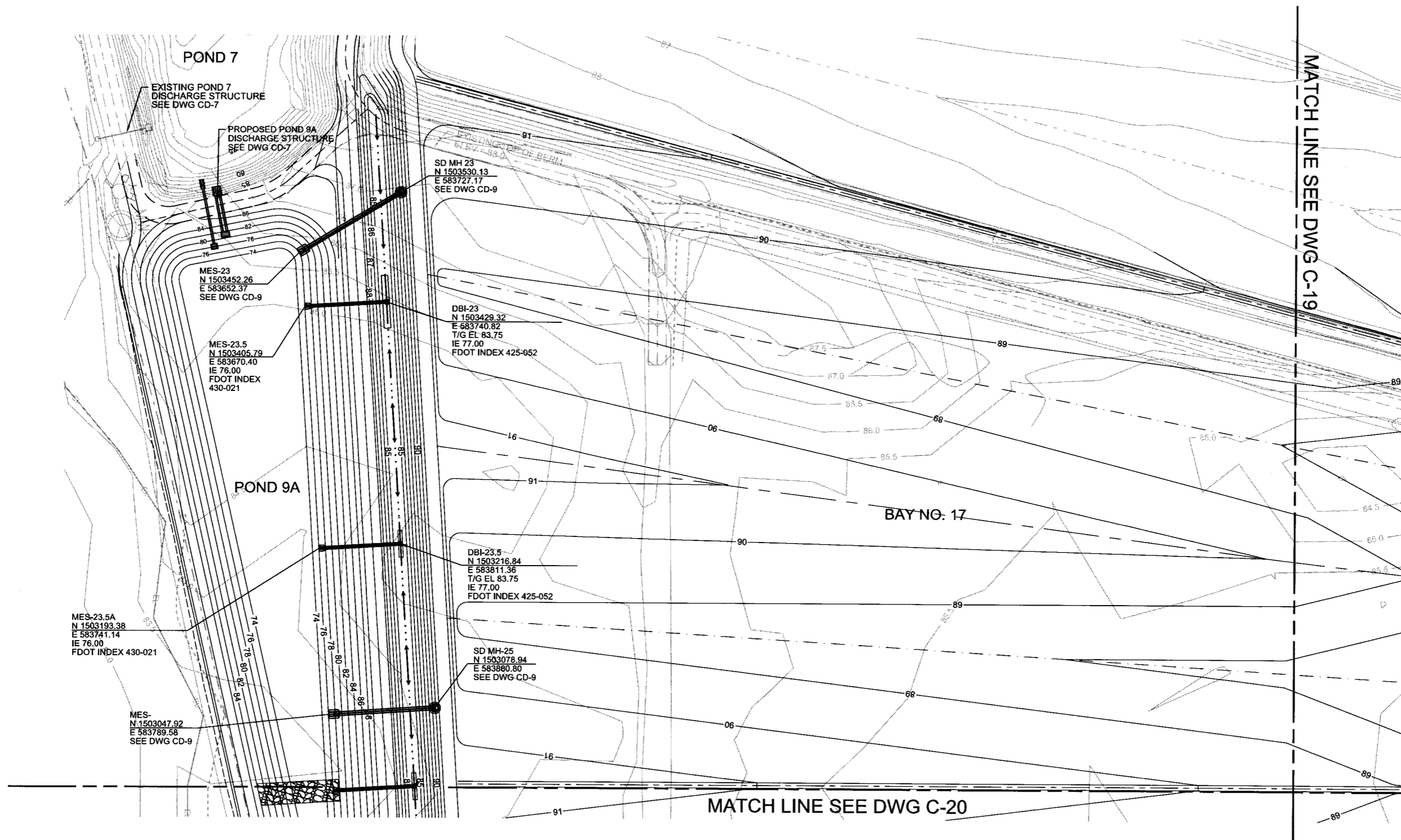
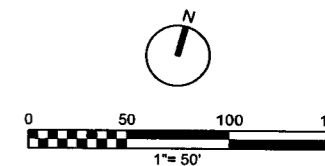
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NO.	BY	REVISIONS	DATE	FILE NAME	OVERALL GRADING LAYOUT.dwg															

CELL NUMBER	BAY NUMBER	ACREAGE (APPROX.)	CELL NUMBER	BAY NUMBER	ACREAGE (APPROX.)	CELL NUMBER	BAY NUMBER	ACREAGE (APPROX.)	CELL NUMBER	BAY NUMBER	ACREAGE (APPROX.)
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11	19	7.8	11	24	7.4	12	29	7.1	12	34	6.8
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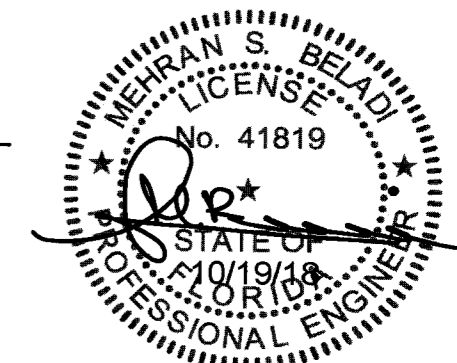
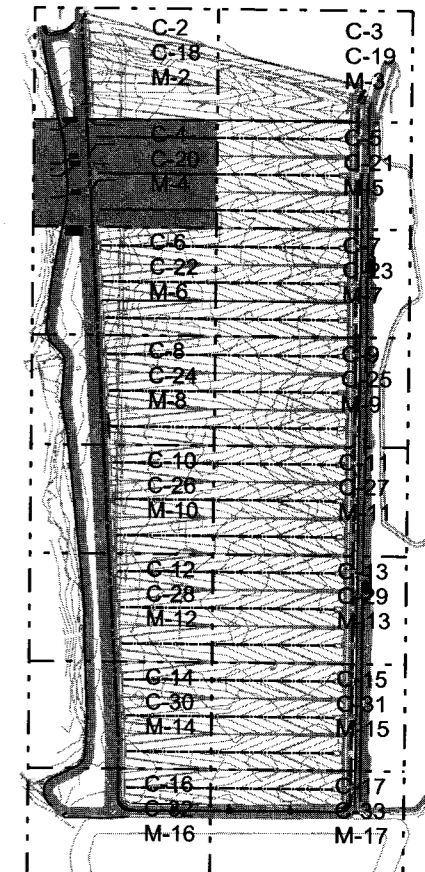
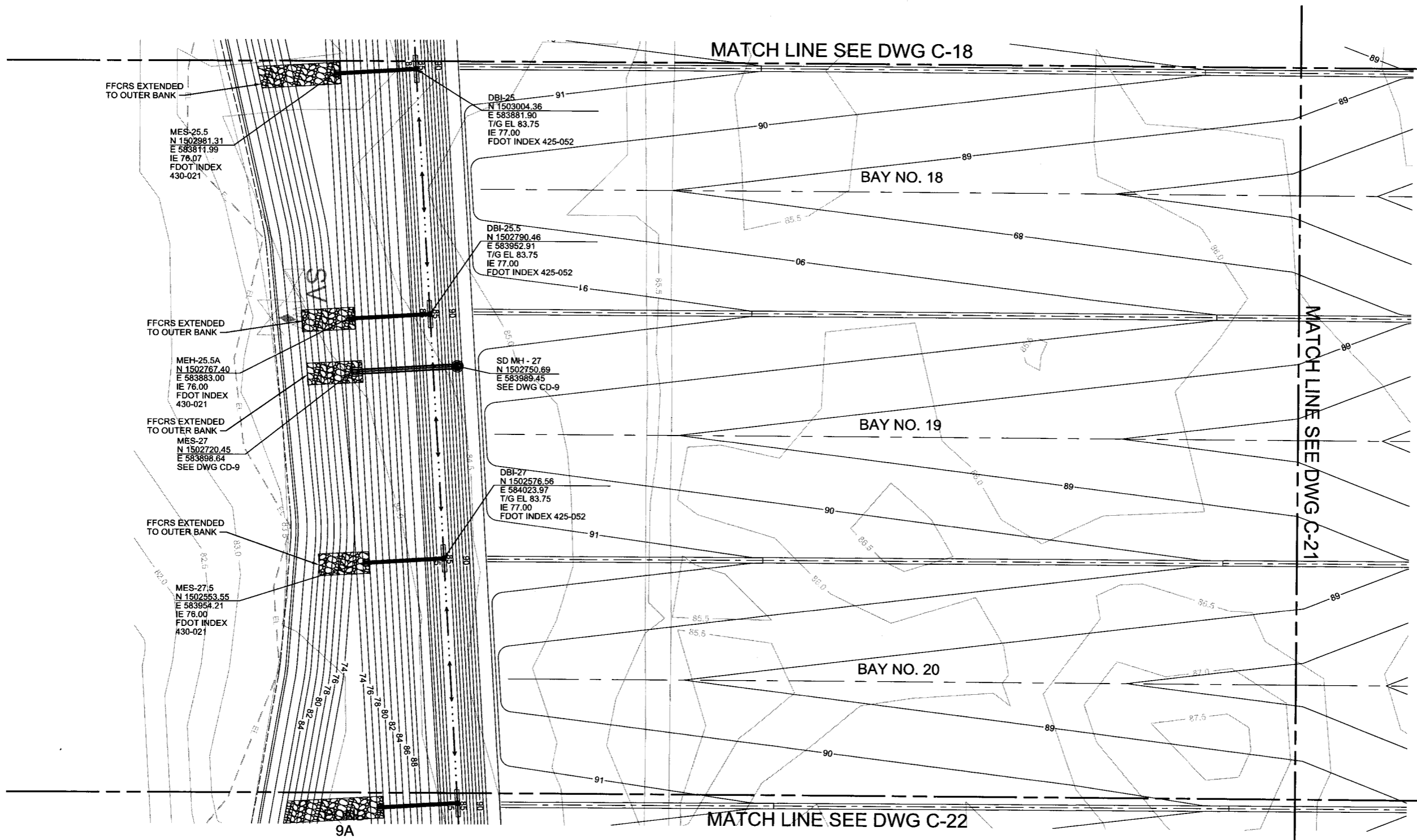
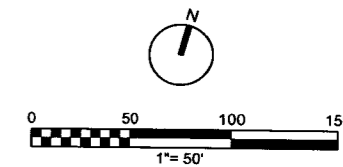
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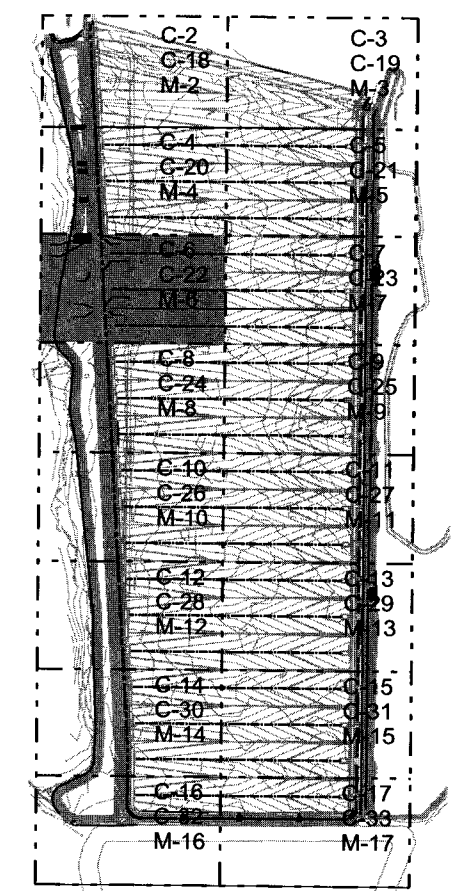
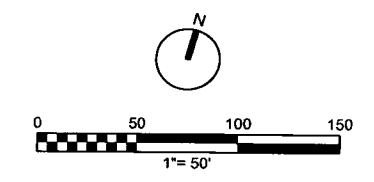
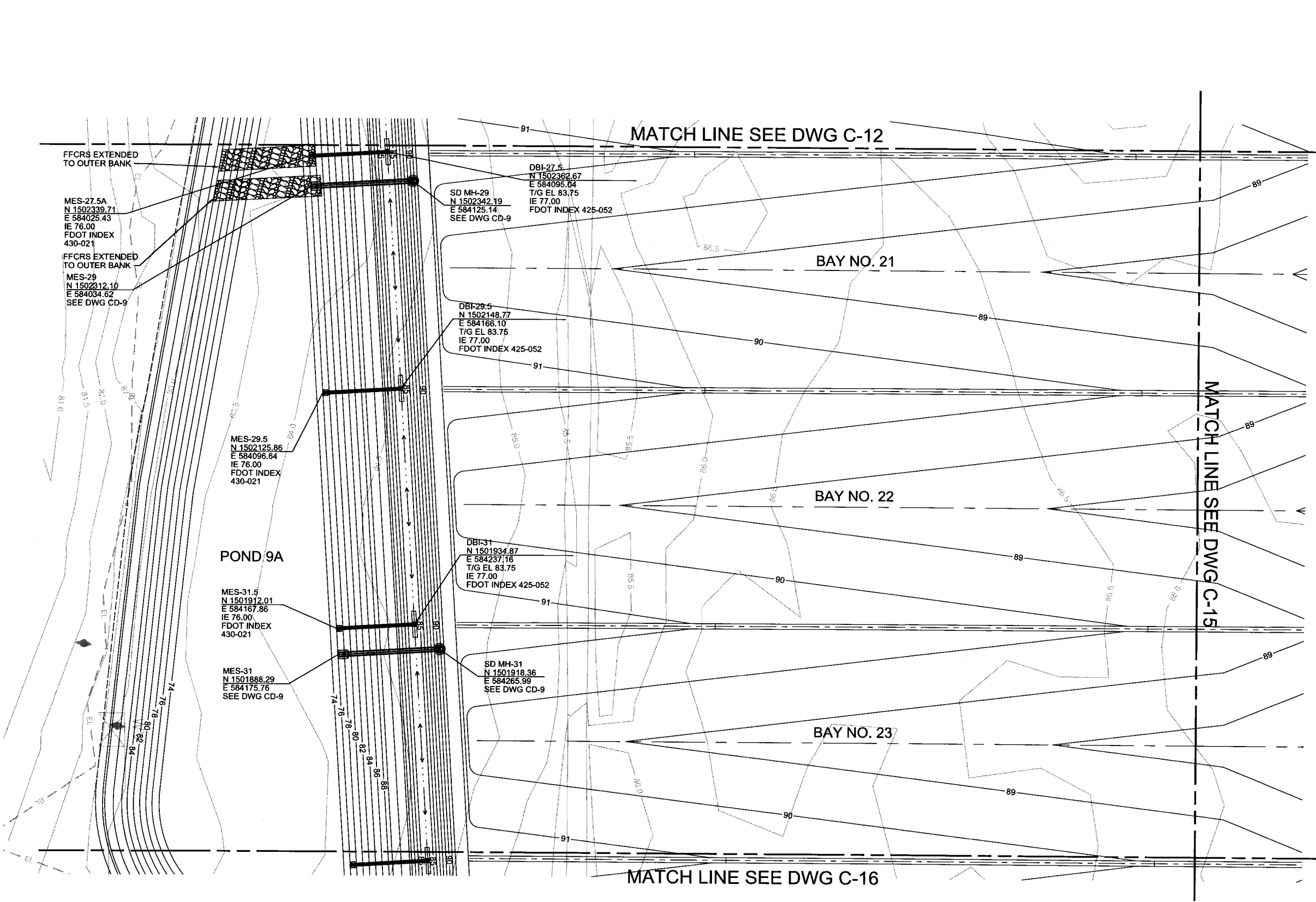
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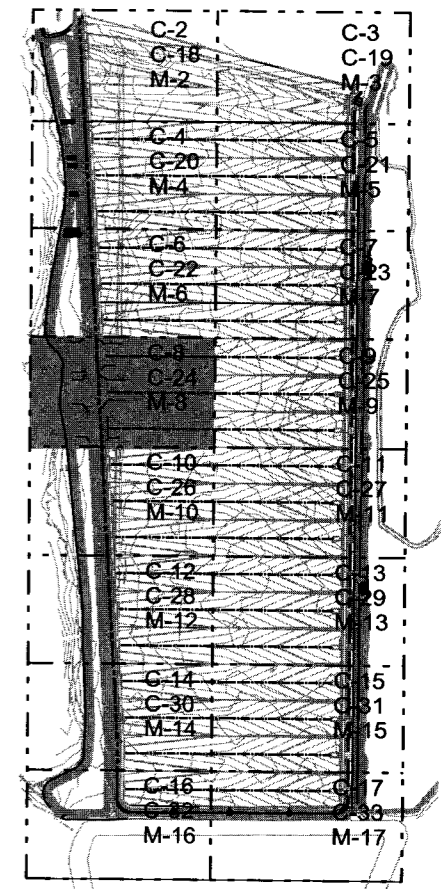
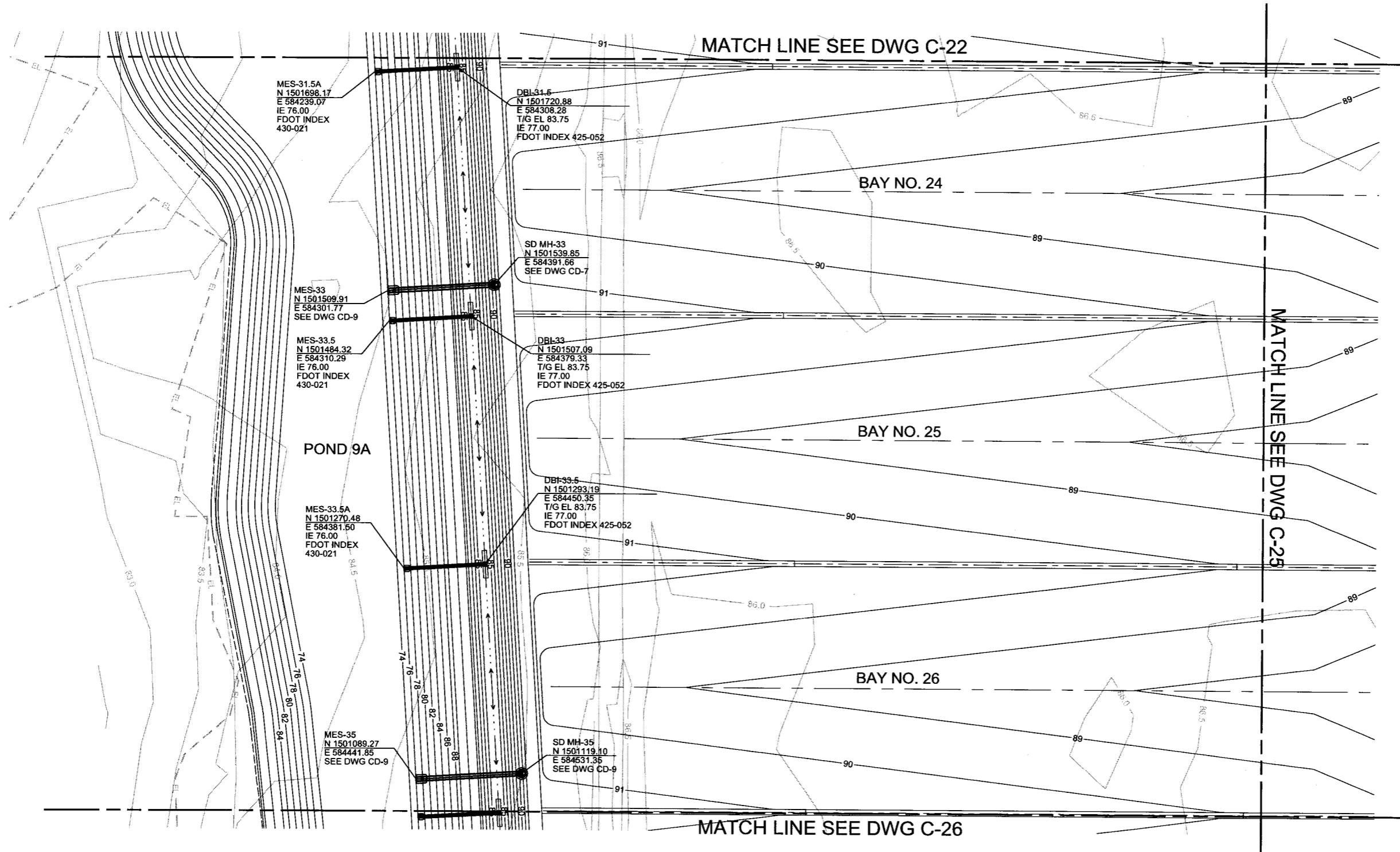
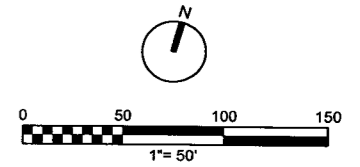


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	NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.			DRAWN	DS	DATE			PERMIT PLANS FOR ORANGE COUNTY LANDFILL CELL 11-12 EXPANSION UTILITIES SOLID WASTE DIVISION ORANGE COUNTY, FLORIDA		CIVIL BAYS 18 -20 DRAINAGE AND EROSION CONTROL PLAN - WEST
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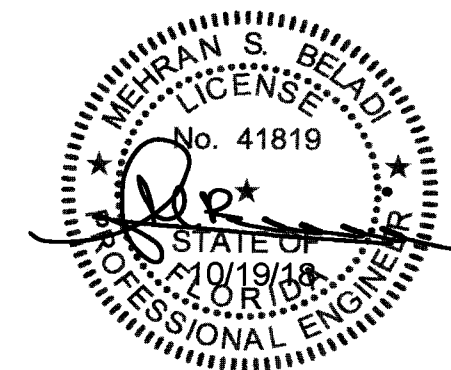
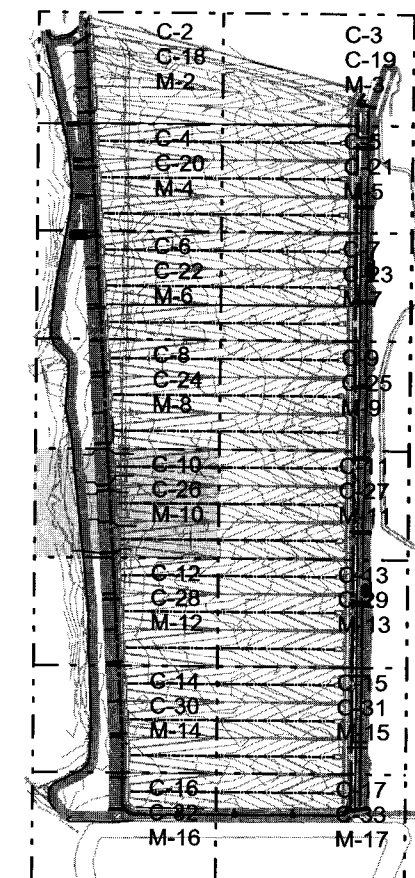
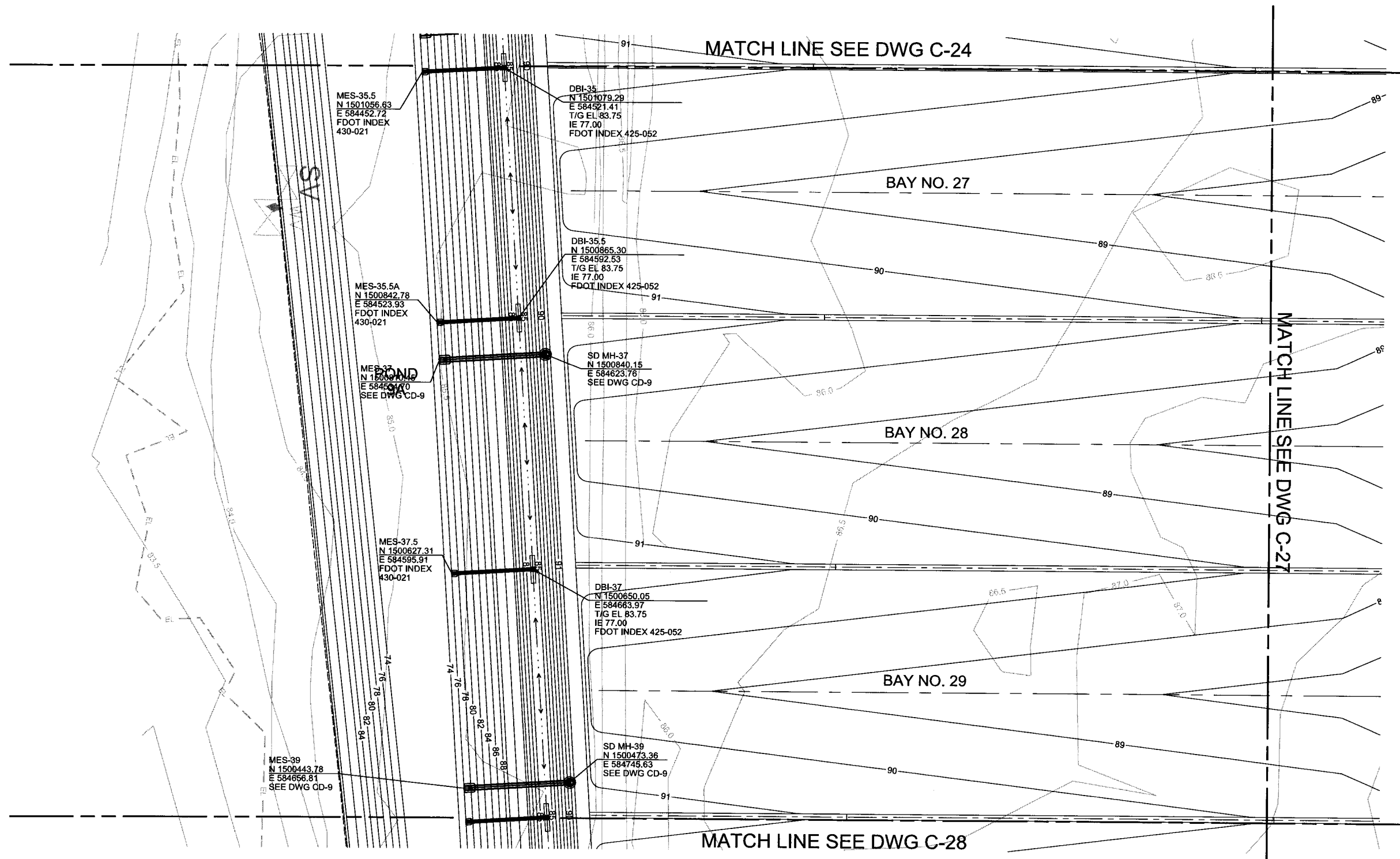
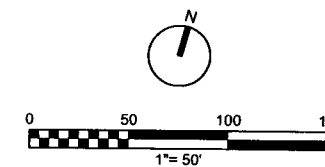


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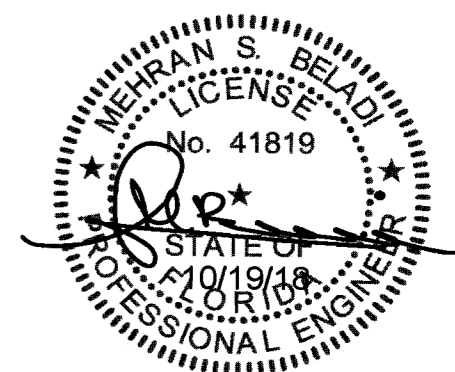
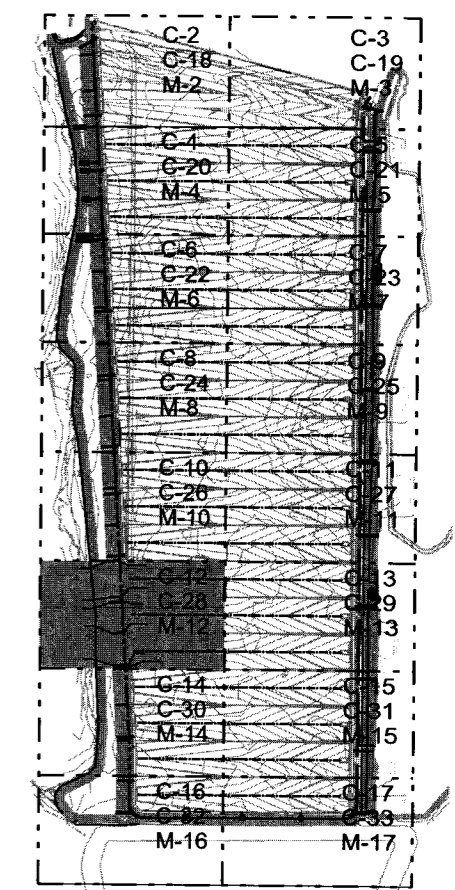
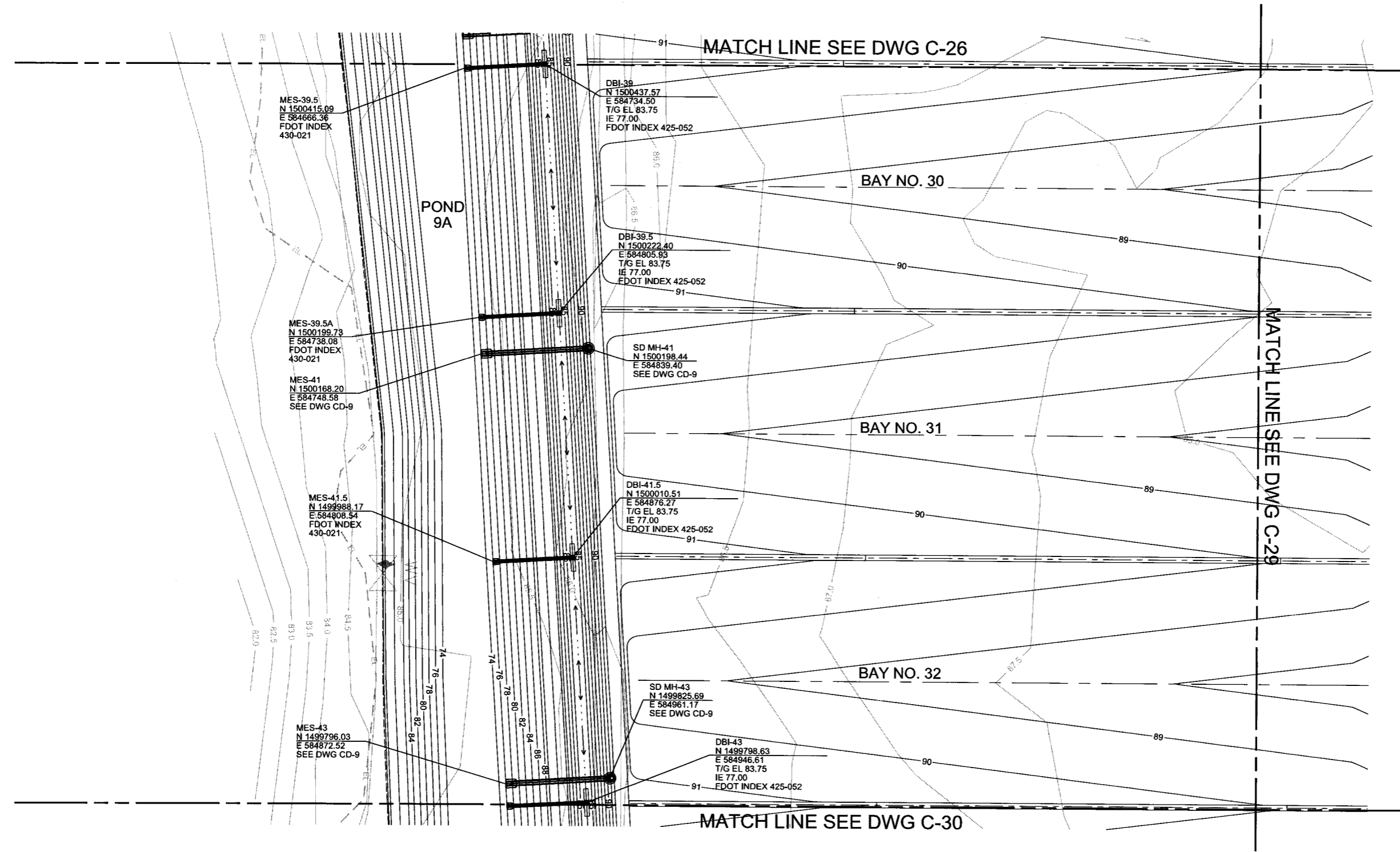
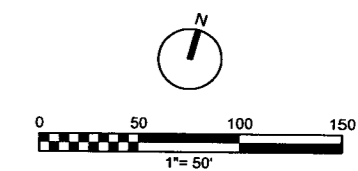


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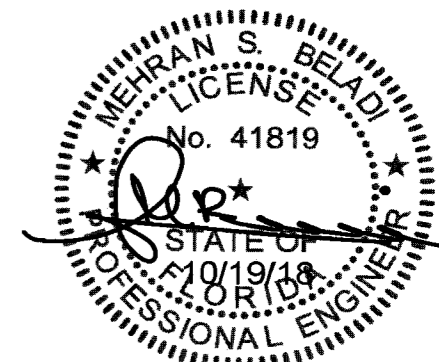
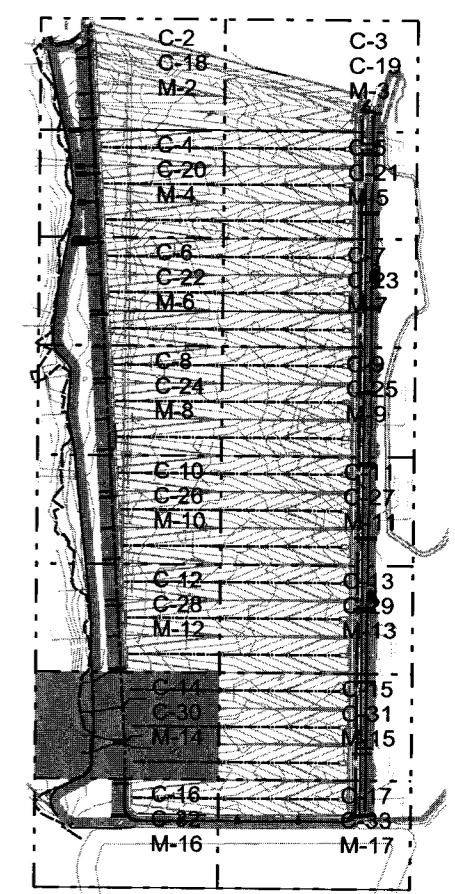
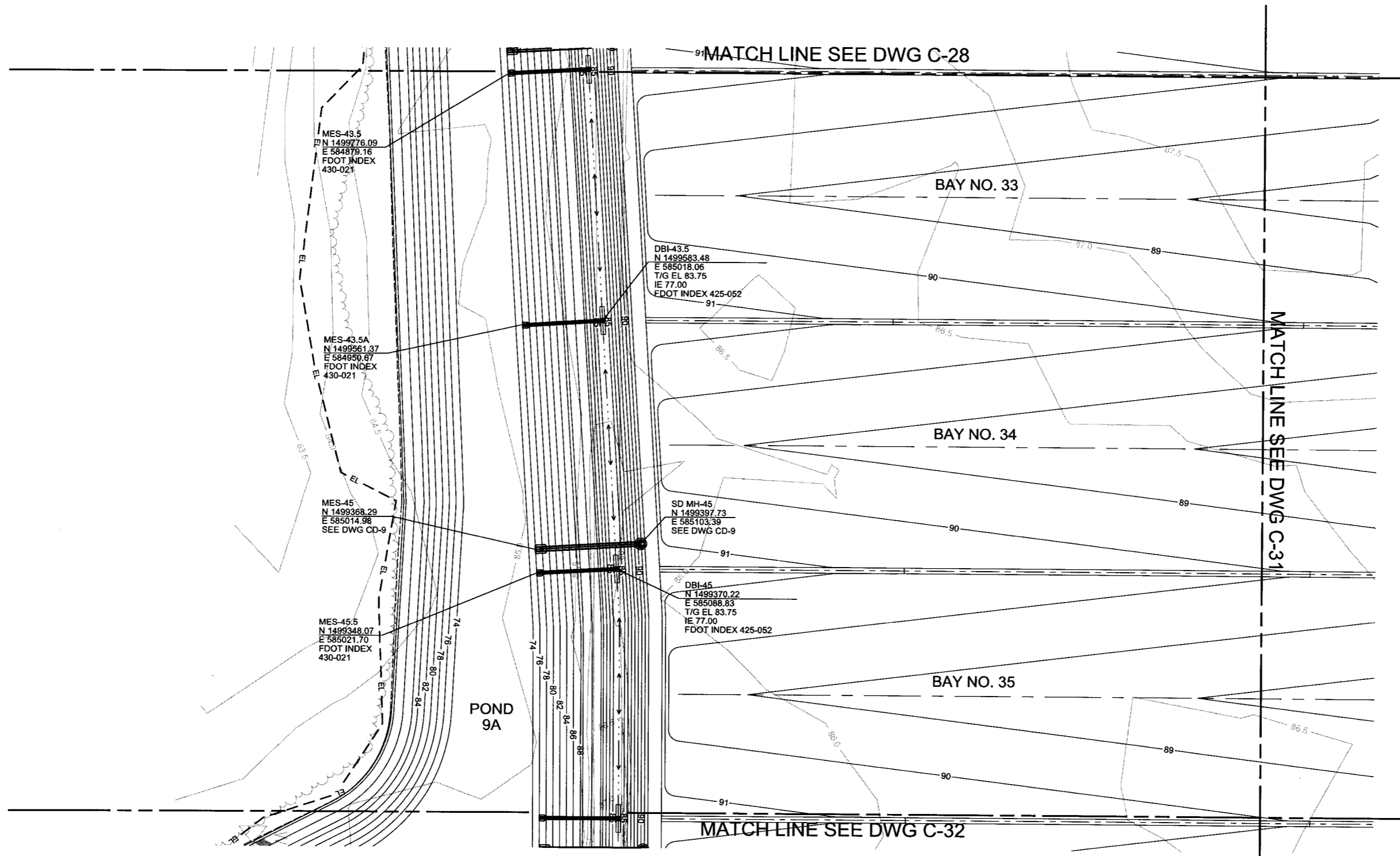
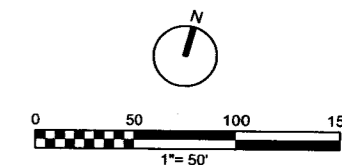
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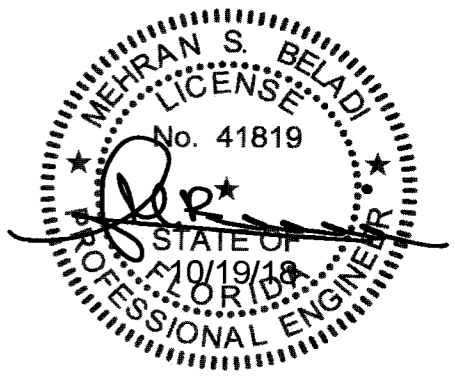
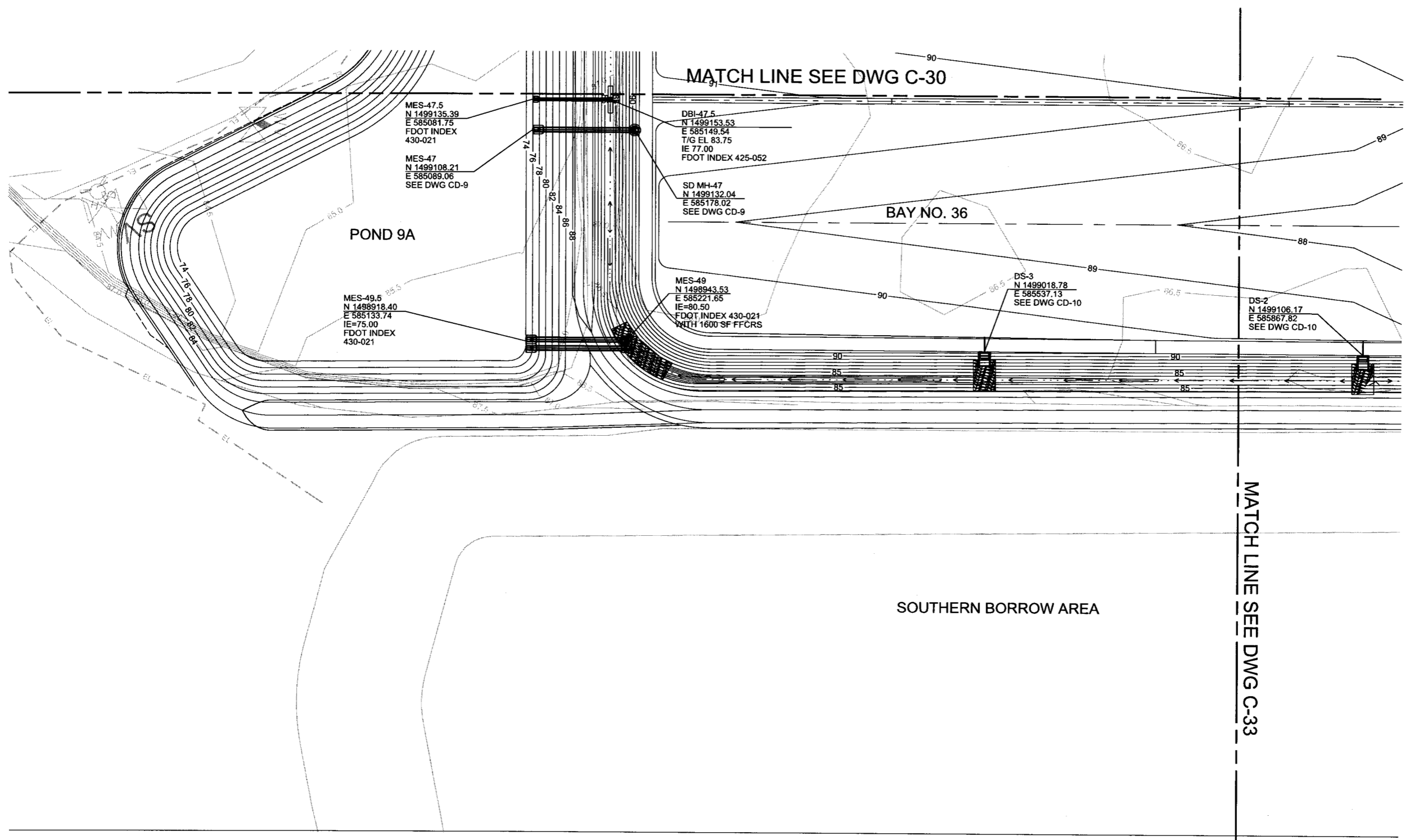
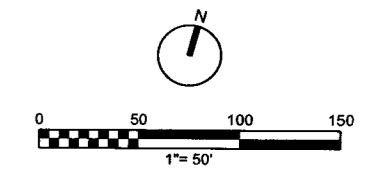
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										PROJ. NO.	676802



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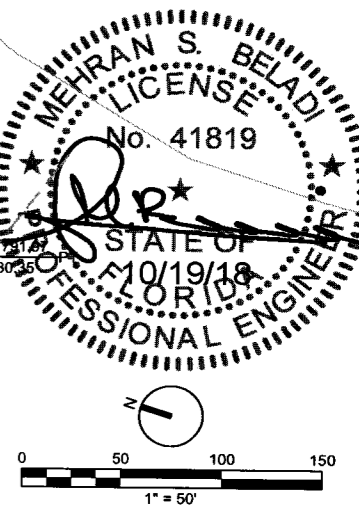
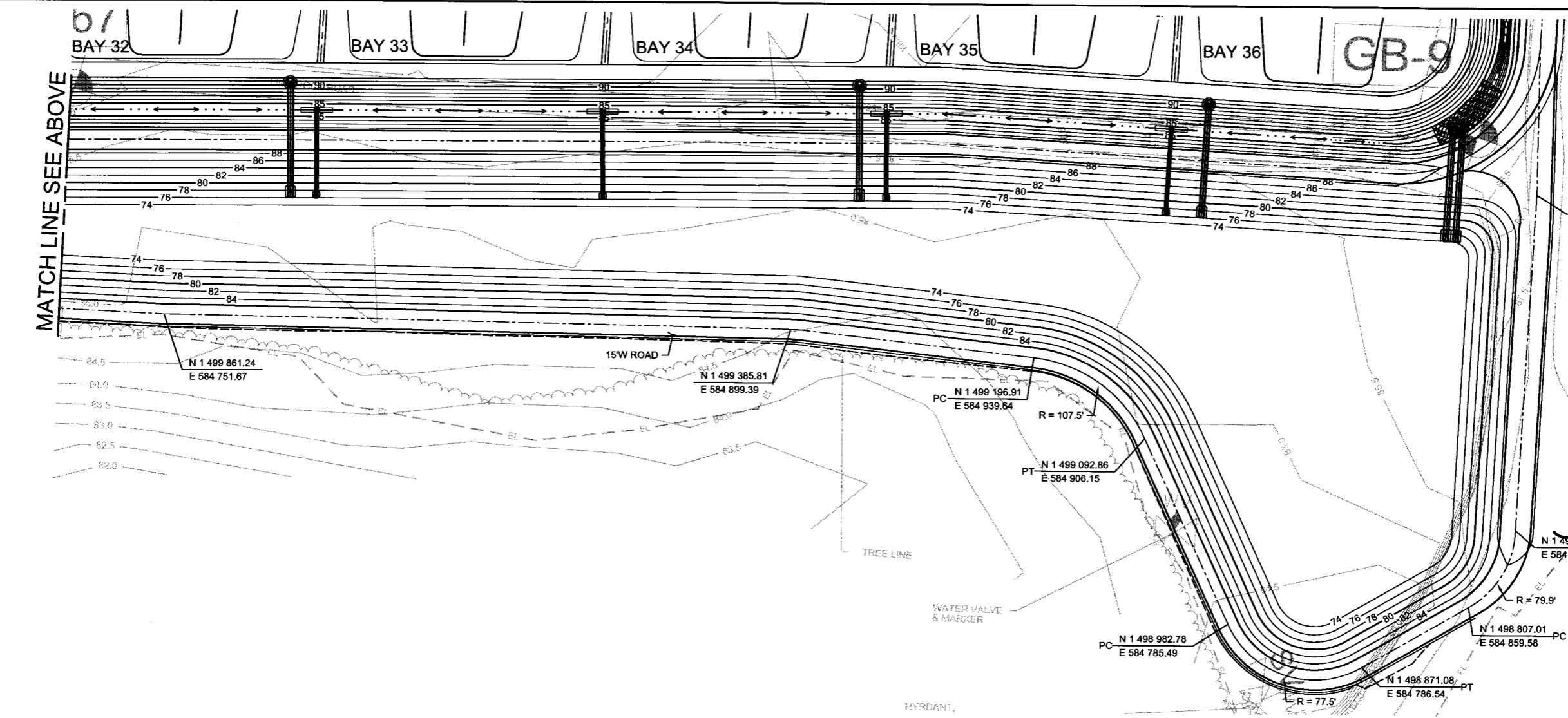
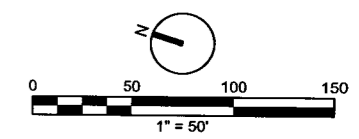
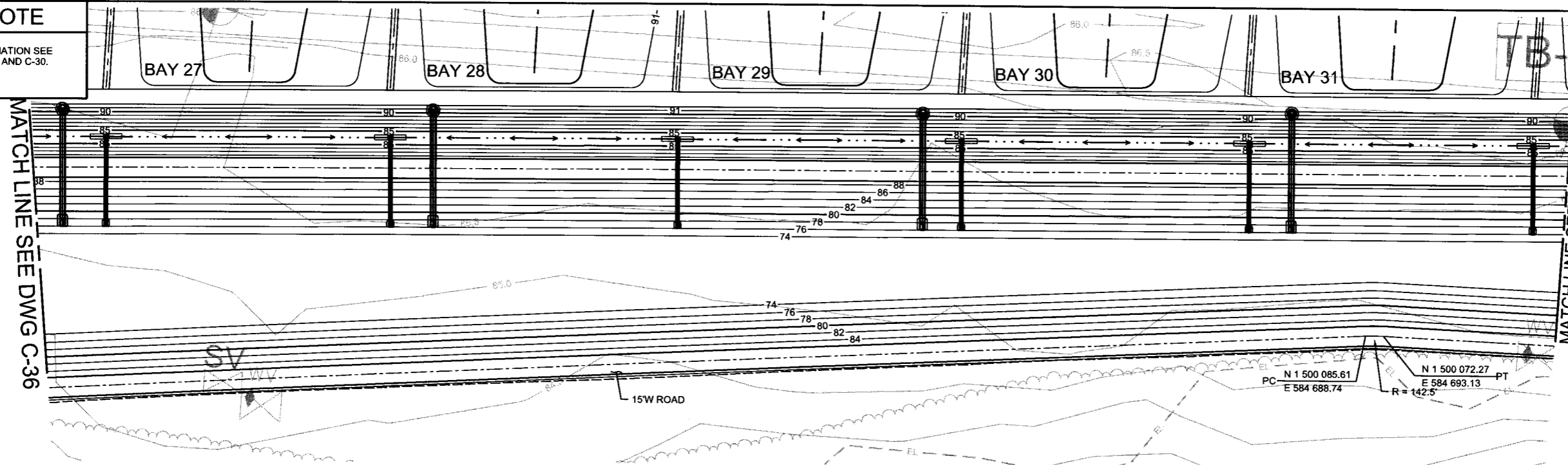
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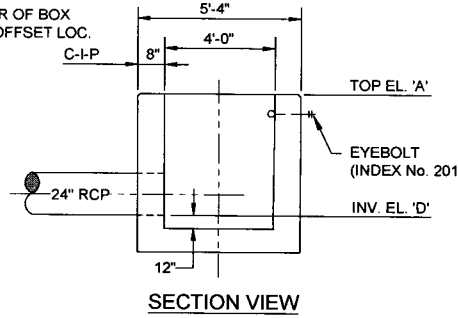
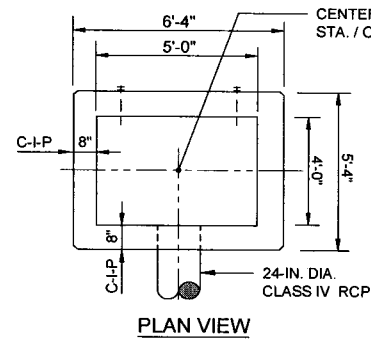
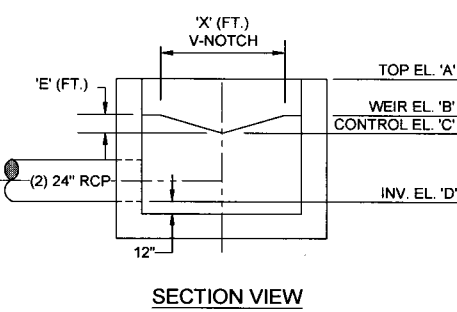
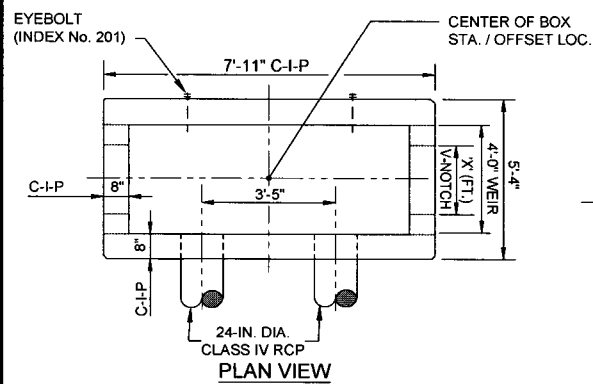
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF NEEL-SCHAFFER INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF NEEL-SCHAFFER INC. NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.				DESIGNED	RD	DATE	NEEL-SCHAFFER SOLUTIONS YOU CAN BUILD UPON ch2m:	PERMIT PLANS FOR ORANGE COUNTY LANDFILL CELL 11-12 EXPANSION UTILITIES SOLID WASTE DIVISION ORANGE COUNTY, FLORIDA	ORANGE COUNTY LANDFILL EXPANSION		SHEET NO.
	NO.	BY	REVISIONS	DATE	FILE NAME	005-C-2016_676802.dgn	CIVIL BAY 36 DRAINAGE AND EROSION CONTROL PLAN - WEST			C-32		
										SCALE:	PROJ. NO.	676802

GENERAL SHEET NOTE

1. FOR DRAINAGE STRUCTURE INFORMATION SEE DWGS C-18, C-20, C-22, C-24, C-26, C-28, AND C-30.



VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF NEEL-SCHAFFER INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF NEEL-SCHAFFER INC.				DESIGNED	RD	DATE		NEEL-SCHAFFER SOLUTIONS YOU CAN BUILD UPON	ch2m	ORANGE COUNTY LANDFILL EXPANSION		SHEET NO.
	NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.				CHECKED	DS	DATE				PERMIT PLANS FOR ORANGE COUNTY LANDFILL CELL 11-12 EXPANSION UTILITIES SOLID WASTE DIVISION ORANGE COUNTY, FLORIDA		CIVIL POND 9A AND ACCESS ROAD
	NO.	BY	REVISIONS	DATE	FILE NAME	005-C-4002_676802.dgn						SCALE:	
												PROJ. NO.	676802



**CONTROL STRUCTURE CS9A-1
(TYPE H FDOT INDEX No. 232)**

REFER TO TABLE 4 SHEET 2 OF 7 OF FDOT INDEX No. 232 FOR OTHER STEEL REQUIREMENTS

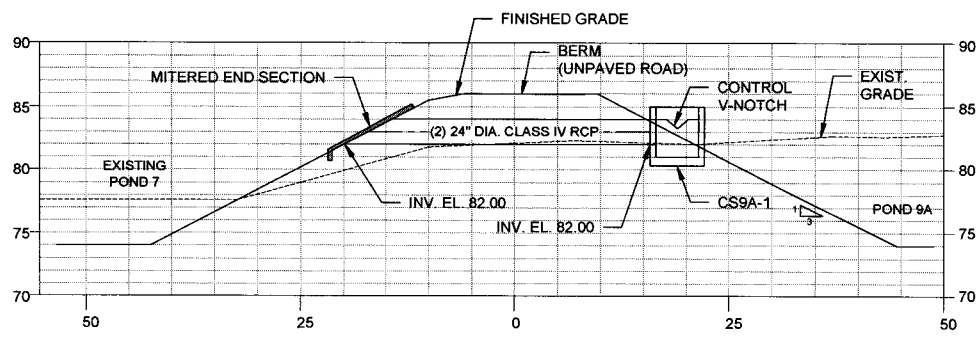
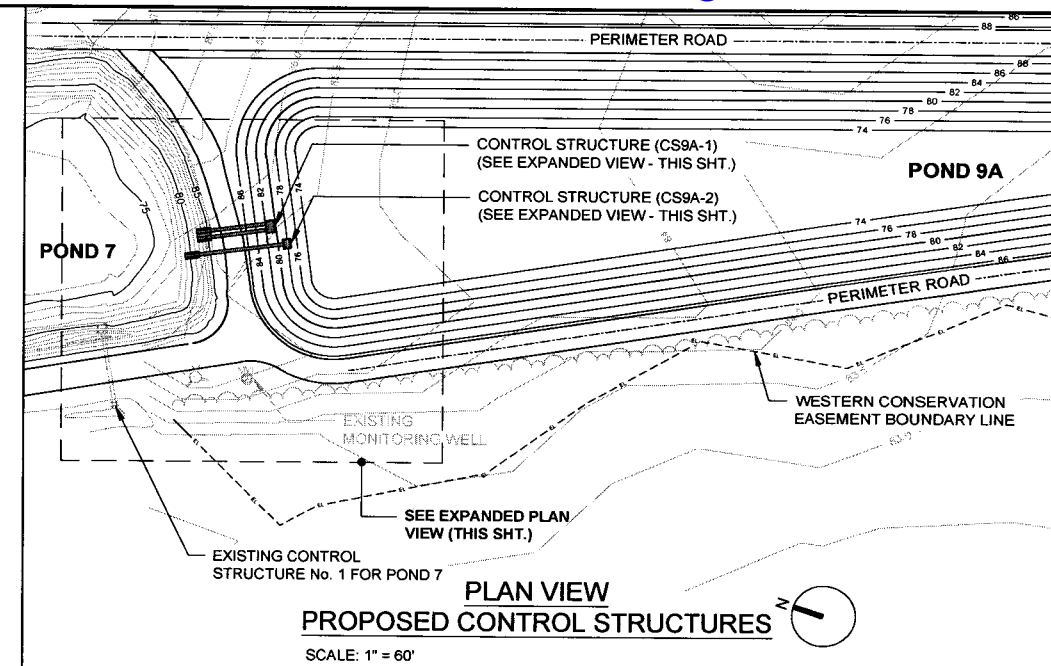
STR. NO.	EL. 'A'	EL. 'B'	EL. 'C'	INV. EL. 'D'	'E' (FT.)	'E' (FT.)
CS9A-1	85.00	83.07	82.50	82.00	0.57	3.73
CS9A-2	83.10			79.00		

ELEVATIONS ARE NGVD

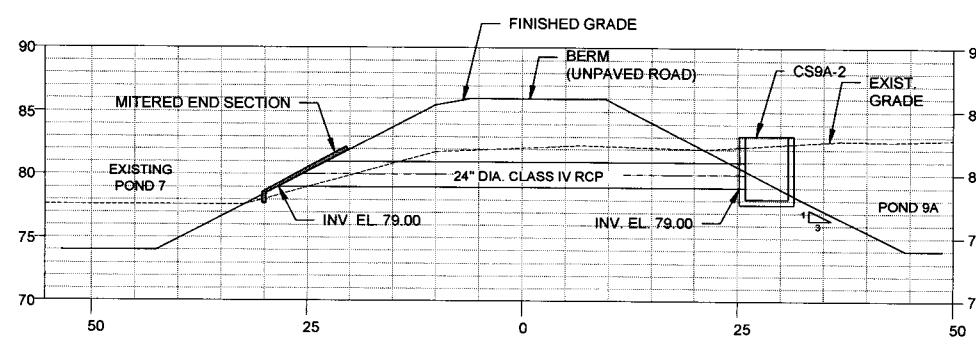
**CONTROL STRUCTURE CS9A-2
(TYPE E FDOT INDEX No. 232)**

REFER TO TABLE 3 SHEET 1 OF 7 OF FDOT INDEX No. 232 FOR OTHER STEEL REQUIREMENTS

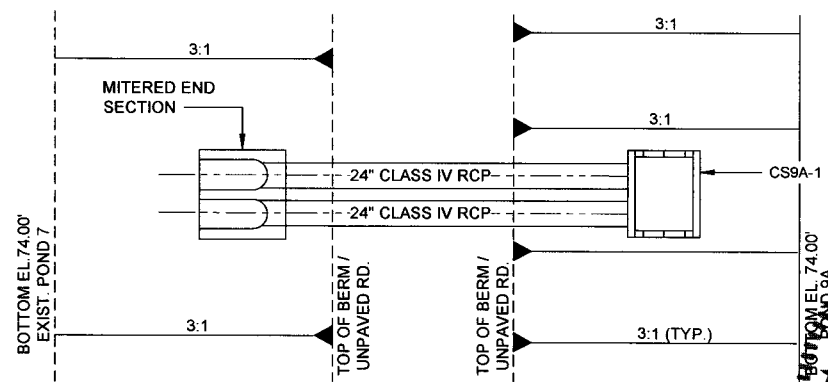
CONTROL STRUCTURE DETAILS FOR POND 9A
NTS



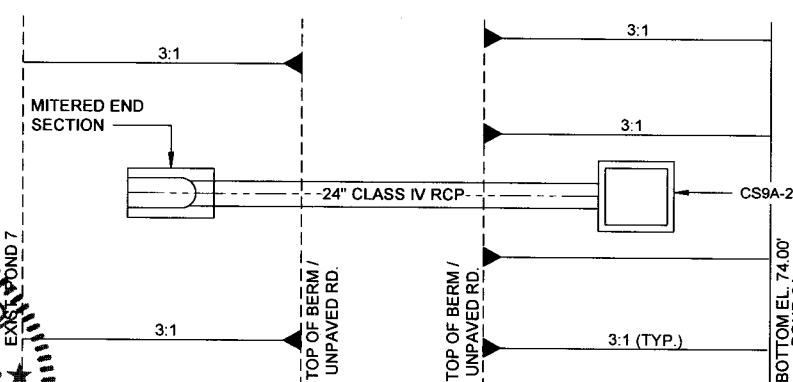
**SECTION VIEW
POND 9A CONTROL STRUCTURE No. CS9A-1**
NTS



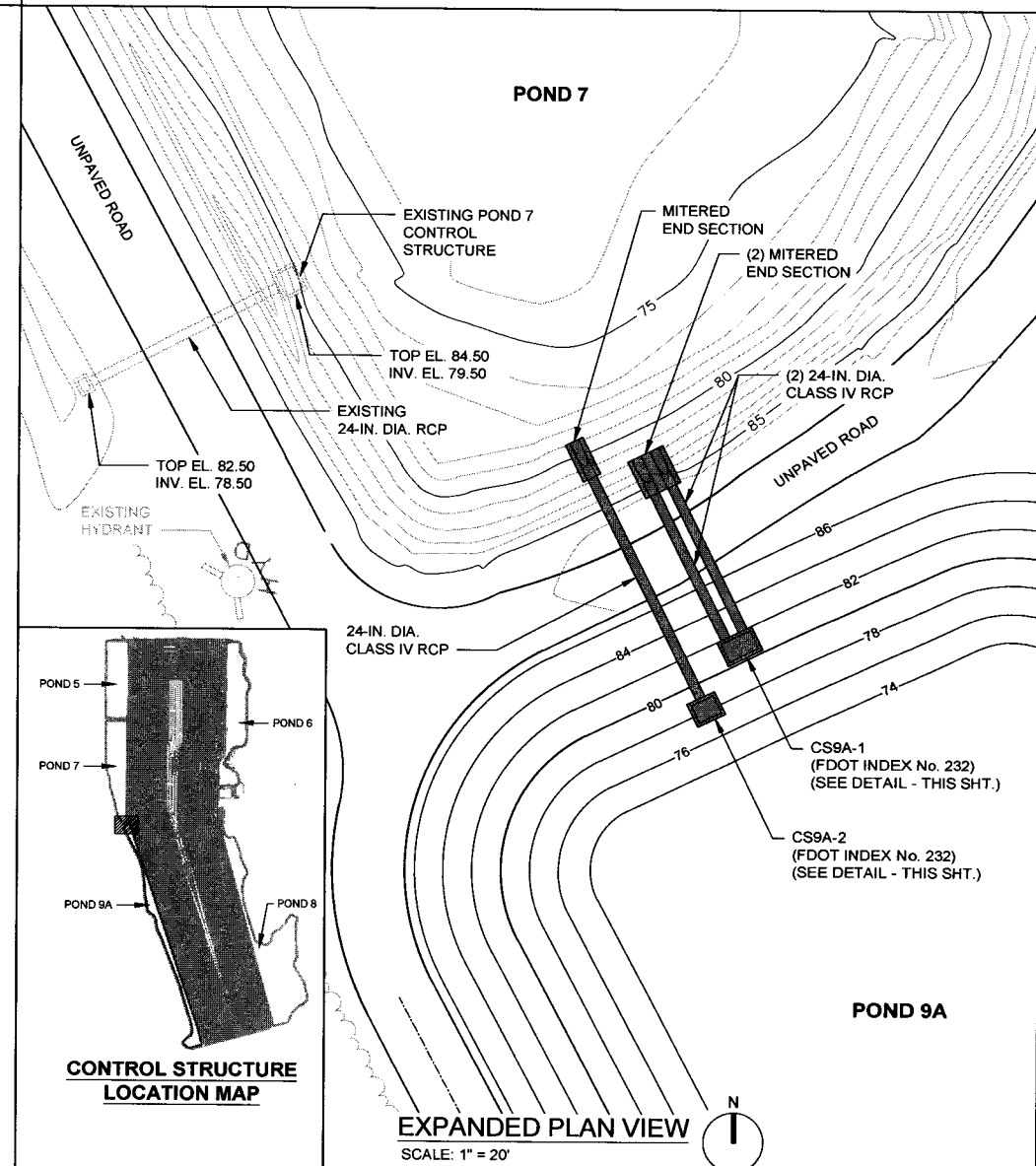
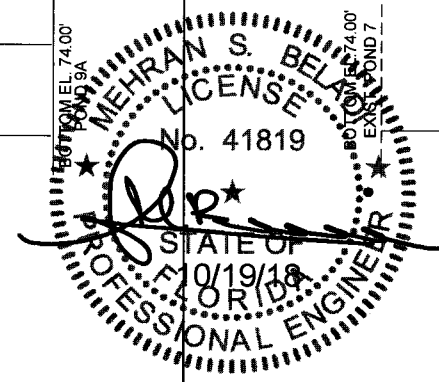
**SECTION VIEW
POND 9A CONTROL STRUCTURE No. CS9A-2**
NTS



**PLAN VIEW
POND 9A CONTROL STRUCTURE No. CS9A-1**
NTS



**PLAN VIEW
POND 9A CONTROL STRUCTURE No. CS9A-2**
NTS

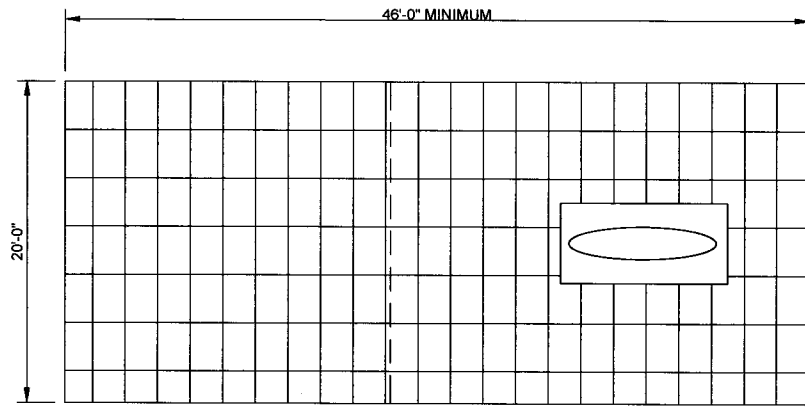
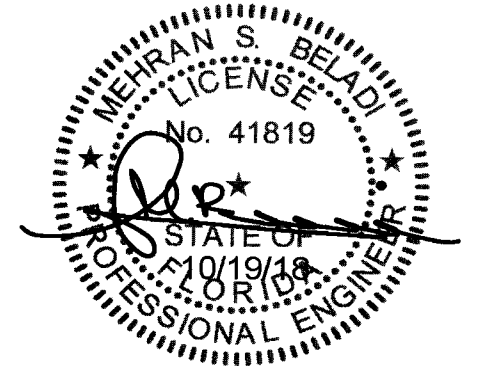


**CONTROL STRUCTURE
LOCATION MAP**

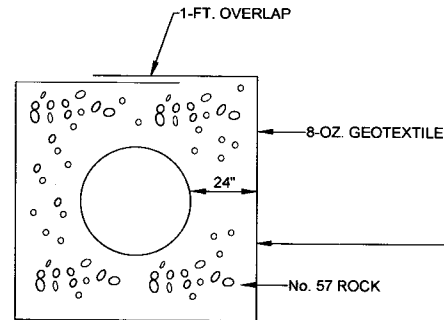
EXPANDED PLAN VIEW
SCALE: 1" = 20'

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF NEEL SCHAFFER INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF NEEL SCHAFFER INC.		DESIGNED	DATE	NEEL SCHAFFER SOLUTIONS YOU CAN BUILD UPON	ch2m:	ORANGE COUNTY LANDFILL EXPANSION CIVIL POND 9A CONTROL STRUCTURE DETAILS	SHEET NO.
	NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.		DRAWN	MAR				DATE
	NO.	BY	REVISIONS	DATE	FILE NAME	CD-7_676802.dwg	SCALE:	AS SHOWN
							PROJ. NO.	676802

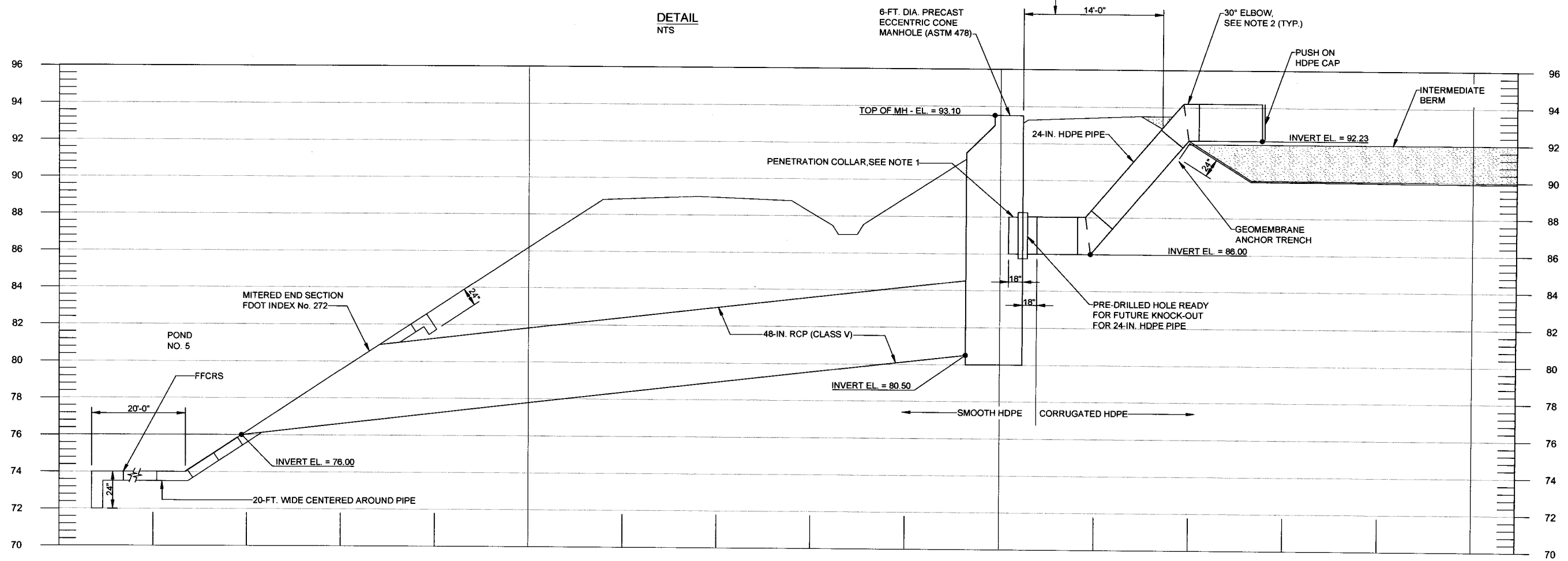
ORANGE COUNTY LANDFILL EXPANSION	SHEET NO.
CIVIL	CD-7
POND 9A	SCALE: AS SHOWN
CONTROL STRUCTURE DETAILS	PROJ. NO. 676802



FABRIC FORMED CONCRETE REVETMENT SYSTEM PLAN VIEW
NTS

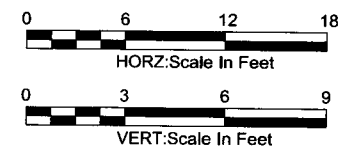


DETAIL
NTS

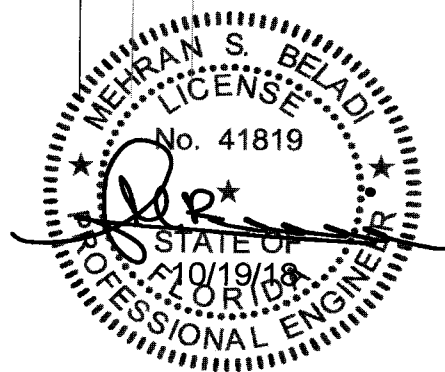
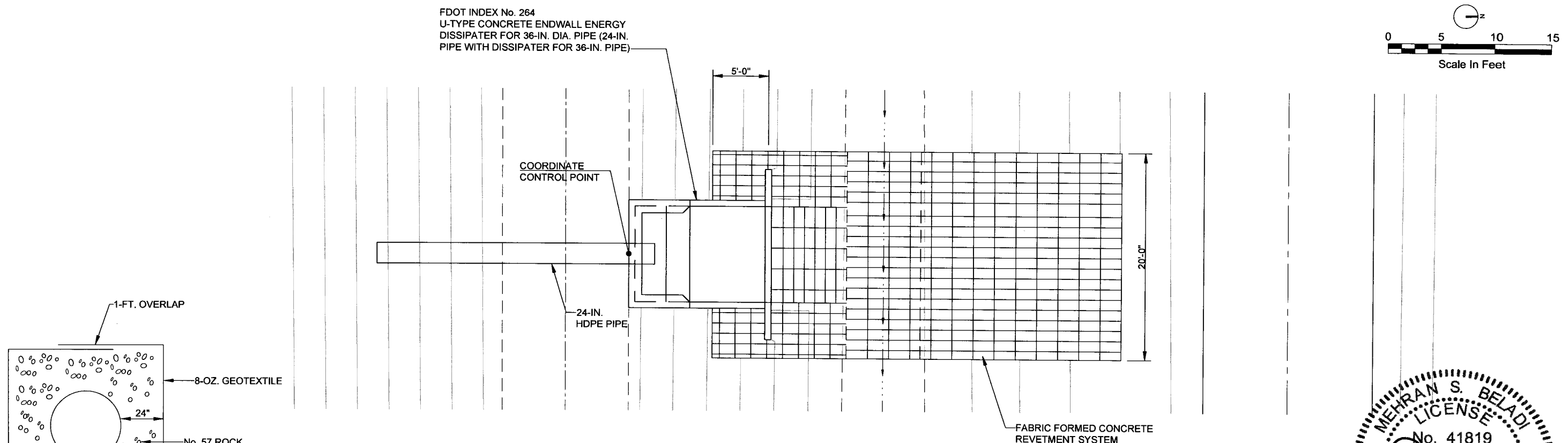


NOTES:

1. HDPE PENETRATION COLLAR SHALL HAVE SAND EPOXY COATING ON EXTERIOR AND RUBBER 'O' RING ON INSIDE.
2. ALL ELBOWS SHALL BE SDR 22.5.
3. BACKFILL PIPE WITH 2-FT. OF No. 57 ROCK AROUND THE PIPE. WRAP THE ROCK WITH 8-OZ. GEOTEXTILE.



VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF NEEL SCHAFFER INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF NEEL SCHAFFER INC.			DESIGNED	DATE			ORANGE COUNTY LANDFILL EXPANSION		SHEET NO.
	NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.			DRAWN	MAR			DATE	CIVIL CELL 11 - 12 STORMWATER DRAINAGE SYSTEM PROFILE - WEST	
	NO.	BY	REVISIONS	DATE	FILE NAME	PROFILE EXHIBIT WEST.dwg	PERMIT PLANS FOR ORANGE COUNTY LANDFILL CELL 11-12 EXPANSION ORANGE COUNTY SOLID WASTE DIVISION ORANGE COUNTY, FLORIDA		SCALE: AS SHOWN	PROJ. NO. 676802



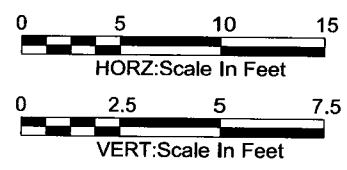
PLAN
1" = 5'

DETAIL
NTS

PROFILE

NOTES:

1. HDPE PENETRATION COLLAR SHALL HAVE SAND EPOXY COATING ON EXTERIOR AND RUBBER 'O' RING ON INSIDE.
2. ALL ELBOWS SHALL BE SDR 22.5.
3. BACKFILL PIPE WITH 2-FT. OF No. 57 ROCK AROUND THE PIPE. WRAP THE ROCK WITH 8-OZ. GEOTEXTILE.



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	NOT TO BE USED FOR CONSTRUCTION UNTIL APPROVED.			DRAWN	MAR		DATE	CELL 11 - 12 STORMWATER DRAINAGE SYSTEM PROFILE - SOUTH	
			CHECKED		DATE	PERMIT PLANS FOR ORANGE COUNTY LANDFILL CELL 11-12 EXPANSION ORANGE COUNTY SOLID WASTE DIVISION ORANGE COUNTY, FLORIDA		SCALE:	AS SHOWN
			APPROVED		DATE			PROJ. NO.	676802
			NO.	BY	REVISIONS	DATE	FILE NAME	PROFILE EXHIBIT SOUTH.dwg	



FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

August 27, 2019

NOTICE OF PERMIT

By-Email
david.gregory@ocfl.net

In the Matter of an
Application for Permit by:
Orange County Utilities Solid Waste Division
5901 Young Pine Road
Orlando, FL 32829

Orange County
WACS # 21847
Orange County Solid Waste
Management Facility

Attention: Mr. Gregory

DEP File No: 0128169-049-SC-01

Enclosed is Permit Number 0128169-049-SC-01 to construct Cells 11 and 12 for the Class I Landfill at the Orange County Solid Waste Management Facility, issued pursuant to Section 403.061(14) and 403.707, Florida Statutes.

NOTICE OF RIGHTS

Judicial Review

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68, F.S. by the filing of a notice of appeal under Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department of Environmental Protection in the Office of General Counsel (Mail 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 after this order is filed with the Clerk of the Department.

EXECUTION AND CLERKING

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

A handwritten signature in blue ink, appearing to read "Kimberly A. Walker".

Kimberly A. Walker, Program Administrator
Permitting and Compliance Assistance Program

Attachment(s):

1. Permit No. 0128169-049-SC-01

CERTIFICATE OF SERVICE

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

Name, company, email address

James Flynt, P.E., Orange County Solid Waste Division, james.flynt@ocfl.net

Daniel Courcy, P.E., Orange County Solid Waste Division, Daniel.courcy@ocfl.net

Ron Beladi, P.E., Neel-Schaffer, ron.beladi@neel-schaffer.com

Cory Dilmore, P.E., DEP PCAP SWPP, cory.dilmore@floridadep.gov

El Kromhout, P.G., DEP PCAP SWPP, elizabeth.kromhout@floridadep.gov

Central District DEP_CD@floridadep.gov

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Tammy Starling
Clerk

8/27/19
Date



FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

Permit Issued to:

Orange County Utilities Department
Solid Waste Division
5901 Young Pine Road
Orlando, Florida
(407) 836-6600

WACS Facility ID No.: 21847
Facility Name: Orange County Solid Waste Management Facility
5901 Young Pine Road
Orlando, Orange County, Florida

Contact Person:
David Gregory, Manager, Solid Waste Division
David.Gregory@ocfl.net
(407) 83-6600

Solid Waste Construction Permit – Class I Landfill
Permit No.: 0128169-049-SC-01

Permit Issued: August 27, 2019
Permit Renewal Application Due Date: June 27, 2039
Permit Expires: August 27, 2039

Permitting Authority
Florida Department of Environmental Protection
Tallahassee Solid Waste Program & Permitting
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399-2400
(850) 245-8707

SECTION 1 - SUMMARY INFORMATION

A. Authorization

The permittee is hereby authorized to construct the facility described below in accordance with the specific and general conditions of this permit and any documents attached to this permit or specifically referenced in this permit and made a part of this permit.

This solid waste construction permit is issued under the provisions of Chapter 403, Florida Statutes, (F.S.), and Chapters 62-4 and 62-701, Florida Administrative Code, (F.A.C.).

This permit does not relieve the permittee from complying with any other appropriate local zoning or land use ordinances or with any other laws, rules or ordinances. Receipt of any permits from the Department does not relieve the applicant from obtaining other federal, state, and local permits and/or modifications required by law, including those from other Sections within the Department or of the Water Management District.

B. Facility Location

The Class I landfill is a part of the Orange County Solid Waste Management Facility. The facility is located at the terminus of Young Pine Road, approximately 3 miles southeast of the Curry Ford Road and Dean Road Intersection, Orlando, in Orange County, Florida, at latitude 28°28'54" N and longitude 81°11'30" W.

C. Facility Description

This permit authorizes the construction of Class I Cells 11 and 12 at the Orange County Solid Waste Management Facility. The construction includes the extension of the landfill gas perimeter transmission main and associated condensate sumps. The construction will be completed in phases.

The Southern Expansion Site is approximately 3,500 acres and lies south of Young Pine Road. The total area of Cells 9-12 within the Southern Expansion Site is comprised of 301.1 acres of planned disposal area. Cells 9 and 10 are in operation. Cell 9 covers approximately 65 acres (Bays 1 through 7); it is located immediately south of Young Pine Road and has been in operation since January 14, 2005. Cell 10 covers approximately 82.2 acres (Bays 8 through 16) and is located directly south and adjacent to Cell 9. The County will construct Cells 11 and 12 southward including infrastructure improvements as needed to serve the new cells. Cell 11, located adjacent to Cell 10, will cover approximately 76.2 acres (Bays 17 through 25). Cell 12, located south of and adjacent to Cell 11, will cover approximately 77.2 acres (Bays 26 through 36).

Disposal Areas	Total Area (Cells 9-12): 301.1 acres Cell 9: 65 acres Cell 10: 82.2 acres Cell 11: 76.2 acres Cell 12: 77.2 acres
----------------	---

Bottom Liner Design (top to bottom) in areas above the seasonal high groundwater table	<ul style="list-style-type: none"> • 24 inches of drainage sand • LCS: Composite Drainage Net (CDN) • Primary Liner: 60-mil HDPE geomembrane liner • LDS: CDN between the primary and secondary geomembranes • Secondary Liner: 60-mil HDPE geomembrane liner • Subbase: Geosynthetic Clay Liner (GCL) over prepared graded and compacted ground surface
Double Composite Liner System in areas below the seasonal high groundwater table	<ul style="list-style-type: none"> • 24 inches of drainage sand • LCS: Composite Drainage Net (CDN) • Primary Liner: 60-mil HDPE geomembrane liner • Geosynthetic Clay Liner (GCL) • LDS: CDN between the primary and secondary geomembranes • Secondary Liner: 60-mil HDPE geomembrane liner • Subbase: Geosynthetic Clay Liner (GCL) over prepared graded and compacted ground surface
Lowest bottom elevation of cells	+78.0 feet NGVD
Top elevation at final buildout	+244.0 feet NGVD
Sideslopes max	3H:1V

The leachate is pumped from the disposal areas to the two existing above-ground leachate storage tanks each with a storage capacity of one-half million gallons to temporarily store leachate. Leachate is transmitted from the storage tank facility through a master pump station and force main to the Orange County Eastern Water Reclamation Facility for treatment and disposal. The leachate storage tanks are also equipped to load leachate onto tanker trucks as back-up.

A landfill gas collection system (LGCS) master plan has been designed to control odors and prevent migration of methane. Horizontal Landfill Gas (LFG) collectors are proposed for each lift and are authorized to be built as part of continuing operations and are connected to the perimeter LFG collection piping. The active gas collection system is permitted to be operated in accordance with the requirements of the Title V (NSPS) Air Permit No. 0950113-014-AV (expires 3/09/2021). The onsite LFG treatment and transmission facility is owned and operated by the Orlando Utilities Commission (OUC). The agreement between the County and OUC allows the County to take over and operate the LFG exhausters and flares if necessary to maintain regulatory compliance.

The stormwater system for Cells 9-12 is permitted by an overall conceptual Environmental Resource Permit for the Southern Expansion Site. The permit was updated with modification ERP48-0177603-009-EM issued July 7, 2014. The pond 9A (formerly Ponds 9 and 10) was modified for the construction of Cells 11 and 12 with ERP48-0177603-011-EI issued December 27, 2018.

Other operations at the County landfill included in this permit are waste tire collection, household hazardous waste collection (operated in accordance with Chapter 62-730, F.A.C.), white goods storage, yard waste composting, and asbestos disposal.

D. Appendices Made Part of This Permit

APPENDIX 1 - General Conditions

APPENDIX 2 – List of Approved Documents Incorporated into the Permit

SECTION 2 - SPECIFIC CONDITIONS

A. Administrative Requirements

1. Documents Part of This Permit. The permit application as revised in final form replaced or amended in response to the Department's Request(s) for Additional Information are contained in the Department's files and are made a part of this permit. Those documents that make up the complete permit application are listed in APPENDIX 2.
2. Permit Modification. Any change to construction, operation, monitoring, or closure requirements of this permit may require a modification to this permit, in accordance with the provisions of Rule 62-701.320(4), F.A.C.
3. Permit Renewal. In order to ensure uninterrupted operation of this facility, a timely and sufficient permit renewal application must be submitted to the Department in accordance with Rule 62-701.320(10), F.A.C. A permit application submitted at least 61 days prior to the expiration of this permit is considered timely and sufficient.
4. Transfer of Permit or Name Change. In accordance with Rule 62-701.320(11), F.A.C., and Rule 62-4.120, F.A.C., the Department must be notified by submitting Form 62-701.900(8) within 30 days: (a) of any sale or conveyance of the facility; (b) if a new or different person takes ownership or control of the facility; or (c) if the facility name or permittee's legal name is changed.
5. Permit Fee Payments. The total permit fee required for this permit is \$40,000 for a 20-year permit. The applicant has elected to pay this fee in installments in accordance with Rule 62-701.315(13), F.A.C., and submitted a fee of \$10,000 with this application. No later than August 27, 2024, August 27, 2029, and August 27, 2034, the permittee shall submit to the Department an installment payment of this fee in the amount of \$10,000. This fee is due the State regardless of whether the permittee closes the facility, surrenders the permit, has the permit revoked, or transfers the permit before it expires. If the permittee elects to transfer the permit, it must either pay the entirety of the fee due before submitting the application for transfer, or it must include with the transfer application a signed agreement from the proposed transferee to accept responsibility for the remainder of the permit fee due.

B. Construction Requirements

1. Construction authorized. This Permit authorizes the phased construction of Class I Cells 11 and 12, includes the extension of the landfill gas perimeter transmission main and associated condensate sumps, and related appurtenances related to Cells 11 and 12 of the facility as described in Appendix 2, Documents 1.a. and b. and Document 3.a., and as shown on the permit drawings (Appendix 2, Document 3.b.). This permit does not authorize landfill operation or closure.
2. General Construction Requirements. All phased construction shall be done in accordance with the approved design, drawings (Appendix 2, Document 3.b.), CQA plan (Appendix 2, Document 3.c.), and specifications. The Department shall be notified before any changes, other than minor deviations, to the approved design are implemented in order to determine whether a permit modification is required.
3. Installation Notifications. The Permittee shall notify the Department at least 10 days prior to the commencement of construction of the liner system for each phase of construction.
4. Certification of Construction Completion. Upon completion of construction, the engineer of record shall certify to the Department in accordance with Rule 62-701.320(9)(b), F.A.C., that the permitted construction is complete and was done in substantial conformance with the approved construction plans except where minor deviations were necessary. All deviations shall be described in detail and the reasons therefore enumerated. The following documents shall be submitted along with the Certification:
 - a. The final report and record drawings showing that the liner system has been installed in substantial conformance with the plans and specifications for the liner system. The record drawings must include the results of the surveys of the liner, base grade and collection pipe slopes.
 - b. Results of testing of geosynthetic and soil components of the liner system.
 - c. The final report showing the results of the geomembrane liner leak location survey from the sump areas, under boots, and pipe penetrations (as detailed in the technical specifications - Exhibit D of Appendix 2, Document 1 and CQA Plan - Appendix 2, Document 3.c.).
 - d. Results of testing of components of liner pipe penetrations.
 - e. Construction report for the leachate collection system.
5. Construction Quality Assurance. The Construction Quality Assurance (CQA) Plan submitted with the permit application (Appendix 2, Document 3.c.) shall be followed for preparing the subgrade and installing and testing the liner system and related components. The CQA engineer or the engineer's designee shall be on-site at all times during construction of the liner system to monitor the construction activities including preparation of the subbase, placement of the GCL, primary and secondary liner components and leachate collection system, and placement of the drainage and protective layer over the primary liner.
6. Approval of Certification. The permittee shall not begin using newly constructed Bays of Cells 11 and 12 at the facility until one of the following has occurred: (1) the Department has stated

in writing that it has no objection to the certification of construction completion; or (2) at least 30 days have passed since the certification was submitted and the Department has not responded in writing to the certification.

C. Operation Requirements

1. **General Operating Requirements.** The Permittee shall operate Class I Landfill Cells 9 – 12 in accordance with Operation Permit No. 0128169-037-SO-01 and any associated modifications to that permit.

D. Water Quality Monitoring Requirements

1. The Water Quality Monitoring Requirements are described in Operation Permit No. 0128169-037-SO-01 and any associated permit modifications.

E. Gas Management System Requirements

1. The Gas Management System Requirements are described in Operation Permit No. 0128169-037-SO-01 and any associated permit modifications.

F. Financial Assurance and Cost Estimates

1. **Financial Assurance Mechanism.** The permittee may not receive waste for disposal or storage in any disposal unit for which financial assurance has not been approved. Proof that the financial mechanisms are established and funded in accordance with Rule 62-701.630, F.A.C. shall be submitted to the Department at least sixty (60) days prior to the planned acceptance of solid waste in any disposal unit. When established, the permittee shall maintain, in good standing, the financial assurance mechanisms. Supporting documentation and evidence of increases associated with cost estimate increases shall be submitted within the time frames specified in Rule 62-701.630, F.A.C.

All submittals in response to this specific condition shall be sent to:

Florida Department of Environmental Protection
Financial Coordinator - Solid Waste Section
2600 Blair Stone Road, MS 4548
Tallahassee, Florida 32399-2400

Financial.Assurance.Working.Group@floridadep.gov

2. **Cost Estimates.**
 - a. The permittee shall submit closure cost estimates, including annual adjustments for inflation, in accordance with the requirements of Rule 62-701.630(3) and (4), F.A.C., and 40 CFR Part 264.142(a) using Form 62-701.900(28).
 - b. An owner or operator using an escrow account shall submit the annual inflation adjusted estimate(s) between July 1 and September 1. An owner or operator using a letter of credit,

guarantee bond, performance bond, financial test, corporate guarantee, trust fund or insurance shall submit the inflation adjusted cost estimate(s) between January 1 and March 1.

- c. All submittals in response to this specific condition shall be sent to the District Office (DEP_CD@floridadep.gov) and a copy to the address identified in Specific Condition F.1. or to the following email address: Financial.Assurance.Working.Group@floridadep.gov.

G. Closure Requirements

Not Applicable

H. Long Term Care Requirements

Not Applicable

EXECUTION AND CLERKING

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Kimberly A. Walker, Program Administrator
Permitting and Compliance Assistance Program

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F.S. with the designated Department Clerk, receipt of which is hereby acknowledged.

 Tammy Starling

Clerk

 8/27/2019

Date

APPENDIX 1

General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - (a) Have access to and copy any records that must be kept under conditions of the permit;

- (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- (a) A description of and cause of noncompliance; and
- (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit or a copy thereof shall be kept at the work site of the permitted activity.

12. The permittee shall comply with the following:

- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- (c) Records of monitoring information shall include:
 - 1. the date, exact place, and time of sampling or measurements;
 - 2. the person responsible for performing the sampling or measurements;

PERMITTEE NAME: Orange County Utilities Department Solid Waste Division
FACILITY NAME: Orange County Solid Waste Management Facility

PERMIT NO.: 0128169-049-SC-01
WACS Facility ID: 21847

3. the dates analyses were performed;
 4. the person responsible for performing the analyses;
 5. the analytical techniques or methods used;
 6. the results of such analyses.
13. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

APPENDIX 2

Approved Documents Incorporated into the Permit

The approved application documents for the Construction Permit for the Cell 11 and 12 Class I Landfill consist of the following:

1. Solid Waste Management Facility Permit Application for Construction of Cell 11-12 Class I Landfill Expansion on the Southern Expansion Site, Solid Waste Management Facility, Orange County, Florida, prepared by Neel-Schaffer, dated February 7, 2019, and received by the Department February 21, 2019.
 - a. Volume I:
[https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.291905.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.291905.1]&[profile=Permitting_Authorization])
 - b. Volume II:
[https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.291906.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.291906.1]&[profile=Permitting_Authorization])
 - c. Volume III (Drawings):
[https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.291908.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.291908.1]&[profile=Permitting_Authorization])
2. First Request for Additional Information, dated March 15, 2019.
[https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.293093.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.293093.1]&[profile=Permitting_Authorization])
3. Response to RAI No. 1, prepared by Neel-Schaffer, dated July 8, 2019, and received by the Department July 12, 2019.
 - a. [https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.300480.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.300480.1]&[profile=Permitting_Authorization])
 - b. Drawings
[https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.300481.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.300481.1]&[profile=Permitting_Authorization])
 - c. CQA Plan
[https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&\[guid=8.300671.1\]&\[profile=Permitting_Authorization\]](https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=8.300671.1]&[profile=Permitting_Authorization])

EXHIBIT D

LIST OF APPROVED PRODUCTS, FEBRUARY 2011

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments
Air Release	ARV Enclosure	Water Plus Polyethylene Enclosure	131632 H30-B	Blue 44" Tall	131632 H30-P	Pantone 44"	131632 H30-G	Green 44" Tall
			171730 H40-B	Blue 30" Tall	171730 H40-P	Pantone 30"	171730 H40-G	Green 30" Tall
			AVG2036 Encl	Blue 36" Tall	AVG2036 Encl	Pantone 36" Tall	AVG2036 Encl	Green 36" Tall
			GP3232 Base		GP3232 Base		GP3232 Base	
			AVG2041 Encl	Blue 41" Tall	AVG2041 Encl	Pantone 41" Tall	AVG2041 Encl	Green 41" Tall
			GP3232 Base		GP3232 Base		GP3232 Base	
	Safety-Guard/Hydro Guard		Blue 34" Tall	15100 Encl	Pantone 34" Tall	15100 Encl	Green 34" Tall	
Air Release	Air Release Valves	ARI	Air Release Valves shall be Combination Type, 316 SS					
			D-040SS	Combination	D-040SS	Combination	D-020 (SS)	Combination
			NA	NA	NA	NA	986 (316SS)	Combination
			Series RBX DN50	2"	Series RBX DN50	2"	RGX series	
ARV Valve	Air Release Valve Frame and Cover	US Foundry	NA	NA	NA	NA	USF 7665-HH-HJ	
			Automatic Blow Off Valve					
Auto Blow Off	Hydro Guard	Hydro Guard	HG-1 Standard Unit	Automatic	NA	NA	NA	NA
			Blow Off Valve - Fits standard 5-1/4 inch Valve Box					
Blow Off Valve	Kupferle Foundry Co	Water Plus Corp	TruFlo Series TF #550		TruFlo Series TF #550		NA	NA
			The Hydrant Plus Series VB 2000B		The Hydrant Plus Series VB 2000B		NA	NA
Casing Seals / Spacers	Casing End Seals	Advance Products	Casing End Seals. Annular space between pipe and steel casing shall be brick and mortar with end seals to secure ends.					
			Model AC and AW	Model AC and AW	Model AC and AW	Model AC and AW	Model AC and AW	Model AC and AW
			Model WR and PO	Model WR and PO	Model WR and PO	Model WR and PO	Model WR and PO	Model WR and PO
			Model CCES	Model CCES	Model CCES	Model CCES	Model CCES	Model CCES
			Model ESW and ESC	Model ESW and ESC	Model ESW and ESC	Model ESW and ESC	Model ESW and ESC	Model ESW and ESC
			Model C and W	Model C and W	Model C and W	Model C and W	Model C and W	Model C and W
Power Seal	Power Seal	Power Seal	Model 4810ES	Model 4810ES	Model 4810ES	Model 4810ES	Model 4810ES	

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments	
Casing Seals / Spacers	Casing spacer	Advance Products	SSI8 / SSI12		SSI8 / SSI12		SSI8 / SSI12		
		BWM Company	BWM-SS-8 / SS-12		BWM-SS-8 / SS-12		BWM-SS-8 / SS-12		
		Cascade Water Works	Series CCS 8" / 12"		Series CCS 8" / 12"		Series CCS 8" / 12"		
		CCI Pipeline	Model CCS8 / CSS12		Model CCS8 / CSS12		Model CCS8 / CSS12		
		Pipeline Seal & Insulator, Inc. (PSI)	Series S8G-2 / S12G-2		Series S8G-2 / S12G-2		Series S8G-2 / S12G-2		
Coatings	Exterior Coatings for Exposed Metal Assets	Coatings: Aerial pipe, hydrants, above ground piping, fittings, valves and Appurtenances - System 1 Zinc / Urethane / Fluoropolymer application and color code per Section 3119 Coatings & Linings. Coating shall not be in contact with Potable water unless NSF 61 approved.							
		Carboline	Carbozinc 621	3.0 - 8.0 mils	Carbozinc 621	3.0 - 8.0 mils	Carbozinc 621	3.0 - 8.0 mils	
			Carbothane 133 HB	3.0 -5.0 mils	Carbothane 133 HB	3.0 -5.0 mils	Carbothane 133 HB	3.0 -5.0 mils	
			Carboxane 950	2.0 - 3.0 mils	Carboxane 950	2.0 - 3.0 mils	Carboxane 950	2.0 - 3.0 mils	
			Zinc Series 90-97	2.5 - 3.5 mils	Zinc Series 90-97	2.5 - 3.5 mils	Zinc Series 90-97	2.5 - 3.5 mils	
			Typosy Series 27WB	4.0 -14.0 mils	Typosy Series 27WB	4.0 -14.0 mils	Typosy Series 27WB	4.0 -14.0 mils	
		Tnemec	EnduraShield Series73	2.0 - 3.0 mils	EnduraShield Series73	2.0 - 3.0 mils	EnduraShield Series73	2.0 - 3.0 mils	
			Hydroflon Series 700	2.0 - 3.0 mils	Hydroflon Series 700	2.0 - 3.0 mils	Hydroflon Series 700	2.0 - 3.0 mils	
Coatings	Exterior Coatings for Exposed Metal Assets	Coatings: Aerial pipe, hydrants, above ground piping, fittings, valves and Appurtenances - System 2 Zinc / Epoxy / Urethane application and color code per Section 3119 Coatings & Linings. Coating shall not be in contact with Potable water unless NSF 61 approved.							
		Carboline	Carbozinc 621	3.0 - 8.0 mils	Carbozinc 621	3.0 - 8.0 mils	Carbozinc 621	3.0 - 8.0 mils	
			Carboguard 60	4.0 -6.0 mils	Carboguard 60	4.0 -6.0 mils	Carboguard 60	4.0 -6.0 mils	
			Carboxane 950	2.0 - 3.0 mils	Carboxane 950	2.0 - 3.0 mils	Carboxane 950	2.0 - 3.0 mils	
			Zinc Series 90-97	2.5 - 3.5 mils	Zinc Series 90-97	2.5 - 3.5 mils	Zinc Series 90-97	2.5 - 3.5 mils	
			Typosy Series 27WB	4.0 -14.0 mils	Typosy Series 27WB	4.0 -14.0 mils	Typosy Series 27WB	4.0 -14.0 mils	
		Tnemec	Hi-Build Epoxoline II Series N69	4.0 - 10.0 mils	Hi-Build Epoxoline II Series N69	4.0 - 10.0 mils	Hi-Build Epoxoline II Series N69	4.0 - 10.0 mils	
			EnduraShield Series73	2.0 - 3.0 mils	EnduraShield Series73	2.0 - 3.0 mils	EnduraShield Series73	2.0 - 3.0 mils	
			Amercoat 68HS	Min 3.0 mils	Amercoat 68HS	Min 3.0 mils	Amercoat 68HS	Min 3.0 mils	
		PPG / Ameron	Amercoat 385	4.0 - 6.0 mils	Amercoat 385	4.0 - 6.0 mils	Amercoat 385	4.0 - 6.0 mils	
	Amercoat 450H	2.0 - 3.0 mils	Amercoat 450H	2.0 - 3.0 mils	Amercoat 450H	2.0 - 3.0 mils			

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments		
Fittings	Ductile Iron Fittings C153 SSB / C110 FLG: (Water & Reclaimed Water fittings shall cement lined or holiday free fusion bonded epoxy lined) (Wastewater fittings interior shall be Protecto 401 and holiday free)	American	30" & up	FBE / Cement	30" & up	FBE / Cement	30" & up	Protecto 401		
		Sigma		FBE / Cement		FBE / Cement		Protecto 401		
		Star		FBE / Cement		FBE / Cement		Protecto 401		
		Tyler Union & Clow		FBE / Cement		FBE / Cement		Protecto 401		
		EMCO	NA	NA	NA	NA	NA	Unimag 4411E		
Flow Meters	Flow Meters With Replaceable Sensors									
	Hydrants	Hydrants Shall open left, 1-1/2 Pentagon operating nut, NST hose & pumper thread, rotate 360 degrees, closed drains, epoxy on shoe in & out and 304 SS nuts & bolts below ground.								
		American Flow Control	B-84-B (6 inch)		NA	NA	NA	NA		
		Clow	Medallion 2545		NA	NA	NA	NA		
		Mueller	Super Centurion 250		NA	NA	NA	NA		
Joint Restraints	Ductile iron pipe Mechanical Joint Wedge-action Restraining Gland, Epoxy Coated Restrain ductile iron pipe to mechanical joint fittings, pipe and appurtenances.	EBAA Iron Inc	Megalug Series 1100		Megalug Series 1100		Megalug Series 1100			
			Ford / Uni-Flange	UFR-1400		UFR-1400		UFR-1400		
			Sigma	OneLok Series SLD/SLDE		OneLok Series SLD/SLDE		OneLok Series SLD/SLDE		
			Smith Blair	Cam Lok Series 111		Cam Lok Series 111		Cam Lok Series 111		
			Star	Star Grip Series 3000		Star Grip Series 3000		Star Grip Series 3000		
			Tyler Union	TufGrip Series TLD		TufGrip Series TLD		TufGrip Series TLD		
			Bell Joint Restraints for Ductile Iron Pipe (4"-12") (New & Existing) - All restraints split serrated on bell and spigot ends. Pipe 16" and greater shall have restraint gaskets or locking bells. (Wastewater only for restraint of existing DIP FM)							
			EBAA Iron Inc	Tru-Dual Series 1500TD		Tru-Dual Series 1500TD		Tru-Dual Series 1500TD		
				Ford / Uni-Flange	Uni-Flange Series 1390C		Uni-Flange Series 1390C		Uni-Flange Series 1390C	
				Sigma	PV-Lok Series PWP-C		PV-Lok Series PWP-C		PV-Lok Series PWP-C	
		Smith Blair	Bell-Lock Series 165		Bell-Lock Series 165		Bell-Lock Series 165			
		Star	StarGrip Series 3100S		StarGrip Series 3100S		StarGrip Series 3100S			
		Tyler Union	TufGrip-Series 300C		TufGrip-Series 300C		TufGrip-Series 300C			
DIP Bell Joint Restraints (Greater)	DIP Bell Joint Restraints for Ductile Iron Pipe (16" & Greater) - All restraints shall have a split back-up ring for the bell and a serrated or wedge action gland for the spigot end. New installation for water & reclaimed water piping 16" and greater shall have restraint gaskets or locking bells.	EBAA Iron Inc	Series 1100HD	Existing Only	Series 1100HD	Existing Only	Series 1100HD	Existing Only		
		Sigma	Series SSLDH	Existing Only	Series SSLDH	Existing Only	Series SSLDH	Existing Only		
			Series 3100S	Existing Only	Series 3100S	Existing Only	Series 3100S	Existing Only		
		Star		Existing Only		Existing Only		Existing Only		

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water	Reclaimed Water	Wastewater		
			Model #	Model #	Model #		
			Comments	Comments	Comments		
Joint Restraints	Ductile iron pipe Bell Joint Restraint Gaskets and Locking Bell (4" & Above)	American	Fast Grip Gasket	Fast Grip Gasket	NA		
			Flex-Ring Joint	Flex-Ring Joint	NA		
			Lok-Ring Joint	Lok-Ring Joint	NA		
			Talon RJ Gasket	Talon RJ Gasket	NA		
			Snap-Lok	Snap-Lok	NA		
			Sure Stop 350 Gasket	Sure Stop 350 Gasket	NA		
			Thrust-Lock	Thrust-Lock	NA		
			TR-Flex	TR-Flex	NA		
			Super-Lock	Super-Lock	NA		
			Field Lok 350 Gasket	Field Lok 350 Gasket	NA		
SS to DIP	Transition Restraint	US Pipe	Field Lok Gasket	Field Lok Gasket	NA		
			TR-Flex	TR-Flex	NA		
			HP Lok Restraint Joint	HP Lok Restraint Joint	NA		
			SS to DIP Transition Restraint - Flanged stainless steel pipe from Wetwell to Valve box restrained joint transition (epoxy coated, SS hardware) Fig x PE RJ.				
			NA	NA	Megaflange 2100		
			NA	NA	SigmaFlange with One Lock SLDE		
			NA	NA	911 Flange - Lock Restrained FCA		
			Mechanical Joint Wedge-action Restraining Gland, Epoxy Coated Restrain PVC pipe to mechanical joint fittings, and appurtenances.				
			NA	NA	Mega-lug Series 2000PV		
			NA	NA	Megalug Series 2200 (42"-48")		
PVC Pipe MJ Restraints	PVC Pipe MJ Restraints	Ford / Uni-Flange	UFR 1500 Series	UFR 1500 Series	UFR 1500 Series		
			One Lok Series SLC/SLCE	One Lok Series SLC/SLCE	One Lok Series SLC/SLCE		
			Cam Lok Series 120	Cam Lok Series 120	Cam Lok Series 120		
			Star Grip Series 4000	Star Grip Series 4000	Star Grip Series 4000		
			TufGrip Series TLP	TufGrip Series TLP	TufGrip Series TLP		
			PVC Bell Joint Restraints: PVC pipe Split Serrated on Bell End and Spigot End. (4" - 12") (New & Existing)				
			Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	Tru-Dual Series 1500TD		
			Uni-Flange Series 1390	Uni-Flange Series 1390	Uni-Flange Series 1390		
			PV-Lok Series PWP	PV-Lok Series PWP	PV-Lok Series PWP		
			Bell-Lock Series 165	Bell-Lock Series 165	Bell-Lock Series 165		
Series 1100C	Series 1100C	Series 1100C					
TufGrip 300C	TufGrip 300C	TufGrip 300C					

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments	
Joint Restraints	PVC Bell Joint Restraints (16" & Greater)	Ford / Uni-Flange	Series 1390	Existing Only	Series 1390	Existing Only	Series 1390		
			JCM	Sur-Grip Series 621	Existing Only	Sur-Grip Series 621	Existing Only	Sur-Grip Series 621	
			Sigma	PV-Lok PWP	Existing Only	PV-Lok PWP	Existing Only	PV-Lok PWP	
			Smith Blair	Bell-Lock Series 165	Existing Only	Bell-Lock Series 165	Existing Only	Bell-Lock Series 165	
			Star	Series 1100C	Existing Only	Series 1100C	Existing Only	Series 1100C	
Pipe	PVC Bell & Spigot DR 18	Certa-Lok C900/RJ	Blue	Blue	Certa-Lok C900/RJ	Pantone Purple	Certa-Lok C900/RJ	Green	
			Blue	Blue	C-900	Pantone Purple	Diamond C900	Green	
			Blue	Blue	C-900 Blue Brute	Pantone Purple	C900 Blue Brute	Green	
			Blue	Blue	C-900	Pantone Purple	C-900	Green	
			Blue	Blue	C-900 Dura-Blue	Pantone Purple	C-900 Pipe	Green	
			Blue	Blue	C-900	Pantone Purple	C-900	Green	
			Blue	Blue	C-900	Pantone Purple	C-900	Green	
			Blue	Blue	C-900	Pantone Purple	C-900	Green	
			Blue	Blue	C-900	Pantone Purple	C-900	Green	
			Blue	Blue	C-900	Pantone Purple	C-900	Green	
Pipe	PVC C905 DR 18 Bell & Spigot 16" and Larger	Certa-Lok C905/RJ	NA	NA	NA	NA	Certa-Lok C905/RJ	NA	
			NA	NA	NA	NA	Trans-21 DR18	Green	
			NA	NA	NA	NA	IPEX Centurion	Green	
			NA	NA	NA	NA	C905 Big Blue	Green	
			NA	NA	NA	NA	C905	Green	
			NA	NA	NA	NA	C905 Big Blue	Green	
			NA	NA	NA	NA	C905	Green	
			NA	NA	NA	NA	C905 Big Blue	Green	
			NA	NA	NA	NA	C905	Green	
			NA	NA	NA	NA	C905 Big Blue	Green	
Pipe	HDPE C906 DR11	JM Eagle	DR11 Blue	DR11 Blue	HDPE	DR11 Pantone	HDPE	DR11 Green	
			DR11 Blue	DR11 Blue	Driscoplex 4000	DR11 Pantone	Driscoplex 4300	DR11 Green	
			DR11 Blue	DR11 Blue	EHMW Poly Pipe	DR11 Pantone	EHMW	DR11 Green	
			DR11 Blue	DR11 Blue	EHMW Poly Pipe	DR11 Pantone	EHMW	DR11 Green	

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments	
Pipe	Ductile Iron Pipe		Cement Lined	Blue	Cement Lined	Pantone Purple	Protecto 401	Pump Station	
			Cement Lined	Blue	Cement Lined	Pantone Purple	Protecto 401	Pump Station	
			McWane Inc. DI Pipe Group	Blue	Cement Lined	Pantone Purple	Protecto 401	Pump Station	
			US Pipe	Blue	Cement Lined	Pantone Purple	Protecto 401	Pump Station	
			Sample Stations - Bacteriological Sample Station with built in flush system, all internal piping to be 2", brass and includes lockable green enclosures.						
Sample	Station	Safety-Guard	SG-BSS-05 pedestal #77	green enclosure	NA	NA	NA	NA	
		Water Plus Corp	Model 5000	green	NA	NA	NA	NA	
Services	Brass Service Saddles		Series S-70, S-90	4"-12"	Series S-70, S-90	4"-12"	NA	NA	
			Model 3891 / 3895,3801 / 3805	4"-12"	Model 3891 / 3895,3801 / 3805	4"-12"	NA	NA	
			Series S-13000/H-13000	4"-12"	Series S-13000/H-13000	4"-12"	NA	NA	
Services	Service Saddles		Service Saddles for 1" (CC) & 2" (Iron pipe threads) Water & Reclaimed Water services on mains greater than 12". Service saddles for 2" taps (iron pipe threads) on 4" mains and greater for Waste Water. : Epoxy or nylon coated stainless steel 18-8-type 304 double straps, controlled O.D. saddles to be used on C-900 / C905 or DI for all 1-in and -2in taps on pipes over 12in.						
			Series FC202	16" & greater	Series FC202	16" & greater	Series FC202	4" & greater	
			Series 406	16" & greater	Series 406	16" & greater	Series 406	4" & greater	
			DR2S	16" & greater	DR2S	16" & greater	DR2S	4" & greater	
			Series 202NS	16" & greater	Series 202NS	16" & greater	Series 202NS	4" & greater	
			Series 317	16" & greater	Series 317	16" & greater	Series 317	4" & greater	
			Service Saddles for 1" (CC) & 2" (Iron Pipe threads) Water and Reclaimed Water Services: Epoxy or nylon coated stainless steel 18-8-type 304 double straps, controlled O.D. saddles to be used on HDPE for all 1-in and -2in taps. Taps to HDPE pipe shall be approved on a case by case basis.						
Service Saddles for HDPE		Ford	Series FCP202		Series FCP202		Series FCP202		
		Romac	Series 202N-H		Series 202N-H		Series 202N-H		
		Smith Blair	Series 317-1 for HDPE		Series 317-1 for HDPE		Series 317-1 for HDPE		
Corporation Stops Ball Type	Stops Ball Type		Corporation Stops Ball Type (1-inch with AWWA taper C threads only/pack joint outlet for CTS) 2" Corporation Stop Ball Type shall be 2" MIP X FIP threads.						
			Ford	FB1000, FB1700-7		FB1000, FB1700-7		FB1700-7	2" ARV
			A Y McDonald	4701B-22, 3149B2		4701B-22, 3149B2		3149B2	2" ARV
			Mueller	P25008, B-20046		P25008, B-20046		B-20046	2" ARV

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EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments	
Services	Curb Stops	Curb Stops - Straight Valves: Ball type compression 2" cts O.D. tubing by 2" FIP							
		Ford	B41-777W		B41-777W		NA	NA	
		A Y McDonald	6102W-22		6102W-22		NA	NA	
		Mueller		P25172		P25172		NA	NA
	Curb Stops	Curb Stops - Straight Valves: ball type compression x compression							
		Ford	B44-444W		B44-444W		NA	NA	
		A Y McDonald	6100W-22		6100W-22		NA	NA	
		Mueller		P25146		P25146		NA	NA
	PE tubing	Polyethylene tubing: AWWA C901. UV protection (SDR-9) 1-inch and 2-inch only. PE 3408 / PE 4710							
		Charter Plastics		Blue Ice		Lav Ice		NA	NA
Endot			Endopure Blue		Endocore Lavender		NA	NA	
JM Eagle			Pure-Core		NA		NA	NA	
Line Stops	Line Stops								
	JCM								
	Romac								
	Smith Blair								
Tapping Sleeves and Valves	Tapping Sleeves: (Mechanical joint for taps on cast iron, ductile iron, PVC & AC pipe, including size on size) with stainless steel nuts and bolts.								
	Tapping Sleeves	American Flow Control	Series 2800		Series 2800		Series 2800		
			Series 1004		Series 1004		Series 1004		
		Clow	Series F-5205	DIP/PVC	Series F-5205	DIP/PVC	Series F-5205	DIP/PVC	
			Series F-5207	A/C Pipe	Series F-5207	A/C Pipe	Series F-5207	A/C Pipe	
		JCM	Series 414	FBE	Series 414	FBE	Series 414	FBE	
			Series H-615	DIP/PVC	Series H-615	DIP/PVC	Series H-615	DIP/PVC	
		Mueller	Series H-619	A/C Pipe	Series H-619	A/C Pipe	Series H-619	A/C Pipe	
		Smith Blair		Style 623	FBE	Style 623	FBE	FBE	
	Tapping Valves: 12" and smaller	Tapping Valves: 12" and smaller - Tapping Valves shall be furnished with an alignment lip and installed in the vertical position for Water and Reclaim Water. Wastewater shall be installed horizontally and abandoned in the open position. Tapping valves shall be resilient seated only and meet the requirements of AWWA C509 or C515							
American Flow Control		Series 2500	Alignment Lip	Series 2500	Alignment Lip	Series 2500	Alignment Lip		
Clow		Series F-6114	Alignment Lip	Series F-6114	Alignment Lip	Series F-6114	Alignment Lip		
	Mueller	Series T2360 (4"-12")	Alignment Lip	Series T2360 (4"-12")	Alignment Lip	Series T2360 (4"-12")	Alignment Lip		

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments
Tapping Sleeves and Valves	Tapping Valves: 16" and Larger	American Flow Control	Series 2500	Alignment Lip & flushing port	Series 2500	Alignment Lip & flushing port	Series 2500	Alignment Lip & flushing port
		Clow	Series F-6114	Alignment Lip & flushing port	Series F-6114	Alignment Lip & flushing port	Series F-6114	Alignment Lip & flushing port
		Mueller	Series T2361 (14"&up)	Alignment Lip & flushing port	Series T2361 (14"&up)	Alignment Lip & flushing port	Series T2361 (14"&up)	Alignment Lip & flushing port
Valves	Butterfly Valve 42" and Above	Butterfly Valves 42" and above, AWWA C504. Actuators input torques based on 150 psi valve pressure and 16 fps velocity with a maximum input of 80 ft-lb on 2" nuts and shall withstand 250 ft-lbs. Valve seats shall be leak-tight in both directions at 150 psi.						
		Clow	Style #1450		Style #1450		NA	NA
		Dezurik	BAW		BAW		NA	NA
Valves	Check Valves 4" - 12"	Mueller / Pratt	LINSEAL III / Groundhog		LINSEAL III / Groundhog		NA	NA
		Valves (Check) 4-inch and Larger (8 mil epoxy lined)						
		American Flow Control	NA		NA		Series 600 or 50 line	
Valves	Gate Valves 16" and Larger (Vertical Installation) AWWA C515 resilient seated only (16" and 24" no gearing required) above 24" shall be installed vertically with a gear actuator unless noted by the engineer. Valve seat shall be leak-tight in both directions at 150 psi.	Clow / M&H / Kennedy	NA		NA		106	
		Mueller	NA		NA		Series 2600	
		Gate Valves 12" and smaller - resilient seated only AWWA C509 or C515. Valve seat shall be leak-tight in both directions at 150 psi.						
Valves	Gate Valves 4" - 12"	American Flow Control	Series 2500		Series 2500		NA	NA
		Clow	Series F-6100		Series F-6100		NA	NA
		Mueller	Series A-2360		Series A-2360		NA	NA
Valves	Gate Valves 16" and Up (Vertical)	Gate Valves 16" and larger (Vertical Installation) AWWA C515 resilient seated only (16" and 24" no gearing required) above 24" shall be installed vertically with a gear actuator unless noted by the engineer. Valve seat shall be leak-tight in both directions at 150 psi.						
		American Flow Control	Series 2500		Series 2500		NA	NA
		Clow	Series F-6100		Series F-6100		NA	NA
Valves	Gate Valves 16" and Up (Vertical)	Mueller	Series A-2361		Series A-2361		NA	NA

EXHIBIT D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	Wastewater Model #	Wastewater Comments
Valves	Plug Valves	Clow Dezurik Millikan / Pratt Val-Matic	NA	NA	NA	NA	F-5412 FLG	4" & up
			NA	NA	NA	NA	F-5413 MJ	4" & up
			NA	NA	NA	NA	Series PEF or PEC	4" & up
			NA	NA	NA	NA	Eccentric / Ballcentric	4" & up
			NA	NA	NA	NA	5600 or 5800 (FLG) 5700 or 5900 (MJ)	4" & up 4" & up
		Two piece standard screw type Heavy Duty Valve Boxes with Locking Lids (Cast Iron) and type of service cast in heavy duty traffic lid (H20 loading) ASTM A48						
Valve Boxes	Valve Boxes with Locking Lids (Cast Iron)	Bingham/Taylor Sigma Star Tyler Union	Series 4905	Box	NA	NA	Series 4905	Box
			4905-X	Extension	NA	NA	4905-X	Extension
			4904-L	Blue Water Locking Lid	NA	NA	4904-L	Green Sewer locking Lid
			Series VB 261X-267X	Box	VB-25031LK-VB-2612	Box	Series VB 261X-267X	Box
			VB 6302	Extension	VB-6302	Extension	VB 6302	Extension
			VB 4650W	Blue Water Locking Lid	VB2503LK	Purple Square Locking Lid	VB 4650S	Green Sewer locking Lid
			Series VB-0002	Box	NA	NA	Series VB-0002	Box
			VBEX 12-24S	Extension	NA	NA	VBEX 12-24S	Extension
			VBLIDLOCK	Blue Water Locking Lid	NA	NA	VBLIDLOCK	Green Sewer locking Lid
			Series 6850	Box	NA	NA	Series 6850	Box
58, 59, 60	Extension	NA	NA	58, 59, 60	Extension			
		Locking Lid	Blue Water Locking Lid	NA	NA	Locking Lid	Green Sewer locking Lid	
		For mains equal to, or greater than, 16" diameter or equal to greater than 6' feet deep						
Valve Box	Valve Box	American Flow Control Mueller Company	# 2A - 9A	Retrofit Valve Fit inside std valve boxes	NA	NA	2A - 9A	Retrofit Valve Green Sewer locking Lid
			Box Insert				Box Insert	
			MVB050C thru MVB130C with Extension Stem	Blue Water Locking Lid	MVB050CR thru MVB130CR with Extension Stem	Purple Square Locking Reclaim Lid	MVB050C thru MVB130C with Extension Stem	Green Sewer locking Lid
			MVB875 Guide Plate		MVB875 Guide Plate		MVB875 Guide Plate	

EXHIBIT D LIST OF APPROVED PRODUCTS - GRAVITY SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model # Comments	Reclaimed Water Model # Comments	Wastewater Model #	Comments	
Coatings	Anti-Graffiti Paint	Block Walls-Anti-Graffiti Paint per Section 3119 Coatings & Linings					
		American Building Restoration Products	NA	NA	NA	Polyshield Graffiti Preventer for Unpainted Masonry Type B	Super Bio Strip or Strip it all
		Themec / Chemprobe	NA	NA	NA	626 DUR A PEL	680 Mark A Way
		Professional Products of Kansas, Inc	NA	NA	NA	Professional Water Seal & Anti-Graffiti (PWS-15 Super Strength)	Professional Phase II Cleaner
	Coatings for Existing Manholes	Rehabilitation corrosion protection system per Section 3119 Coatings & Linings. Interior coating for force main connections to existing concrete manholes only. New precast structures and existing pump stations shall be lined.					
		CCI Spectrum, Inc	NA	NA	NA	Spectrashield	min of 500 mils
		Keneos Aluminate Technologies	NA	NA	NA	Sewpercoat	1" (1000mil)
		Raven Lining System	NA	NA	NA	Raven 155 Primer	min 8 mils
		Sauereisen	NA	NA	NA	Raven 405	min 125 mils
			NA	NA	NA	210 Series	min 125 mils
Themec		NA	NA	NA	Topcoat Glaze 210G Series 434 Topcoat Glaze 435	min 20 mils min 125 mils 15-20 mils	
PVC Pipe and fittings	Pipe SDR 35 Gravity Mains	PVC Pipe for Gravity SDR26/SDR 35 (Green in color) ASTM-D034. Manufacturers shall be members in good standing with Uni-Bell to maintain approval status.					
		Certainteed	NA	NA	NA	Gravity Sewer Pipe	
		Diamond Plastics Corp	NA	NA	NA	Sani-21 SDR-35	
		JM Eagle	NA	NA	NA	Gravity Sewer	
		National Pipe & Plastics, Inc.	NA	NA	NA	Ever-Green Sewer Pipe	
		North American Pipe Corp (NAPCO)	NA	NA	NA	Gravity Sewer	
		Sanderson Pipe Corp	NA	NA	NA	Gravity Sewer	
		Locate Balls	Locating Marker Systems - Wastewater Locator balls placed at all sanitary sewer cleanouts				
			3M	NA	NA	NA	3MTM EMS 4" Extended Range 5" Ball Marker 1404-XR
			Fittings, Adapters and Plugs - Gravity PVC ASTM-D3034, Min SDR26/SDR 35				
Fittings SDR 35	GPk Products, Inc.	NA	NA	NA	SDR26/SDR35 Gasketed sewer fittings		
	Harrington Corporation (HARCO)	NA	NA	NA	SDR26/SDR35 Gasketed sewer fittings		
	Multi Fittings Corp.	NA	NA	NA	SDR26/SDR 35 Trench Tough Sewer Fittings		
	JM Eagle	NA	NA	NA	SDR26/SDR35 Gasketed sewer fittings		
	Plastic Trends Inc	NA	NA	NA	SDR26/SDR35 Gasketed sewer fittings		
	TIGRE USA, Inc.	NA	NA	NA	SDR26/SDR35 Gasketed sewer fittings		

EXHIBIT D LIST OF APPROVED PRODUCTS - GRAVITY SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model # Comments	Reclaimed Water Model # Comments	Wastewater Model #	Comments	
PVC Pipe a	Flexible Pipe Connectors	Fernco	NA NA	NA NA	1002, 1051, 1056 Series		
		Indiana Seal	NA NA	NA NA	102, 151, 156 Series		
		Mission Rubber	NA NA	NA NA	MR02, MR51, MR 56 Series		
	MH Lids	USF Fabrication Inc.	NA NA	NA NA	USF 225-AS		
	Adj Ring	Top Adjusting Rings - HDPE with heavy duty loading (H-20)					
	Hatches	Ladtech, Inc	NA NA	NA NA	24R, 24S with Rope Sealant CS2455		
		Wet Well and Valve Vault Access Frames and Covers (Include the term "Confined Space" etched or cast into the cover with recessed lock & hasp. Frames and covers per manufacturers specifications.					
		Halliday Products	NA NA	NA NA	SIR or S2R Series		
		USF Fabrication Inc.	NA NA	NA NA	APS or APD Series		
	Precast Concrete Structures	Precast Manhole and Wetwell Structures ASTM C478. Precast concrete shall be batched with concrete dyed crystalline waterproofing admixture with corrosion protection. Concrete without admixture or without color tint /tracer shall be rejected.					
		Allied Precast	NA NA	NA NA		Dyed Admix	
		Atlantic Concrete Products, Inc.	NA NA	NA NA		Dyed Admix	
		Delzotto Products, Inc.	NA NA	NA NA		Dyed Admix	
		Dura Stress Underground Inc.	NA NA	NA NA		Dyed Admix	
		Hanson Pipe & Product	NA NA	NA NA		Dyed Admix	
		Mack Concrete	NA NA	NA NA		Dyed Admix	
		Oldcastle Precast	NA NA	NA NA		Dyed Admix	
		Standard Precast Inc.	NA NA	NA NA		Dyed Admix	
	Concrete Admix	Crystalline Waterproofing Concrete Admix with color dye shall be added to all concrete structures (precast and cast-in-place) to provide waterproofing and corrosion resistance. Concrete without admixture or without color tint / tracer shall be rejected. % concentration of admix with colored dye added to the mix shall be based on weight of cement.					
		Kryton International	NA NA	NA NA	KIM K-301R (with red dye)	2%	
		Xypex Chemical Corp	NA NA	NA NA	Xypex Admix C-1000Red (with red dye)	3.0 - 3.5%	
	Interior Liner for New or existing Precast Manhole and Precast Wetwell Structures per Section 3119 Coatings & Linings						
	Liners	AFE	NA NA	NA NA	Fiberglass Liner		
		AGRU Liner	NA NA	NA NA	HDPE Liner (Min 2 mm for Manhole / Min 5 mm for Pump Station)		
		Containment Solutions Inc. (Flowtite)	NA NA	NA NA	Fiberglass Liner		
		GSE Studliner	NA NA	NA NA	HDPE Liner (Min 2 mm for Manhole / Min 5 mm for Pump Station)		
		GU Liner	NA NA	NA NA	Reinforced Plastic Liner		
		L & F Manufacturing	NA NA	NA NA	Fiberglass Liner		

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EXHIBIT D LIST OF APPROVED PRODUCTS - GRAVITY SYSTEMS

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Cat.	Desc	Manufacturer	Water		Reclaimed Water		Wastewater		
			Model #	Comments	Model #	Comments	Model #	Comments	
Precast Concrete Structures	Heat Shrink Seal		NA	NA	NA	NA			
	Jointing Material	Canusa-CPS	NA	NA	NA	NA		Wrapid Seal with WrapidSeal Primer (Canusa G Primer)	
		Pipeline Seal & Insulator, Inc (PSI)	NA	NA	NA	NA		Riser Wrap with Polyken 1027 or 1039 primer	
			Jointing Material Min. 2" width for all products to ensure squeeze out with manufacturer approved primer.						
	Pipe Seals Gravity	Henry Company	NA	NA	NA	NA		Ram-Nek with Primer	
		Martin Asphalt Company	NA	NA	NA	NA		Evergrip 990 with Primer	
		Trelleborg Pipe Seals	NA	NA	NA	NA		NPC – Bidco C-56 with Primer	
			Resilient Connector Pipe Seals, Manhole - Gravity less than 12-inch and less than 15-ft deep						
			Atlantic Concrete	NA	NA	NA	NA		A-Lok (cast-in-place)
	Pipe Seals Gravity		Hail Mary Rubber	NA	NA	NA	NA		Star Seal (cast-in-place)
		IPS	NA	NA	NA	NA		Wedge Style	
		NPC	NA	NA	NA	NA		Kor-N-Seal Model WS	
		Press seal gasket	NA	NA	NA	NA		PSX Direct Drive	
			Cast in Place Pipe Seals, Manhole - Gravity Greater Than or Equal to 12-inch and all pipe sizes greater than 15-ft deep						
FM Pipe Seals		Atlantic Concrete	NA	NA	NA	NA		A-Lok cast in place	
		Hail Mary Rubber	NA	NA	NA	NA		Star Seal cast in place	
		Modular Pipe Seals for Wet Well and Valve Box penetrations and all forcemain connections to existing and new precast concrete structures. EPDM Rubber with 316 SS Hardware							
		CCI Pipeline Systems	NA	NA	NA	NA		Wrap-It Link WL-SS Series	
		Pipeline Seal & Insulator, Inc / Link Seal	NA	NA	NA	NA		Link-Seal S-316 Modular Seal	
	Proco Products, Inc	NA	NA	NA	NA		PenSeal ES-PS Series		

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EXHIBIT D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

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Cat.	Desc	Manufacturer	Water Model # Comments	Reclaimed Water Model # Comments	Wastewater Model #	Comments
Generator	Gen	Generator Systems, Fixed Shall be UL 2200 Certified.				
		Caterpillar	NA NA	NA NA	CAT Diesel Generator Set	
		Cummins Power Generation	NA NA	NA NA	Diesel Generator Set	
	Fuel Tanks	Generator Fuel Tanks. Shall be UL2085 certified.				
		Convault	NA NA	NA NA	CVT-3SF or CVT-3FF	
		Phoenix	NA NA	NA NA	Envirovault	
	GR	Generator Receptacle (GR)				
		Cooper Crouse-Hinds	NA NA	NA NA	AR2042 (230V, 200A, 3P, 4W)	With AJAI Angle Adaptor
		Cooper Crouse-Hinds	NA NA	NA NA	AR2042-S22 (460V, 200A, 3P, 4W)	With AJAI Angle Adaptor
		Pyle National	NA NA	NA NA	JRE-4100 (230V, 100A, 3P, 4W)	
ATS	Generator Transfer Switch					
	Russelectric	NA NA	NA NA	RMTD Series with model 2000 controller	NEMA 12/3R 316SS Enclosure	
Odor Control Units	Biotrickling Filters	Biotrickling filters				
		BioAir	NA NA	NA NA		
		Bioem	NA NA	NA NA	Biosorbens BTF	
		Envirogen	NA NA	NA NA	BTF	
		Siemens	NA NA	NA NA	Zabocs BTF	
Carbon Adsorption Units	Carbon Adsorption Units					
		Calgon	NA NA	NA NA		
		Pure Air Filtration	NA NA	NA NA		
		Siemens	NA NA	NA NA		
Pressure Gauges	Pressure Gauges shall have Diaphragm Seals. Oil filled.					
		Ashcroft	NA NA	NA NA	10 1008SL 02L 60# 25 200SS 02T XYTSE	Gauge Diaphragm Seal
		Terice	NA NA	NA NA	D83LFSS4002LA100 - Gauge M51001SSSS - Diaphragm Seal D99100 Fill and Mount Charge	
		Winter Gauges	NA NA	NA NA	PFQ770 0-60 PSI D70950 top D70954 Bottom	
		Submersible Pumps				
Pumps		Submersible Pumps				
		ABS	NA NA	NA NA		
		Flygt	NA NA	NA NA		

EXHIBIT D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

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Cat.	Desc	Manufacturer	Water Model # Comments	Reclaimed Water Model # Comments	Wastewater Model #	Comments	
Pumps	Floats	Atlantic Scientific	NA NA	NA NA	Roto-Float		
	Radar	Radar - Pulse Burst Radar Transmitter. Input 24 VDC and Output 4-20 mA					
Main Service Disconnect Breaker	Disc	Magnetrol	NA NA	NA NA	R82-520A-011		
	Surge Protector	Square D	NA NA	NA NA	H or J Frame 3 Pole 600 Volt (HGL or JGL determined by amperage)		
Pump Station Main Ser	Surge Protector	Surge Protector - UL 1449, 3rd Edition listed and labeled, minimum 10 year warranty, NEMA LS-1 and IEEE C62, 41/45 tested with NEMA 4X enclosure, internal fusing, voltage and phase to match service. Rated 80,000 amps per mode for Duplex & Triplex stations and 150,000 Amperes per mode for Master Stations. All devices shall be provided with a NEMA 4X Plastic enclosure which is approved in lieu of stainless steel.					
		Current Technology (Power & Systems)	NA NA	NA NA	XN-80, TG-150 or CurrentGuard 150 Plus Series		
		JosyIn AKA (Total Protection Solutions)	NA NA	NA NA	TSS-ST 160 Series, ST 300 Series or JSP-300 Series		
		Surge Suppressors, Inc	NA NA	NA NA	LSE Series or SHL Series		
Sub Panel	Sub Panel	Sub-Panel Enclosure - NEMA 12/3R Enclosure 316SS, white polyester Powder coated -finish inside and out, With 3 Point Pad lockable Handle, and Door Stop					
		Hoffman	NA NA	NA NA			
		Schaefer	NA NA	NA NA			
Control Panel	Control Panel	Control Panel Supplier					
		ECS	NA NA	NA NA			
Pump Station Control Panel	Enclosure	Sta-Con Inc	NA NA	NA NA			
		Enclosure - NEMA 12/3R Enclosure 316SS, white polyester Powder coated finish inside and out, With 3 Point Pad lockable Handle, and Door Stop					
		Hoffman	NA NA	NA NA			
		Schaefer	NA NA	NA NA			
Pump Station Control Panel	Mnts	Universal enclosure systems	NA NA	NA NA			
		Mounting Channel for Enclosures					
Pump Station Control Panel	Seal-off	Unistrut Stainless Steel	NA NA	NA NA	1" 5/8 x 1" 5/8 316 SS		
		Explosion-Proof Sealoff					
		Cooper Crouse-Hinds	NA NA	NA NA	EYSR - 2 Inch Min.		
Pump Station Control Panel	FL	Flasher (FL)	NA NA	NA NA			
		MPE	NA NA	NA NA	025-120-105		
		SSAC	NA NA	NA NA	FS-126		

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Cat.	Desc	Manufacturer	Water		Reclaimed Water		Wastewater		
			Model #	Comments	Model #	Comments	Model #	Comments	
AL	Alarm Light / With Base and Globe (AL)								
	American Electric	NA	NA	NA	NA	F32552			
	Red Dot Globe Red Dot Base	NA	NA	NA	NA	VGLR-01 VA-01			
AH	Alarm Horn (AH)								
	Wheelock	NA	NA	NA	NA	3IT-115-R			
Fuse	Fuses (F)								
	Bussmann	NA	NA	NA	NA	FNQ-R or KTK-R			
HOA	Hand-Auto-Off Selector (HOA)								
	Square D	NA	NA	NA	NA	9001-SKS43B			
HSS	Horn Silence Button (HSS)								
	Square D	NA	NA	NA	NA	9001-SKR 1RH5			
Inter-lock	Mechanical Interlock								
	Square D	NA	NA	NA	NA	S29354			
Breakers	Control Panel Main Circuit Breaker (MCB) With S29450 Circuit Breaker Auxiliary Switch								
	Square D	NA	NA	NA	NA	NA	NA	H or J Frame 3 Pole 600 Volt (HGL or JGL determined by amperage)	
	Emergency Circuit Breaker (ECB) With S29450 Circuit Breaker Auxiliary Switch								
	Square D	NA	NA	NA	NA	NA	NA	H or J Frame 3 Pole 600 Volt (HGL or JGL determined by amperage)	
MS	Motor Circuit Breaker (MB)								
	Square D	NA	NA	NA	NA	NA	NA	H or J Frame 3 Pole 600 Volt (HGL or JGL determined by amperage)	
	Control Circuit Breaker/ GFCI Receptacle Breaker/ SCADA Breaker								
	Square D	NA	NA	NA	NA	NA	NA	QOU120	
OL	Motor Starter (MS)								
	Square D	NA	NA	NA	NA	NA	NA	Type S Class 8536	
OR	Overload Heater(OL)								
	Square D	NA	NA	NA	NA	NA	NA	Part number will vary with size needed	
Transforme r	Overload Reset								
	Square D	NA	NA	NA	NA	NA	NA	9066-RA1	
	Control Circuit Transformer (XMFR)								
	Square D	NA	NA	NA	NA	NA	NA	9070TF75D23	120/24 Volt .075 KVA
SPB	Main Circuit Transformer (MCT)								
	Square D	NA	NA	NA	NA	NA	NA	9070T2000D1	480/120 2KVA
	Supplemental Protector Breaker - 3 pole, 1-amp for Phase Monitor								
	Square D	NA	NA	NA	NA	NA	NA	MG24532	

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Cat.	Desc	Manufacturer	Water		Reclaimed Water		Wastewater	
			Model #	Comments	Model #	Comments	Model #	Comments
PM	Phase Monitor (PM)							
	MPE 240 V.		NA	NA	NA	NA	001-230-118-OVG5	
	MPE 480 V.		NA	NA	NA	NA	002-480-123-OVG5	
Pump Alternator	Pump Automatic Alternator (PAA)							
	Diversified Duplex		NA	NA	NA	NA	ARA-120-ACA	
	Diversified Triplex		NA	NA	NA	NA	ARA-120-AME	
	MPE Duplex		NA	NA	NA	NA	008-120-13SP	
	MPE Triplex		NA	NA	NA	NA	009-120-23P	
	MPE Triplex Socket		NA	NA	NA	NA	SD-12-PC	
Alt. Test Switch	Alt. Test Switch							
	Carling Technologies		NA	NA	NA	NA	6GG5E-78	
	Honeywell		NA	NA	NA	NA	2TLJ-50	
Relay	Relay							
	Potter Brumfield 24 Volt		NA	NA	NA	NA	KRPA-11AN-24	
	Potter Brumfield 120 Volt		NA	NA	NA	NA	KRPA-11AN-120	
	Square D 24 Volt		NA	NA	NA	NA	8501KPI2P14V14	
	Square D 120Volt		NA	NA	NA	NA	8501KPI2P14V20	
Relay Base	Relay Base							
	IEDC 8 Pin Relay Base 600 Volt		NA	NA	NA	NA	SR2P-06	
Duplex Receptacle/GFCI	Duplex Receptacle/GFCI (DR) Upgraded to 20 Amp							
	Hubbell		NA	NA	NA	NA	GFTR20BK	
	Pass & Seymour		NA	NA	NA	NA	2095TRBK	
ETM	EIapse Time Meter (ETM)							
	Reddington		NA	NA	NA	NA	711-0160	
Grounding	Grounding System							
	Marathon		NA	NA	NA	NA	Neutral Isolation Block 1421570	
	Panduit		NA	NA	NA	NA	Ground Lug LAM2A 1/0 - 014 -6Y	
	Square D		NA	NA	NA	NA	Ground Buss PK7GTA	
TS	Terminal Strip (TS)							
	Marathon		NA	NA	NA	NA	Series 200	
	Square D		NA	NA	NA	NA	9080GR6	
TS	Terminal Strip End Blocks and End Clamps							
	Square D		NA	NA	NA	NA	9080GM6B & 9080GH10	

Pump Station Control Panel

ORANGE COUNTY UTILITIES
STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL

EXHIBIT D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water		Reclaimed Water		Wastewater		
			Model #	Comments	Model #	Comments	Model #	Comments	
PL	Pilot Light (PL) 24 Volt with 1819 Bulb								
	Dialight		NA	NA	NA	NA	803-1710		
	Lighting Components & Design		NA	NA	NA	NA	Littlelight 930507X		
RL	Run Indicator Light (RL) 120 Volt								
	Dialight		NA	NA	NA	NA	803-1710		
	Lighting Components & Design		NA	NA	NA	NA	Littlelites 930507X With 120MB Bulb		
MT	Moisture and Temperature Failure Light (MT) 120 Volt with 120MB Bulb								
	Dialight		NA	NA	NA	NA	803-1710		
	Lighting Components & Design		NA	NA	NA	NA	Littlelites 930507X		
Sluice Gate	Sluice Gate for Wet Well with Motorized Operator								
	BNW		NA	NA	NA	NA	Model 77 - 316 SS		
	Fontaine		NA	NA	NA	NA	Model 20 - 316 SS		
VFD	Variable Frequency Drives								
	Square D		NA	NA	NA	NA			

