

DEPARTMENT OF THE ARMY PERMIT

Permittee: SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ATTN: MR. DREW BARTLETT
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406

Permit No: SAJ-2018-03427(SP-KDS)

Issuing Office: U.S. Army Engineer District, Jacksonville

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The A-2 Stormwater Treatment Area (STA) includes the construction of an STA with a 6,500 acre effective treatment area with an inflow/outflow canal, and associated water control structure and infrastructure. The project will be constructed in three phases described below.

Phase I: Site preparation, including mechanical clearing, grubbing vegetation, and demucking, within the approximately 340-acre footprint of the A-2 STA Intake and Outfall Canal.

Phase II: Phase II includes the construction of the A-2 STA Inflow/Outflow Canal and the seepage canal. The A-2 STA Inflow/Outflow Canal is approximately 4-miles of a conveyance canal paralleling the north property line of the STA including clearing and grubbing within the limits of construction. Interior and Exterior Road Levees will be constructed on either side of the Inflow/Outflow Canal. The Interior Levee will also be the embankment for the future Cells 1 and 2 of the A-2 STA. This conveyance canal will be isolated from other surface waters (the Miami Canal) until construction of the A-2 STA. The A-2 STA Seepage Canal, is a canal along the north property line to minimize seepage flows to adjacent lands. This canal will not be functional until completion of the A-2 STA. Phase I results in the discharge of fill in 1.9 acres of waters of the United States (tributaries including ditches and canals). The remainder of the tributaries in the Inflow/Outflow Canal will be excavated to become a deeper open water.

Phase III: Phase III includes the construction of (1) an STA with approximately 6,500 acres of effective treatment area divided into three east-west flowing cells, (2) a water

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control structure in the Miami Canal at the northwest corner of the STA, and (3) additional infrastructure including pump stations. A final operations plan has not been submitted for review. As such, only the initial operational period referenced as the Operational Testing and Monitoring Period (OTMP) is included in Phase III. When A-2 STA construction is complete and prior to implementing regular or interim operations, the STA will enter into OTMP. OTMP is considered part of construction phase and includes inundating the cells of the STA to facilitate vegetation grow-in for the STA. This OTMP will begin as soon as levees facing the A-2 reservoir side are complete. During this interim operating period to support vegetation establishment, flows shall be released from Lake Okeechobee and water will be directed from the Miami Canal into the A-2 STA, through the cells, and then either discharged back into the Miami Canal or retained within the A-2 STA. This period is expected to last approximately 2 years. This stabilization or grow-in phase allows for the maturation of desired vegetation, identification and correction of hydraulic short circuiting and the equilibration of operations across portions of the existing and expanded facility treatment works. Phase III results in the discharge of fill in 286.5 acres of waters of the United States (8.4 acres of wetlands and 278.1 acres of tributaries including ditches and canals). Of the 286.5 acres of waters of the United States, approximately 3.7 acres of tributaries and 8.4 acres of wetlands will be completely fill to become levees. The remaining 274.4 acres of tributaries will be converted from shallow, open waters to wetlands. The remainder of the 221.6 acres of wetlands will be graded to obtain desired elevations but will remain wetlands.

Work is approved conditionally within Phases II and III provided the applicant submits final 408 approval for Phase II; and complete site design plans, a final operational plan, water quality certification, NPDES permit, and a water quality monitoring plan for Phase III. Pending receipt of the required documentation, written verification from the Corps will be required for the Permittee to begin work on Phases II and III.

The work described above is to be completed in accordance with the 2 pages of drawings located in Attachment A and Attachments B – E affixed at the end of this permit instrument.

Project Location: The project, A-2 Stormwater Treatment Area (STA), would affect waters of the United States associated with the Miami Canal. The project site is located within a 6,500-acre area in the Everglades Agricultural Area (EAA) off of US Highway 27 approximately 9.75 miles South of County Road 827, Township 46 South, Range 35E (Section 13, Section 22-26, Section 35-36); Range 36E (Section 18-19 & Section 30-31), Palm Beach County, Florida.

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Directions to site: From SFWMD's G-720 Structure [located on the West Side of A-1 FEB], travel west on the STA 3/4 Inflow Canal's north levee road approximately 7.7 miles [passing north of G-372] until the road turns north and becomes the L-23 Canal's east levee road. Continue north on the L-23 Canal's east levee road approximately 0.9 miles, then east on the first farm road encountered [which runs along the south side of the canal]. Continue east along the south side of the canal approximately 0.8 miles until farm road terminates at unnamed N-S farm road. Travel North on unnamed farm road approximately 0.5 miles and make a slight jog to cross the unnamed canal. Turn east and travel approximately 1.0 miles to the SE corner of the 560 acre site.

Approximate Central Coordinates: Latitude: 26.46° North
Longitude: -80.79° West

Permit Conditions

General Conditions:

1. The time limit for completing the work authorized ends on April 17, 2025. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature and the mailing address of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. A conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached (Attachment B).

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. **Reporting Address:** The Permittee shall submit all reports, notifications, documentation and correspondence required by the general and special conditions of this permit to either (not both) of the following addresses:
 - a. For electronic mail (preferred): SAJ-RD-Enforcement@usace.army.mil (not to exceed 15 MB).
 - b. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, P.O. Box 4970, Jacksonville, FL 32232-0019.

The Permittee shall reference this permit number, SAJ-2018-03427(SP - KDS), on all submittals.

2. **Commencement Notification:** Within 10 days from the date of initiating the work authorized by this permit the Permittee shall submit a completed "Commencement Notification" Form.
3. **Agency Changes/Approvals:** Should any other agency require and/or approve changes to the work authorized or obligated by this permit, the Permittee is advised a modification to this permit instrument may be required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Palm Beach Gardens Permits Section. The Corps reserves the right to fully evaluate, amend, and approve or deny the request for modification of this permit.
4. **Assurance of Navigation and Maintenance:** The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free

navigation of the navigable waters, the Permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

5. **Posting of Permit:** The Permittee shall have available and maintain for review a copy of this permit and approved plans at the construction site.
6. **Consent to Easement:** A portion of the authorized work may be located within the Federal right-of-way for an identified Federal project and would require a Department of the Army Consent to Easement to begin Phase II and III. By copy of this permit, the proposal is being forwarded to the Corps' Real Estate Division for action on the Consent to Easement. Failure to obtain the Consent to Easement or waiver invalidates this authorization. The Real Estate Division is responsible for issuing the Consent to Easement. Contact with Real Estate for questions or status updates can be done at Post Office Box 4970, Jacksonville, Florida 32232-0019 or by telephone at 904-570-4514.
7. **Cultural Resources/Historic Properties:**
 - a. No structure or work shall adversely affect impact or disturb properties listed in the *National Register of Historic Places* (NRHP) or those eligible for inclusion in the NRHP.
 - b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

- c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition; and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 C.F.R. Part 800 or 33 C.F.R. § 325, Appendix C (5). Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 C.F.R. § 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.
- d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend, or revoke the permit in accordance with 33 C.F.R. § 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.
- e. If the unlikely event that human remains are encountered on federal or tribal lands, or in situations where Archaeological Resources Protection Act of 1979, or Native American Graves Protection Repatriation Act of 1990 applies, all work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the Corps, within the same business day (8-hours). The Corps shall then notify the appropriate THPO(s) and SHPO. Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 C.F.R. § 325.7. After such notification, project activities on federal lands shall not resume without written authorization from the Corps, and/or appropriate THPO(s), SHPO, and federal manager. After such notification, project activities on tribal lands shall not resume without written authorization from the appropriate THPO(s) and the Corps.

8. **Turbidity Barriers:** Prior to the initiation of any of the work authorized by this permit, the Permittee shall install floating turbidity barriers with weighted skirts that extend to within 1 foot of the bottom around all work areas that are in, or adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all suspended and erodible materials have been stabilized. Turbidity barriers shall be removed upon stabilization of the work area.
9. **Erosion Control:** Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the work area into waters of the United States. Immediately after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas shall be stabilized using sod, degradable mats, barriers, or a combination of similar stabilizing materials to prevent erosion. The erosion control measures shall remain in place and be maintained until all authorized work is completed and the work areas are stabilized.
10. **Construction Phases:** Construction has been divided into three Phases. Phase I is authorized to proceed when the District Engineer signs the permit. Phase II and III cannot begin until the Permittee receives written confirmation from the Corps. To request authorization of Phase II and III to proceed, the Permittee must submit the following:
 - a. Phase II: Final Section 408 approval for the Inflow/Outflow Canal.
 - b. Phase III:
 - i. Complete site plans;
 - ii. Final Operations plan;
 - iii. Water Quality certification from the FDEP; and
 - iv. A final water quality monitoring plan that includes the addition of two water quality monitoring stations near the northern boundary of the Miccosukee Reservation lands in Water Conservation Area 3A. The monitoring plan shall include a plan to begin baseline sampling prior to implementation of A-2 STA project features.

- 11. Fill Material:** The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete block with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act.
- 12. Biological Opinion:** This permit does not authorize the Permittee to take an endangered species, in particular the Eastern indigo snake and the Florida panther. In order to legally take a listed species, the Permittee must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with “incidental take” provisions with which you must comply). The enclosed (Attachment C) United States Fish and Wildlife Service Biological Opinion (BO) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that is also specified in the BO. Authorization under this permit is conditional upon compliance with all of the mandatory terms and conditions associated with incidental take of the enclosed BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with this permit. The United States Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.
- 13. Tribal rights**
- a. The Permittee shall notify the Corps upon becoming aware of issues which implicate the Miccosukee Tribe of Indians of Florida and the Seminole Tribe of Florida so that the Corps can ensure Government to Government coordination and relations.
 - b. None of the authorizations or conditions in the permit are intended to diminish or alter the governmental authority and powers of the Miccosukee Tribe of Indians and the Seminole Tribe of Florida (Tribes), or diminish or alter the rights of those Tribes, including rights under any tribal agreement with the Permittee or any agency of the U.S. Government. The Permittee shall advise this office and the Tribes when the Permittee becomes aware of issues implicating the powers or rights of the Tribes or other issues that may make necessary a modification to the permit.

14. **Operations:** The Permittee shall not operate the STA beyond what is described in the project description until written authorization is granted by the Corps subject to a future permit evaluation and modification and a National Pollutant Elimination System (NPDES) permit has been received. A minimum of six months prior to planned operation of the facility, the Permittee shall submit an operation plan to the Corps for review and approval. The National Environmental Policy Act analysis for the project will be updated to reflect the operations plan and coordinated for public and agency review as appropriate.
15. EAA A-2 Inflow/Outflow canal and associated A-2 STA inflow interim pump station shall not be operated for routine purposes prior to inclusion of these features in the Corps Water Control Plan and/or Corps approval of a temporary deviation that prescribes operational criteria for these features, aside from the limited operations authorized by the Corps' Regulatory permit to support A-2 STA vegetation establishment. During this interim operating period to support vegetation establishment, flows shall be released from Lake Okeechobee and water will be directed from the Miami Canal into the A-2 STA, through the cells, and then either discharged back into the Miami Canal or retained within the A-2 STA.
16. Inflow/Outflow Canal and associated inflow interim pump station construction shall not impact the authorized use of the Miami Canal and shall be complementary to the final design of the A-2 STA, A-2 Reservoir and A-2 Reservoir inflow pump station. The final designs of these features will be reviewed separately.
17. Final designs and construction contracts for future features will incorporate measures necessary for the A-2 Inflow/Outflow canal to function in conjunction with all other project features to meet overall EAA project purpose.
18. **Compensatory Mitigation:** Within 6 months from the date of initiating the Phase II work authorized by this permit, the Permittee shall complete all construction and implementation mitigation activities in accordance with the approved final compensatory mitigation plan included as an attachment of this permit. In addition, within 6 months from the date of initiating the Phase II work authorized by this permit the Permittee shall complete all additional required mitigation plan components as detailed in the plan attached to the permit (Attachment D).

19. Monitoring and Reporting Timeframes: To document achievement of the performance standards identified in the approved mitigation plan attached to the permit the Permittee shall complete the following:

- a. Perform a time-zero monitoring event of the wetland mitigation area(s) within 60 days of completion of the compensatory mitigation construction and implementation activities identified in the approved mitigation plan attached to the permit.
- b. Submit the time-zero report to the Corps within 60 days of completion of the monitoring event. The report will include at least one paragraph depicting baseline conditions of the mitigation site(s) prior to initiation of the compensatory mitigation objectives and a detailed plan view drawing of all created, enhanced and/or restored mitigation areas.
- c. Subsequent to completion of the compensatory mitigation objectives, perform semi-annual monitoring of the wetland mitigation areas for the first 2 years and annual monitoring thereafter for a total of no less than 5 years of monitoring.
- d. Submit annual monitoring reports to the Corps within 60 days of completion of the monitoring event. Semi-annual monitoring will be combined into one annual monitoring report.
- e. Monitor the mitigation area(s) and submit annual monitoring reports to the Corps until released in accordance with the **Mitigation Release** Special Condition of this permit.

20. Reporting Format: The Permittee shall submit all monitoring documentation to the Corps on 8½-inch by 11-inch paper, and include the following:

- a. Project Overview:
 - i. Department of the Army Permit Number
 - ii. Name and contact information of Permittee and consultant
 - iii. Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted
 - iv. A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.

- v. Written description of the location, any identifiable landmarks of the compensatory mitigation project including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitude, UTM, state plane coordinate system, etc.).
 - vi. Dates compensatory mitigation commenced and/or was complete.
 - vii. Short statement on whether the performance standards are being met.
 - viii. Dates of any recent corrective or maintenance activities conducted since the previous report submission
 - ix. Specific recommendations for any additional corrective or remedial actions.
- b. Requirements: List the monitoring requirements and performance standards, as specified in the approved mitigation plan and special conditions of this permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or trending towards success. A table is a recommended option for comparing the performance standards to the conditions and status of the developing mitigation site.
- c. Summary Data: Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the PM in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photos should be formatted to print on a standard 8½-inch x 11-inch piece of paper, dated, and clearly labeled with the direction from which the photo was taken. The photo location points should also be identified on the appropriate maps.
- d. Maps and Plans: Maps shall be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps and plans should clearly delineate the mitigation site perimeter(s). Each map or diagram should be formatted to print on a standard 8½-inch x 11-inch piece of paper and include a

legend and the location of any photos submitted for review. As-built plans may be included.

- e. **Conclusions:** A general statement shall be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the Permittee or sponsor, including a timetable, shall be provided. The District Commander will ultimately determine if the mitigation site is successful for a given monitoring period.
21. **Remediation:** If the compensatory mitigation fails to meet the performance standards 5 years after completion of the compensatory mitigation objectives, the compensatory mitigation will be deemed unsuccessful. Within 60 days of notification by the Corps that the compensatory mitigation is unsuccessful, the Permittee shall submit to the Corps an alternate compensatory mitigation proposal sufficient to create the functional lift required under this permit. The alternate compensatory mitigation proposal may be required to include additional mitigation to compensate for the temporal loss of wetland functions associated with the unsuccessful compensatory mitigation activities. The Corps reserves the right to fully evaluate, amend, and approve or reject the alternate compensatory mitigation proposal. Within 120 days of Corps approval, the Permittee will complete the alternate compensatory mitigation proposal.
 22. **Mitigation Release:** The Permittee's responsibility to complete the required compensatory mitigation, as set forth in the special condition of this permit title Compensatory Mitigation will not be considered fulfilled until mitigation success has been demonstrated and written verification has been provided by the Corps. A mitigation area which has been released will require no further monitoring or reporting by the Permittee; however the Permittee, Successors, and subsequent Transferees remain perpetually responsible to ensure that the mitigation area(s) remain in a condition appropriate to offset the authorized impacts in accordance with General Condition 2 of this permit.
 23. Conditions for projects that the Permittee plans to construct in furtherance of the Central Everglades Planning Project (CEPP), but which are being constructed in advance of final authorization/approval of the associated CEPP project:
 - a. The Corps' analysis of this permit application pursuant to applicable regulations and the National Environmental Policy Act (NEPA) may need

to be supplemented as new information becomes available and/or to meet requirements for modifications of the permit.

- b. The Corps' decision that this project has independent utility is made solely for the purpose of permitting and does not mean that it is or is not a separate project under CEPP.
- c. Issuing this permit does not constitute approval of any engineering or design for any future consideration of the project under CEPP.
- d. Future action on related portions of this project or other projects being implemented under CEPP may require additional NEPA compliance analysis and documentation or other related analysis under the Corps' Civil Works Planning Process.
- e. The issuance of this permit does not constitute approval of this project as being necessary, integral, and cost effective for consideration of the cost sharing for the planning, design, engineering, construction or implementation of a feature of CEPP.
- f. Any work under an authorized federal project cannot be considered for any mitigation that may be required by issuance of this permit.
- g. The Permittee is required to design, construct, and operate the project consistent with the Central and Southern Florida Project as modified.

24. As-Built Certification: Within 60 days of completion or cessation of a period of 1 year or more of authorized work within Phase II and III, the Permittee shall submit as-built drawings of the authorized work within that phase and complete "As-Built Certification By Professional Engineer" form to the Corps. Upon expiration of the construction window identified in General Condition 1, the Permittee shall submit a final as-built drawing and certification for all phases. The as-built drawings for each phase and the final submittal shall be signed and sealed by a registered professional engineer and include the following:

- a. A plan view drawing of the location of the authorized work footprint, as shown on the permit drawings, with transparent overlay of the work as constructed in the same scale as the permit drawings on 8½-inch by 11-inch sheets. The plan view drawing should show all "earth disturbance," including wetland impacts and water management structures.
- b. A list of any deviations between the work authorized by this permit and the work as constructed. In the event that the completed work deviates, in any manner, from the authorized work, describe on the attached "As-Built Certification By Professional Engineer" form the deviations between the work authorized by this permit and the work as constructed. Clearly

indicate on the as-built drawings any deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or "As-Built Certification By Professional Engineer" form does not constitute approval of any deviations by the Corps.

- c. Include the Department of the Army permit number on all sheets submitted.
- d. Within 60 days of completion of the work authorized by this permit, the Permittee shall provide a courtesy copy of the signed and sealed As-Built drawings to the Corps, Engineering Division. Submittals shall be sent either electronically by email at ENPermits.CESAJ@usace.army.mil or by standard mail at Post Office Box 4970, Jacksonville, Florida 32232-0019.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344)

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)

() Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408)

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in

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certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

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Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



(PERMITTEE)

4/17/20

(DATE)

Andrew Bartlett

(PERMITTEE NAME-PRINTED)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

KELLY.ANDREW.DON Digitally signed by
ALD.JR.1025510875 KELLY.ANDREW.DONALD.JR.10255
10875
Date: 2020.04.17 15:40:51 -04'00'

(DISTRICT ENGINEER)
Andrew D. Kelly, Jr.
Colonel, U.S. Army
District Commander

17 April 2020

(DATE)

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When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEE-SIGNATURE)

(DATE)

(NAME-PRINTED)

(ADDRESS)

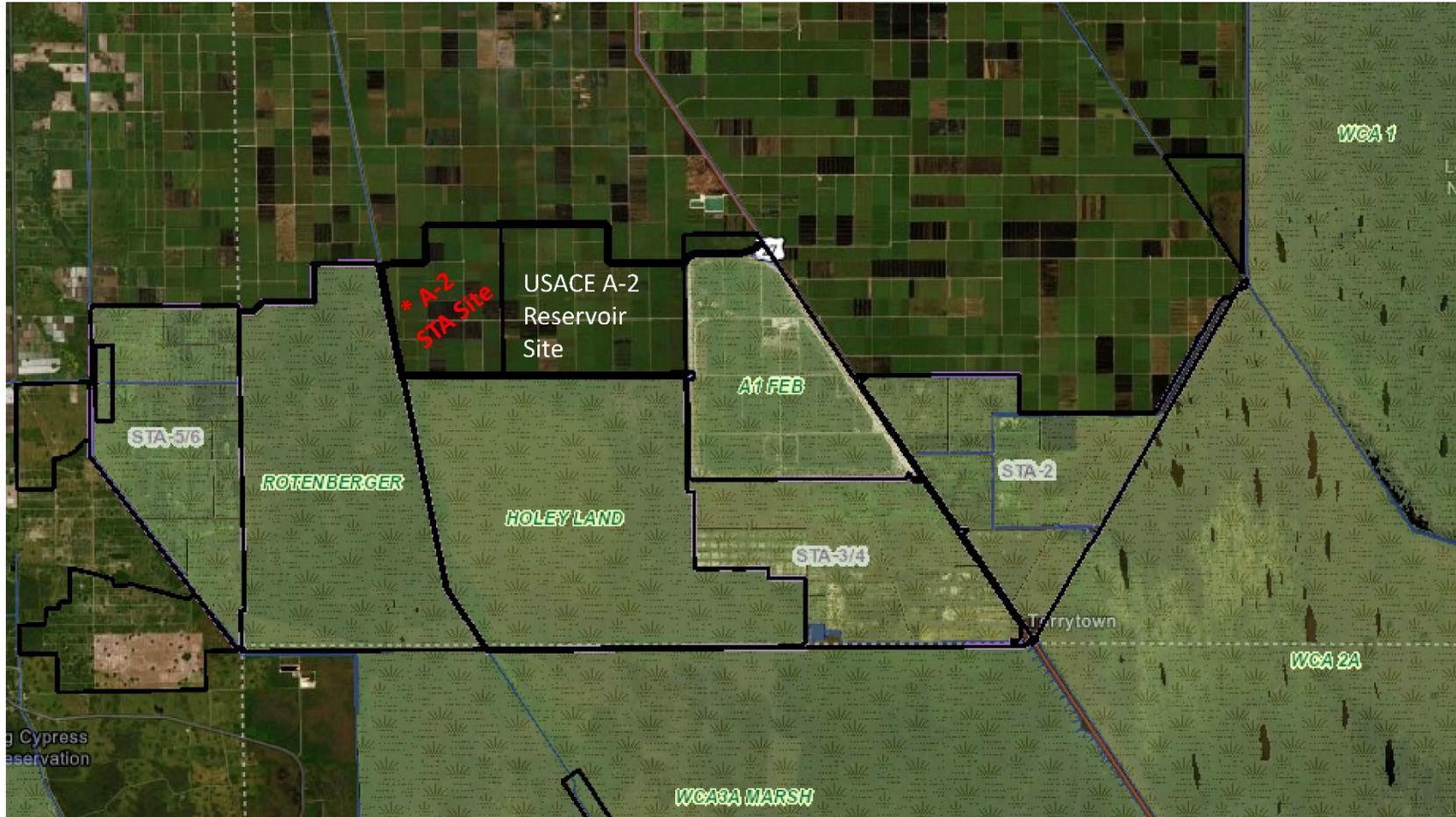
(CITY, STATE, AND ZIP CODE)

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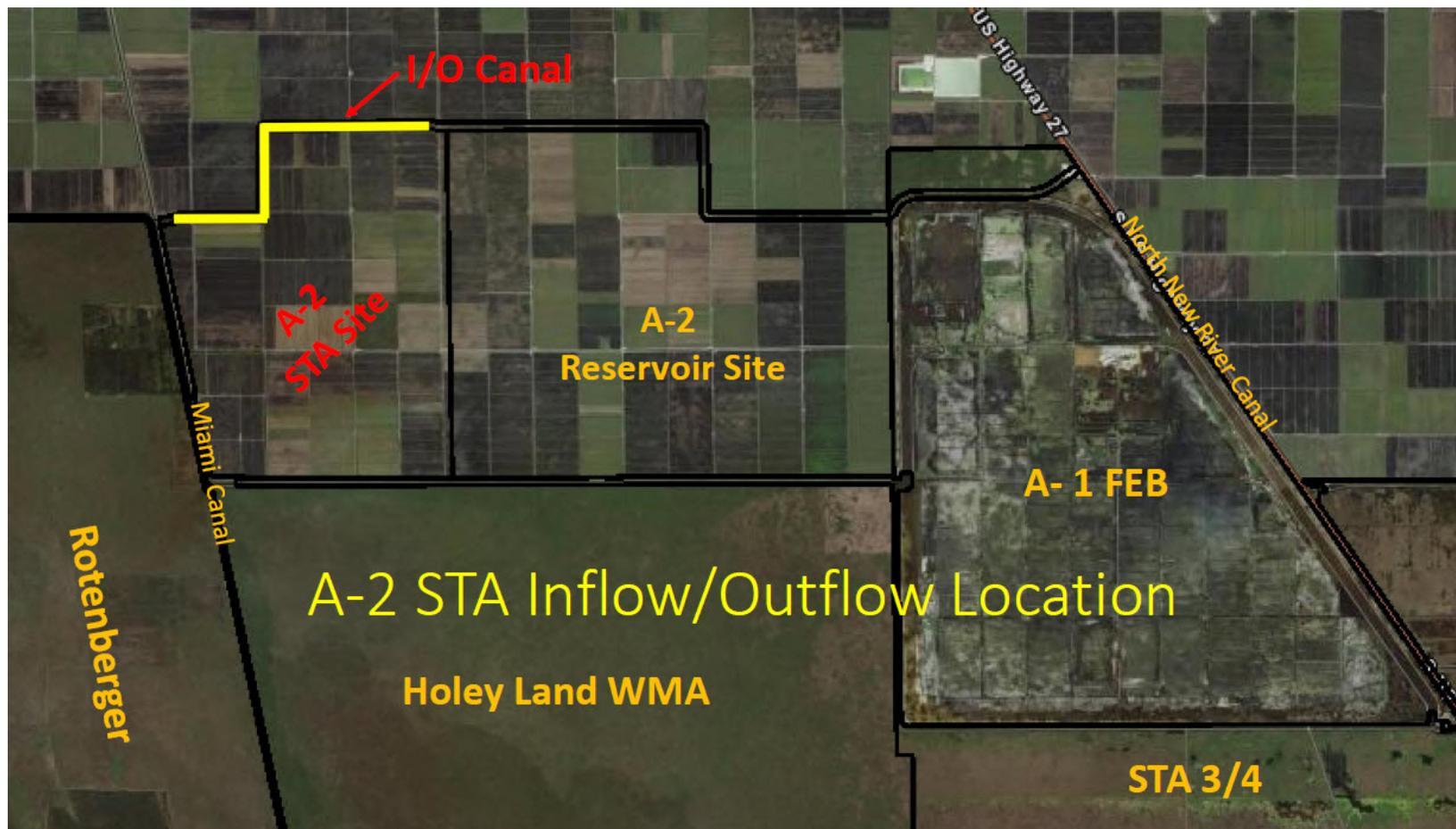
***Attachments to Department of the Army
Permit Number SAJ-2018-03427(SP-KDS)***

- A. PERMIT DRAWINGS: 2 pages
- B. WATER QUALITY CERTIFICATION: Specific Conditions of the water quality permit/certification in accordance with General Condition number 5 on page 2 of this DA permit. 8 pages.
- C. BIOLOGICAL OPINION: 40 pages
- D. MITIGATION PLAN: 10 pages
- E. AS-BUILT CERTIFICATION FORM: 2 pages

Phase I Location



Location of Clearing and grubbing.



Permittee: South Florida Water Management District
Project: Central Everglades Planning Project New Water
Phase: Everglades Agricultural Area Storage Reservoir – A-2 Inflow/Outflow Canal
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12. **Permit at Work Site.** This permit or a copy thereof shall be kept at the work site of the permitted activity. For the purposes of this permit the work site shall be defined as the South Florida Water Management District Headquarters located at 3301 Gun Club Road in West Palm Beach, Florida.
13. **Records Retention.** The Permittee shall comply with the following:
 - A. Upon request, the Permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department;
 - B. The Permittee shall hold at the facility or other location designated by this permit records of all monitoring information required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five years from the date of the sample, measurement, report, and application unless otherwise specified by Department rule; and
 - C. Records of monitoring information shall include:
 - i. the date, exact place, and time of sampling or measurements;
 - ii. the person responsible for performing the sampling or measurements;
 - iii. the dates analyses were performed or the appropriate code as required by Chapter 62-160, F.A.C.;
 - iv. the person responsible for performing the analyses;
 - v. the analytical techniques or methods used, including but not limited to method detection limit (MDL); and
 - vi. the results of such analyses, including identification of potential outlier values.
14. **Requests for Information.** When requested by the Department, the Permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the Permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.
15. **External Agency Requirements.** Should any other regulatory agency require changes to the permitted system, the Permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
16. **Sovereign Lands.** The Permittee is hereby advised that Florida law states: No person shall commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund or the Department of Environmental Protection under Chapter 253, until such person has received from the Board of Trustees of the Internal Improvement Trust Fund the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the Permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
17. **Artifacts.** If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlements are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at (850) 245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately, and the proper authorities notified in accordance with Section 872.05, F.S.

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SPECIFIC CONDITIONS:

1. **Addresses.** Reports, plans and notices submitted to the Department in accordance with this permit, unless otherwise specified, shall be submitted to the Department's Office of Water Policy and Ecosystem Restoration (OWPER), 3900 Commonwealth Boulevard, MS 24, Tallahassee, Florida, 32399-3000, telephone number (850) 245-2228. Electronic copies of reports, plans, and notices required by this permit may be sent to RPPS_Comp@FloridaDEP.gov.
2. **Florida Threatened and Endangered Species.** The Permittee shall coordinate with the appropriate wildlife agency for appropriate guidance and recommendations to avoid, minimize or mitigate impacts to Florida Threatened and Endangered species resulting from implementation of the project components.
3. **Contaminated Sites and Residual Agrichemicals.** The Permittee shall address all contaminated sites within the project footprint in accordance with all applicable Department statutes and rules including but not limited to Chapter 62-780, F.A.C. If contamination is discovered after operations, the Permittee shall send to the Department at the addresses specified in Specific Condition No. 1 an assessment and remedial action plan for Department approval. Upon the Department's approval, the Permittee shall implement the assessment and remedial action plan and provide quarterly reports to the Department on the progress of the remediation until the cleanup is completed to the Department's satisfaction.
4. **Wetland Impact and Restoration.** A Uniform Mitigation Assessment Method (UMAM) was conducted on August 20, 2019 to assess the impact that the project construction will likely have on wetlands. The A-2 STA construction will result in jurisdictional impacts to 230 +/- acres of fallow agricultural fields, 173 +/- acres of agricultural canals, and 110 +/- acres of shallow agricultural ditches. The Inflow/Outflow and Seepage Canal phase is limited to excavating and filling existing agricultural canals which, effectively, does not provide wetland values or function. Construction of the A-2 STA, once authorized, will result in conversion of agricultural lands into an open water wetland habitat of 6,500 +/- acres. Therefore, at this time, the Department will not require additional mitigation to offset the functional loss of wetland areas. If construction does not move forward as planned in order to meet the goals and objectives of the project, then the Permittee shall coordinate with the Department to determine whether or not restoration or additional activities are necessary to offset the functional loss of any impacted wetlands.

Construction

5. **Authorized Construction.** This permit authorizes the construction of the A-2 STA Inflow/Outflow Canal, Interior and Exterior Levees and adjacent Seepage Canal. The Permittee shall construct the project components in accordance with the plans and documentation submitted by the Permittee as part of the permit application and any subsequent submittals that have been approved and are on file with the Department. Any substantial modifications to the construction plans, such as, but not limited to hydrologic modifications or the addition/removal/modification of water control structures or changes to their location must be submitted for review and approval by the Department prior to construction and operation of such modifications. Substantial modifications shall be determined on a case-by-case basis by the Department in consultation with the Permittee.

The Permittee shall submit final plans and technical specifications, signed and sealed, to the Department for all components of the project for consistency review at least 60 days prior to initiating construction activities. Upon review of the submitted plans and specifications, the Department will determine whether a permit modification is required.

6. **Construction Schedule.** The Permittee shall provide the Department with a construction schedule within 30 days of Notice to Proceed and any modified schedules within 30 days of changes at the addresses specified in Specific Condition No. 1.

7. **Pre-Construction Activities.** At least two weeks prior to commencement of construction for a contract or unique project component, the Permittee shall provide the construction commencement date and shall conduct a pre-construction meeting for attendance by the contractor(s), and representatives from the Corps, the Department, the District, and other environmental regulatory agencies. The Department shall receive at least 14 days' notice of the meeting to allow for Department attendance and participation.
8. **Instructions to Construction Personnel.** The Permittee shall ensure that training be provided regarding the identification and avoidance of harming, harassing, or taking Florida Threatened and Endangered species and that the conditions contained within this permit are explained to all construction personnel working on the project. A copy of this permit shall be provided to all construction personnel before the authorized work begins.
9. **Construction Status Reports.** Construction Status Reports which summarize progress of all maintenance activities, project components, phases and/or contracts, and Construction Meeting Minutes shall be available to the Department upon request and such reports shall continue to be available throughout the duration of construction activities and until after final completion.
10. **Construction and Maintenance Best Management Practices (BMPs).** The Permittee shall submit an Environmental Protection Plan (EPP) to the Department for review and approval to the addresses specified in Specific Condition No. 1 at least 30 days prior to commencement of construction activities. The EPP shall describe the methods used to protect environmental resources as a direct result of construction activities. Modifications to the EPP may necessitate further review and approval by the Department. Upon installation of the erosion controls identified in this/these plan(s), the Permittee shall contact the Department to determine whether inspections of the installed controls are necessary. At a minimum, the plan shall include strategies and procedures to be implemented and maintained at all times during construction and maintenance activities to:
 - A. prevent negative impact(s) to Florida threatened and endangered species and the habitats and habitat characteristics that support them;
 - B. prevent negative impact(s) to prehistoric or historic artifacts, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement;
 - C. minimize or eliminate project generated turbidity, including details regarding 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;
 - D. prevent negative impacts to adjacent wetlands, including, but not limited to, specifications for demarcation of said wetlands and exposed soils with construction fencing or other effective physical barriers to prevent encroachment;
 - E. prevent the transport of any material into wetlands and surface waters both during and after completion of the construction; and
 - F. limit the extent of clearing and grubbing such that impacts to native vegetation, either within or immediately adjacent to the project area shall be minimized or avoided.
11. **Adjacent and Interior Wetlands.** Temporary impacts to adjacent wetlands due to construction of haul roads, staging areas, or any other ancillary construction activities is not authorized in this permit. When applicable, interior wetland areas shall be staked and fenced off with construction fencing or other effective physical barriers to prevent encroachment prior to the commencement of construction.
12. **Stockpiles/Soil Reuse, Testing, and Disposal.** Vegetation and demolition debris, as well as unwanted excavated material, shall be properly disposed.

13. **Site Stabilization.** All graded areas shall be stabilized and vegetated no greater than seven days after construction activities have temporarily or permanently ceased for any portion of the site to minimize erosion. All screens, silt fences, sheet pile, and other turbidity control devices and preventive operation procedures shall remain in place for the duration of each construction or maintenance activity and maintained until all project-generated turbidity has subsided, the project site has been stabilized, and the turbidity level at the point of discharge from the 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 completion of construction or maintenance. If there are multiple work areas within a feature, contract or phase, individual work areas shall be stabilized if there will be a significant lag time prior to completion of the entire feature, contract, or phase.
14. **Site Inspections.** Throughout the construction, maintenance, or operational activities, the Department will conduct periodic site inspections to ensure permit compliance and to monitor progress. The Department will coordinate with the Permittee representative prior to performing any on-site inspections. A third-party inspector and/or consultant may accompany representatives of the Department at any time.
15. **Water Use Authorization.** This permit does not authorize the use of water for any purpose, including, but not limited to, construction dewatering, industrial uses, or potable water supply.

For activities that require construction dewatering authorization, the Permittee shall require that the contractor(s) submit the required application, fees, and applicable site-specific information to the South Florida Water Management District. The Permittee shall ensure that water use authorization is received from the South Florida Water Management District in accordance with Chapter 40E-2 F.A.C. and that copies of the final site-specific dewatering plan and water use permit are provided to the Department at the addresses specified in Specific Condition No. 1.

For all other water use authorizations, including those required for operation, the South Florida Water Management District shall coordinate with the Department's Office of Water Policy and Ecosystem Restoration.

16. **NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities and Generic Permit for Discharge of Ground Water from Dewatering Operations.** The issuance of this Permit does not constitute coverage under the National Pollutant Discharge Elimination System (NPDES) Generic Permit for Stormwater Discharge from Large and Small Construction Activities (CGP) pursuant to Rule 62-621.300(4)(a), F.A.C., or from the discharge of groundwater resulting from construction-related dewatering activities pursuant to Rule 62-621.300(2)(a), F.A.C., incorporated by reference in the CGP. If the project activities require either of these generic permits, the Permittee must adhere to all conditions within such permits.
17. **Blasting.** Prior to commencing blasting activities, the Permittee shall coordinate with the Florida Fish and Wildlife Conservation Commission and U. S. Fish and Wildlife Service to eliminate the potential for harmful effects on protected species from the use of explosives within the project area, and any other appropriate agencies and municipalities. The activities shall be consistent with the requirements outlined in Specific Condition No. 2.

Monitoring Requirements

18. **Data Quality.** All monitoring data required during the construction phases of this permit shall be conducted in accordance with the following:
 - A. **Quality Assurance and Quality Control.** Sampling and monitoring data shall be collected, analyzed, reported and retained in accordance with Chapter 62-160, F.A.C. Any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Florida Department of Health (DOH) under Chapter 64E-1, F.A.C., where such certification is required by Rule 62-160.300, F.A.C. The laboratory must be certified for all specific method/analyte combinations that are used to comply with this permit. The analytical method used shall be appropriate so as to determine if the sample complies with Class III surface

water quality standards as specified in Chapter 62-302, F.A.C. All field activities including on-site tests and sample collection, whether performed by a laboratory or another organization, must follow all applicable procedures described in the most current version of DEP-SOP-001/01. Alternate field procedures and laboratory methods may be used if they have met the requirements of Rules 62-160.220 and 62-160.330, F.A.C.

- B. **Method Detection Limits (MDLs).** The sample collection, analytical test methods and MDLs applicable to this permit shall be performed and reported in accordance with Rule 62-4.246, F.A.C. The most current approved list of Department-established analytical methods and corresponding MDLs and practical quantification limits (PQLs), which is titled “Florida Department of Environmental Protection Table as Required by Rule 62-4.246(4) Testing Methods for Discharges to Surface Water” is available from the Department on request. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory’s MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. More stringent MDLs and PQLs may be necessary for specific parameters. If required, these will be identified in the permit monitoring plan.
19. **Addition of Monitoring Requirements.** If the Department has reason to believe that additional monitoring may be required, or parameters exist that may cause or contribute to water quality violations or degradation of receiving waters, additional monitoring or parameters shall be added to the monitoring section of this permit through a permit modification.
20. **Water Quality Standards.** Under no circumstances shall the construction, maintenance, or operations of the project or any project component cause or contribute to a violation of state water quality standards. The Permittee shall comply with all applicable state water quality standards described in Chapter 62-302, F.A.C.
21. **Turbidity Monitoring During Construction and Maintenance.** Effective means of turbidity control shall be employed during all construction or maintenance activities that could result in project-generated turbidity in receiving water bodies. Turbidity control measures shall be in accordance with best management practices contained in the approved BMP Plan referenced in Specific Condition No. 10. Additionally, a project specific Turbidity Control Plan for turbidity monitoring shall be submitted to the Department for review and approval at the addresses specified in Specific Condition No. 1 at least 30 days prior to the initiation of any construction activity and at least 14 days prior to the implementation of any subsequent plan revisions. All turbidity control devices and/or preventive operation procedures shall remain in place until the turbidity level at the compliance sampling site meets state standards or as otherwise approved by the Department.

Turbidity Standard

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

Sampling Protocols

- B. Sampling and analyses shall be performed as required by Chapter 62-160, F.A.C., and in accordance with appropriate FDEP Standard Operating Procedures (FDEP-SOP), located at <http://www.dep.state.fl.us/water/sas/sop/sops.htm>. 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 a receiving water body.
- C. During construction or maintenance activities, the Permittee shall monitor turbidity levels at least twice daily for the background and compliance samples, with samples taken a minimum of once every four hours, at the locations described within the project’s approved Turbidity Control Plan.

- i. Approximately 100 feet upstream of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.)
 - ii. Directly outside the turbidity curtains surrounding the work sites and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)
- 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. If monitoring reveals project-generated turbidity exceeds the Turbidity Standard authorized in this permit the Permittee shall take the following measures:
- i. Immediately cease all work contributing to the water quality violation;
 - ii. Immediately report turbidity violations to the Department;
 - a. The Department shall be notified by phone and at RPPS_Comp@FloridaDEP.gov within 24 hours; and
 - b. The Permittee shall submit a turbidity exceedance report to the Department at the addresses specified in Specific Condition No. 1. The report shall include a copy of the monitoring data sheets, which indicate violation(s) and a description of the corrective actions taken or proposed. The report shall be made to the Department as soon as normal business hours resume if violation(s) are noted after normal business hours, on holidays, or on weekends.
 - iii. The possible cause of the violation shall be identified;
 - 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 and the Department grants authorization.

Failure to report violation(s) or to follow corrective procedures before resuming work may constitute grounds for formal enforcement action.

Monitoring Logs and Reports

- G. Daily monitoring logs will be reviewed during periodic site inspections referenced in Specific Condition No. 14. Any gaps in sampling activity (e.g., no construction or maintenance activity that could contribute to turbidity generation in receiving waters, work shut down due to weather conditions) shall be documented. Daily monitoring logs shall be readily available on site and clearly identify the following information:
- i. Project name and current permit number;
 - ii. Dates and times of sampling and analysis;
 - iii. Name of individual collecting samples;
 - iv. Unique identification of the specific instrument unit(s) used for sample collection and analysis as required by FDEP-SOP-001/01 FT 1600 Field Measurement of Turbidity;
 - v. Measurement value and reporting units;
 - vi. Water depth;
 - vii. Depth of sample;
 - viii. Weather conditions;
 - ix. Water level stage in the canal or water body and direction of flow;

- x. Clear description of project component activities taking place at the time of sampling that may have contributed to turbidity; and
- xi. Signature and statement of authenticity by a properly trained individual indicating that the instrument meets the outlined specifications and has been calibrated in accordance with FDEP-SOP-001/01 FT 1600 Field Measurement of Turbidity.

Reports and Notices

22. **Notification of Substantial Completion.** Within 60 days of construction substantial completion, the Permittee shall notify the Department of the tentative date of substantial completion.
23. **Notification of Final Completion.** Within 60 days of construction final completion, the Permittee shall notify the Department of the tentative date of final completion. This submittal shall serve to notify the Department that the project is ready for inspection to identify remaining actions necessary to verify site stabilization and functional use of the project. Additionally, the Permittee shall schedule a site visit with the Department for inspection of the project site after the physical barriers have been removed.
24. **As-Built Certification and Record Drawing.** Within 90 days after final completion of construction of the project, the Permittee shall provide to the Department a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law to the addresses specified in Specific Condition No. 1. The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. Additionally, if deviation from the permitted drawings, approved in accordance with Specific Condition No. 5, is discovered during the certification process, the certification must be accompanied by a description of the substantial deviation(s) in writing and a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans submitted to the Department must be clearly labeled as “as-built” or “record” drawings with electronic copies of both the plans and specifications provided in pdf format. The final surveys will be part of the as-builts provided by the contractor. All surveyed dimensions and elevations shall be certified by a registered surveyor.
25. **Facility Inspection Plan and Reports.** The Permittee shall perform periodic inspections and provide a report one-year post construction and every five years post construction thereafter evaluating the integrity and functionality of the reservoir, levees, and associated infrastructure including culverts, gates, water control structures, and pump stations in accordance with the guidelines established in the District’s Structure Inspection Program and Dam Safety Program. The inspections shall be conducted by, or under the supervision of, a Professional Engineer registered in the State of Florida. The inspection report shall be signed and sealed by that Professional Engineer and submitted to the Department electronically to the RPPS_Comp@FloridaDEP.gov no later than March 1st. The cover letter of the inspection report should summarize site conditions and work that was completed, or may be completed, in response to inadequacies found during these inspections. A Professional Engineer or the District’s Dam Safety Officer shall review and approve major repair plans or remedial work associated with inadequacies identified during routine and formal inspections.
26. **Water Quantity and Flooding Impacts.** The Permittee shall be responsible for ensuring that each of the project features are constructed, maintained, and/or operated so as not to adversely affect adjacent lands with regards to water quantity and/or flooding. Should adverse effects be determined at any point during construction, maintenance, and/or operation of the project, the Permittee shall make alterations to avoid such effects and develop a schedule and strategy to mitigate for such effects. Mitigating strategies developed by the Permittee shall be submitted to the Department for review and approval prior to resuming such activities. The Permittee shall hold and save the Department harmless from any and all damages, claims or liabilities, which may arise from water quantity and/or flooding impacts resulting from construction, maintenance, and/or operation of this project.

Factors Impacting Compliance

27. **Factors Outside the Permittee's Control.** In the event that non-compliance or failure of the system to perform as designed occurs for any reason other than those listed below, the Permittee shall take appropriate remedial measures.
- A. **Natural Background.** Deviations from water quality standards may occur as a result of natural background conditions, in accordance with Section 403.021(11), F.S.
 - B. **Random Variation.** The Permittee shall report any statistical uncertainty in the methodology using acceptable scientific methods.
 - C. **Other Factors.** Unavoidable legal barriers or restraints, including those arising from actions or regulations not under the control of the Permittee.
28. **Temporary Suspension of Sampling.** Under hurricane, tropical storm warnings, or other extreme weather conditions, the Permittee's normal sampling schedule may be suspended if necessary. The Permittee shall notify the Department's Office of Water Management and Ecosystems Projects at the addresses and telephone number listed in Specific Condition No. 1, of any anticipated suspension of sampling associated with hurricanes, tropical storms, or other extreme weather events that may require deviation from the normal sampling schedule. Within seven days following the cessation of conditions that warranted a suspension of sampling efforts, the Permittee shall notify the Department of when normal sampling is expected to resume.

Renewals and Modifications

29. **Permit Modifications.** The Permittee shall submit proposed modifications of the project to the Department, prior to implementation of the modification, for review and approval by the Department. Such modifications may include, but not be limited to:
- A. **Modifications to Achieve Design Objectives.** The Permittee shall modify the project, including modifications to the operation plan(s), if the project facilities are not achieving the design objectives;
 - B. **Modifications for Future Facilities.** If the monitoring data indicate the need for the construction/operation of future facilities or structures, prior to construction/operation the Permittee shall apply for modifications to the project, as appropriate to accommodate alterations in operations of the project in conjunction with the construction and operation of the new facilities or structures; and
 - C. **Future Phases.** This permit does not authorize any construction or operational activities associated with future project components and phases of the project. Future project components and phases shall require a separate permit or modification to this permit by the Department. Permanent changes to the operation of structures shall require a separate permit or modification to this permit by the Department.
30. **Permit Renewal.** At least 60 days prior to the expiration of this permit, the Permittee shall apply for renewal of this permit. Renewal may be for a period of up to five years in accordance with Section 373.1502(3)(g), F.S., of the CERPRA.
31. **Department Review and Approval.** Where conditions in this permit require Department review and approval of remedial actions or plan modifications to be implemented pursuant to this permit, the Department shall consult with the Permittee to ascertain whether mutual agreement can be reached. If mutual agreement on the remedial actions or plan modifications cannot be reached, the action of the Department shall be deemed final agency action and shall be subject to judicial or administrative review, as appropriate.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

March 12, 2020

Andrew D. Kelly, Colonel
District Commander
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Service Consultation Codes: 04EF2000-2018-F-0867

Date Received: May 1, 2018

Consultation Initiation Date: August 22, 2018

Project: Section 203 Everglades
Agricultural Area Southern
Reservoir and Stormwater
Treatment Area

County: Palm Beach

Dear Colonel Kelly:

The U.S. Fish and Wildlife Service (Service) has received the U.S. Army Corps of Engineers' (Corps) request for consultation dated May 1, 2018, for the construction and operation of the Everglades Agricultural Area (EAA) Southern Reservoir and Stormwater Treatment Area (STA) (Project) consisting of a 11,300 acre (ac) above ground reservoir (A-2 Reservoir) and 6,600 ac stormwater treatment area (A-2 STA) as proposed by the Corps and the South Florida Water Management District (SFWMD). This document is the Service's Biological Opinion (BO) based on our review of the Project located in Palm Beach County, Florida, and its effects on the federally threatened eastern indigo snake (*Drymarchon corais couperi*; indigo snake) and endangered Florida panther (*Felis concolor coryi*; panther). It also includes and summarizes our concurrences for the Corps' determinations for the federally threatened Audubon's crested caracara (*Polyborus plancus audubonii*, now *Caracara cheriway*; caracara), federally endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*; snail kite), and federally threatened wood stork (*Mycteria americana*). This document is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

This BO is based on the biological assessment provided by the Corps, correspondence, telephone conversations, emails, and other sources of information. A complete record of this consultation is on file at the South Florida Ecological Services Office in Vero Beach, Florida. This document supplements the March 2014 Central Everglades Planning Project (CEPP) Programmatic BO (Consultation Code: 04EF2000-2012-F-0290).

Consultation history

On December 7, 2013, the Service issued a Final Fish and Wildlife Coordination Act Report on the CEPP.

On April 9, 2014, the Service issued a revised Programmatic BO on the CEPP. This document was a revision of the Preliminary BO issued to the Corps by the Service on December 17, 2013, and the Programmatic BO issued to the Corps by the Service on March 28, 2014.

In July 2017, the SFWMD submitted a request to the Corps to participate in a post authorization change report (PACR) (an integrated Feasibility Study and Environmental Impact Study) for the previously authorized CEPP. The CEPP PACR proposes to increase the amount of water storage and treatment in the authorized CEPP by revising the A-2 project to include a reservoir and STA on the A-2 parcels and the A-2 Expansion area and improve conveyance in the North New River and Miami canals.

On February 16, 2018, the Service attended an Agency Technical Review Kick-Off Meeting for the EAA Storage Reservoir CEPP PACR.

The Service reviewed the CEPP PACR and provided comments to the Corps on February 26, 2018.

On May 1, 2018, the Service received the Corps' letter requesting concurrence from the Service for their effect determinations that the proposed Project may affect, but is not likely to adversely affect the caracara, snail kite, and wood stork. The Corps also requested formal consultation for the effects that the proposed Project may have on the indigo snake and panther.

On June 25, 2018, the Service requested that the Corps provide additional information regarding the contaminants and remediation activities within the Project area, updated occurrence records for listed species and effect determinations, guidelines on Project operations, and proposed minimization and conservation measures. On July 12, 2018, the Corps responded to the Service's request for additional information.

On August 8, 2018, the Service requested that the Corps provide additional information regarding minimization and conservation measures for the snail kite in order to minimize adverse effects, and chemical contaminant data (Phase II environmental site assessment).

As of August 22, 2018, the Service has received all the information as required in the regulations governing interagency consultations (50 CFR § 402.14) and proceeded with a formal consultation for the indigo snake and panther.

On September 5, 2018, the Service submitted the draft Section 203 EAA Southern Reservoir and STA BO to the Corps, Seminole Tribe of Florida, and SFWMD for review.

On October 23, 2018, Section 1308 of the Water Resources Development Act of 2018 (P.L. 115-270) was enacted, authorizing the SFWMD's proposal 'with such modifications as the Secretary considers appropriate,' provided that the Project may only be constructed 'after the

Secretary prepares a report that addresses the concerns, recommendations, and conditions identified by the Secretary in the review assessment titled 'Review Assessment of South Florida Water Management District's Central Everglades Planning Project, Section 203 Post Authorization Change Report, Integrated Feasibility Study and DRAFT Environmental Impact Statement (March 2018, Amended May 2018)' and dated May 2018.' This report is currently in process in consultation with the Corps. The results of the report will inform the Secretary's consideration of any modification of the design of the Project considered appropriate.

On January 2, 2019, the Corps' Regulatory Division submitted a request to the Service for the initiation of formal consultation pursuant to Section 7 of the Endangered Species Act for the issuance of a permit to the SFWMD to fill 240 ac of wetlands and 7.2 ac of non-wetland waters within 560 ac of the EAA to stockpile muck, processed limestone, and other clean fill for the construction of the A-2 STA and Reservoir project. The stockpile area is within the footprint of the proposed A-2 STA.

In February 2019, the Corps' Regulatory and Planning Divisions agreed to incorporate the SFWMD's January 2019 permit application for stockpiling materials for the construction of the A-2 Reservoir into the BO being completed on the construction of the EAA Southern Reservoir and STA.

On March 20, 2019, the Corps' Planning Division submitted comments to the Service on the Service's draft BO for the EAA Southern Reservoir and STA.

On April 11, 2019, the Corps' Regulatory Division submitted comments to the Service on the Service's draft BO for the EAA Southern Reservoir and STA.

On May 28, 2019, the Service sent the final draft EAA Southern Reservoir and STA BO to the Corps for review.

On June 4, 2019, the District submitted an application for a permit from the Corps for site prep work inside the EAA STA footprint.

On July 9, 2019, the Corps sent comments to the Service on the revised draft BO with specific questions about panther habitat.

On August 6, 2019, the SFWMD revised their stockpile construction application to include the construction of the A-2 STA. The revised application proposes the construction of the STA as described in the CEPP PACR. As the SFWMD is now proposing to construct the STA portion of the project, a Section 404 of the Clean Water Act (33 U.S.C. §1344) authorization is required. On September 5, 2019, the Corps Regulatory Division issued a public notice describing the proposed STA project which incorporates the actions described in the Corps Regulatory Division's January 2, 2019 consultation request.

On August 7, 2019, the Service sent a copy of the draft BO to the Corps for review. This draft incorporated all of the significant comments received from the Corps and SFWMD.

On September 17, 2019, the Service and Corps met to discuss the Corps' headquarters policy and legal comments and concerns on the draft BO.

On October 29, 2019, the Service and Corps met to discuss some Corps policy questions and the desire by the Corps to ensure that take from the construction of each component of the EAA were separated in the BO.

On January 13, 2020, the Corps provided the Service with additional input on the BO related to policy concerns.

On January 31, 2020, the Service provided the Corps with draft language for the panther analysis section of the BO.

BIOLOGICAL OPINION

This BO provides the Service's opinion as to whether the proposed Project is likely to jeopardize the continued existence of the indigo snake and panther. There is no designated critical habitat for the indigo snake or panther; therefore, this BO will not address destruction or adverse modification of critical habitat.

ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

Jeopardy determination

Section 7(a) (2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this BO relies on four components: (1) the Status of the Species, which describes the range-wide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the Environmental Baseline, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the Effects of the Action, which determine the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) the Cumulative

Effects, which evaluate the effects of future, non-federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed federal action in the context of the current status of the species, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

DESCRIPTION OF THE PROPOSED ACTION

For this BO the “action” is comprised of two components – STA and Reservoir. In a typical BO, we would only refer to the subject of the consultation as the “action” but this could cause confusion because in some cases we are discussing only the effects of the STA or the effects of the Reservoir, but sometimes the effects of both are combined. Therefore, we will retain the use of “STA” and “Reservoir” when indicating separate effects of the action, but the term “action” or “Project” when considering the entire suite of effects.

The proposed Project is located in on a 17,900 ac parcel in southern Florida, south of Lake Okeechobee in Palm Beach County in 29 different Sections of Township 46, Range 35 and 36 around latitude 26.464587 and longitude -80.760778 (Figure 1).

The current land cover is composed of approximately 16,760 ac sugar cane, 7 ac of upland shrub/brush, 282 ac interior canals, 240 ac freshwater marsh with exotic plants, and 611 ac of linear water control features (ditches). The Project site is bordered by EAA to the north, A-1 Flow Equalization Basin (FEB) to the east, Holey Land wildlife management area (WMA) to the south, and Rotenberger WMA and other STAs to the west.

Construction

As proposed by the SFWMD in 2018 and currently subject to preconstruction engineering and design study by the Corps in 2019, the Project includes a conceptual design for an 11,300 ac above-ground reservoir (which holds 240,000 ac foot (ft) of water) and a 6,600 ac STA, located on the A-2 parcel and A-2 Expansion area. Eventually these features will work in conjunction with the existing 60,000 ac ft A-1 FEB, STA-2, and STA-3/4. The STA is expected to be constructed prior to the Reservoir and will operate independently until the Reservoir is complete. Additionally, in preparation for the construction of the Project, 560 ac within the proposed STA footprint will be used for stockpiling of materials. Muck soils will be scraped and stockpiled within this site, while rock material will be excavated from the A1-FEB site and transported to the proposed STA footprint for stockpiling. The stockpiled material will be used in construction of the STA and Reservoir. As part of the project, several new culverts and structures will be built within the 17,900 ac footprint to convey water throughout the system.

Operations

The STA is expected to be constructed and operated prior to completion of the Reservoir. During this time, water from the Miami Canal will flow through a gated spillway. These flows will then be conveyed east through the inflow canal and pumped into the STA. The treated water will then be returned to the Miami Canal via a culvert.

The proposed A-2 Reservoir is 11,300 ac and will be designed and operated to have a normal full storage water depth of approximately 22.6 feet (ft). The Project also includes 1,000 cubic feet per second (cfs) of additional conveyance capacity in the Miami Canal within the EAA and 200 cfs of additional conveyance capacity in the North New River Canal within the EAA. The A-2 Reservoir water outflows can be sent to the new A-2 STA (located adjacent to and directly west of the A-2 Reservoir), to the existing A-1 FEB, STA-2, and/or STA-3/4. Outflows from the

A-2 STA would be conveyed to the Miami Canal south of the existing G-373 divide structure. A-2 Reservoir outflows can also be conveyed to either the Miami or North New River Canals via the intake canal. The Service assumes that the target depth of operations for the A-2 STA will be similar (i.e. less than 2 ft) to other STAs currently operational in south Florida.

Minimization and conservation measures

In an effort to minimize adverse effects to listed species, the SFWMD and the Corps proposes the following protection measures:

1. Turbidity screening and diversion will be used to control effects to the drainage ditches and connected canals. Runoff from the construction site or storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, and any measures required by area wide plans approved under paragraph 208 of the Clean Water Act. Temporary and permanent erosion and sedimentation control features or screening will be installed.
2. During construction, on-site staff will receive wildlife trainings from SFWMD and/or Corps qualified biologists, and the Contractor will be required to provide monthly wildlife sighting logs for threatened and endangered species, which will be submitted to the Service.
3. During construction, the Contractor will be responsible for keeping construction activities, including refueling and maintenance sites, under surveillance, management, and control to avoid pollution of surface, ground waters, and wetlands. The Contractor is responsible for conducting all operations in a manner to minimize turbidity and shall conform to all water quality standards as prescribed by Chapter 62-302, State of Florida, Florida Department of Environmental Protection (FDEP).
4. Project construction shall not destroy migratory birds, their active nests, their eggs, or their hatchlings. Monitoring for such would be required by the construction contractor. A buffer zone around active nests or nestling activity would be required during the nesting season.
5. All requirements to minimize entrapment for wildlife will be followed and coordinated with the Service during the design phase of the Project.
6. A portion of the project area has not yet undergone a Phase II environmental site assessment for chemical contamination. Additional Phase II assessment(s) will be conducted for the A-2 Expansion lands and newly acquired lands for the Project, and results will be provided to Service once complete. Any required remediation will be coordinated with the Service and completed prior to inundation of the Project.
7. Any work within canals would employ the Standard Protection Measures for Manatee Protection (FWC 2011) to protect manatee.

Federally and State Listed Birds (Endangered Species Act and Migratory Bird Treaty Act)

1. Standard protection measures regarding the wood stork and caracara shall be included in the environmental protection plan.
2. Standard protections for avian species will be implemented as developed in the Avian Protection Plan (2007) by the Service and SFWMD.
3. SFWMD has agreed to adhere to Service Snail Kite Management Guidelines (draft) for the Project, which includes minimizing impacts to snail kites during nesting season.

4. Qualified biologists from the SFWMD and/or the Corps will conduct monthly surveys during snail kite nesting season and will coordinate with the Service if potential nests are observed.

Eastern Indigo Snake

1. Standard protection measures regarding the indigo snake shall be included in the environmental protection plan.

Florida Panther

1. Protection measures for the panther will require all vehicles to adhere to the posted speed limits for off-road and improved-road travel.
2. All entrances to the project area would be secured with gates to control access.

Action area

The action area is defined as all areas to be affected directly or indirectly by the Federal action. For this Project, the Service has identified the action area, in part, as the entire 17,900 ac construction footprint encompassing the 11,300 ac above ground reservoir and 6,600 ac STA (Figure 2). The action area also includes improvements to the canal conveyance features of North New River Canal and Miami Canal, elimination of a 2.4+/- mile long segment of the STA 3/4 seepage canal, along with any other construction or improvements to structures.

The action area is also defined as all lands located in the Service's Florida panther focus and consultation area within 25 miles (mi) of the Project. The 25 mi buffer around the Project is designed to encompass mean dispersal distance of subadult male panthers which was reported by Maehr *et al.* (2002) to be 23.2 mi and by Comiskey *et al.* (2002) to be 24.9 mi. The 25 mi buffer distance encompasses the dispersal distance of both male and female panthers because male panther dispersal distances are known to exceed those reported for female panthers (Maehr *et al.* 2002; Comiskey *et al.* 2002). The size of the action area for this consultation is consistent with action areas defined in our recent BOs for the panther, and it encompasses the wide ranging movements of subadult panthers and the large home territories of adult panthers.

SPECIES NOT LIKELY TO BE ADVERSELY AFFECTED BY THE PROPOSED ACTION

Audubon's crested caracara

The caracara prefers habitats that contain largely short-stature vegetation with a low density of trees that can be used for nesting. Historically, caracaras inhabited native dry or wet prairies containing scattered cabbage palms, their preferred nest tree. Likewise, the caracara is an opportunistic feeder, and is frequently seen along roadways feeding on the wildlife that has been killed by vehicle strikes. The Project site is within the consultation area for the caracara, but the Corps' biological assessment reports that there are no freestanding cabbage palms within the Project footprint, and no signs of previous or new caracara nesting activity. Therefore, this habitat (agriculture) is expected to provide suboptimal foraging conditions that may be used by nomadic caracaras.

Construction

The construction component of the proposed Project would increase traffic and potentially increase the quantity of wildlife mortality along the Project roadways. This construction component would likely provide foraging conditions for the caracara and an increased risk of being struck by a vehicle. Available data indicated the nearest recorded nest is located approximately 4.1 mi west of the Project boundary (Figure 3). Caracara home ranges are known to vary from approximately 1,000 ac to approximately 5,000 ac, with an average home range of approximately 3,000 ac (Morrison 2001). Assuming a spherical territory, this translates to radial distances of approximately 0.7 mi, 1.57 mi, and 1.22 mi, respectively. Additionally, the Corps' biological assessment states caracaras were observed within the A-1 FEB in December 2013 during construction monitoring; there was an observation of a caracara within the Project footprint in January 2003; and a caracara was observed on U.S. Route 27 east of the Project boundary in January 2015. Based on this information and the SFWMD's proposed protection measures, the habitat change and associated proposed construction is not likely adversely affect caracaras.

Operations

Project activities would convert 17,900 ac of mostly sugar cane to an 11,300 ac above ground Reservoir and 6,600 ac STA, construction of C-2, and canal conveyance improvements. This increase in inundation due to STA operations and reservoir operations at approximately 23 feet is likely to reduce the suitability of most of this landscape for the caracara. Additionally, the Project is located outside the expected territory of the nearest known caracara nest. After operations have started, the Project levees and STA may provide foraging habitat and prey items, respectively, for nomadic caracaras.

Summary

Project activities could provide suitable foraging habitat (during construction), but would eventually convert 17,900 ac into unsuitable habitat (operations). Likewise, the Project is outside of the expected territory of the nearest known caracara nest. Nomadic caracaras may benefit if suitable prey and foraging areas (levees) are created. Based on the information outlined above the Service concurs with the Corps determination that the Project may affect, but is not likely to adversely affect the caracara.

Everglade snail kite

Snail kite habitat consists of freshwater marshes and the shallow vegetated edges of lakes (natural and man-made) where apple snails (native and exotic) can be found (Service 1999). The snail kite and their primary prey are both wetland-dependent species and rely on wetland habitats for all aspects of their life history. Because apple snails are the primary food source for the snail kite, changes in hydrology that affect the survival and productivity of the apple snail and their availability to snail kites have a direct effect on the survival and productivity of the snail kite (Mooij *et al.* 2002). The breeding season of the snail kite in Florida varies from year to year and is probably affected by rainfall and water levels (Fletcher *et al* 2018). The snail kite has a nesting cycle that lasts about 4 months from initiation of nest-building through independence of

young (Sykes *et al.* 1995). The Project site is within the Service's consultation area for the snail kite. The Service actively coordinates with researchers and other stakeholders in obtaining up-to-date nesting information on the snail kite.

Construction

The construction component of the Project would convert 1,126 ac of agricultural ditches, freshwater wetlands with exotic plants, and canals (suboptimal habitat) that could provide foraging habitat for the snail kite on the Project site. The Corps' biological assessment reported observations of snail kites within the A-1 FEB project in 2014 and 2015 during construction monitoring. Available data indicate snail kites are nesting and foraging west and south of the Project boundary in Rotenberger WMA and Holey Land WMA, respectively (Figure 4). Construction activities within the Project footprint would increase noise in the Project area and could potentially harass nearby foraging snail kites and cause them to forage in other wetlands/habitat within the vicinity. Based on this information, and the SFWMD's proposed protection measures, the habitat change and associated proposed construction is not likely adversely affect the snail kite.

Operations

Project activities would convert 17,900 ac of habitat (agriculture) which encompasses a 11,300 ac above ground Reservoir (deep water) and 6,600 ac STA, construction of C-2, elimination of 2.4+/- mile long segment of the STA 3/4 seepage canal, and improve canal conveyance features. The operations of the 11,300 ac deep water Reservoir would decrease foraging opportunities with operations of the reservoir at approximately 23 feet, but could potentially provide nesting habitat along the edges for the snail kite depending on the vegetation management of the Reservoir. However, the operations of the 6,600 ac STA could provide both suitable foraging and nesting habitat. Currently, the District operates six STAs where snail kite nesting has occurred and has agreed that the "operations of the A-2 STA would be similar to other SFWMD operations that support snail kite foraging and nesting" (Corps 2018).

Additionally, given the past land use within the Project footprint, chemical contamination is a concern for foraging and nesting snail kites based on their prey selectivity. The Phase II environmental site assessment identified the presence of pesticides, herbicides, and metals in some Project soils. However, based on the Corps and SFWMD's proposed protection measures (to conduct additional sampling and coordinate remediation with the Service), and the anticipated increase of suitable habitat within the Project footprint, the operations of the Project are not likely to cause an adverse effect to the snail kite.

Summary

We anticipate Project activities would convert suboptimal snail kite foraging habitat to eventually 6,600 ac of suitable habitat (STA) and potentially more acreage along the edges of the reservoir. The proposed protection measures in the BA would minimize any adverse effects to the snail kite. Based on the information outlined above the Service concurs with the Corps determination that the Project may affect, but is not likely to adversely affect the snail kite.

Wood stork

The wood stork forages primarily within freshwater marsh and wet prairie vegetation types, but can be found in a wide variety of wetland types, as long as prey are available and the water is shallow and open enough to hunt successfully (Herring and Gawlik 2007). Calm water, about 5 to 25 centimeters (cm) in depth, and free of dense aquatic vegetation is ideal; however, wood storks have been observed foraging in ponds up to 40 cm in depth (Gawlik 2002), and artificial wetlands such as stock ponds, shallow seasonally flooded roadside or agricultural ditches, and managed impoundments (Herring and Gawlik 2007). The Project site is located outside of the core foraging area, and the nearest known active wood stork colony is located over 20 miles east of the Project boundary (Figure 5).

Construction and Operations

The Project activities would convert 17,900 ac of suboptimal habitat encompassing a 11,300 ac above ground Reservoir and 6,600 ac STA, construction of C-2, elimination of 2.4+/- mile long segment of the STA 3/4 seepage canal, and improve canal conveyance features. The small acreage of agricultural ditches and wetlands provide foraging habitat for the wood stork on the Project site. The Corps' biological assessment reported observations of wood storks within the Project footprint and the A-1 FEB project in 2014 during construction monitoring. The construction and operations of the 11,300 ac Reservoir at approximately 23 feet would decrease foraging opportunities; however, the construction and operations of the 6,600 ac STA could provide suitable foraging habitat. The stockpiling of muck and rock material in the site is temporary in nature. Therefore, the Service concurs with the Corps' determination that the Project may affect, but is not likely to adversely affect the wood stork.

STATUS OF THE SPECIES

Eastern indigo snake

Please see the Enclosure A for the Status of the Species for the indigo snake.

Florida panther

Please see the Enclosure B for the Status of the Species for the panther.

Summary of threats to the species

Eastern Indigo snake

The modification and destruction of natural upland and freshwater wetland communities in south Florida were a primary consideration in listing the indigo snake as threatened. Another threat to the indigo snake is loss of habitat converted to other uses, such as citrus groves and canals. However, indigo snakes seem very adaptable and can colonize agricultural areas and canal banks after conversion. Additionally, habitat degradation due to lack of management, including prescribed fire, is a threat to indigo snakes. The habitat conversion associated with this Project would further contribute to this ongoing loss and degradation of habitat for the species locally

and range wide. The Project's adverse effects to indigo snakes will be discussed in the remainder of this BO.

Panther

The panther is a wide-ranging species that requires large areas of diverse landscape to survive. Dispersing sub-adult males wander widely through non-forested and disturbed habitat. Human population in South Florida has dramatically increased, from 1 million in 1950 to 6.6 million in 2010, resulting in secondary disturbances such as increased human presence and noise, light, air, and water pollution. Increasing human population has resulted in increasing impacts on native habitat, and flora and fauna. Resulting threats to panthers include direct effects, such as human disturbance and habitat loss and fragmentation, and indirect effects from road mortality, human disturbance following construction, and intra-specific aggression.

The Service developed a Panther Habitat Assessment Methodology and refugia design in 2003 to help guide the agency in evaluating permit applications for projects that could affect panther habitat. This methodology provided a way to assess the level of impacts to panthers expected from a given project, and to evaluate the effect of any proposed compensation offered by the project's applicant. The Habitat Assessment Methodology was updated in 2009 (Service 2012). A full description of our Habitat Assessment Methodology can be found at: http://www.fws.gov/verobeach/MammalsPDFs/20120924_Panther%20Habitat%20Assessment%20Method_Appendix.pdf.

The threats posed by human disturbance during and after Project construction, habitat loss and fragmentation, road mortality, and intra-specific aggression are relevant to this Project and will be discussed in the remainder of this BO.

ENVIRONMENTAL BASELINE

Status of the species within the action area

Eastern Indigo snake

The indigo snake is a habitat generalist with a large home range (Layne and Steiner 1996, Service 1999), which has been known to use the habitat types found within the Project footprint. Though indigo snakes have been found in most available habitats of South Florida, it is thought they prefer hammocks and pine forests since most observations occur there and use of these areas is disproportionate compared to the relatively small total area of these habitats (Steiner *et al.* 1983). Service records show one indigo snake observation in Holey Land WMA in 2007 about 860 ft south of the Project (Figure 6). The Corps' biological assessment reports indigo snakes were reported in the Project footprint from 2006-2014, were observed east of the Project boundary in the A-1 FEB area, and have been observed in other areas of the EAA. Provided the presence of suitable habitat onsite, and the proximity of known indigo snake observations, indigo snakes are considered reasonably certain to occur within the Project footprint. Accordingly, the Service considers the entire site to be suitable and occupied habitat; therefore, 17,900 ac of indigo snake habitat.

It is difficult to estimate the number of indigo snakes in the suitable habitat onsite due to a general lack of existing data and lack of reliable survey methods for the species. Similar conditions exist within the Project footprint area as were in the A-1 FEB project area. The A-1 FEB documented indigo snakes as follows: 11 sightings, 1 mortality, and 1 shed within approximately 4,224 ac (Figure 6). The Service used data from other indigo snake studies in Florida to estimate the number of indigo snakes on the Project site. In Bauder *et al.* (2016), radio telemetry data was summarized to provide an estimated mean annual home-range size of 369 ac for males (n = 40) and 121 ac for females (n = 31) (note, these data were reported in hectares in Bauder *et al.* 2016, but were converted to ac for this document). Using these mean home range estimates and allowing for overlap of home ranges among the sexes, we calculated that up to 49 males (17,900 ac in project site/369 ac per a single male home range = 49 individuals) and 148 female (17,900 ac in project site/121 ac per a single female home range = 148 individuals) snakes or 197 snakes total occur within the 17,900 ac Project site. Because 148 female indigo snakes are expected to be present, we also estimate 148 nests with eggs could also be present during breeding season (April to July).

Panther

The Service used current and historical radio-telemetry data, information on habitat quality, prey base, and evidence of uncollared panthers to evaluate panther use in the action area. Panther telemetry data are collected 3 days per week from fixed-wing aircraft, usually in early to midmorning. However, researchers have shown panthers are most active between dusk and dawn (Beier 1995) and are typically at rest in dense ground cover during daytime monitoring flights (Land 1994). Comiskey *et al.* (2002) suggested that, because data are collected when panthers are least active, these locations may present an incomplete picture of activity patterns and habitat use. However, this potential bias was not detected in a recent analysis by Land *et al.* (2008) using GPS satellite location data collected throughout a 24-hour day. This study revealed panther habitat selection patterns are similar when using either aerial telemetry data collected during the day or 24-hour satellite GPS location data. Both methods showed upland and wetland forests were the habitats most selected by panthers. There was an indication grassland-dry prairie habitats were used more at night than during daytime hours.

Only a subset of the panther population has been radio-collared. For example, 42 radio-collared panthers, representing about 40 percent of the estimated panther population, were monitored in 2013. However, the large database of telemetry locations taken from radio-collared panthers south of the Caloosahatchee River can be used to estimate the size and number of home ranges and travel corridors south of the Caloosahatchee River. The Florida Fish and Wildlife Conservation Commission (FWC) also uses observational data collected during telemetry flights to assess the yearly breeding activity of radio-collared panthers. Female panthers accompanied by kittens or male panthers within proximity of an adult female are assumed to have engaged in breeding activity during that year.

According to telemetry records collected by the FWC (2018), there have been 20 telemetry point locations for 2 radio-collared panthers detected within 5 mi of the proposed Project site between June and September 1991 for one panther, and March and April 2001 for the other (Figure 7). There have been 3 FWC verified panther observations of living un-collared panthers within 10 mi of the Project site. Likewise, the Corps' biological assessment reports panthers were

observed within the Project footprint and within the A-1 FEB project during construction in 2014 and 2015. The Service believes the area surrounding the Project site may be used by other un-collared panthers because the Project vicinity has been used historically by panthers as indicated by telemetry locations.

There are no documented panther deaths within 5 mi of the Project. Within 12 mi there have been 10 documented panther deaths, 9 from vehicle collisions and 1 from intraspecific aggression. All 10 deaths were between 2001 and 2018. Nine of these panther deaths occurred within the last 6 years. Of the 10 panther deaths, 7 occurred within a 2 mi stretch of CR 835 which is approximately 11 mi west of the Project boundary. There have been 83 panther deaths documented within 25 mi of the Project (Figure 7). FWC-Fish and Wildlife Research Institute (2016) data shows that 42 of those deaths were attributed to motor vehicles.

Climate Change

Our analyses under the Act includes consideration of observed or likely environmental effects related to ongoing and projected changes in climate. As defined by the Intergovernmental Panel on Climate Change (IPCC), “climate” refers to average weather, typically measured in terms of the mean and variability of temperature, precipitation, or other relevant properties over time; thus “climate change” refers to a change in such a measure which persists for an extended period, typically decades or longer, due to natural conditions (e.g., solar cycles) or human-caused changes in the composition of the atmosphere or in land use (IPCC 2013, p. 1450). Detailed explanations of global climate change and examples of various observed and projected changes and associated effects and risks at the global level are provided in reports issued by the IPCC (2014 and citations therein). Information for the United States at national and regional levels is summarized in the National Climate Assessment (Melillo *et al.* 2014 entire and citations therein; see Melillo *et al.* 2014, pp.28-45 for an overview). Because observed and projected changes in climate at regional and local levels vary from global average conditions, rather than using global scale projections, we use “downscaled” projections when they are available and have been developed through appropriate scientific procedures, because such projections provide higher resolution information that is more relevant to spatial scales used for analyses of a given species and the conditions influencing it. (See Melillo *et al.* 2014, Appendix 3, pp. 760-763 for a discussion of climate modeling, including downscaling). In our analysis, we use our expert judgment to weigh the best scientific and commercial data available in our consideration of relevant aspects of climate change and related effects.

Climate change may result in an increase in the intensity or frequency of tropical storms and hurricanes in Florida. The Atlantic Multi-decadal Oscillation (AMO) also influences rain patterns in Florida. We are currently in an AMO wet phase that is predicted to persist through 2020 (Miller 2010). The increased rainfall associated with both of these factors could reduce our ability to effectively use prescribed burning to manage habitat in optimal conditions for indigo snakes and their prey. Increased rainfall could also reduce the amount of habitat and the number of suitable refugia for indigo snakes by increasing the area saturated with standing water or the duration of inundation of seasonally wet areas.

It is difficult to estimate, with any degree of precision, if a species will be affected by climate change or exactly how they will be affected. The Service will use Strategic Habitat Conservation

planning, an adaptive science-driven process that begins with explicit trust resource population objectives, as the framework for adjusting our management strategies in response to climate change (Service 2006).

EFFECTS OF THE ACTION

Analysis for the effects of the action

Eastern Indigo snake

Construction

Land clearing (disturbance and habitat loss)

Land clearing of thick or tall vegetation is likely to kill or injure indigo snakes because they will not be visible to equipment operators. Noise and vibration disturbance from personnel and equipment during site preparation, and ultimately habitat loss from clearing activities may also adversely affect indigo snakes by causing them to shift or leave their territory. Individuals that leave an established territory may miss foraging and mating opportunities and these individuals may be more vulnerable to predation and intraspecific aggression as they are forced into another indigo snake's territory. We anticipate that some of the indigo snakes that leave the development footprint because of the disturbance and habitat loss from construction would establish new territories or modify existing territories but others may die of starvation, predation or intraspecific aggression. Disturbed indigo snakes may also hide in temporary refugia (piles, rutting, burrows, *etc.*) onsite. These individuals may be more vulnerable to injury or mortality during land clearing because they would be further hidden from view and despite the implementation of the Protection Measures it is unlikely that any will be observed.

It is difficult to determine the exact number of indigo snakes (adults, juveniles, hatchlings and nests) that would be disturbed, injured or killed by the construction's land clearing activities, and which individuals (male or female) would be effected in a particular manner. However, as previously described, we estimate that a minimum of 197 snakes (148 females and 49 males) reside within the 17,900 ac of habitat in the construction area. Based on these numbers, at least 197 individual indigo snakes have the potential to be adversely affected by land clearing activities in some manner as they are forced to leave or shift their established territory, or are injured or killed by equipment.

Those snakes whose territories are wholly contained within the construction footprint are anticipated to experience the greatest level of disturbance/adverse effects. The Service expects that these snakes would abandon their territory and would disperse from the area if they are not killed. As discussed above, this could lead to a loss of foraging and mating opportunities, and would increase vulnerability to predation and intraspecific aggression. We expect that most of the 197 snakes will have a territory wholly within the construction footprint. For the purposes of this BO we estimate half of the 197 snakes (i.e., 98.5 snakes, rounded up to 99) would be killed either on-site during construction activities or off-site, once disturbed. The other 98 will be forced to disperse from the Project area, but would not die. Some of these individuals may return to the Project area post construction activities. Snakes that remain within the construction

area, including the estimated 148 nests with eggs, would be killed. The total mortality is 99 indigo snakes and 148 nests.

Stockpiling of Materials

The proposed stockpiling footprint, approximately 560 ac within the A-2 Reservoir site, contains both active and inactive agricultural sites (sugar cane) including approximately 8 ac of ditches, 312 ac of sugar cane fields, and 240 ac of wetlands. Soils within the 560 ac of lands would be used to stockpile material for the construction of the A-2 Reservoir and STA. Specifically, muck material within the wetlands would be excavated and temporarily stockpiled, while stockpiled rock from the A-1 FEB site would be transferred to the A-2 Reservoir site for future use. However, this activity is already considered in the construction footprint of the A-2 Reservoir.

Human Activity (vehicular traffic)

Increased vehicular traffic within the action area associated with construction activities has the potential to increase the likelihood of snake mortality on the roadways. Because the Protection Measures require the education of contractors and equipment operators, posting of speed limit signs on all roadways during Project construction and operation, posting of onsite signs explaining the penalties of intentionally running over snakes, and requiring that construction will cease in the immediate vicinity of any observed snakes to allow them sufficient time to move away, the likelihood that indigo snakes will be killed by construction vehicles should be minimized. With proper implementation of these measures, the Service expects the increased vehicular construction traffic is not likely to adversely affect indigo snakes in the action area.

Operations

Land Management

Impacts to the species may continue after construction in the form of operation and maintenance of the Project, including regular operations and maintenance of the STA and managing the reservoir at approximately 23 feet. The initial flooding of the site (as well as potential subsequent rehydration after droughts) may disturb indigo snakes that are present in the interior of the STA cells. Regular mowing of levees or other equipment and vehicle operation may also disturb indigo snakes that have colonized the site post-construction. This disturbance may be temporary and is not expected to impair the ability of the snakes to feed, breed or shelter. Furthermore, all personnel implementing land management techniques will implement the Standard Protection Measures, further minimizing any potential adverse effects.

Human Activity (Public Use)

Public recreational use of the site during operation may also result in disturbance of indigo snakes on the site.

Panther

Construction

Land clearing (disturbance and habitat loss)

The Project site contains panther habitat and is located within the geographic range of the panther. The Project area encompassing the construction of an above ground Reservoir and STA currently provides 17,900 ac of habitat for the panther. This habitat is located in 25.1 ac of Primary, 5.9 ac of Secondary, and 17,869 ac of Other Zone (Kautz *et al.* 2006) of the Focus Area. The majority of the land within the Project area consists of crop land (sugarcane) that provides habitat for the panther and its prey. A variety of wildlife species that provide potential prey for the panther are known to occur within the action area. The Project site will be converted to some land uses that are not expected to be used by panthers or their prey, such as canals and reservoir. The habitat lost due to the Project may adversely affect the panther by decreasing the spatial extent of lands available to the panther and their prey. We anticipate any resident panthers with home ranges overlapping the Project area will adjust the size and location of their ranges to account for this loss and disturbance, and the adjustment is anticipated to occur in concert with Project construction.

The timing of construction for the Project, relative to sensitive periods of the panther's lifecycle, is unknown. The Project will be constructed in phases, and result in temporarily moving soils/rock around the site to prepare the site prior to permanent loss and alteration of existing habitat on the Project site. The time required to complete construction of each phase of the Project is not known. The site conversion associated with the Project will be permanent and result in a loss of habitat currently available to the panther. There are no known den sites within the Project boundaries. Therefore, we find it is unlikely that the Project construction will result in direct panther mortality, but it may result in temporary disturbance to resident or dispersing panthers. As discussed in the Status of the Species, panther mortalities resulting from attacks of con-specifics are known to occur in the panther population (*e.g.*, males may kill other rival males when defending a territory). Habitat loss may increase the potential for intraspecific aggression among panthers in the action area. One panther death due to intraspecific aggression has occurred within the action area.

The Service used our panther Habitat Assessment Methodology to evaluate the panther habitat units (PHUs) lost due to the Project. The proposed action will result in the permanent loss of 11,300 ac of panther habitat in the Panther Focus Area and Panther Consultation Area (Figure 7). The Service encourages the siting of STAs in areas of minimal of natural habitat, with a preference for sites that are currently in agriculture. Because these facilities, by design, are located in areas that currently provide a reduced value to panthers and panther prey species, the Service analysis determined that these systems, pre- and post-project development, has a neutral effect on panthers (Service 2012). In this situation, the development of a 6,600 ac STA from the existing agriculture land use is evaluated as if the agriculture land use was present following project development, with no change in habitat value to the panther. Therefore, based on a permanent loss of 11,300 ac of panther habitat (for the reservoir), the Service has determined that the proposed action will result in the loss of approximately 18,080 PHUs from the construction of the A-2 Reservoir (Table 1). To compensate for loss of PHUs, the STA and Reservoir will

utilize 35,798 PHUs from the Picayune Strand Restoration Project. Additionally, the Service has determined that the 35,798 PHUs from the STA and Reservoir will replace the previously required 46,290 PHUs for the A-2 FEB in the CEPP 2014 BO (Service 2014).

Human Activity (vehicular traffic)

In evaluating a Project's potential to increase injuries and mortalities to panthers resulting from motor vehicle collisions, we considered the location of the Project in relation to surrounding native habitats, preserved lands, and wildlife corridors that are frequently used by the panther. We also considered the current configuration and traffic patterns of surrounding roadways and the projected increase and traffic patterns expected to result from the proposed action. We evaluated the habitats present on site, their importance in providing feeding needs for the panther and panther prey species, and if the site development would further restrict access to surrounding lands important to the panther and panther prey species. The Project will result in increased vehicular traffic in the Project vicinity during and after construction. The amount of panther vehicle injury and mortality was discussed in the Environmental Baseline section of this document. It is likely panther/vehicle interactions will continue to occur in the action area during implementation of the proposed Project, but it will be difficult to determine if injuries or mortalities are directly related to the traffic increases resulting from the Project.

Operations

Land Management and Human Activity (public use)

The construction and operations of the Project will increase human activities at the Project site. The disturbance resulting from human activities at the Project site could affect the movements of panthers and panther prey species. Consequently, panthers and panther prey species may be less likely to approach the Project site, or they may choose to avoid the Project corridor altogether. The additional human activity at the Project in conjunction with the loss of panther habitat resulting from the Project may change panther use patterns in the Project area, and panthers may avoid the Project area.

Beneficial effects

Beneficial effects are those effects of the proposed action that are completely positive, without any adverse effects to the listed species or its critical habitat. The proposed action will not result in beneficial effects to the indigo snake or panther.

Interrelated and interdependent actions

An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that does not have independent utility apart from the action under consultation. Interrelated or interdependent actions are not expected to result from the Project.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this BO. Future Federal actions unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Due to the panther primary and secondary zones covering the southwestern portion of the action area, and conservation lands covering the south and east, and Lake Okeechobee in the north, the only remaining areas where cumulative effect could occur is the EAA (approximately 442,000 ac or one-third of the action area) and the towns of Clewiston, Pahokee, and Belle Glade. Any large scale mining or development expansion would likely need a section 7 or 10 consultation; however, land clearing or crop conversion alone would not typically require Endangered Species Act consultation. Therefore, this type of conversion could result in a cumulative effect to the indigo snake and possibly panthers. We do not have evidence of the rate of crop change or clearing in the EAA; however, according to Zwick and Carr (2006) most of the EAA will still be in agriculture in 2060 and therefore still support the existing population of indigo snakes.

CONCLUSION

Eastern Indigo snake

After reviewing the current status of the indigo snake, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's BO that the Project, as proposed, is not likely to jeopardize the continued existence of the indigo snake. We have reached this conclusion because: 1) even though all of the 197 snakes expected to occupy the Project footprint will be adversely affected, less than half (98 individuals and 148 nests with eggs) are expected to die, and this number is small compared to the number of snakes believed to occur within the local area and surrounding conservation lands; 2) the 17,900 ac of habitat lost to the construction and operation of the Project represents a small portion of the suitable habitat available locally as well as across the species' range in Florida and Georgia; and 3) implementation of the protection measures should minimize adverse effects to the indigo snakes. Therefore, the loss of 17,900 ac of habitat within the Project footprint, and the operations of the project as an STA and an approximately 23 ft operated reservoir is not expected to appreciably affect the overall survival and recovery of the indigo snake.

Panther

After reviewing the current status of the panther, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's BO that the Project, as proposed, is not likely to jeopardize the continued existence of the panther. We have reached this conclusion because: (1) the Project will result in the permanent loss of 11,300 ac of habitat within the panther focus and consultation area, and currently used by panthers and panther prey but the majority of habitat lost is agriculture (sugarcane); (2) the increase in motor vehicle traffic is not expected to significantly increase the potential for vehicle-related injuries and deaths of panthers; and (3) the loss of panther habitat due to the Project will be offset through the utilization of 35,798 PHUs from the Picayune Strand Restoration Project. This site will be preserved and managed as panther habitat in perpetuity. The use of PHUs at the

Picayune Strand Restoration Project site is consistent with the Service's goal to locate and preserve lands containing sufficient area and appropriate cover types to ensure the long-term survival of the panther south of the Caloosahatchee River. Therefore, the loss of 11,300 ac panther habitat within the Project footprint (all contained in the panther consultation and focus area) due to construction and operations of the STA and approximately 23 ft reservoir is not expected to appreciably affect the overall survival and recovery of the panther.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of the agency action, is not considered to be prohibited taking under the Act provided such taking is in compliance with the terms and conditions of this incidental take statement.

The terms and conditions described below are nondiscretionary and must be undertaken by the Corps so they become binding conditions of any grant or permit issued to the SFWMD, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps 1) fails to assume and implement the terms and conditions or 2) fails to require the SFWMD to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the SFWMD must report the progress of the action and its impact on the species to the Service as specified in the Incidental Take Statement [50 CFR § 402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE ANTICIPATED

Eastern Indigo snake

Construction

As described above, all 197 indigo snakes (73 due to the STA and 124 due to the Reservoir) expected to occur within the Project footprint will be taken in the form of harm. While we separated the effects due to the STA (up to 73 indigo snakes) and the Reservoir (up to 124 indigo snakes), the take statement is a total amount of take incidental to the entire action. Therefore, if it is determined that STA takes more than 73 indigo snakes, as long as the 197 total snakes are not exceeded, the Service will not consider the incidental take exceeded by the action. Some of these individuals will survive and are expected to establish new home ranges in the adjacent Conservation Area or EAA, while others, whose home range is wholly within the Project

footprint, may die. In the absence of site specific information, we estimate the number of snakes that will die will be 98 individuals as well as the 148 nests with eggs that are crushed during construction. The exact number of snakes that will actually be adversely affected through harm will be difficult to detect and monitor because of the species': 1) patchy distribution within the habitat; 2) limited detectability due to use of burrows or holes for shelter; 3) secretive behavior sheltering areas that may be temporarily established during construction (*e.g.*, brush piles, equipment and muck/limerock stockpiles, and dirt mounds); and 4) no effort will be made to find and rescue eggs in nests. This action will cause the loss of approximately 17,900 ac of indigo snake habitat. If additional acres of indigo snake habitat are destroyed, incidental take would be considered exceeded. In addition, because indigo snakes are difficult to detect, if more than 25 (25 percent of the anticipated mortality) indigo snakes are found injured or dead during Project activities, this would be considered an atypical situation and likely indicative of a greater abundance of snakes within the Project footprint than evaluated in this BO and/or the inadequacy of standard protection measures being used properly. Thus incidental take will also be considered exceeded if more than 25 dead or injured indigo snakes are found during the duration of the Project. If, during the course of the action, the take in acres or individuals is exceeded, such incidental take represents new information requiring review of the reasonable and prudent measures provided, and if appropriate, reinitiation of consultation with the Service.

Operations

The management and public use activities may affect, but is not likely to adversely affect indigo snakes. No additional take is exempted from this portion of the proposed action.

Panther

Construction and Operations

Endangered Species Act regulation 50 C.F.R. § 402.14(i)(1)(i) allows the Service to use a surrogate to express the amount or extent of anticipated take in the circumstances presented by this action. As described below, there is a causal link between the loss of panther habitat and take of the listed species, it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of individual panthers, and the Service has set a clear standard for determining when the level of anticipated take has been exceeded.

The Service has reviewed the biological information for the panther, information presented by the Corps and SFWMD, and other available information relevant to this action. There is a causal link between panther habitat and take of panthers in that panther habitat loss and fragmentation is one of the major causes of panther population decline. Ultimately, the site conversion associated with the Project reservoir will be permanent and result in a loss of habitat currently available to the panther. As discussed in the Status of the Species, panther mortalities resulting from attacks of con-specifics are known to occur in the panther population (*e.g.*, males may kill other rival males when defending a territory). Habitat loss may increase the potential for intraspecific aggression among panthers in the action area. One panther death due to intraspecific aggression has occurred within the action area. Therefore, incidental take is best measured in this case by using habitat as a surrogate for enumeration of anticipated incidental take of individual panthers.

It is not practical to express or monitor take in terms of individual panthers because the Service anticipates incidental take of individual panthers will be difficult to detect. Monitoring panthers in their large territories is difficult, especially for un-collared panthers. Panthers are nocturnal species with density ranges from 27,000 to 32,000 ac per panther, while males roam across even larger areas. Most of the habitat impacted by the Project's reservoir is secondary habitat, and it would be hard to predict when a panther will move into the project area to be able to attach a transmitter and then monitor any record of intraspecific aggression. The lands proposed for development are in the northern fringe of the panther's range and panther habitat value has been diminished by previous conversion to cropland. Lands proposed for preservation will be in the core area currently used by the panther, the majority will be within the Primary Zone and adjacent to other natural lands, and will be consistent with the Service's panther goal to strategically locate, preserve, and restore sets of lands containing sufficient area and appropriate land cover types to ensure the long-term survival of the Florida panther population south of the Caloosahatchee River. In addition, the timing of construction for the Project, relative to sensitive periods of the panther's lifecycle, is unknown. The Project will be constructed in phases, and result in temporarily moving soils/rock around the site to prepare the site prior to permanent loss and alteration of existing habitat on the Project site. The time required to complete construction of each phase of the Project is not known. There are no known den sites within the Project boundaries. Therefore, we find it is unlikely that the Project construction will result in direct panther mortality, but it may result in temporary disturbance to resident or dispersing panthers. In addition, habitat loss is also considered a form of harm when it impairs essential behavioral patterns such as breeding, feeding, and sheltering.

The overall purpose of the Comprehensive Everglades Restoration Plan (CERP) is to restore the Everglades ecosystem and species assemblages. Implementation of CERP is expected to provide large-scale, long-term benefits to the ecosystem and listed species, though individual actions may result in smaller-scale or short term adverse effects to one or more listed species. Thus, the resultant positive (e.g., habitat acquisition and restoration) and negative (e.g., construction-related habitat loss) effects to the panther in south Florida will be evaluated and updated with each subsequent CERP action. Even though individual CERP projects like the CEPP EAA Reservoir may impact panther habitat, the CERP ecosystem approach to habitat restoration and preservation will provide long-term net benefits to the Florida Panther through projects like Picayune Strand Restoration Project and components of the CEPP North and South. Panther habitat is assessed using the 2012 Panther Habitat Assessment Method to consistently assess improvements and impacts to panther habitat.

The Service anticipates 11,300 ac of cropland which is moderately suitable habitat will be removed as a result of this proposed action. This is an equivalent of a loss of 35,798 panther habitat units (PHUs). PHUs are tracked for the CERP program and after accounting for this project footprint change from the 2014 CEPP, approximately 375,000 remain of the 475,000 PHUs credit from other CERP projects such as Picayune Strand. The incidental take is expected to be in the form of harm. Harm will result from; 1) the conversion of 11,300 ac of habitat in the Project footprint to the reservoir, which will be operated at normal full storage water depth of approximately 23 ft, and associated infrastructure, and 2) disturbance to panthers resulting from construction and operations. If, during the course of the action, more than 11,300 ac of habitat removal is expected based on review of final design then take will have been

exceeded. Additional habitat removal represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided.

EFFECT OF THE TAKE

In the accompanying BO, the Service determined that this level of expected take is not likely to result in jeopardy to listed species.

REASONABLE AND PRUDENT MEASURES

When providing an incidental take statement, the Service is required to give reasonable and prudent measures it considers necessary or appropriate to minimize the take along with terms and conditions that must be complied with, to implement the reasonable and prudent measures. Furthermore, the Service must also specify procedures to be used to handle or dispose of any individuals taken. Reporting requirements and disposition of individuals taken are as described below. The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize effects of the Project on the indigo snake and panther:

Implement the Project as described in the *Description of Proposed Action* section of this BO, which includes minimization and conservation measures.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which carry out the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Require the Corps from the construction of the reservoir to utilize 35,798 PHUs from the Picayune Strand Restoration Project where panther habitat will be enhanced and preserved in perpetuity for the benefit of the panther and its prey.
2. Require the Corps from the construction of the reservoir to provide the Service with a receipt (in the form of a letter or email) from the Corps stating at least 35,798 PHUs have been utilized from the Picayune Strand Restoration Project for the purposes of this Project.
3. Require the SFWMD to provide the Service within 30 days of completion, the Phase II environmental site assessment and Screening Level Ecological Risk Assessment for the A-2 Expansion lands and newly acquired lands for the Project. The results of the site assessments shall be compared with the standards outlined in Protocol for Assessment, Remediation and Post-Remediation Monitoring for Environmental Contaminants on Everglades Restoration Projects (SFWMD and USFWS March 2008). If any contaminants exceed the thresholds outlined in the protocol the SFWMD will submit a remediation plan to the Service. The Project construction cannot commence until the Corps has received confirmation (email or letter) from the Service that either the Project

area is free of contaminants, or the proposed remediation strategy is appropriate and will be implemented.

MONITORING AND REPORTING REQUIREMENTS

Pursuant to 50 CFR § 402.14(i)(3), the SFWMD and the Corps must provide adequate monitoring and reporting to determine if the amount or extent of take is approached or exceeded. In addition, the SFWMD/Corps must provide documentation of the following Project measures:

1. The Corps will provide a copy of the final permit to the Service upon issuance. The Corps will monitor the permit conditions regarding conservation measures to minimize incidental take of indigo snake and panther by providing the Service a report on the implementation and compliance with the conservation measure within 1 year of the issuance date of the permit.
2. During construction of the STA and Reservoir, the SFWMD (for the STA) and the Corps (for the Reservoir) will provide the monthly listed species monitoring and observation reports (see *Description of Proposed Action*) to the Service's South Florida Ecological Service Office within two weeks of completion. The SFWMD and Corps shall coordinate with the Service on the design and frequency of the monitoring methodology.
3. The SFWMD (for the STA) and the Corps (for the Reservoir) will submit an annual monitoring report (covering January 1 to December 31 until construction is completed; electronic is sufficient) for all construction activities to the Service's South Florida Ecological Service Office by March 1 of the following calendar year that summarizes the observations for indigo snakes and panthers. The report should identify the final site design and construction progress to date.

DISPOSITION OF DEAD OR INJURED SPECIMENS

Upon locating a dead, injured, or sick threatened or endangered species, initial notification must be made to the nearest Service Law Enforcement Office: 20501 Independence Blvd., Groveland, Florida 34736; 352-429-1037 as well as the biologist identified below at the South Florida Ecological Service Office, 772-562-3909. Secondary notification should be made to the Florida Fish and Wildlife Conservation Commission: South Region; 3900 Drane Field Road; Lakeland, Florida; 33811-1299; 1-800-282-8002. Care should be taken in handling sick or injured specimens to ensure effective treatment and in the handling of dead specimens to preserve biological material in the best possible state for later analysis as to the cause of death. In conjunction with the care of sick or injured specimens, or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to

help implement recovery plans, or to develop information. The Service does not have any recommendations at this time.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the Project consultation request. As written in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Corps involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded (i.e., more than 25 dead or injured indigo snakes are found or more than 17,900 ac of habitat is lost; 2) new information reveals effects of the Corps action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) the Corps action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or 4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease until reinitiation.

Thank you for your cooperation and effort in protecting federally listed species and fish and wildlife resources. If you have any questions regarding this project, please contact Timothy Breen at 772-469-4239.

Sincerely yours,



Donald R. Progulsk
Everglades Program Supervisor
South Florida Ecological Services Office

cc: electronic only

Corps, Jacksonville, Florida (Shawn Zinszer, Andy Loschaivo, Stacie Auvenshine)

District, West Palm Beach (Leslye Waugh, Jennifer Leeds)

Seminole Tribe of Florida (Stacy Myers, Whitney Sapienza)

FWC, Tallahassee, Florida (FWC-CPS)

USFWS, Vero Beach (Tim Breen)

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FIGURES

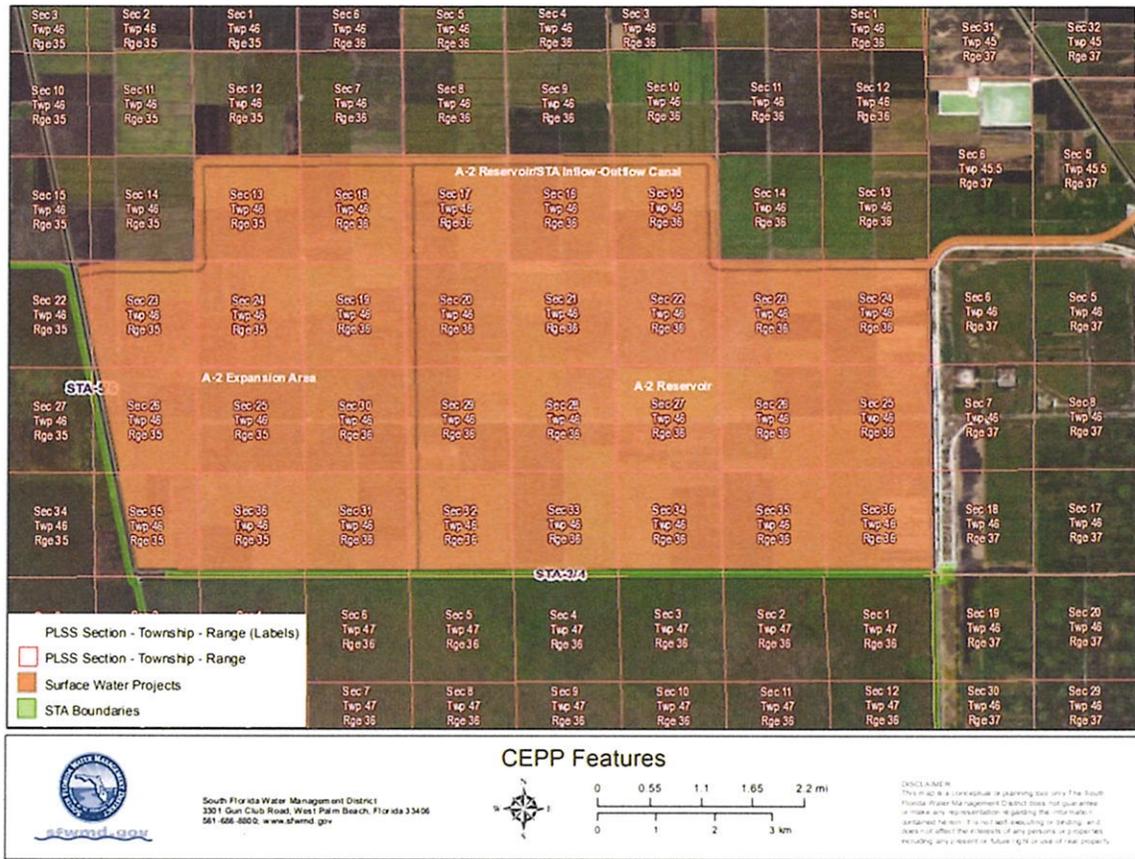


Figure 1. Section, Township, and Range for the Project in Palm Beach County.

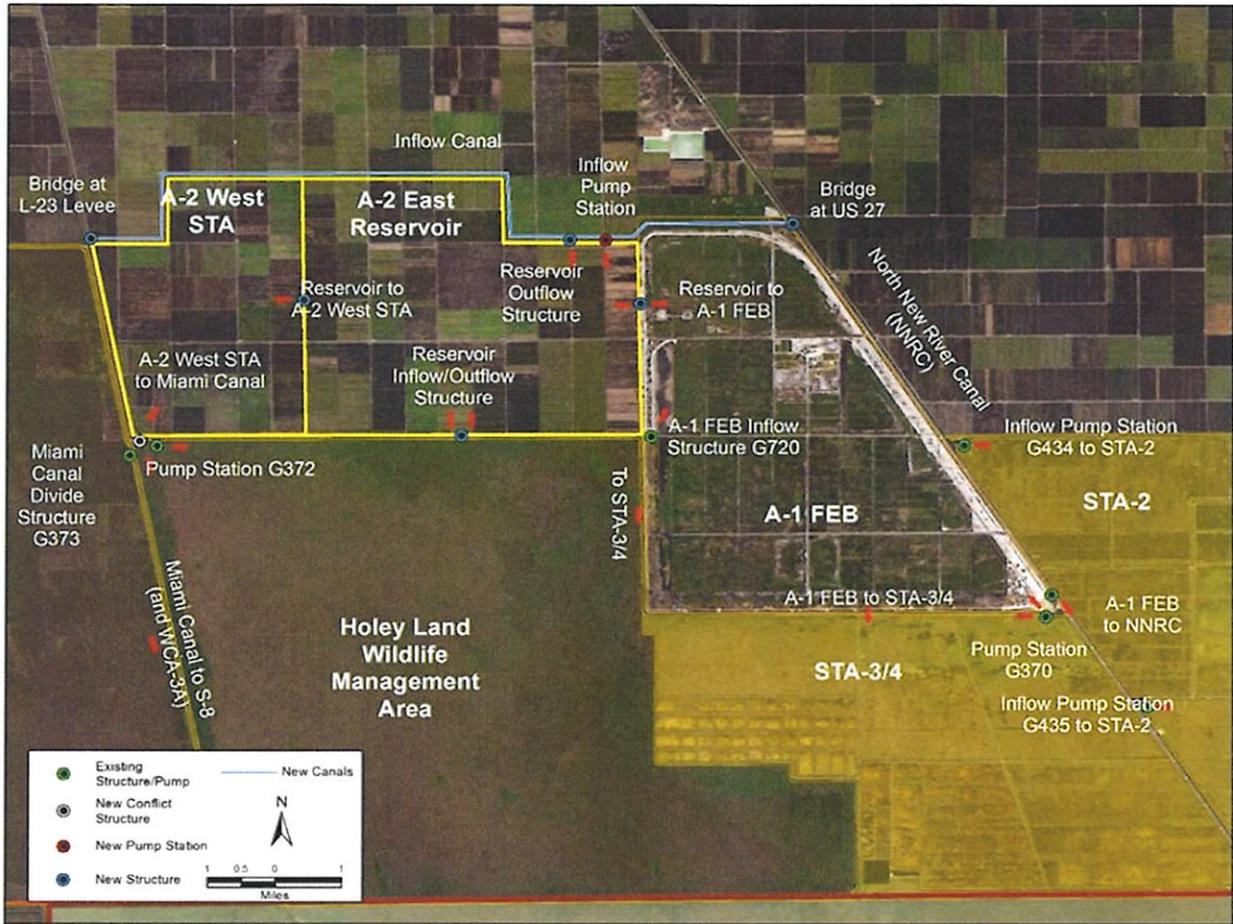


Figure 2. The Section 203 EAA Reservoir and STA project components.

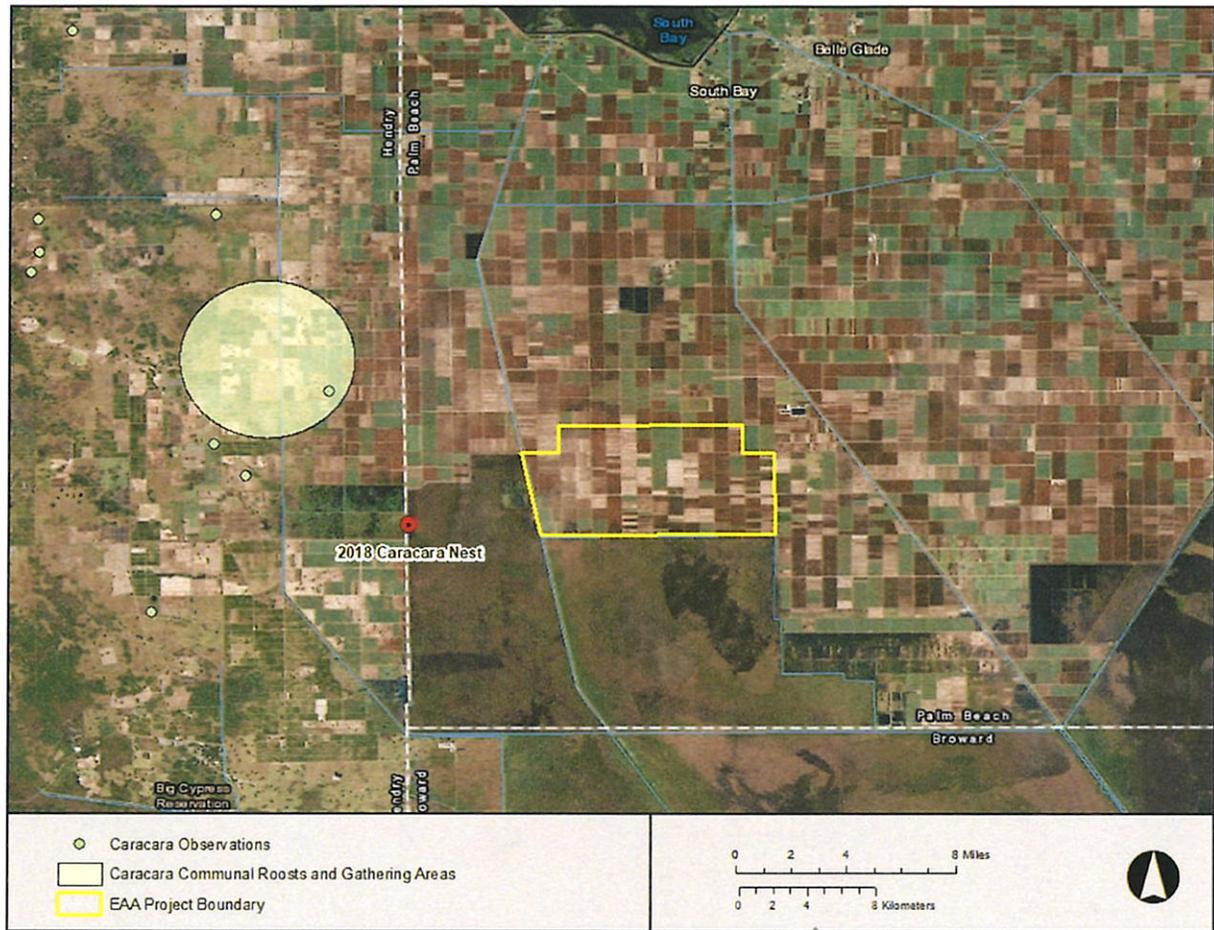
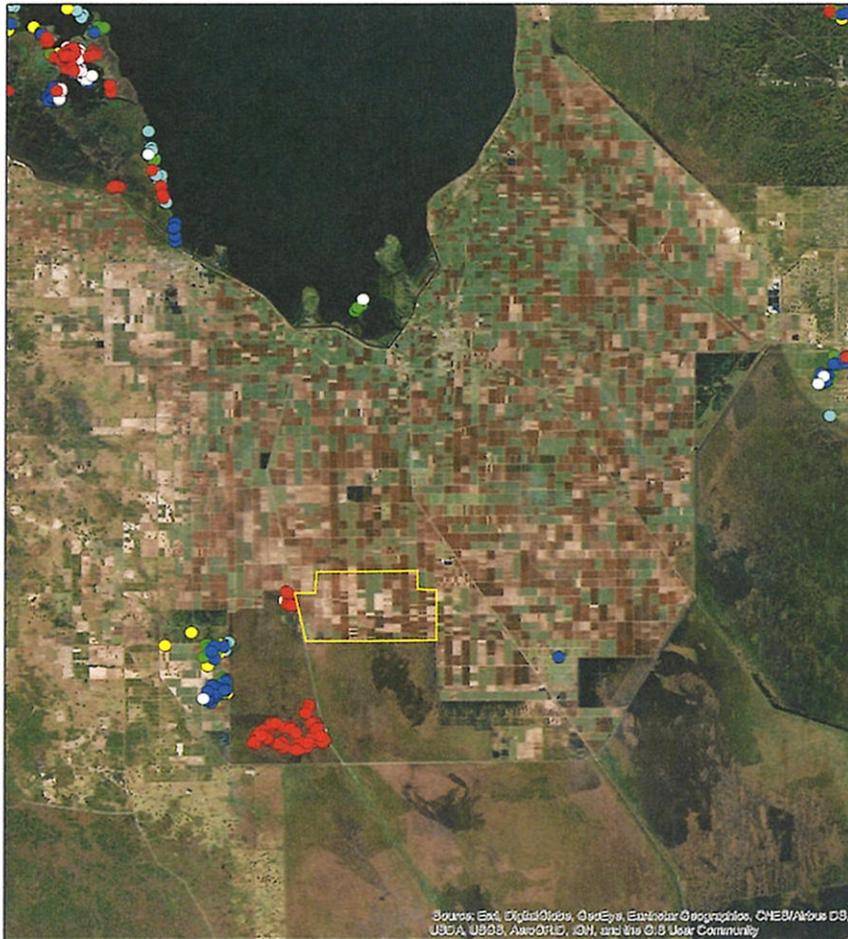


Figure 3. Map of crested caracara observations, gathering area, and the closest nest location (2018) near the project.



Snail Kite Nest Locations

Year ● 2015 ○ 2017
 ● 2013 ● 2016 ● 2018
 ● 2014

0 10 20 40
 Kilometers

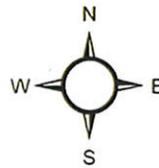


Figure 4. Snail kite nest locations 2013-2018 near the Project.

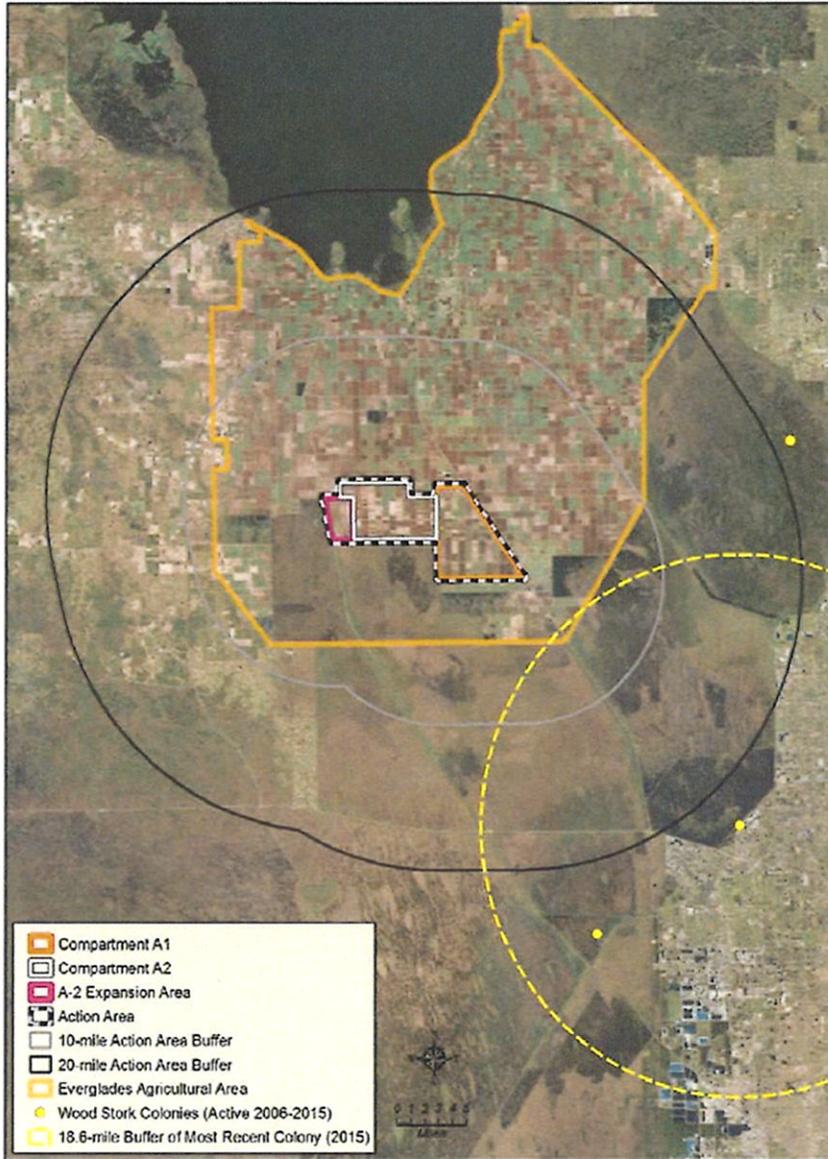


Figure 5. Active wood stork colonies 2005-2015 in the Project area (from Corps 2018).

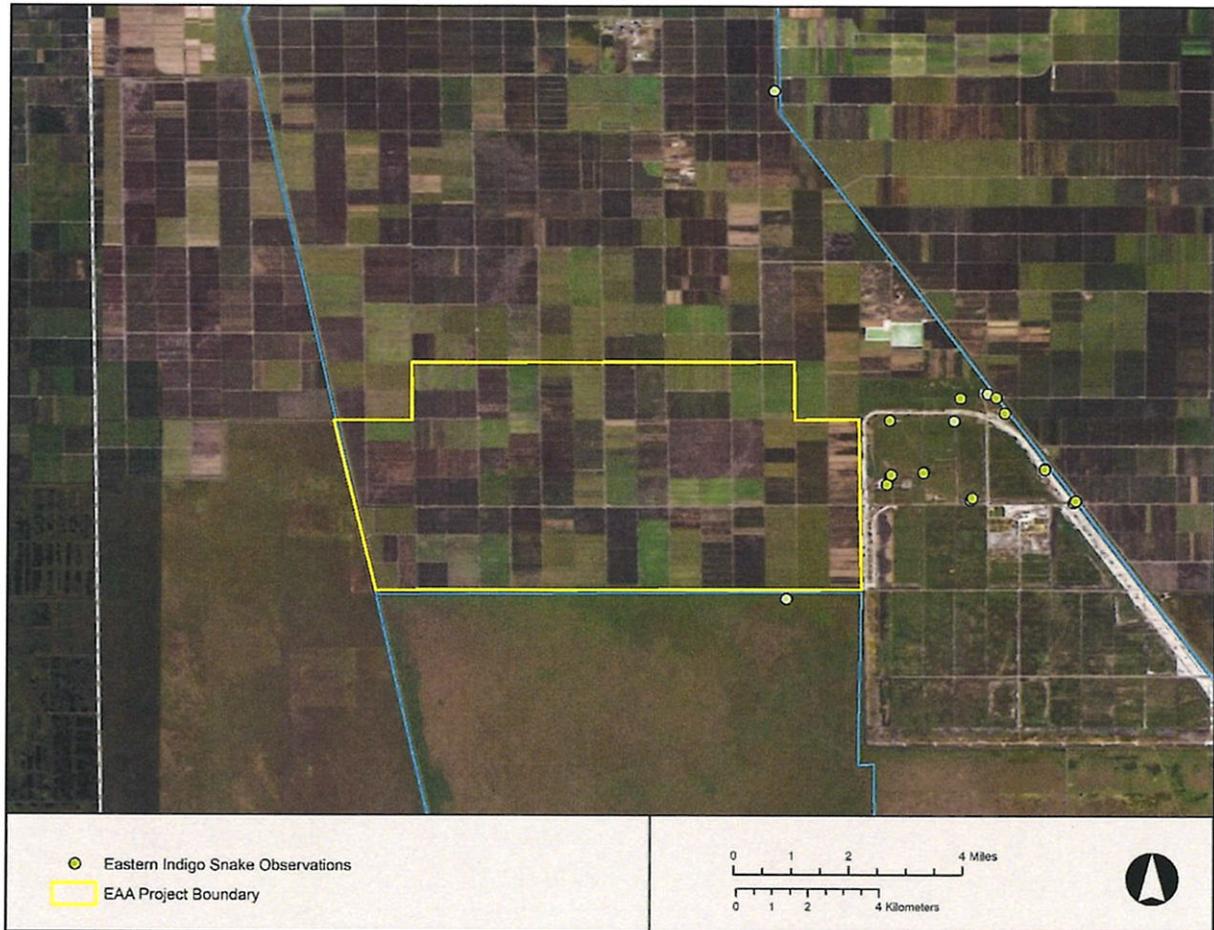


Figure 6. Eastern indigo snake observations from A-1 FEB and Holey Land WMA.



Figure 7. Panther observations, deaths, and telemetry data near the project from 2001 to 2018.

TABLES

Table 1. Panther Habitat Units calculation for the Project.

PROJECT WORKSHEET		Habitat types of land to be developed				Habitat types of land after development			
<i>Habitat Type</i>	<i>Assigned value</i>	Primary Zone	Secondary Zone	Other Zone	Primary Equivalent Habitat Units	Primary Zone	Secondary Zone	Other Zone	Primary Equivalent Habitat Units
Pine forest	9.5				0				0
Hardwood-Pine	9.3				0				0
Cypress swamp	9.2				0				0
Hardwood swamp	9.2				0				0
Hardwood Forest	9				0				0
Dry prairie	6.3				0				0
Unimproved pasture	5.7				0				0
Shrub swamp/brush	5.5				0				0
Improved pasture	5.2				0				0
Cropland	4.8			11300	18080				0
Orchards/groves	4.7				0				0
Marsh/ wet prairie	4.7				0				0
Xeric scrub	4.5				0				0
Exotic/Nuisance plants	3				0				0
Coastal wetlands	3				0				0
Barren/Disturbed lands	3				0				0
Water	0				0				0
Urban	0				0				0
Reservoirs*					0			11300	0
STA*					0				0
TOTAL		0.00	0.00	11300.00	18080.00	0.00	0.00	11300.00	0.00

CONTINUE

CLEAR SHEET

COMPENSATION TO OFF-SET

35798

Habitat Units

*NOTE: The assigned value for Reservoirs and STAs varies by size, proposed future management, and their position in the landscape. See the associated methodology document for guidance on starting values and considerations.



**A-2 STORMWATER TREATMENT AREA (A-2 STA)
COMPENSATORY MITIGATION PLAN**

Prepared for
US Army Corps of Engineers
Permit No. SAJ-2018-03427

Prepared by
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

September 27, 2019
Revised April 15, 2020

2018-03427(SP-KDS)
Attachment D
10 pages

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A-2 STORMWATER TREATMENT AREA MITIGATION MONITORING PLAN

SECTION 1: OBJECTIVE

The A-2 Stormwater Treatment Area (A-2 STA) will include approximately 6,500 acres of effective treatment area divided into three east-west flowing cells. The proposed A-2 STA will receive inflows from the Miami (L-23) Canal via a gated spillway (SW-2). These inflows will then be conveyed east via 4.2 miles of inflow canal, pumped south by a 650 CFS pump station (PS-2), and then discharged west to one or more canal segments (located at the western limits of each individual cell) via three gated box culverts (STAC-2, STAC-3, STAC-4).

Following collection in canal segments located at the western limits of each cell, treated water will be selectively discharged to a 4.1+/- mile long discharge canal via gated box culverts located in the southwest corner of Cells 1 through 3 (STAC-5, STAC-6, STAC-7, respectively). Finally, the discharge canal will return treated water to Miami Canal (L-23) via a double box culvert (STAC-1) which will be constructed at the southwest corner of the STA.

Related features to be constructed as part of this project include a bridge over the inflow canal just west of structure SW-2, backfilling a no longer needed 2.4+/- mile long segment of the STA 3/4 seepage canal, relocation of the G-200 pump station, repurposing existing seepage pump station G372S, a culverted connection (SW-2) between the A-1 FEB's northern and eastern seepage canals, an additional gated box culvert (STAC-8) to allow routing STA 3/4 inflow canal water to the A-2 STA, and another spillway structure (SW-4) that would allow hydraulic isolation of the eastern and western reaches of the STA 3/4 inflow canal.

Following completion of the A-2 Reservoir by the USACE, the primary means of delivery to the A-2 STA will be via USACE constructed discharge structure(s) which will discharge from the reservoir directly to the STA's distribution channel. Additionally, the A-2 Inflow Canal will be repurposed to also allow Miami Canal inflows to, and reservoir discharges from, the A-2 Reservoir.

The District will obtain a State Water Quality Certification (WQC) from FDEP for each individual phase (e.g. Intake Canal, Pump Station, etc.) and Section 408 approval from USACE as necessary prior to commencing construction.

The A-2 STA Project construction will result in the permanent loss of 5.6 acres of tributaries and 8.4 acres of wetlands. The remaining 274.4 acres of tributaries will be converted from shallow, open waters to wetlands. The remaining 231.6 acres of wetlands will be graded to desired elevation but will remain wetlands.

SECTION 2: SITE SELECTION

The A-2 STA Project is located between the Miami (L-23) and North New River (L-18) Canals, immediately west of, and contiguous to the USACE's planned A-2 Reservoir site. The site was selected due to its adjacency to the A-2 Reservoir Site (please see **Figure 1**), which it is intended to serve, and due to its ability to treat water from, and discharge water to the Miami Canal, and following completion of the A-2 Reservoir to the North New River Canal.

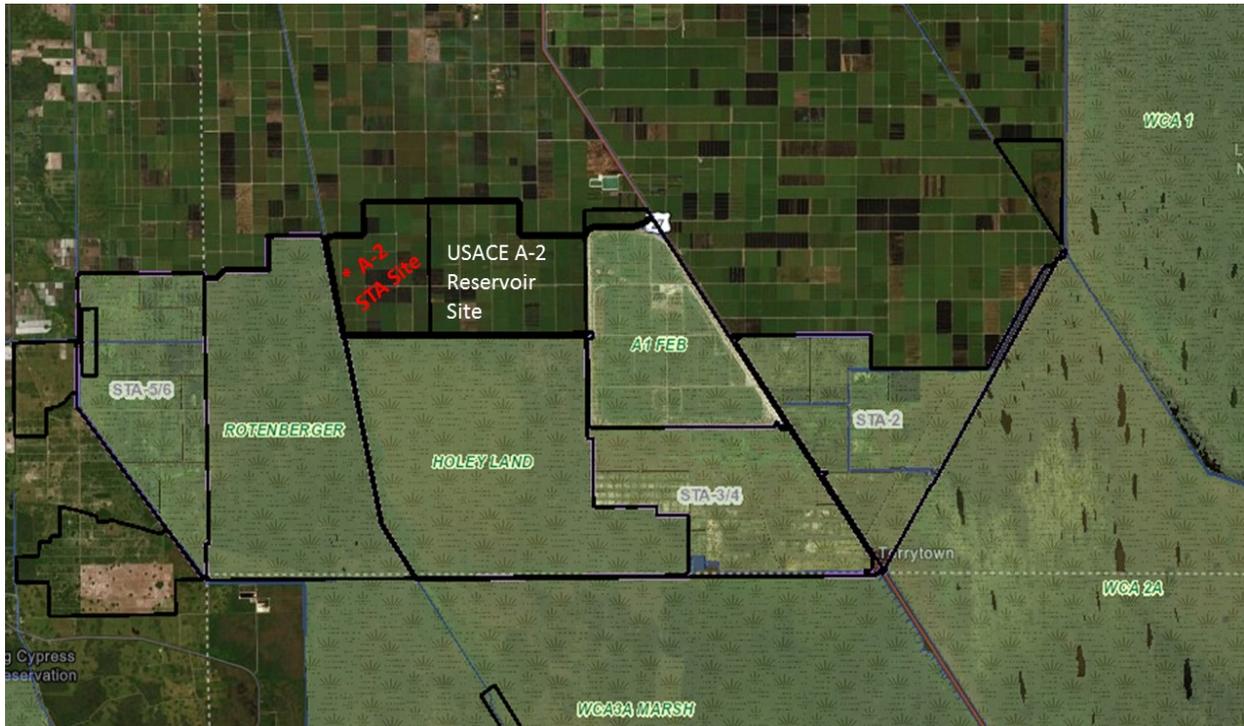


Figure 1 – Location of A-2 Site Relative to Planned USACE A-2 Reservoir

SECTION 3: SITE PROTECTION INSTRUMENT

The A-2 Stormwater Treatment Area (A-2 STA) is a component of the Central Everglades Planning Project (CEPP) and a component of the Comprehensive Everglades Restoration Project (CERP). The pending USACE-SFWMD Project Partnership Agreement (PPA) will ensure that the project will always be operated as a STA, while the pending USACE-SFWMD Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) Manual will identify further site protections, particularly those related to maintaining desirable vegetation within the STA.

SECTION 4: BASELINE INFORMATION

The vast majority of the site is in active sugar cane production and non-jurisdictional to the USACE, and conversion of these areas to an STA should be considered mitigation. A network of pumped agricultural canals and shallow ditches (see third paragraph of this section) manipulate on-site water levels to remove excess water and to assist with harvesting and planting. Annual burning of the fields is employed to assist with the fall harvest, but further inhibits the environmental value of the active fields.

Approximately 230 acres which lie along the eastern third of the site, near the site's latitudinal midline, are made up of wetlands that are fallow agricultural fields (please see **Figure 2**). Previously farmed, these areas appear to have been isolated by closed and/or absent water control structures. Their lack of recent cultivation have allowed [largely nuisance] wetland indicator species to dominate all strata. A representative plant list has been included as Appendix A. Although jurisdictional, these areas' hydrology is largely determined by rainfall.

The agricultural canals and shallow ditches, which are considered to be tributaries, are man-made and are used to control water depths and assist in cultivation and harvest. The shallow ditches and canal banks are periodically mowed and devoid of significant wetland vegetation, and neither serve to provide meaningful wetland functions or values.

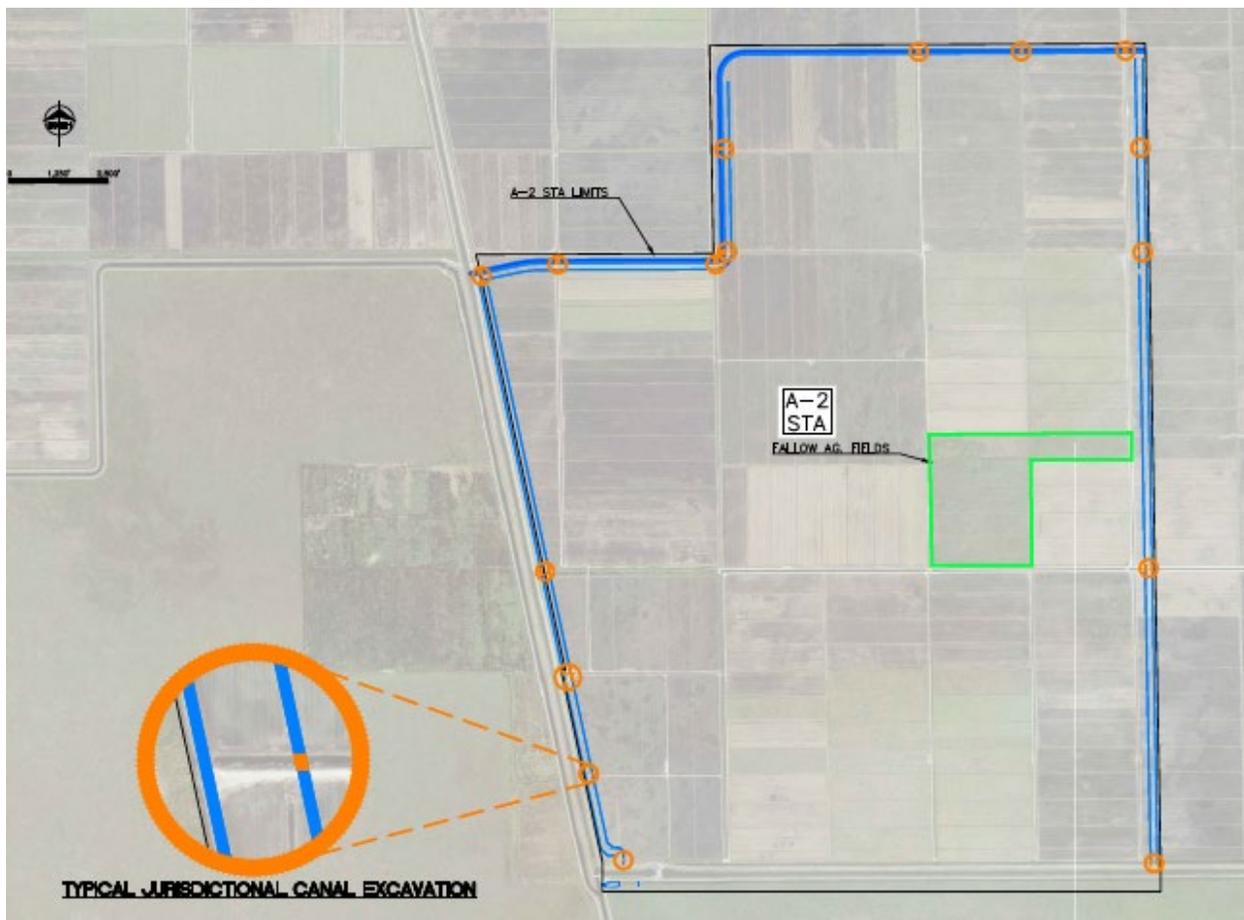


Figure 2 – Location of wetlands (fallow ag fields)

SECTION 5: DETERMINATION OF CREDITS

As described earlier, the A-2 STA Project construction will result in direct impacts to 8.4 acres of wetlands and 5.6 +/- acres of agricultural canals and shallow agricultural ditches (combined) The Uniform Mitigation Assessment Methodology (UMAM) was used to assess the effects, both positive and negative, associated with conversion of these impacted Assessment Areas, as well

as the ecological lift associated with converting approximately 5,997 acres of active sugarcane into an STA.

The A-2 STA construction will result in permanent direct impacts to 8.4 acres of wetlands and 14.08 acres of agricultural canals and shallow agricultural ditches (combined). The Uniform Mitigation Assessment Methodology (UMAM) was used to assess the effects, both positive and negative, associated with conversion of these impacted Assessment Areas, as well as the ecological lift associated with converting approximately 6,037 acres of active sugarcane into an STA.

As indicated in the Without Project UMAM Scores, the impact areas score relatively low for all three Wetland Function Indicators (Location and Landscape Support, Water Environment, and Community Structure). Although differing by indicator, reasons for the relatively low Without Project UMAM Scores include;

- Lack of connectivity and physical barriers.
- Pumped canals and ditches which can concentrate and/or discharge nutrients, pesticides, and/or herbicides.
- Manipulated water levels and pre-harvest burns.
- Periodic mowing and cleaning of agricultural canals and ditches

As indicated in the With Project UMAM Narratives, all Assessment Areas (AAs) evaluated were anticipated to exhibit increased ecological functions and values in the With Project scenario. Reasons for the improved wetland functions and values include:

- Construction of the A-2 STA will result in 6,500 acres of created or enhanced wetlands.
- Construction of the A-2 STA will remove physical barriers and increase connectivity.
- Construction of the A-2 STA will create habitat for wading birds, fish, and reptiles.
- Construction of the A-2 STA will eliminate the need for fertilizer and most pesticides.
- Construction of the A-2 STA will remove exotic and nuisance vegetation.
- Periodic maintenance of the A-2 STA will ensure proper vegetative cover and maximize nutrient uptake.

As depicted in **Table 2** the functional gain associated with Community Structure for conversion of the existing wetlands, canals, and ditches to STA more than offsets the associated functional losses (Table 1) associated with jurisdictional impacts to the wetlands and Agricultural Canals & Ditches.

Table 1 - A-2 STA Functional Loss

ID	Impact Acreage	FLUCCS	Mit Type	Location (existing)	Location (w/project)	Water (existing)	Water (w/project)	Community Existing	Community (w/project)	Delta (=with curret)	FL
Wetland	8.4	herbaceous	direct	2	0	2	0	2	0	-0.20	-1.68
Ditches/ Canals	14.08	open water	direct	2	0	1	0	1	0	-0.13	-1.88
Total	22.48										-3.56

Table 2 - A-2 STA Functional Gain

ID	Impact Acreage	FLUCCS	Mit Type	Location (existing)	Location (w/project)	Water (existing)	Water (w/project)	Community Existing	Community (w/project)	Delta (=with curret)	FL
Wetland	8.4	herbaceous	direct	2	0	2	0	2	0	-0.20	-1.68
Ditches/ Canals	14.08	open water	direct	2	0	1	0	1	0	-0.13	-1.88
Total	22.48										-3.56

+

SECTION 6: MITIGATION WORK PLAN

South Florida’s subtropical climate provides excellent growth environment for the rapid spread of exotic plants that can cause extensive alterations to an area’s natural ecosystems. Environmental changes caused by extensive hydroperiod alterations in the project area have been an important factor in the introduction of exotic plant species. Exotic plant species are associated with draining or disrupted fired and hydrologic regimes. Exotic plant invasion can result in partial or total displacement of native plants and loss of wildlife habitat.

With a combination of restored hydrologic regime, and an appropriate exotic vegetation control program for the proposed STA, it is reasonable to expect the remaining 221.6 acres of existing wetlands to approach typical freshwater marsh characteristics, including the plant communities and wildlife. Treatment and maintenance of exotic and invasive vegetation within the STA will be conducted in perpetuity by the SFWMD in accordance with the pending USACE-SFWMD Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) Manual, and every attempt will be made to ensure a minimum of 6 inches of water remains within the STA flow-ways, in order to ensure the wetland vegetation viability.

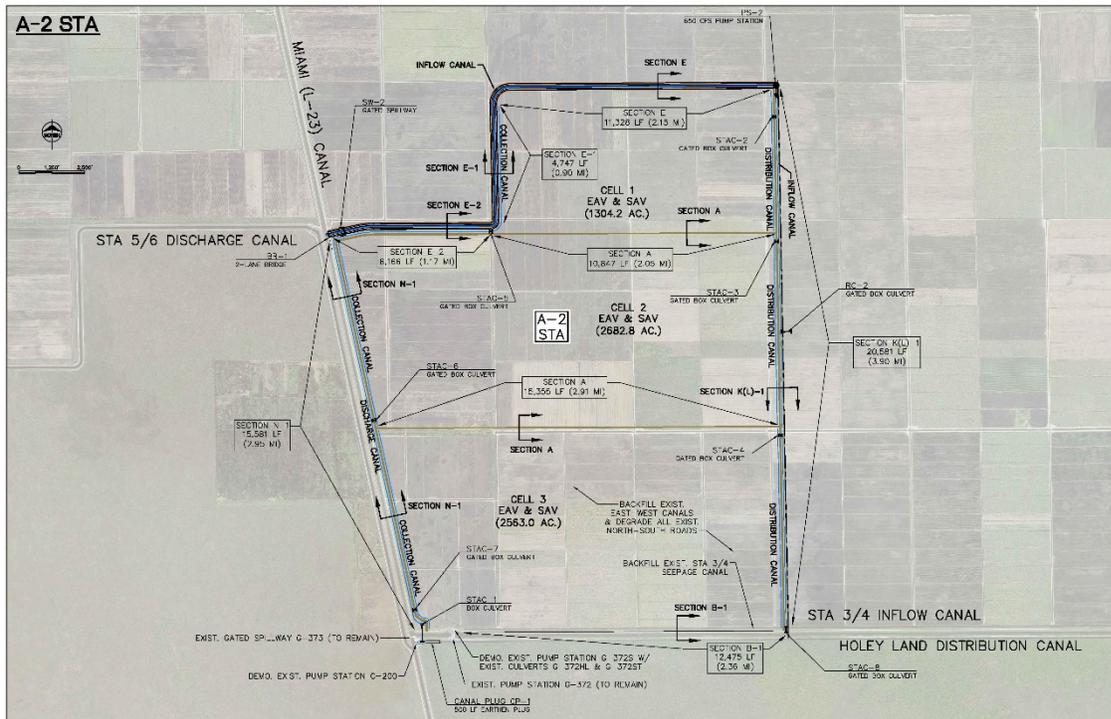


Figure 3 – 6,500 Acre A-2 STA / Mitigation Area

SECTION 7: MAINTENANCE PLAN

Treatment and maintenance of exotic and invasive vegetation within the 6,500 +/- acre wetland STA will be conducted in perpetuity by the SFWMD in accordance with the pending USACE-SFWMD Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) Manual, and every attempt will be made to ensure a minimum of 6 inches of water remains within the STA flow-ways, in order to ensure the wetland vegetation viability.

SECTION 8: PERFORMANCE STANDARDS

The A-2 STA Project’s Mitigation Plan is highly dependent on the vegetative lift associated within conversion of farmland to wetlands. The District is committed to ensuring that the STA wetlands meet the following performance standards:

1. At least 80 percent cover by appropriate wetland species (i.e., FAC or wetter).
2. Less than 5 percent cover by Category I and II invasive exotic plant species, pursuant to the most current list established by the Florida Exotic Pest Plant Council at <http://www.fleppc.org>, and shall include the nuisance species primrose willow (*Ludwigia peruviana*), dog fennel (*Eupatorium capillifolium*), Bermuda grass (*Cynodon* spp.), Bahia grass (*Paspalum notatum*), and cattail (*Typha* spp.).
3. Hydrologic enhancement will result in soils that are saturated to the surface between 5 and 12.5 percent of the growing season.

SECTION 9: MONITORING REQUIREMENTS

In order to evaluate the STA wetland area against the above performance criteria, SFWMD will report annually on the vegetative plant cover, species abundance, and observe changes over time. The A-2 STA onsite wetland enhancement area will be monitored semi-annually for the first three years and annually thereafter for a total monitoring period of 5 years. Monitoring reports shall be submitted annually to the USACE summarizing the mitigation area's progress.

The vegetative community structure that will be created as a result of the construction of A-2 STA project is comprised of emergent and submerged aquatic vegetation cells which will include native plant species such as cattail, sawgrass, bulrush, pickerel weed, duck potato, southern naiad, muskgrass, Illinois pondweed and coontail. The vegetative improvements will provide significant ecological lift as demonstrated through the UMAM community structure scoring process. The wetlands created will be protected from further development, managed to eliminate undesirable vegetation and will provide improved functionality in perpetuity for the system. Monitoring reports shall be submitted annually to the USACE summarizing the wetland vegetation within the various cells.

SECTION 10: LONG-TERM MANAGEMENT PLAN

Long-term management of the onsite wetlands and preservation area will be conducted under the SFWMD land management activities. The area will be managed for exotic and nuisance species. The STAs will be managed to maintain appropriate wetland species and improve performance of the treatment areas.

SECTION 11: ADAPTIVE MANAGEMENT PLAN

Monitoring will accurately assess the site's performance to facilitate the enhancement of wetland functions and values, and to demonstrate success attainment. An adaptive management approach will be utilized for the STAs so that when problems are detected, enhancement actions, which may include exotic plant removal, supplemental planting, and water management, can be implemented.

SECTION 12: FINANCIAL ASSURANCES

The A-2 Stormwater Treatment Area (A-2 STA) is a component of the Central Everglades Planning Project (CEPP) and will become part of the Comprehensive Everglades Restoration Plan (CERP) upon execution of a Project Partnership Agreement (PPA). The District [State] own the land underlying the A-2 STA, and, as the Non-Federal Sponsor, is the responsible party for construction, maintenance, long-term management of the project area and attainment of its success. Therefore, as the Non-Federal Sponsor, the District hereby reiterates that it has the financial capability to satisfy the Non-Federal Sponsor's obligations which will ultimately be codified under the pending PCA.

Force Majeure Clause

The requirements of this restoration monitoring plan shall not be enforced against the SFMWD if precluded from performing and meeting the conditions of this restoration monitoring plan due to unusually severe weather, acts of war, acts of God, rebellion, strikes, or natural disaster, including hurricane, flood, or fire.

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

*Within sixty (60) days of completion of the authorized work, submit this form and one set of as-built engineering drawings via electronic mail to saj-rd-enforcement@usace.army.mil (preferred, but not to exceed 15 MB) **or** by standard mail to U.S. Army Corps of Engineers, Enforcement Section, P.O. Box 4970, Jacksonville, FL 32232-0019. If you have questions regarding this requirement, please contact the Enforcement Branch at 904-232-3697.*

1. Department of the Army Permit Number: SAJ-2018-03427(SP-KDS)

2. Permittee Information:

Name: _____

Address: _____

3. Project Site Identification (physical location/address):

4. As-Built Certification: I hereby certify that the authorized work, including any mitigation required by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer

Name (*Please type*)

(FL, PR, or VI) Reg. Number

Company Name

City

State

ZIP

(Affix Seal)

Date

Telephone Number

