



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

MARJORY STONEMAN DOUGLAS BUILDING
3900 COMMONWEALTH BOULEVARD
TALLAHASSEE, FLORIDA 32399-3000

RICK SCOTT
GOVERNOR

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SECRETARY

Permittee /Authorized Entity:

Eric P. Summa
Chief, Planning Environmental Branch
U.S. Army Corps of Engineers
Jacksonville District
701 San Marco Boulevard
Jacksonville, FL 32207-0019

Project Name or Phase:

Project Name: Herbert Hoover Dike Rehabilitation and Repair
Phase: Culverts 2, 12A and HP-2 Replacement Project

Authorized Agent:

Florida Department of Environmental Protection
3900 Commonwealth Blvd, MS 24
Tallahassee, FL 32399-3000

ERP Processor: Tanja Hinton, Tanja.Hinton@dep.state.fl.us , 850-245-2974

Environmental Resource Permit

State-owned Submerged Lands Authorization – Granted to the South Florida Water
Management District

U.S. Army Corps of Engineers Authorization – Not Applicable

Permit No.: 0234604-021

Permit Issuance Date: May 2, 2014
Permit Expiration Date: May 2, 2019

Consolidated Environmental Resource Permit
Permittee: U.S. Army Corps of Engineers
Permit No: 0234604-021

PROJECT LOCATION:

The activities authorized by this permit and a related State-owned submerged lands authorization are located within Lake Okeechobee and the landward toe ditch of the Herbert Hoover Dike (HHD), Fisheating Creek (Class III Waters), Harney Pond Canal (Class III Waters), Indian Prairie Canal (Class III Waters), and Kissimmee River (Class III Waters). The specific section/township/range of each Water Control Structure authorized by this permit is as follows:

- Culvert HP-2 (S-287): Section 12, Township 40 South, Range 32 East, Glades County;
- Culvert 12A (S-274): Section 35, 36, Township 42 South, Range 36 East, Palm Beach County;
- Culvert 2 (S-278): Section 10, Township 43 South, Range 34 East, Hendry County;
- Culvert 10A (S-271): Section 10, Township 41 South, Range 37 East, Palm Beach County;
- Culvert 6 (S-267): Section 13, Township 38 South, Range 34 East, Okeechobee County;
- Culvert IP-1 (S-292): Section 24, Township 39 South, Range 33 East, Glades County;
- Culvert IP-2 (S-290): Section 15, Township 39 South, Range 33 East, Glades County;
- Culvert IP-3 (S-291): Section 15, Township 39 South, Range 33 East, Glades County;
- Culvert KI-1 (S-266): Section 2, Township 38 South, Range 34 East, Okeechobee County;
- Culvert KI-2 (S-265): Section 33, Township 37 South, Range 34 East, Okeechobee County;
- Culvert HP-1 (S-288): Section 12, 13, Township 40 South, Range 32 East, Glades County;
- Culvert HP-7 (S-289): Section 13, 18, Township 40 South, Range 33 East, Glades County; and
- Culvert FC-1 (S-283): Section 28, 29, Township 40 South, Range 32 East, Glades County.

PROJECT DESCRIPTION:

This permit authorizes impacts resulting from the construction, rehabilitation, and/or replacement of the culverts listed under Project Location, above. Due to the timing of the construction, it is recognized that final design of some culverts will require the submittal of additional information and modification of this permit prior to being authorized for construction. The U.S. Army Corps of Engineers (Corps/Permittee) is authorized to remove and replace the culvert structures S-287 (HP-2), S-274 (C-12A), S-278 (C-2) without further submittals. Further, the U.S. Army Corps of Engineers (Corps/Permittee) is authorized to remove and replace the culvert structures S-271 (C-10A), S-267 (C-6), S-292 (IP-1), S-290 (IP-2), S-291 (IP-3), S-266 (KI-1), S-265 (KI-2), S-288 (HP-1), S-289 (HP-7), and S-283 (FC-1) only upon the submittal of additional information and a modification to this permit. Each of these structures are located within Lake Okeechobee (Class I Waters), the landward toe ditch of the Herbert Hoover Dike (Class III Waters), Fisheating Creek (Class III Waters), Harney Pond Canal (Class III Waters), Indian Prairie Canal (Class III Waters), and Kissimmee River (Class III Waters) (Previous authorizations were given for similar works to culvert structures described below). Collectively, these activities make up the Herbert Hoover Dike Rehabilitation and Repair - Culvert Replacement Project. The activities authorized in this permit include the replacement of the listed culvert structures, temporary construction of a cofferdam, either earthen or structural, on both sides of the culvert and dewatering activities. A cutoff wall will be installed in the centerline of the embankment at each structure for seepage management within the excavated area, and the embankment reconstructed to match the existing crest elevation of the dike except at S-287, which will be four feet lower. Riprap shall be installed along the lakeside (i.e., the side opposite the landside) of the embankment face to protect against erosion, and a control building shall be installed at the landside

work platform at each structure to enable remote operation (with the exception of S-287, S-274 and S-278 which will be located on the lakeside of the structures). Temporary bypass pumps may be installed for continuation of drainage and/or irrigation supply to and from the lakeside of the culvert during construction. Operation of the culvert structures will remain unchanged. The flap gates will open automatically to discharge into the lakeside of each culvert from the landside for flood control, and the slide gates will open to discharge from the lakeside of each culvert for water supply. Lakeside and landside access ramps shall also be provided down to the culverts after the levee cross-section is restored.

This Permit No. 0234604-021 authorizes construction activities for the following culverts:

- **S-287 (Culvert HP-2)**: Based on information provided by the Permittee, the construction footprint and access to Culvert HP-2 include areas owned by the Seminole Tribe of Florida (see Figure 2). **For the purposes of this permit, the Department authorizes only the construction on and access to lands not owned by the Seminole Tribe of Florida.** The existing single-barrel, 84-inch diameter, 94-foot long corrugated metal pipe structure with a flap gate at the outlet shall be removed and shall be replaced with one 7-foot by 7-foot concrete box culvert approximately 98-feet long, equipped with a slide/flap combination gate on the lakeside which opens automatically based on landside stage levels. A steel sheetpile cofferdam will be installed on both the landside and lakeside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure, and the embankment reconstructed to a reduced elevation of 32 feet NAVD from the existing crest elevation of 36 feet NAVD. A control building will be located on the lakeside of the water control structure.
- **S-274 (Culvert 12A)**: Remove the existing single-barrel, 8-foot by 7-foot wide, 86-foot long arch shaped corrugated metal pipe structure with a flap gate at the outlet and replace it with one 8-foot diameter reinforced concrete culvert approximately 175-feet long, equipped with a slide/flap combination gate on the lakeside which opens automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure that will tie into the existing cutoff walls on either side, and the embankment reconstructed to match the existing crest elevation of the dike. A control building will be located on the lakeside of the water control structure.
- **S-278 (Culvert 2)**: Remove the existing six-barrel, 10-foot diameter, corrugated metal pipe structure with five flap gates and one slide gate at the outlet and replace it with three 10-foot diameter reinforced concrete culverts approximately 172-feet long, equipped with slide/flap combination gates on the lakeside which open automatically based on landside stage levels. A steel sheetpile cofferdam will be installed on both the landside and lakeside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure, and the embankment reconstructed to match the existing crest elevation of the dike. A control building will be located on the lakeside of the water control structure. The three-barrel design will not adversely impact authorized flood control nor permitted water supply allocations.

Any additional water control structures/culvert construction activities including rehabilitation and repair activities for S-265 (KI-2), S-266 (KI-1), S-267 (C-6), S-271 (C-10A), S-283 (FC-1), S-288 (HP-1), S-289 (HP-7), S-290 (IP-2), S-291 (IP-3), and S-292 (IP-1) for the Herbert Hoover Dike Rehabilitation and Repair- Culvert Replacement Project are authorized by this permit only upon the submittal of additional information and a modification to this permit.

A modification to the Corps permit for any resulting change in the proposed construction of this project may be required should any re-design of the project components, trigger substantial changes.

PROJECT BACKGROUND:

The following culvert was authorized under Permit No. 0234604-008:

- **Culvert 14 Removal** (Section 11, Township 41 South, Range 37 East, Palm Beach County) Remove the single barrel, 10-foot diameter, 96-foot long corrugated metal pipe culvert structure. Construct a reinforced

cofferdam on the lake side of the culvert, dewater, excavate and remove the pipe and headwalls, and then place clean fill to restore the levee cross-section to match the existing embankment.

The following culverts were authorized under Permit No. 0234604-011:

- S-276 (Culvert 4A) (Section 4, Township 44 South, Range 36 East, Palm Beach County): Install two 7-foot by 7-foot concrete box culverts with slide/flap combination gates and manatee barriers on each structure. A cut-off wall will be installed for seepage management within the excavated area, under and adjacent to the box culverts. Access ramps will also be provided down to each culvert after the levee cross-section is restored.
- S-269 (Culvert 11) (Section 26, Township 40 South, Range 37 East, Martin County): Install two 7-foot by 7-foot concrete box culverts with slide/flap combination gates and manatee barriers on each structure. A cut-off wall will be installed for seepage management under and adjacent to the box culverts extending to the existing cut-off walls on either side. Access ramps will also be provided down to each culvert after the levee cross-section is restored. A temporary access ramp at the landside toe of the levee will be constructed between Structure S-308 and Culvert 11 to minimize use of the HHD levee in this area.
- S-270 (Culvert 16) (Section 35, Township 41 South, Range 37 East, Palm Beach County): Install two 7-foot by 7-foot concrete box culverts with slide/flap combination gates and manatee barriers on each structure. A cut-off wall will be installed for seepage management under and adjacent to the box culverts extending to the existing cut-off walls on either side. Access ramps will also be provided down to each culvert after the levee cross-section is restored.

The following culverts were authorized under Permit No. 0234604-012:

- S-280 (Culvert 1) (Section 7, Township 42 South, Range 33 East, Glades County): Remove the existing two-barrel, 10-foot diameter corrugated metal culverts and replace them with three 7-foot by 7-foot concrete box culverts with slide/flap combination gates and manatee barriers on each structure. A cutoff wall will be installed for seepage management within the excavated area, under and adjacent to the box culverts. Lakeside and landside access ramps will also be provided down to the culverts after the levee cross-section is restored.
- S-279 (Culvert 1A) (Section 14, Township 42 South, Range 33 East, Glades County): Remove the existing three-barrel, 7-foot diameter corrugated metal culverts and replace them with two 7-foot by 7-foot concrete box culverts with slide/flap combination gates and manatee barriers on each structure. A cutoff wall will be installed for seepage management within the excavated area, under and adjacent to the box culverts. Lakeside and landside access ramps will also be provided down to the culverts after the levee cross-section is restored.
- S-277 (Culvert 3) (Section 21, Township 43 South, Range 35 East, Palm Beach County): Remove the existing two-barrel, 10-foot diameter corrugated metal culverts and replace them with three 7-foot by 7-foot concrete box culverts with slide/flap combination gates and manatee barriers on each structure. A cutoff wall will be installed for seepage management within the excavated area, under and adjacent to the box culverts. Lakeside and landside access ramps will also be provided down to the culverts after the levee cross-section is restored.

The following culverts were issued Exemptions (File No. 0234604-016) and are listed below because they are part of the Herbert Hoover Dike Culvert Rehabilitation Project:

- Culvert 7: (Section 4, Township 38 South, Range 35 East, Okeechobee County) This project involves installing a shallow cutoff wall to abandon buried and non-functional culvert 7, and installation of a landside toe drain feature and drainage blanket feature. Activities associated with this project include installation of a cutoff wall sufficient to cut off seepage from within or around the structure conduit. A landside seepage collection toe drain will be installed within the embankment. The toe drain is approximately as wide as the seepage cutoff feature. The embankment will be restored to the existing embankment cross section profile, matching the existing embankment cross section.

- Culvert 9: (Section 6, Township 38 South, Range 36 East, Okeechobee County) This project involves installing a shallow cutoff wall to abandon buried and non-functional culvert 9, and installation of a landside toe drain feature and drainage blanket feature. Activities associated with this project include installation of a cutoff wall sufficient to cut off seepage from within or around the structure conduit. A landside seepage collection toe drain will be installed within the embankment. The toe drain is approximately as wide as the seepage cutoff feature. The embankment will be restored to the existing embankment cross section profile, matching the existing embankment cross section.
- Taylor Creek Culvert: (Section 35, Township 37 South, Range 35 East, Okeechobee County) This project involves installing a shallow cutoff wall to abandon buried and non-functional Taylor Creek culvert, and installation of a landside toe drain feature and drainage blanket feature. Activities associated with this project include installation of a cutoff wall sufficient to cut off seepage from within or around the structure conduit. A landside seepage collection toe drain will be installed within the embankment. The toe drain is approximately as wide as the seepage cutoff feature. The embankment will be restored to the existing embankment cross section profile, matching the existing embankment cross section.

The following culverts were authorized under Permit No. 0234604-017:

- S-273 (Culvert 10) (Section 23, 26, Township 42 South, Range 36 East, Palm Beach County): Remove the existing two-barrel, 10-foot diameter, 111-foot long corrugated metal pipe structure and replace it with two 10-foot diameter reinforced concrete culverts equipped with slide/flap combination gates on the lakeside which open automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure that will tie into the existing cutoff walls on either side, and the embankment reconstructed to match the existing crest elevation of the dike.
- S-275 (Culvert 12) (Section 7, 12, Township 43 South, Range 36 East and 37 East, Palm Beach County): Remove the existing three-barrel, 10-foot diameter, 91-foot long corrugated metal pipe structure and replace it with three 10-foot diameter reinforced concrete culverts equipped with slide/flap combination gates on the lakeside which open automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure that will tie into the existing cutoff walls on either side, and the embankment reconstructed to match the existing crest elevation of the dike.

The following culverts were authorized under Permit No. 0234604-018:

- S-282 (Culvert 5) (Section 10, Township 41 South, Range 32 East, Glades County): Remove the existing three-barrel, 10-foot diameter, 160-foot long corrugated metal pipe structure and replace it with three 10-foot diameter reinforced concrete culverts equipped with slide/flap combination gates on the lakeside which open automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure, and the embankment reconstructed to match the existing crest elevation of the dike.
- S-281 (Culvert 5A) (Sections 22, 27, Township 41 South, Range 32 East, Glades County): Remove the existing three-barrel, 10-foot diameter, 160-foot long corrugated metal pipe structure and replace it with three 10-foot diameter reinforced concrete culverts equipped with slide/flap combination gates on the lakeside which open automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure, and the embankment reconstructed to match the existing crest elevation of the dike.

The following culverts were authorized under Permit No. 0234604-020:

- **S-268 (Culvert 8)** (Section 31, Township 37 South, Range 36 East, Okeechobee County): Remove the existing three-barrel, 10-foot diameter, 151-foot long corrugated metal pipe structure and replace it with three 10-foot diameter reinforced concrete culverts equipped with slide/flap combination gates on the lakeside which open automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure, and the embankment reconstructed to match the existing crest elevation of the dike.
- **S-272 (Culvert 13)** (Section 14, 15, Township 41 South, Range 37 East, Palm Beach County): Remove the existing single-barrel, 10-foot diameter, 146-foot long corrugated metal pipe structure and replace it with one 10-foot diameter reinforced concrete culvert equipped with a slide/flap combination gate on the lakeside which opens automatically based on landside stage levels. An earthen cofferdam will be installed in Lake Okeechobee and a steel sheetpile cofferdam will be installed on the landside of the culvert for dewatering. A cutoff wall will be installed in the centerline of the embankment at the structure that will tie into the existing cutoff walls on either side, and the embankment reconstructed to match the existing crest elevation of the dike.

AUTHORIZATIONS:

Herbert Hoover Dike Rehabilitation and Repair - Culvert Replacement Project for: S-287 (HP-2), S-274 (C-12A), S-278 (C-2), 265 (KI-2), S-266 (KI-1), S-267 (C-6), S-271 (C-10A), S-283 (FC-1), S-288 (HP-1), S-289 (HP-7), S-290 (IP-2), S-291 (IP-3), and S-292 (IP-1).

Environmental Resource Permit

The Department has determined that the activities for S-287 (HP-2), S-274 (C-12A), S-278 (C-2), qualify 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 Chapters 62-330 and 62-343, Florida Administrative Code (F.A.C.).

State-owned Submerged Lands Authorization

As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the Department has determined that the proposed activities for Culverts FC-1, HP-1, HP-2, HP-7, IP-1, IP-2, IP-3, 6, KI-1, and KI-2 are not on submerged lands owned by the State of Florida. Therefore, your project is not subject to the requirements of Chapter 253, F.S., and Rule 18-21, F.A.C. Lands at Culvert FC-1 were conveyed by RRD 13101 and DRO 12933; Lands at Culverts HP-1 and HP-2 were conveyed by TFI Right-of-Way Easements 16659 and 18144, and may be affected by TFI Right-of-Way Easement 18943; Lands at Culvert HP-7 were conveyed by TFI Right-of-Way Easements 18144, 21851, and 18943; Lands at Culvert IP-1 were conveyed by TFI Right-of-Way Easements 19239, 19493, and 18943; Lands at Culverts IP-2 and IP-3 were conveyed by TFI Right-of-Way Easement 19489 to the SFWMD; Lands at Culvert 6 were conveyed by TFI Right-of-Way Easement 22957 and subject to Board of Trustees Easement IWE-29123 dated September 14, 1936; and lands at Culverts KI-1 and KI-2 are subject to CUL 004099.

The proposed activities for Culverts 2, 10A and 12A are located on sovereignty submerged lands owned by the State of Florida. They therefore also require authorization from the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), in the form of an Easement or Letter of Consent pursuant to Article X, Section 11 of the Florida Constitution, and Section 253.77, F.S.

As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) under Sections 253.002, F.S., the Department has determined that activities for Culverts 2, 10A and 12A qualify for and require a Letter of Consent. The proposed project activities for Culvert 12A are located within the described boundaries of Board of Trustees Easement No. IWE-29172 and CUL 003420; Board of Trustees Easement No. IWE-29086 dated October 22, 1940 for Culvert 10A; and Board of Trustees Easement No. IWE-29089 Dated October 22, 1940 and TFI Right-of-Way Easement 25390 to the SFWMD for Culvert 2. A letter of consent requiring that work performed pursuant to this permit be located within the boundaries described herein and with all necessary conditions, has been issued to the South Florida Water Management District as the Permittee: U.S. Army Corps of Engineers

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local sponsor for Culvert 2 and Culvert 12A (File No. 0234604-021). A subsequent letter of consent shall be issued to the local sponsor, the South Florida Water Management District, for Culvert 10A.

Coastal Zone Management

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

Water Quality Certification

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

Other Authorizations

You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

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.

REASONABLE ASSURANCES:

In issuing this permit, the Department finds that the Corps has provided reasonable assurances based on the following documents listed by Department document number:

- 1) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culvert 14 Environmental Resource Permit Application and associated materials (July 21, 2008);
- 2) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culvert 14 Permit Application Request for Additional Information-1Response Package (August 28, 2008);
- 3) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts 4A, 11 and 16 Environmental Resource Permit Application and associated materials (February 2, 2011);
- 4) U.S. Fish and Wildlife Service, Concurrence Letter, (pursuant to section 7 of the Endangered Species Act of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 et seq.) and additional comments in accordance with the Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d, June 8, 1940, as amended 1959, 1962, 1972, and 1978). (February 10, 2011);
- 5) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts 1, 1A and 3 Environmental Resource Permit Application and associated materials (February 21, 2011);
- 6) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 1, 1A and 3 Permit Application Request for Additional Information-1Response Package (April 20, 2011);
- 7) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 4A, 11 and 16 Permit Application Request for Additional Information-1Response Package (May 5, 2011);

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- 8) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Major Rehabilitation Glades, Hendry, Martin, Okeechobee, and Palm Beach Counties Environmental Assessment and Finding of No Significant Impact (May 2011);
- 9) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 7, 9 and Taylor Creek Environmental Resource Permit Application and associated materials (May 14, 2012);
- 10) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 7, 9 and Taylor Creek Permit Application Request for Additional Information-1Response Package (June 15, 2012);
- 11) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts 10 and 12 Environmental Resource Permit Application and associated materials (January 3, 2013);
- 12) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts 5A and 5 Environmental Resource Permit Application and associated materials (February 1, 2013);
- 13) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 10 and 12 Permit Application Request for Additional Information-1Response Package (February 11, 2013);
- 14) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts 8 and 13 Environmental Resource Permit Application and associated materials (March 5, 2013);
- 15) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 5A and 5 Permit Application Request for Additional Information-1 Response Package (March 11, 2013);
- 16) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 5A and 5 Final Care, Control and Diversion of Water During Construction Plan (March 11, 2013);
- 17) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 10 and 12 Final Care, Control and Diversion of Water During Construction Plan (March 19, 2013);
- 18) South Florida Water Management District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 10 and 12 Approval for Bypass Pumping (March 19, 2013);
- 19) United States Army Corps of Engineers, Jacksonville District, Engineer Regulation 405-1-12, Chapter 12 – Real Estate Roles and Responsibilities for Civil Works: Cost Shared and Full Federal Projects – May 1998 (April 4, 2013);
- 20) United States Army Corps of Engineers, Jacksonville District, Supplemental Information on Bypass Pumping for Culvert 10 (April 8, 2013);
- 21) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 8 and 13 Final Care, Control and Diversion of Water During Construction Plan (May 8, 2013);
- 22) South Florida Water Management District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 5A and 5 Approval for Bypass Pumping (May 10 2013);

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- 23) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 5A and 5 Permit Application Request for Additional Information-2 Response Package (May 10, 2013);
- 24) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 8 and 13 Permit Application Request for Additional Information-1 Response Package (May 8, 2013);
- 25) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 8 and 13 Updated Project Wetland and Surface Water Impacts Table (May 21, 2013);
- 26) South Florida Water Management District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts 8 and 13 Approval for Bypass Pumping (June 10, 2013);
- 27) United States Army Corps of Engineers, Jacksonville District, Engineer Regulation 1165-2-132 – Water Resources Policies and Authorities-Hazardous, Toxic and Radioactive Waste (HTRW) Guidance for Civil Works Projects– June 26, 1992 (August 27, 2013);
- 28) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts HP-2, HP-3, 2 and 12A Environmental Resource Permit Application and associated materials (December 2, 2013);
- 29) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts HP-2, HP-3, 2 and 12A Environmental Resource Permit Application, Updated Section C (December 10, 2013);
- 30) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project- Culverts HP-2, 2 and 12A Environmental Resource Permit Application (Amended) (December 13, 2013);
- 31) Florida Department of Environmental Protection, Wetland Verification Report for 16 Culverts: FC-1, HP-1, HP-2, HP-3, HP-5, HP-6, HP-7, IP-1, IP-2, IP-3, C-10A, C-12A, C-2, C-6, KI-1, and KI-2 (December 18, 2013)
- 32) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts HP-2, 2 and 12A Permit Application Request for Additional Information-1Response Package (January 16, 2014);
- 33) South Florida Water Management District, Herbert Hoover Dike Culvert Rehabilitation Project-Culverts HP-2, 2 and 12A Approval for Bypass Pumping (January 16, 2014);
- 34) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project-Culvert 2 Final Care, Control and Diversion of Water During Construction Plan (January 24, 2014);
- 35) United States Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project, Updated Project Wetland and Surface Water Impact Summary and Culvert Details Table (February 4, 2014);
- 36) United State Army Corps of Engineers, Jacksonville District, Herbert Hoover Dike Culvert Rehabilitation Project, Culvert 2 Care, Control and Diversion of Water During Construction Plan-Revised (February 6, 2014).

The Corps agrees to construct the project in accordance with the provisions of this permit and associated documentation listed under the Reasonable Assurances and associated documentation on file with the Department. To the extent sovereign immunity has been waived under 33 U.S.C. §§ 1323 and 1344(t), the Corps' agreement to

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construct the project in accordance with the provisions of this permit and supporting documentation is an enforceable condition of this permit.

The Corps is the federal sponsor of this project. The Corps and its designees are responsible for activities performed during the period of construction and interim operations. If interim operations or additional activities authorized by this permit are performed by any non-federal sponsors, then the permit may be transferred in advance of such activities, or an additional authorization may be required. All conditions found herein apply to the Corps.

PERMIT / STATE-OWNED SUBMERGED LANDS 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 (Attachments 1-5)**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are utilizing 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.

SPECIFIC CONDITIONS - PRIOR TO ANY CONSTRUCTION:

1. **Addresses.** Reports and notices submitted to the Department in accordance with this permit, unless otherwise specified, shall be submitted to the Department's Office of Ecosystem Projects (OEP), 3900 Commonwealth Boulevard, MS 24, Tallahassee, Florida, 32399-3000, telephone number (850) 245-3166. Electronic copies of reports and notices required by this permit shall also be sent to RPPS_Comp@dep.state.fl.us.
2. **Authorized Construction.** This permit authorizes construction activities for Culverts 2, 12A and HP-2 Replacement Project, as part of the Herbert Hoover Dike Rehabilitation and Repair Project, in accordance with the documentation submitted to the Department. Activities associated with the HP-2 culvert are only authorized for lands not owned by the Seminole Tribe of Florida. This permit may additionally authorize culvert construction activities including rehabilitation and repair activities for S-265 (KI-2), S-266 (KI-1), S-267 (C-6), S-271 (C-10A), S-283 (FC-1), S-288 (HP-1), S-289 (HP-7), S-290 (IP-2), S-291 (IP-3), and S-292 (IP-1) for the Herbert Hoover Dike Rehabilitation and Repair- Culvert Replacement Project only upon the submittal of additional information and a modification to this permit. Sixty (60) days prior to commencement of construction, the Permittee shall provide final plans and specifications for the subject culvert replacements to the Department for review and determination on whether there are any substantial deviations from the authorized construction. A copy of this permit will be kept on site at all times until construction is complete.
3. **Instructions to Construction Personnel and/or Contractors.** The Permittee shall ensure that all construction personnel working on the project are briefed on the permit conditions and shall give a copy of this permit to each contractor and subcontractor before the authorized work begins. Prior to construction, the Permittee shall schedule a pre-construction meeting and invite the contractor(s), the Department, the South Florida Water Management District, and other environmental regulatory agencies. The Department shall receive at least two weeks' prior notice of the meeting (email is the preferred method of notification). Within 30 days from the Notice-to-Proceed to the contractor or upon Permittee's approval of a proposed construction schedule, whichever occurs first, the Permittee shall provide the proposed construction schedule to the Department at any time to the address identified in Specific Condition No. 1.
4. **Real Estate.** Copies of all real estate authorizations (i.e., right-of-way(s), leases, easements, land certifications by the local sponsor or other legal agreements that authorize the Permittee to perform the activities described herein) shall be provided to the Department, at the addresses listed in Specific Condition No. 1, prior to award of

the solicitation for construction/operational activities. All real estate information should include the tract numbers, folio numbers, section/township/range, and the status of the tracts. Construction activities shall not be permitted to commence on properties where real estate authorizations have not been received. The Department shall receive right-of-way(s), leases, easements, land certifications by the local sponsor or other legal agreements that authorize the Permittee to perform the activities described herein at least seven (7) days prior to award of the solicitation for construction or operational activities.

5. **Threatened and Endangered Species.** The Permittee shall coordinate with both the Florida Fish and Wildlife Conservation Commission (FWC) and the U.S. Fish and Wildlife Service (FWS) for appropriate guidance, recommendations, and/or necessary authorizations to avoid, minimize, or mitigate impacts to listed species. The Corps shall comply with applicable federal and state law with regard to protected species and agree to consider input from and to comply with any applicable requirements of the FWC to the extent that to do so would not create an irreconcilable conflict with the Corps' federal responsibilities. Should a potential conflict between FWC's requirements and the Corps' federal responsibilities be identified, the Corps shall coordinate with all involved federal and state agencies to determine and implement reasonable alternatives, to the maximum extent practicable, in order to avoid such a conflict. The Permittee and/or the contractor shall instruct all personnel associated with the project that threatened and endangered species may be present in the area, and the need to avoid harming, harassing, or killing these species and the civil and criminal consequences. Other protected species that might be observed in the region include the American alligator, wood stork, Everglades snail kite, eastern indigo snake, West Indian manatee, bald eagle, Audubon's crested caracara, and the Okeechobee gourd. Construction activities shall be kept under surveillance, management, and control to minimize any interference, disturbance, or impact to these and other protected species.
6. **Environmental Protection Plan.** The Permittee and/or the contractor shall develop an Environmental Protection Plan and the Permittee shall submit the plan to the Department to the addresses listed in Specific Condition No. 1, within 30 days prior to commencement of any construction activities. The Department will review and provide a determination of whether or not the plan is consistent with Department statutes and rules. In accordance with Specific Condition No. 2, the plan shall describe the methods used to protect environmental resources, including fish and wildlife, to ensure that there shall be no unauthorized impacts to listed species as a direct result of construction activities. In accordance with Specific Condition No. 8, the plan should also describe how impacts to wetland resources will be avoided and minimized, including limiting temporary wetland impacts to the extent practicable.
7. **Wetland Protection.** Project construction in and near wetlands or other surface waters shall at all times be implemented to minimize impacts on these natural resources. Prior to the commencement of construction, effective physical barriers to prevent encroachment into the protected wetlands and other surface waters shall be installed by the Permittee. The Permittee shall notify the Department in writing at the address identified in Specific Condition No. 1 upon the contractor's placement of staking/fencing/turbidity curtains to schedule a joint inspection of this work. Additionally, the Permittee shall schedule a final site visit with the Department for inspection of the project site after the temporary works have been removed.
8. **Wetland Mitigation and Restoration.** This project will result in approximately 1.04 acres of permanent impacts to surface waters and 14.21 acres of temporary impacts to low quality wetlands and/or other surface waters. Mitigation will not be required for the S-274, S-278, S-267, S-266, S-265 S-283, S-288, S-287, S-289, S-292, S-290, and S-291 structures to offset this minimal impact as it is anticipated that the wetland areas will be restored through natural recruitment. For the S-271 structure, if natural recruitment is not successful, then planting may be required.
9. **NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities.** The issuance of this Permit does not constitute coverage under the National Pollutant Discharge Elimination System (NPDES) Generic Permit for Stormwater Discharges from Large and Small Construction Activities (CGP) pursuant to Rule 62-621.300(4)(a), F.A.C. Permittee is advised to contact the Department's NPDES Stormwater Program at (850) 245-7522 or toll free at (866) 336-6312 or to download application information at

<http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm#permit> prior to the commencement of any construction.

10. **NPDES Generic Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity.** The issuance of this permit does not constitute coverage under the NPDES General Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity pursuant to Rule 62-621.300(2), F.A.C. or any other NPDES General Permit. If any offsite discharges will occur due to construction dewatering activities, then coverage under the aforementioned General Permit may be required and the permittee is advised to review Rule 62-621.300(2), F.A.C. Before discharge of produced ground water can occur, analytical tests on samples of the proposed discharge water shall be performed to determine if contamination exists. If the analytical results comply with applicable criteria for use of the General Permit, then a short summary of the proposed activity and copy of the analytical tests shall be sent to the addresses in Specific Condition No. 1 within one week after discharge begins, and the permittee may proceed with the project component while abiding by all conditions of the General Permit.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES:

11. **Construction Best Management Practices (BMPs).** At all times during construction and maintenance activities that could generate project-generated turbidity, the Permittee shall use best management techniques for erosion and sedimentation control. At least 30 days prior to commencement of construction activities for each contract or phase, the Permittee shall submit the contractor's plan which details the use of sediment controls to minimize the suspension and transport of soils, levee materials, and roadway materials into waters adjacent to or downstream of the construction site to the Department for a review and determination of consistency with Department rules and statutes at the address listed in Specific Condition No. 1. Acceptable plan formats may include Erosion Control Plans, Storm Water Pollution Prevention Plans (SWPPP) or an Environmental Protection Plan (EPP). Modifications to the site specific plan may necessitate further review and a determination of consistency with Department rules and statutes. Sediment barriers shall remain in place until all adjacent construction activities are complete.
 - A. **Turbidity Barriers.** During work within or immediately adjacent to existing surface waters of the Lake Okeechobee, Class I waters and the HHD landward toe ditch, Class III waters, floating turbidity barriers that extend to such depths as to provide coverage of the entire water column shall be installed both upstream and downstream of the construction area. Turbidity barriers/curtains or other appropriate measures shall be installed to prevent turbidity from escaping from the areas being excavated, backfilled or other work areas.
 - B. **Adjacent Wetlands.** Wetlands and Preserve Areas adjacent to construction activities shall be staked and fenced off with construction fencing or other effective physical barriers to prevent encroachment into these wetlands prior to the commencement of construction. All areas of exposed soils shall be isolated from wetlands and surface waters to prevent erosion and deposition of sediments into these wetlands during permitted construction activities. All excavated or dredged material shall be placed strategically to prevent the transport of any material into wetlands and surface waters both during and after completion of the construction.
 - C. **Inspections.** Once installation of the erosion controls identified through the plan(s) has been completed, the Permittee shall contact the Department at the address listed in Specific Condition No. 1 to determine whether inspections of the installed controls are necessary. The Permittee shall be responsible for ensuring that erosion control devices are inspected and maintained daily during all phases of construction. Turbidity barriers and erosion control devices shall be inspected daily, maintained in good working order, and relocated or stabilized as necessary during construction to prevent surface water quality violations.
 - D. **Site Stabilization.** All graded areas shall be stabilized and vegetated immediately after construction to prevent erosion. All screens, silt fences, sheet pile, and other turbidity control devices and preventive operation procedures shall remain in place for the duration of the project and maintained until all turbidity has subsided, the project site has been stabilized, and the turbidity level at the point of discharge from the

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construction or maintenance work area to receiving waters meets state standards. Once these conditions are met, turbidity and erosion control devices shall be removed within a timely manner and prior to final completion of construction. If there are multiple work zones within a contract or phase, individual work zones shall be stabilized if there will be a significant lag time prior to completion of the entire contract.

13. **Mixing Zone.** A 150 meter mixing zone around the construction work area of culverts is hereby conditionally authorized under this permit, until the mixing zone calculations and geotechnical data are submitted to the Department for review and the authorization of a mixing zone is approved. The mixing zone shall not exceed the permit expiration date, or within two weeks after all construction activities which may result in turbidity are completed, whichever is earlier, in accordance with Rule 62-4.242 and 62-4.244, F.A.C. A maximum of 29 nephelometric turbidity units (NTU) for turbidity above background shall not be exceeded beyond the 150 meter mixing zone in the Class I and Class III surface waters contained within the construction area. Notification of any non-compliance events shall be submitted electronically within 24 hours of such event to the address in Specific Condition No. 1. The Department may, as a result of any non-compliance event, require the Corps to perform flow and stage monitoring at the boundary or boundaries of the mixing zone. Compliance with the authorized mixing zone shall be reported in the quarterly reports required by Specific Condition No. 30. The Department has approved and authorizes a 150 meter mixing zone for Culverts 2, 12A and HP-2.

14. **Water Use Permits.** For activities that require a water use permit from the State, such as, but not limited to, construction dewatering, industrial use of surface or ground water, and public water supply wells, the Corps will require that their contractor(s) submit the required application, fees and applicable site-specific information to the District for authorization in accordance with the requirements of Rules 40E-2 and 40E-20, F.A.C., and as follows:
 - A. **Water Supply Wells.** For activities that require temporary use of a water supply well during construction (e.g. construction trailers), the Corps will require that their contractor(s) obtain all required permits. If the water supply well will serve permanent facilities (e.g., pump station), the Corps will direct the contractor to also submit site-specific information to FDEP OEP. Prior to transfer of the facility to the local sponsor for permanent operations, it is the local sponsor's responsibility to furnish to FDEP OEP a permit request and copies of the well permit for review and authorization by the Department under a separate action.

 - B. **Industrial Use of Surface or Ground Water.** For activities that require industrial use of surface or ground water within or adjacent to the project (e.g. soil-cement mixtures or equipment wash down), the Corps will require that their contractor(s) obtain all required permits. For larger or more complex facilities, the Corps will require the contractor, upon submission to District, a copy of the application and site-specific information is also provided to FDEP OEP.

 - C. **Construction Dewatering.** For activities that require removal of surface or ground water as part of construction, the Corps will require that their contractor(s) obtain all required permits. If the contractor intends to commence dewatering activities under the conditions of the "No Notice" until a permit is issued, the contractor shall submit a notification to District and FDEP OEP accordingly. The Corps will require the contractor, upon submission to District, to also provide a copy of the application and site-specific information to FDEP OEP. In accordance with General Condition No. 2, the Corps shall also ensure that all proposed modifications to permitted activities proposed by their contractor(s) are submitted to District and FDEP OEP through the same process. All dewatering authorizations or modifications to existing authorizations that may be issued by the District for projects also permitted by FDEP OEP are subject to review for determination of consistency with Department rules and statutes prior to the issuance of authorization from the District.

15. **Turbidity Monitoring During Construction and Maintenance.** Effective means of turbidity control, such as, but not limited to, turbidity curtains shall be employed during all construction or maintenance activities that could result in project-generated turbidity levels beyond the work area that have the potential to be discharged to the receiving water body. Turbidity control measures shall be in accordance with Specific Condition No. 13 and best

management practices contained in the Erosion Control Plan, Storm Water Pollution Prevention Plan (SWPPP) or Environmental Protection Plan (EPP) referenced in Specific Condition No. 6.

Turbidity Standard

- A. Turbidity shall not exceed 29 Nephelometric Turbidity Units (NTUs) above background in Class I and Class III receiving waters.

Sampling Protocols

- B. Sampling and analyses shall be performed as required by Chapter 62-160, F.A.C. (FDEP Standard Operating Procedures (FDEP-SOP), located at <http://www.dep.state.fl.us/water/sas/sop/sops.htm>). Field turbidity monitoring equipment and personnel trained to use it shall be available on site at all times during construction or maintenance activities that could result in project-generated turbidity levels beyond the work area that have the potential to be discharged to the receiving water body.
- C. During construction or maintenance activities, the Permittee shall monitor turbidity levels at a minimum of twice daily, with samples taken at least once every four hours during all operations, at the following locations:
 - i) Background Sample(s): One background sample station, at least 30.5 meters (100 feet) upstream of each construction or maintenance work area, in the adjacent canal or water body, outside any visible plume generated by the construction or maintenance activity; and clearly outside of the influence of construction activities.
 - ii) Compliance Sample(s): One monitoring station located no greater than 150 meters (492 feet) downstream of the work site and within the densest portion of any visible turbidity plume.
- D. For monitoring purposes, work areas are defined by the turbidity curtains.
- E. If there are multiple work areas where construction is creating a visible turbidity plume, each construction activity shall be monitored separately.

Turbidity Exceedance

- F. The following measures shall be taken whenever project-generated turbidity levels exceed the standard stated above in any receiving waters:
 - i) Immediately cease all project activities contributing to elevated turbidity;
 - ii) Notify the Department by phone and at RPPS_Comp@dep.state.fl.us within 24 hours;
 - iii) Identify the possible cause of the violation;
 - iv) Modify work procedures that may have contributed to the violation such as installing additional turbidity or erosion protection devices, repairing any non-functional turbidity containment devices, stabilizing exposed soils, and checking calibration of the meter; and
 - v) Work shall not resume until the activities can be conducted in compliance with the turbidity standards. Please provide notification to the Department at RPPS_Comp@dep.state.fl.us when compliance is achieved. If compliance is achieved after normal business hours, then please notify the Department on the next consecutive business day.

16. **Surface Waters.** All construction work in surface waters of Lake Okeechobee (Class I Waters of the State), the HHD landward toe ditch, Fisheating Creek, Harney Pond Canal, Indian Prairie Canal and the Kissimmee River (all Class III Waters of the State), shall be conducted in a manner to comply with State Water Quality Standards.

17. **Haul Roads and Project Access.** The Permittee intends to utilize existing roads and points of entry for the HHD, as well as HHD right-of-way, to access the project sites. The Permittee will notify the Department in writing of any temporary access ramps prior to their construction. Such temporary access ramps will be removed and the areas restored to the pre-existing conditions by the completion of project construction.
18. **Vegetation Removal.** Limits and extent of clearing and grubbing associated with construction activities shall consider minimizing or avoiding impacts to native vegetation, either within or immediately adjacent to the project area including access routes.
19. **Stockpiles/Soil Disposal Areas.** Vegetative and demolition debris, as well as unwanted excavated material shall be properly disposed. If excavated soil or sediment is transported off-site, the stockpiled material may need to be characterized for residual concentrations of contaminants. Samples shall be analyzed for arsenic, cadmium, chromium, mercury, copper, barium, and organochlorine pesticides using EPA Methods 6020 and 8081, or an equivalent State method, by a laboratory certified under NELAP by the Florida Department of Health. Material may be stockpiled on-site until the preliminary analysis is completed.
20. **Use of Polymers / Flocculants.** The Permittee shall seek written approval from the Department at least 30 days prior to utilizing a polymer or flocculant to reduce turbid conditions. If changes are made such as the use of a chemically different polymer/flocculant or the addition of a polymer/flocculant not previously approved during the project, all the information contained within Attachment 3 of this permit, the required information must be re-submitted to the Department for the new/added polymer/flocculant at least 30 days prior to addition to the treatment system. The Department shall review the information and grant written approval prior to the first use of a polymer/flocculant, prior to discharge to surface waters. Depending on the information provided and the results of toxicity testing, additional analyses, monitoring, and/or reporting may be required.

Effluent Toxicity Testing

1. **Initial Approval.** A series of tests to evaluate the whole effluent toxicity of the discharge shall be conducted as outlined in Attachment 3, *Acute and Chronic Effluent Toxicity Testing Requirements for Approval of Polymer/Flocculant Use*. The results shall be submitted to the Department for review and approval at least 30 days prior to the first use or introduction of the polymer to the treatment system and /or any discharges into surface waters.
2. **Routine Monitoring.** Once initial approval has been received, in order to evaluate the on-going operation of the system over the period of operation, additional monitoring shall be conducted as specified in Attachment 4, *Routine Monitoring of Acute and Chronic Effluent Toxicity Testing Requirements*, summarized monthly, and submitted to the Department quarterly at the address in Specific Condition 1.
3. **Compliance Actions.** If any of the tests result in acute or chronic toxicity (i.e., exceed the effluent limitation listed in Attachment 4), the permittee shall investigate the potential cause of this toxicity and retest as outlined below. If acute toxicity (exhibited at the 96-hour interim point in the chronic toxicity test) is observed in any test, the permittee shall cease discharge from the treatment system, immediately investigate the potential cause(s) of the toxicity, and retest as outlined in the attachment. Following shutdown due to acute toxicity levels, the permittee shall not restart operations until the preliminary toxicity results, possible causes and corrective actions that have been taken are reported by phone and in writing (e-mail acceptable) at the address in Specific Condition 1.

SPECIFIC CONDITIONS – POST-CONSTRUCTION / OPERATIONAL ACTIVITIES:

21. **Operation, Maintenance, Repair, Replacement and Rehabilitation.** The Permittee shall maintain the restored levee cross-section and structures as needed in the future such that the stability of the HHD levee is enhanced, seepage and piping are reduced, and design capacity to convey stormwater runoff and provide sustained water supply is met. Routine inspections shall be performed by the Permittee to confirm that the restored area's slope and grass cover are adequate, the landward toe ditch is unobstructed, and the hydraulic connections between the

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new structures and other culverts and lateral ditches are fully functional. No changes to operations are proposed under this authorization.

22. **Future Phases.** This permit does not authorize any construction or operation activities associated with future phases of the Herbert Hoover Dike Rehabilitation and Repair Project, including S-265, S-266, S-267, S-271, S-283, S-288, S-289, S-290, S-291 and S-292. Future phases shall require separate review and approval by the Department and, if approved, will be authorized by modification of this permit
23. **Permit Renewal.** At least 60 days prior to the expiration of this permit, the Permittee shall apply for renewal of this permit if construction activities are not likely to be completed by the permit expiration date.

SPECIFIC MANATEE CONDITIONS: The Permittee shall comply with the following conditions intended to protect manatees from direct project effects:

24. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The Permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
25. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
26. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
27. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
28. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com.
29. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the Permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

SPECIFIC CONDITIONS – MONITORING/REPORTING REQUIREMENTS:

30. **Annual Status Report.** The Permittee shall submit an "Annual Status Report" or "Annual Status Report Table" to the Department detailing the construction activities. These reports shall be submitted to the Department no later than March 1st of each year. If additional reporting modifications are required, the Permittee may request a modification to the annual report submission date and upon approval by the Department, the Permittee may modify the Annual Report submission date to coincide with other reporting requirements and time periods needed

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for data acquisition and analysis. The reports shall be submitted on an annual basis for projects exceeding one year of construction. In addition to the permit number and name of the permit administrator, the Annual Reports shall contain, at a minimum, the following information:

A. General Information.

- i. Permit number;
- ii. Permit name;
- iii. Structure Name (old and new);
- iv. Name of Contractor;
- v. Project Start and Scheduled Completion Dates;
- vi. Identification of any Delays encountered during period covered;
- vii. Actions taken to address problems/delays encountered;
- viii. Project Components and Milestone completed to date; and
- ix. Listing of USACE contacts per contract (Contracting Officer, Environmental Permitting, and Quality Assurance).

GENERAL CONDITIONS: The general conditions below are in light of the February 2006 Interagency Cooperative Agreement for Civil Works Projects (ICA) between the Department and the Corps:

31. This permit, including its general and specific conditions, shall be construed in light of the February 2006 Interagency Cooperative Agreement for Civil Works Projects (ICA) between the Department and the Corps. As recognized in the ICA, the Department has the authority to include reasonable conditions in this permit. All of the conditions in this permit, both general and specific, are enforceable to the extent sovereign immunity has been waived under 33 U.S.C. §§ 1323 and 1344(t). The ICA is incorporated herein by reference.
32. All activities approved shall be implemented as set forth in the drawings incorporated by reference and in compliance with the conditions and requirements of this document. The Corps shall notify the Department in writing of any anticipated changes in:
 - A. operational plans;
 - B. project dimensions, size, or location;
 - C. ability to adhere to permit conditions;
 - D. project description included in the permit; and
 - E. monitoring plans.

If the Department determines that a modification to the permit is required then the Corps shall apply for and obtain the modification. Department approval of the modification shall be obtained prior to implementing the change, unless the change is determined by the Department to reduce the scope of work from that authorized under the original permit, and will not affect compliance with permit conditions or monitoring requirements.

33. If, for any reason, the Corps does not comply with any condition or limitation specified herein, the Corps shall immediately provide the Department with a written report containing the following information:
 - A. a description of and cause of noncompliance;
 - B. the period of noncompliance, including dates and times;
 - C. the impacts resulting or likely to result from the non-compliance;
 - D. steps being taken to correct the non-compliance; and
 - E. the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

Compliance with the provisions of this condition shall not preclude the Department from taking any enforcement action allowed under state law with respect to any non-compliance.

34. The Corps shall obtain any applicable licenses, permits, or other authorizations, which may be required by federal, state, local or special district laws and regulations. Nothing herein constitutes a waiver or approval of other Department permits or authorizations that may be required for other aspects of the total project.
35. Nothing herein conveys to the Corps or creates in the Corps any property right, any interest in real property, any title to land or water, constitutes State recognition or acknowledgment of title, or constitutes authority for the use of Florida's sovereign submerged lands seaward of the mean high-water line or an established erosion control line, unless herein provided, and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State.
36. Any delineation of the extent of a wetland or other surface water submitted as part of the application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this authorization or a formal determination under section 373.421(2), F.S., provides otherwise.
37. Nothing herein authorizes any entrance upon or activities on property, which is not owned or controlled by the Corps or local sponsor, or conveys any vested rights or any exclusive privileges.
38. This document or a copy thereof, complete with all conditions, attachments, modifications, and time extensions shall be kept at the work site of the authorized activity. The Corps shall require the contractor to review this document prior to commencement of the authorized activity.
39. The Corps specifically agrees to allow Department personnel with proper identification, at reasonable times and in compliance with Corps specified safety standards access to the premises where the authorized activity is located or conducted for the purpose of ascertaining compliance with the terms of this document and with the rules of the Department and to have access to and copy any records that shall be kept; to inspect the facility, equipment, practices, or operations regulated or required; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance. Reasonable time may depend on the nature of the concern being investigated.
40. At least forty-eight (48) hours prior to the commencement of authorized activity, the Corps shall submit to the Department a written notice of commencement of activities indicating the anticipated start date and the anticipated completion date.
41. If historic or archaeological artifacts such as, but not limited to, Indian canoes, arrowheads, pottery or physical remains, are discovered at any time on the project site, the Corps shall immediately stop all activities in the immediate area which disturbed the soil and notify the Department and the State Historic Preservation Officer. In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.05, Florida Statutes.
42. Within a reasonable time after completion of construction activities authorized by this permit, the Corps shall submit to the Department a written statement of completion. This statement shall notify the Department that the work has been completed as authorized and shall include a description of the actual work completed. The Department shall be provided a copy, if requested, of any as-built drawings required of the contractor or survey performed by the Corps.

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.

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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 e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes 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 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 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.

FLWAC Review

The applicant, or any party within the meaning of Sections 373.114(1)(a) or 373.4275, F.S., may seek appellate review of this order before the Land and Water Adjudicatory Commission under Sections 373.114(1) or 373.4275, F.S., to determine if the order is consistent with the provisions and purposes of Chapter 373, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed in accordance with section 373.114, F.S., and Chapter

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42-2, F.A.C., and served on the Department and on any person named in the order within 20 days after the 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.

Executed in Leon County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Ernie Marks, Director
Office of Ecosystem Projects

EM/dn/th

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit including all copies, were mailed before the close of business on May 2, 2014, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

AmJul Clerk May 2, 2014 Date

Attachments:

- Attachment 1. Figure 1. Location Map and Project Drawings
- Attachment 2. Figure 2. Construction Footprint and Land Determination Drawing for HP-2
- Attachment 3. Figure 3. Manatee No Wake/ Idle Speed Sign
- Attachment 4. Chronic Effluent Toxicity Testing Requirements for Approval of Polymer/Flocculant Use
- Attachment 5. Routine Monitoring of Chronic Effluent Toxicity Testing Requirements

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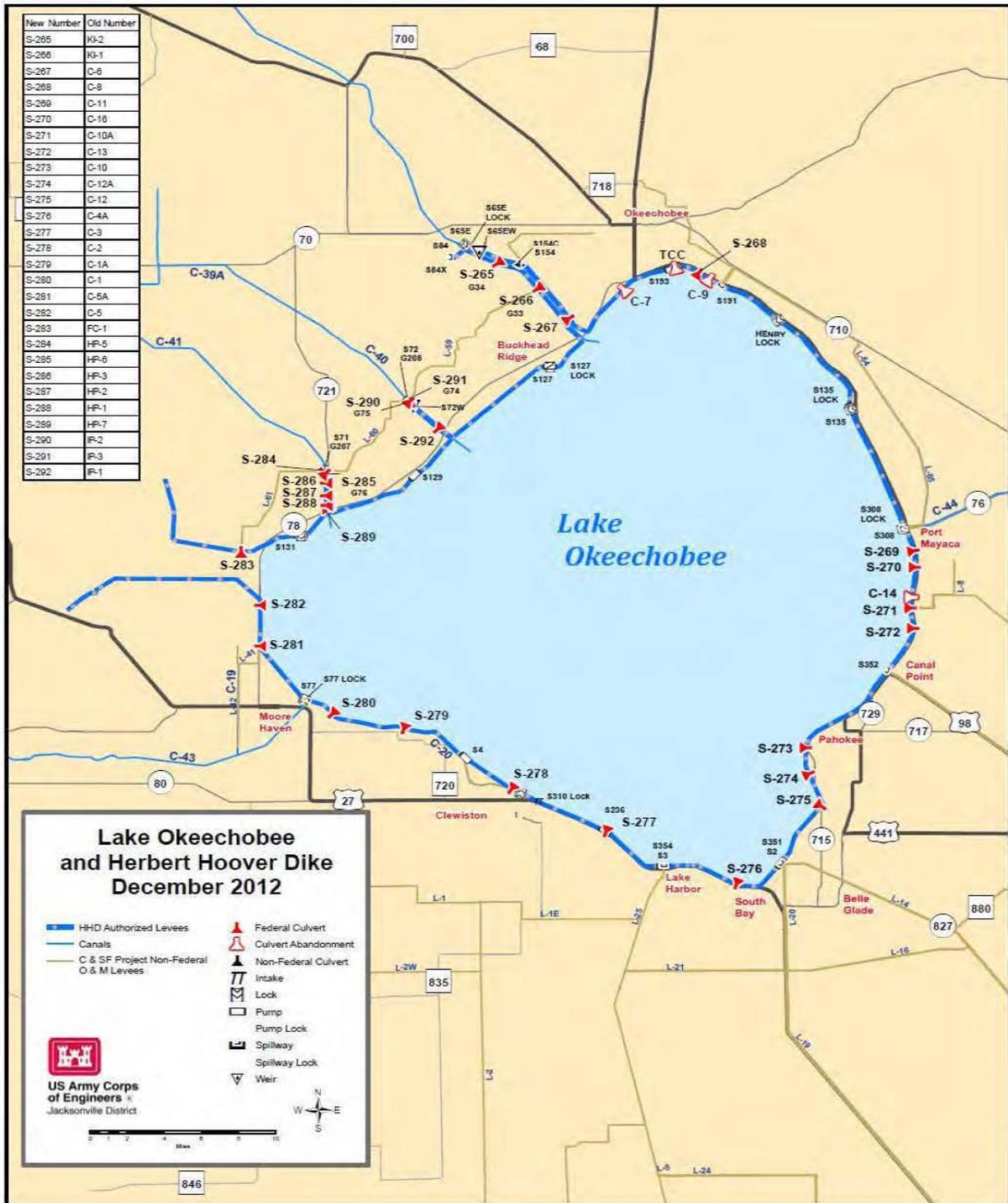
Permit Expiration: May 2, 2019

Electronic Copies furnished to:

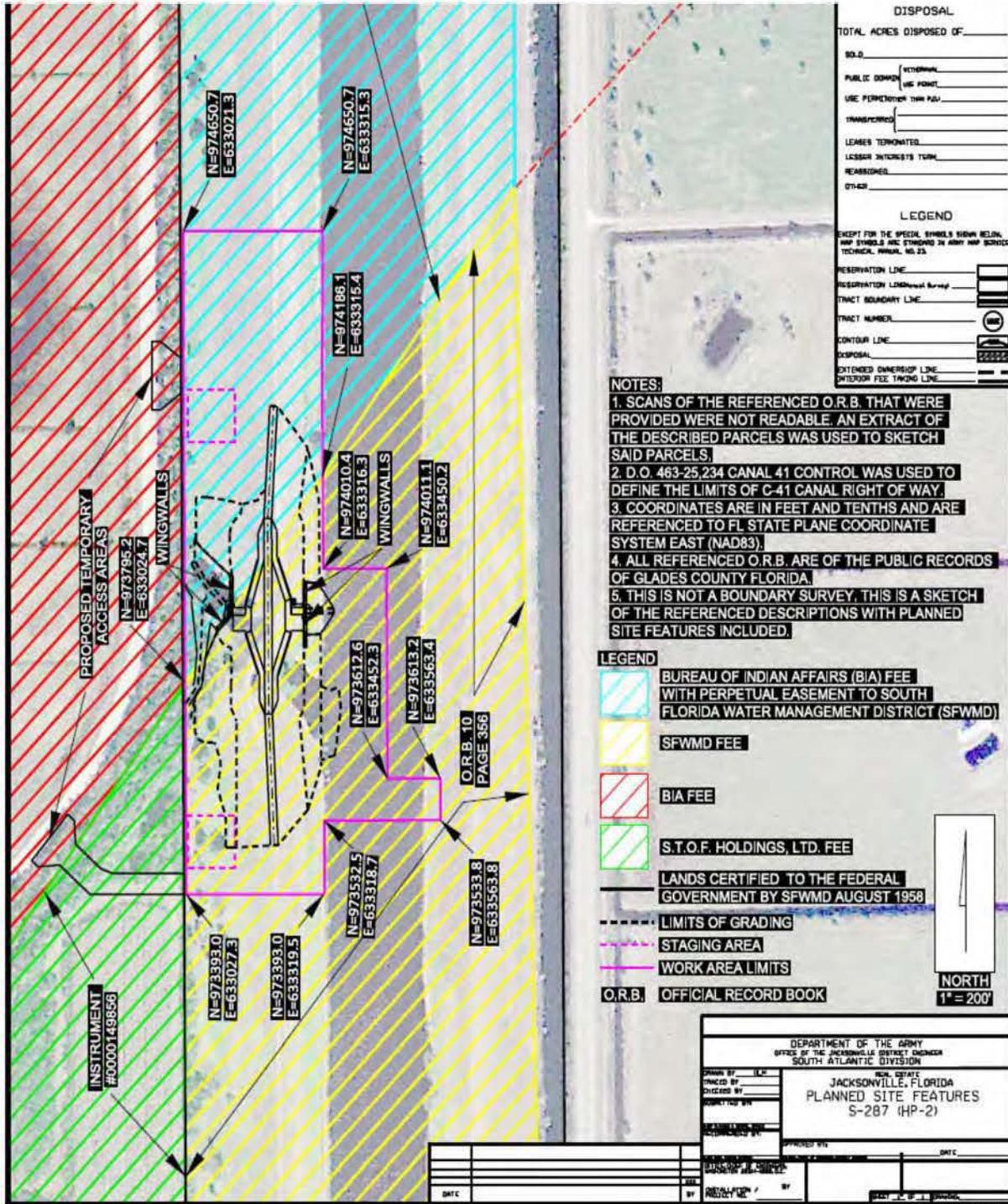
Eric Summa, USACE
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Luis Colon, SFWMD
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Beth Lewis, SFWMD
Nirmala Jeyakumar, SFWMD
Laura Reilly, SFWMD
Joseph Albers, SFWMD
Al Perry, City Manager of Clewiston
Cherise Maples, Seminole Tribe of Florida
Silvia Alderman, Akerman Senterfitt
David Davis, East Shore Drainage District
Tommy Perry, East Hendry County Water Control District
Pepe Lopez, US Sugar Corporation
Mark Schulz, FDOT
Ann Broadwell, FDOT
Michael Hart, FDOS
Ray Scott, FDACS
Rebecca Elliot, FDACS

Mary Duncan, FWC
Daryl Thomas, USFWS
Art Roybal, USFWS
Shelley Vanna, Board of County Commissioners, Palm Beach
Russell Echols, County Commissioner, Glades
Karson Turner, County Commissioner, Hendry
Gregory Walker, FDEP, Division of Recreation and Parks
Marsha Rickman, FDEP, Division of Recreation and Parks
Samantha Browne, FDEP, Division of Recreation and Parks
Judy Warrick, FDEP, Division of State Lands
Ernie Marks, FDEP
Frank Powell, FDEP
Deinna Nicholson, FDEP
Paul Julian, FDEP
Stanley Ganthier, FDEP
Art Sengupta, FDEP
Jerilyn Ashworth, FDEP
Chad Kennedy, FDEP
Kelli Edson, FDEP
Stacey Feken, FDEP
Kristine Morris, FDEP
Pamela King Philips, FDEP
Rick Vaughn, FDEP
Brian Dougherty, FDEP
William Rueckert, FDEP

Attachment 1, Figure 1. Herbert Hoover Dike Culvert Replacement Location Maps



Attachment 2, Figure 2. Construction Footprint and Land Determination Drawing for Culvert HP-2



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CAUTION: MANATEE HABITAT

**All project vessels
IDLE SPEED / NO WAKE**

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:



**Wildlife Alert:
1-888-404-FWCC(3922)**

cell *FWC or #FWC

Attachment 4. Chronic and Acute Effluent Toxicity Testing Requirements for Approval of Polymer/Flocculant Use

I. Data Required Prior to System Start-Up

- a. Name and Material Safety Data Sheet (MSDS) for polymer/flocculant that will be used;
- b. Description/schematic of treatment system including frequency of injection/use, equipment, intakes, discharges, stirring processes, estimated volumes to be treated, nature of the material to be treated, and maximum dosage rates;
 - i. If flocculants/polymers will be used for reduction of turbidity due to dewatering activities, please include the dewatering plan.
- c. Description of control measures in place to ensure residual polymer is not being discharged. This should include descriptions of any testing methods in place to measure residual polymer and the frequency that these measurements will be conducted;
- d. Anticipated travel time from the point of injection and concentrations of effluent in the outflow (discharge) sample;
- e. Acute (exhibited at the 96-hour interim point in the chronic toxicity test) and chronic toxicity test results following FDEP approved methods and standard operating procedures. In order for a polymer to be utilized in this treatment system, the conducted tests must result in an $LC_{50} > 100\%$ for acute testing and an $IC_{25} > 100\%$ for chronic testing.

II. Chronic Effluent Toxicity Testing

- a. The Permittees shall comply with the following effluent toxicity testing requirements and initiate the series of tests described below to evaluate chronic toxicity of effluent discharge from operations using polymers or other flocculants.
 - i. Effluent Limitation
 1. In any test for chronic whole effluent chronic toxicity, the 25% Inhibition Concentration (IC_{25}) shall not be less than 100% effluent. [Subsection 62-302.530(61), F.A.C.]
 - ii. Monitoring
 1. The “routine” toxicity tests specified shall be conducted and the results submitted to the Department at least 30 days prior to any discharge of effluent from operations.
 - iii. Test Requirements
 1. Tests: All tests shall be conducted using a control (0% effluent) and a minimum of five test concentrations: 100%, 50%, 25%, 12.5%, and 6.25% final effluent. Effluent shall be produced as described below in Sampling and Effluent Preparation Requirements. If the toxicity test does not meet the effluent limitation described in a., above, it is considered a failing test. In this case the contractor must revise its polymer / flocculant configuration and / or select a different polymer / flocculant and retest following the same procedures until a passing test is achieved.
 2. The permittee shall conduct 7-day chronic toxicity test tests on two test species concurrently.
 - a. Fresh waters: If the effluent will discharge to predominately fresh waters as defined in subsection 62-300.200(22), F.A.C., the test species will be the bannerfin shiner, *Cyprinella leedsi* or fathead minnow, *Pimephales promelas* and the water flea, *Ceriodaphnia dubia*.

- iv. All test species, procedures and quality assurance criteria used shall be in accordance with EPA-821-R-02-013, *Short-Term Methods For Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, 4th ed.* (<http://www.epa.gov/waterscience/methods/wet/disk3/>). Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method. For further reference and assistance, DEP Laboratory Standard Operating Procedure (SOP) references are listed:
 1. Fresh waters: TA-07.05, *Ceriodaphnia dubia* Chronic Toxicity Testing Methods (<ftp://ftp.dep.state.fl.us/pub/labs/labs/sops/4584.pdf>) and
 2. TA-07.09, *Pimephales promelas* or *Cyprinella leeds* Chronic Toxicity Testing Methods

- v. Sampling and Effluent Preparation Requirements
 1. Follow DEP Laboratory's SOPs for preparing and conducting the tests:
 - a. FS 1000 General Sampling (<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/fs1000.pdf>)
 - b. FS 2000 General Aqueous Sampling (<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/fs2000.pdf>)
 - c. FS 2100 Surface Water Sampling (<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/fs2100.pdf>)
 - d. FT 1000 General Field Testing and Measurement (<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/ft1000.pdf>)
 2. The test sample is prepared by combining approximately 1 L of source water sample with the proposed polymer at the maximum dosage rate proposed for the system. Record the concentration of water and polymer used. The mixture is stirred for 30 min with a magnetic stirrer. At 10-min intervals, the mixture is also stirred manually to ensure complete mixing.
 3. After the 30-min mixing period, the mixture is allowed to settle for 1 hr. The liquid plus the material remaining in suspension after the settling period represents the 100% liquid plus suspended particulate phase. The supernatant is then carefully siphoned off, without disturbing the settled material, and immediately used for testing.
 4. The resulting liquid will constitute the effluent referenced above in a. at 100%.

- b. Quality Assurance Requirements
 - i. A standard reference toxicant quality assurance chronic toxicity test (SRT-QA) shall be conducted with each species used in the required toxicity tests, either concurrently or started no more than 30 days before the date of each routine or additional follow-up test conducted. The SRT-QA data shall be submitted with each companion routine or additional test required. A test will be considered valid only if the control mortality does not exceed 20% for either species and all test acceptability criteria are met as described below in e.2 and e.3. The results of any invalid test shall be submitted to the Department in conjunction with the results of the complete repeat test.
 - ii. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (*C. dubia*) and Section 11.12 (*P. promelas*); and EPA-821-R-02-014, Section 14.12 (*A. bahia*) and Section 13.12 (*M. beryllina*) or the most current edition. If the mortality in the

control (0% effluent) exceeds 20% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated.

- iii. If, in any test, 100% mortality occurs in any test concentration prior to the seven days, and the control mortality is less than 20% at that time, that test (including the control) shall be terminated with the conclusion that the test failed.
- iv. Additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-014, Sections 10.2.6. Results from the evaluations shall be included with the submitted bioassay reports

c. Reporting Requirements

- 1. A toxicity laboratory report for each test shall be prepared according to EPA-821-R-02-014, Section 10, Report Preparation and Test Review (or the most current edition), and submitted to the Department for receipt at least 30 days prior to beginning of discharge.
- 2. All toxicity reports shall be sent to:
Department of Environmental Protection
Office of Ecosystem Services
3900 Commonwealth Boulevard, MS 24
Tallahassee, Florida 32399-2400
Email: RPPS_COMP@dep.state.fl.us

III. Disposal/Stockpiling

- a. Disposal of Flocculent/Toxicity Characteristic Leaching Procedure.
 - i. Prior to disposal of flocculent to a landfill, the Permittee shall complete the Toxicity Characteristic Leaching Procedure in accordance with the procedures outlined in the EPA Method 1311 (<http://www.epa.gov/osw/hazard/testmethods/sw846/pdfs/1311.pdf>). Additionally the permittee will be required to coordinate with the landfill or waste disposal company to determine if specific analyses need to be conducted. Proof of coordination must be provided to the Department.
- b. Stockpiling of Flocculent/Synthetic Precipitation Leaching Procedure.
 - i. Prior to stockpiling of flocculent in the unlined drying area, the Permittees shall complete the Synthetic Precipitation Leaching Procedure in accordance with the procedures outlined in EPA Method 1312 (<http://www.epa.gov/waste/hazard/testmethods/sw846/pdfs/1312.pdf>). The sediments should be sampled to ensure that flocculants will not contribute to groundwater contamination. Method 1312 is designed to determine the mobility of both organic and inorganic analytes present in liquids, soils, and wastes.

Attachment 5. Routine Monitoring of Chronic and Acute Effluent Toxicity Testing Requirements

CHRONIC TOXICITY MONITORING REQUIREMENTS

In order to evaluate the routine operation of the system over the period of operation, the following monitoring shall be conducted as specified and submitted to the Department in a monthly report. Tests shall be conducted monthly for the first three months and every three months thereafter, following the protocol outlined below. If any of the initial (3) tests result in unacceptable toxicity, the permittee shall investigate the potential cause of this toxicity.

I. Chronic Toxicity Testing Protocol

The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from the operation.

a. Effluent Limitation

- i. In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]
- ii. For acute whole effluent toxicity (exhibited at the 96-hour interim point in the chronic toxicity test), the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]

II. Monitoring Frequency

- a. "Routine" toxicity tests shall be conducted monthly for the first three months and every three months thereafter and lasting for the duration of this permit.
- b. Upon completion of four consecutive, valid "routine" tests that demonstrate compliance with the effluent limitation in a(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in a(1) above. Upon completion of four consecutive, valid routine tests that demonstrate compliance with the effluent limitation in a(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. Requested reductions in monitoring shall only become effective upon Department approval.
- c. If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-013, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency. If two or more invalidations occur, this provision does not apply.

III. Test Requirements

- a. Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test concentrations: **100%, 50%, 25%, 12.5%, and 6.25%** final effluent.
- b. Additional Follow-up Testing Requirements, if required:
 - i. If a routine test does not meet the chronic toxicity limitation above, the permittee shall conduct two additional follow-up tests on each species that failed the test.
 - ii. Each additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5% and 6.25% effluent. The dilution series may be modified in the second test to more accurately bracket the toxicity, such that at least two dilutions above (not to exceed

- 100% effluent) and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be statistically analyzed according to the Appendices in EPA-821-R-02-013.
- iii. The first test shall be initiated within two weeks of the end of the failed routine test and weekly thereafter until a total of two valid additional follow-up tests are completed.
 - c. The permittee shall conduct 7-day chronic toxicity test with a water flea, **Ceriodaphnia dubia** (EPA Method 1002.0), Survival and Growth Test, and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test (EPA Method 1000.0), concurrently.
 - d. All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th ed., EPA-821-R-02-013 (http://water.epa.gov/scitech/swguidance/methods/wet/disk3_index.cfm). Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

For further reference and assistance, DEP Laboratory Standard Operating Procedure (SOP) references are listed:

TA-07.05, *Ceriodaphnia dubia* Chronic Toxicity Testing Methods (<ftp://ftp.dep.state.fl.us/pub/labs/labs/sops/4584.pdf>) and TA-07.09, *Pimephales promelas* or *Cyprinella leeds* Chronic Toxicity Testing Methods

IV. Sampling Requirements

- a. Follow DEP Laboratory's SOPs for preparing and conducting the tests:
 - I. FS 1000 *General* *Sampling*
(<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/fs1000.pdf>)
 - II. FS 2000 *General* *Aqueous* *Sampling*
(<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/fs2000.pdf>)
 - III. FS 2100 *Surface* *Water* *Sampling*
(<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/fs2100.pdf>)
 - IV. FT 1000 *General* *Field* *Testing* *and* *Measurement*
(<http://publicfiles.dep.state.fl.us/dear/labs/sas/sopdoc/2008sops/ft1000.pdf>)
- b. For each routine or additional follow-up test conducted, a total of three separate grab samples of final effluent shall be collected and used per the sampling protocol discussed in EPA-821-R-02-013, Section 8.
- c. The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
- d. Samples for routine and additional follow-up tests shall not be collected on the same day.

V. Quality Assurance Requirements

- a. A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or no more than 30 days before the date of each routine or additional follow-up test conducted. The SRT-QA data shall be submitted with each companion routine or additional test required.
- b. If the mortality in the control (0% effluent) exceeds 20% for either species in any test or does not meet "test acceptability criteria", the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (*C. dubia*) and Section 11.11 (*P. promelas*) or the most current edition. The repeat test shall begin within 21 days after the last day of the invalid test.

- c. If during any test, 100% mortality occurs in the 100% effluent concentration for either test species prior to the end of the test, and control mortality is less than 20% at that time, that test (including the control) shall be terminated with the conclusion that the test fails and constitutes non-compliance.
- d. Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship and the percent minimum significant difference (PMSD) as required by EPA-821-R-02-013, Section 10.2.8. Results from these evaluations shall be included with the submitted bioassay reports.

VI. Reporting Requirements

- a. A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review and mailed to the Department at the address below within 30 days of the completion of the test.
- b. For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10 and mailed within 30 days after the last day of completion of the second valid additional follow-up test. If any additional follow-up test, or two consecutive routine tests do not meet the effluent limitation specified in a.(1) above, the permittee shall contact the Department within 30 days of the report submittal to discuss the appropriate corrective actions necessary to remedy the observed chronic toxicity. Data for invalid tests shall be included in the bioassay laboratory report for the repeat test. The same bioassay data shall not be reported as the results of more than one test.

3. All bioassay reports shall be submitted to:

Department of Environmental Protection
Office of Ecosystem Services
3900 Commonwealth Boulevard, MS 24
Tallahassee, Florida 32399-2400
Email: RPPS_COMP@dep.state.fl.us

V. Compliance Actions:

- a. If acute toxicity (exhibited at the 96-hour interim point in the chronic toxicity test) is equivalent to an $LC_{50} < 100\%$ in any test, the permittee shall cease discharge from the treatment system and immediately investigate the potential cause(s) of the toxicity, and retest as outlined above.
- b. Following shutdown due to acute toxicity levels, the permittee shall not restart operations until the preliminary toxicity results, possible causes and corrective actions that have been taken are reported by phone and in writing (e-mail acceptable) at the address below. If any of the tests result in chronic toxicity (i.e., exceed the effluent limitation listed below), the permittee shall investigate the potential cause of this toxicity and retest as outlined above.