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## Section H: Supplemental Information for Stormwater Management Systems for Mines

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Instructions: The supplemental information required by this section is in addition to the information required by Section A and Section C (if applicable) of this application. This section is only required for mines for which the Department has permitting, compliance, and enforcement responsibilities under the interagency operating agreements with the water management districts and mines within assumed waters regulated under Chapter 62-331, F.A.C., but is not applicable to borrow pits.

***The design options and considerations applicable to stormwater management systems for mines are referenced in Section 8.2.7 and described in Appendix I of Volume I of the Applicant's Handbook. The applicant is strongly encouraged to contact the Department to arrange a pre-application review meeting prior to finalizing the proposed project activities, including monitoring well and piezometer installation and water quality sampling. The information requested below represents the level of information that is usually required to evaluate an application. Information can be provided within reports, plans and other documents. Provide a response after each item below indicating specifically where in the reports, plans, and other documents the information will be found. If an item does not apply to your project, indicate that it does not and proceed to the next item. The level of information required for a specific project will vary depending on the nature and location of the site and the activities proposed. Conceptual approvals generally do not require as much detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date.***

### Part 1: Project Information and Environmental Considerations

- a.  Provide a detailed description of the proposed activities, including specifics about the stormwater management system(s), water treatment methodologies, and operation and maintenance procedures for the construction (during-mining and reclamation) and post-reclamation (also known as "operation" or "post-development") conditions.

**The Southlands Water Storage Project (the Project) is a water resource project that will supply supplemental dry season water to Everglades restoration projects. A reservoir will be excavated to approximately 15 feet in depth and will hold up to approximately 120,000 acre-feet of water. When supplemental water is needed for Everglades restoration projects, water can be pumped from the Project reservoir to the Miami Canal and for delivery to other areas. During the wet season, excess flows will be pumped from the Miami Canal to the Project reservoir for storage until needed to supplement Everglades restoration projects.**

**The Project will be implemented in phases. Phase 1 of the Project will consist of excavation of Storage Cells 1, 2, and 3 and construction the onsite processing facility and rail spur that are needed to transport the excavated, high-quality limestone aggregate to central Florida to support the state's road construction needs. The excavated material will be sorted, washed, and graded onsite for rail transport offsite.**

**Stormwater in active pits will be managed by containment. A 3-foot-high containment berm along the entire perimeter of the pit will contain stormwater during excavation activities. Excavation will be completed 'in the wet' through drag-line excavation. Water levels in**



active pits will equalize to adjacent groundwater elevations, thereby not altering adjacent surface nor groundwater levels.

There will also be a 3-foot-high containment berm along the entire perimeter of the haul roads between the actively excavated cell and the processing facility, along with stormwater retention areas adjacent to the haul roads. Stormwater runoff will also be contained onsite within the processing facility/rail yard and stockpile areas. These sites will be raised to an elevation of 13.0 feet (ft) (NAVD88), which is one foot higher than the effective Federal Emergency Management Agency (FEMA) Base Flood Elevation (BFE) (12.0 ft (NAVD88)). The internal site grading of the processing facility/rail yard will be completed to internally surface drain runoff to surface stormwater retention areas set aside within the limits of the tailings process / stormwater storage site. The retention area for the stockpile site will likely run around the perimeter of that site. The stormwater retention areas will be sized to retain the volume of water from a 100-year/72-hour storm along with a minimum 1 ft freeboard.

Stormwater management for the rail spur and site access road are currently in development. However, the approach to stormwater runoff related to the rail spur and access road will be managed by containment, utilizing swales and retention areas, with no offsite discharge.

- b.  Respond to the following items if Section C was not completed (because the proposed work or activity will not occur in, on, over, or within 25 feet of a wetland or other surface water):

**Section C was completed.**

1.  Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each wetland and other surface water, both within and contiguous to the proposed permit area. Include an aerial photograph identifying each area, the elevation source and datum, and method of evaluation. N/A
  2.  Describe how the proposed project will be designed to avoid adverse effects to public health, safety, or welfare or the property of others. N/A
- c.  Provide the results of percolation tests, soil boring logs, cross-sections, and stratigraphic thickness contour maps, if available, that are representative of the actual site conditions to the proposed excavation depth(s). Provide the hydraulic conductivity values and proposed average and maximum depths of excavation.  
**See the attached Geotechnical Data Report (Attachment SWRP-ERP-A6) for a summary of the requested information.**
- d.  Provide a hydrostratigraphic column that is representative of the proposed project site. Describe the hydrostratigraphic units and define all aquifer(s) and/or aquiclude(s) (semiconfining/confining beds) present at the project site. Identify the wet season high water table elevations for the proposed project area. Include the dates, datum, and methods used to determine these parameters.  
**See the attached Geotechnical Data Report (Attachment SWRP-ERP-A6) for a summary of the requested information.**
- e.  Changes to pre-construction groundwater elevations on the proposed the may adversely impact the hydrology of onsite or offsite wetlands and other surface waters (including lakes, streams, and spring discharges). Provide the following:
1.  A hydrologic analysis, such as a seepage analysis, water budget analysis, and/or drawdown analysis, for the existing, construction, and post-reclamation conditions. State the assumptions, scope of the analysis, the source(s) of the data used in the calculation(s) and the name of the computer model or program, if used. If applicable, provide input and output Geographic Information System (GIS) data layers in digital format that were used in the hydrological analysis. Provide the relevant metadata, including data sources and map



projection systems. Input and output data tables, such as excel, access, or a similar format, should also be provided in digital format.

- **Existing Conditions:**
  - **The existing site is made up of multiple agricultural fields that are actively irrigated with water moved to and from the adjacent Miami Canal. An onsite system of local canals, pumps, and culverts is used to bring water to and drain water from the existing agricultural fields.**
- **Construction Conditions:**
  - **During excavation operations, the existing system of local canals, pumps, and culverts will be maintained to serve adjacent agricultural fields without impact to their operation.**
  - **Excavation will be completed 'in the wet' through drag-line excavation. Water levels in active pits will equalize to adjacent groundwater elevations, thereby not having any appreciable impact to adjacent surface nor groundwater levels.**
  - **The containment berms around the actively excavated cell, stockpile area, and haul roads will prevent runoff from leaving the site.**
  - **The internal site grading of the processing facility/rail yard/tailings and process water area will be completed to internally surface drain runoff to the stormwater storage pond which is the most downstream part of the process water treatment train.**
  - **Stormwater management for the rail spur and site access road are currently being developed.**
- **Post-construction Conditions:**
  - **Upon completion of excavation activity, excavated cells will be converted into integrated water storage reservoirs. Water stored will be utilized in nearby Everglades restoration projects. These post-excavation activities will be permitted through a permit modification.**
  - **The rail yard and rail spur are permanent and will remain.**
  - **The Tailings Process area will be restored to a vegetated / pre-project agricultural condition with the exception of any set-aside area needed to provide stormwater retention for the permanent rail yard.**
  - **The Stockpile site will be restored to a vegetated / pre-project agricultural condition.**

2.  For a proposed water elevation maintenance system, such as a recharge system, provide a plan view drawing of the system indicating the source and routing of the water; a cross section drawing of the hydration system, injection well, or recharge ditch in relation to features such as the mine-cut face, cast overburden/seepage face, the ground surface, the overburden and matrix layers, and the water table; and a monitoring and maintenance plan for the system. **N/A not dewatering.**
- f.  Provide a water level monitoring plan for any avoided wetlands and other surface waters adjacent to the proposed project boundary or excavation. The monitoring plan shall include a staff gauge and/or piezometer location map, monitoring instrumentation, data collection methods, data recording and/or downloading frequency, available remedial measures, a typical gauge/piezometer schematic and datum, and reporting frequency and report contents. Propose a monitoring period that starts prior to mining and ends after the completion of reclamation.

**During excavation operations, the existing system of local canals, ditches, field ditches, pumps, culverts and water control structures will be maintained to serve adjacent agricultural fields without impact to their operation.**

**The proposed water level monitoring plan comprises of two elements: (1) groundwater level monitoring as detailed in the Groundwater Monitoring Plan (Attachment **SWRP-ERP-A12**) and (2) surface water level monitoring described below.**

The Project is located within the EAA and water elevations in and around the Project are actively managed and controlled by the Landowners/Farmers. The Landowners/Farmers utilize a constructed water conveyance system comprising of canals, ditches, field ditches, water control structures (flashboards) and pump stations to control to manage water elevations. The Landowners/Farmers actively monitor the surface water levels within the water conveyance system as part of their agricultural practice and to satisfy regulatory requirements. This surface water level data recorded by the Landowners/Farmers in and around the Project area will be compiled and combined with the ground water levels into semi-annually data report.

- g.  Identify public water supply wells within 1000 feet of the proposed extraction area. Identify the wellfield cone of depression, if available, well depths and screen or open-hole intervals, and source of information for public water supply wells.

**Per a review of Palm Beach County GIS database, no public water supply wells are located within 1,000 ft of the proposed extraction areas.**

- h.  To the extent possible, through publically available information and field reconnaissance from the project boundary, identify private water supply wells located within 1000 feet of the proposed extraction area. This shall not be construed to require trespassing on the property of others. Provide the well construction details, if available.

**Per a review of Palm Beach County GIS database and site visits, no public water supply wells are located within 1,000 ft of the proposed extraction areas.**

- i.  Provide ambient surface water and groundwater quality characterization for the proposed project for intervals extending to the proposed depth of excavation. The applicant is strongly encouraged to arrange a pre-application meeting prior to performing monitoring well installation and water quality sampling activities.

**N/A. Excavation will be completed 'in the wet' through drag-line excavation. Water levels in active pits will equalize to adjacent groundwater elevations, thereby not having any appreciable impact to adjacent surface nor groundwater levels. See the Geotechnical Data Report and Groundwater Testing Report for additional information (Attachments **SWRP-ERP-A6** and **SWRP-ERP-A7**).**

- j.  If the proposed project site is located within a mile of a karst-sensitive area, a springshed, other karst features, or a public supply wellfield, submit a geotechnical assessment report, which includes a location map of these features. Provide information about site grading or other stormwater management practices designed to direct runoff from any areas that are potential sources of pollutants into stormwater treatment areas that are designed, constructed, operated, and maintained in compliance with the requirements of the applicable Applicant's Handbook, Volume II, prior to any discharge to the mine excavation.

**N/A. The proposed site is not located within a mile of a karst-sensitive area, a springshed, other karst features, or a public supply wellfield.**

- k.  If a floating dredge will be used, specify the approximate depth and area that will need to be excavated before the dredge will become operational. Describe the initial excavation method, including the approximate length of time from initiation of excavation to the time that the floating dredge will become operational. If temporary dewatering will be conducted, please provide the projected drawdown of the water table in the avoided wetlands. If necessary based on the results, provide protective measures such as the construction of recharge ditches. Describe any measures that will be used to manage the extracted water.

**N/A**

- l.  If the water table will be augmented to use a floating dredge, specify the water source (e.g. offsite recycled wastewater) and pumping and conveyance system details.

**N/A. Excavation will be completed ‘in the wet’ through drag-line excavation. Water levels in active pits will equalize to adjacent groundwater elevations, thereby not having any appreciable impact to adjacent surface nor groundwater levels. The water table will not be augmented.**

- m.  If the proposed project area is in the watershed of a first order stream (headwater), second order stream, etc., of a river where Minimum Flows and Levels (MFLs) have been established, provide a water quantity simulation representing the peak severance/dewatering conditions to demonstrate that the proposed activity will not contribute to violations of the established MFLs.

**N/A. The project area is not within a watershed of a first order stream (headwater), second order stream, etc., of a river where Minimum Flows and Levels (MFLs) have been established.**

- n.  Following reclamation, if a mine pit or reclaimed created lake will connect to offsite wetlands or other surface waters during storms less than the 25-year, 24-hour design storm event, or if the water body will have more than one property owner, then the water body meets the definition for “waters of the state”. Waters of the state must meet the surface water quality standards of Chapter 62-302, F.A.C. To demonstrate the absence of such a connection, the applicant must show through volumetric calculations or hydrologic modeling that the mine pit or reclaimed created lake will have sufficient capacity when operating at the average annual water elevation (normal pool) for the storage of direct runoff and rainfall for the 25-year, 24-hour design storm event. If the proposed project will result in waters of the state in the post-reclamation condition, provide reasonable assurance that the surface water quality standards will be met.

**Upon completion of excavation activity, excavated cells will be converted into integrated water storage reservoirs. Water stored will be utilized in nearby Everglades restoration projects. They will not be directly connected to offsite wetlands or other surface waters during a storm event. During storm events, precipitation will be retained in the reservoirs and therefore not connected to waters of the state for storms less than the 25-year, 24-hour event. A pumping and conveyance system will convey stored water to nearby Everglades restoration projects during the dry season. The storage reservoirs are not considered waters of the state. These post-excavation activities will be permitted through a permit modification.**

- o.  Identify the classification(s) (e.g. Class F-1, G-1, G-II, G-III and G-IV) of the groundwater in the proposed project area and immediate vicinity according to the designated uses provided in Rule 62-520.410, F.A.C.

**The groundwater classification at this site is G-II. See Attachment **SWRP-ERP-A7** for concentrations of total dissolved solids (TDS) measured at the project site.**

- p.  Provide the names, locations, and storage conditions for any chemicals that will be stored onsite. This includes all pH adjusters, water conditioners, and other material that will be used in the process water. Additionally, include how the chemicals will be utilized, e.g. blasting, vehicle maintenance, vegetation maintenance, and process water treatment. Identify separate containment areas on the construction plans that meet the requirements of the applicable Applicant’s Handbook, Volume II for equipment maintenance and the storage of petroleum and hazardous substances.

**The following chemicals and hazardous substances may be stored and used on site:**

- 1. Gasoline fuel for refueling**
- 2. Diesel fuel (with Diesel Exhaust Fluid- DEF) for refueling**



3. Miscellaneous lubricants, oils and greases, for equipment and vehicle maintenance
4. Hydraulic fluids for equipment and vehicle maintenance
5. O2 and Acetylene for miscellaneous maintenance activities

**Storage of chemicals and hazardous substances will be in accordance with applicable local, state and federal guidelines and regulations. Please refer to Exhibit **SWRP-ERP-E8** for proposed locations of proposed bulk gasoline and diesel fuel storage and maintenance building where items 3, 4 and 5 are planned to be stored.**

- q.  For previously-mined lands that are proposed for construction, provide the following:  
**N/A. Not previously mined and there are no existing lakes on site.**
1.  Bathymetric map for each existing lake. **N/A**
  2.  Identify the existing lakes to be excavated deeper and the proposed maximum depth of excavation. **N/A**
  3.  Identify any onsite lake that has penetrated a confining layer between the water table aquifer and a deeper aquifer. **N/A**
  4.  Provide a discussion of the existing site-specific geology (including sand tailings, waste clay disposal, and overburden deposition and orientation, if known) and aquifers and aquitards. **N/A**
- r.  Provide all of the known historical and current activity information for the project area, such as specific crops grown, vehicle maintenance, waste disposal, and indicate the aerial extent of each activity on a plan map. Provide soil sample quality data, a summary of the soil characterization procedures, and sampling results. The applicant is strongly encouraged to arrange a pre-application meeting prior to performing soil sampling activities.

**The Phase I Environmental Site Assessment Report is attached as Attachment **SWRP-ERP-A8**. This report summarizes historical and current activity information for the site.**

- s.  Provide a hydrological analysis, as applicable, for proposed wetland mitigation (excluding permitted mitigation banks). If applicable, provide input and output GIS data layers in digital format that were used in the hydrological analysis. Provide the relevant metadata, including data sources and map projection systems. Input and output data tables, such as Excel, Access, or a similar format should also be provided in digital format. The hydrological analysis shall evaluate the wetland types and appropriate hydroperiods, historical and proposed hydrologic conditions, including whether the wetlands were perched, surface water dependent, seepage dependent, or groundwater-supported. Propose monitoring locations for piezometers and staff gauges, construction details, the measurement frequency, the data collection methodology, and reporting format.

**As discussed in the Mitigation Plan (Section C, Attachment **SWRP-ERP-A4**), the hydrological analysis for the mitigation area will be completed as that plan advances.**

- t.  Applicants that elect to use alternative wetland mitigation associated with the mining of high-quality peat, in accordance with Section 373.414(6)(e), F.S., shall provide all information required by Chapter 62-348, F.A.C.

**N/A. No high-quality peat mining is part of this project.**

- u.  If onsite and/or offsite applicant-responsible mitigation is proposed, submit a cost estimate for completing the mitigation, including monitoring and maintenance, as required by Section C of the application. For phosphate and limestone mines only, mitigation costs shall be presented as provided by Section 373.414(19), F.S. If the proposed mitigation costs exceeds \$25,000, provide draft financial assurance documents, as required by Section C of the application.

As discussed in the Mitigation Plan (Section C, Attachment **SWRP-ERP-A4**), the cost estimate for the mitigation area will be completed as that plan advances.

- v.  For phosphate and heavy mineral mines, provide, within the footprint of the current ERP application, the number of acres of land mined before July 1, 1975; land mined from June 30, 1975 to the present; land to be mined; land disturbed before June 1, 1975; land disturbed from June 30, 1975 to present; land to be disturbed; land to remain undisturbed; and the sum of these acres. **N/A**
- w.  For fuller's earth mines, provide, within the footprint of the current ERP application, the number of acres of land mined or disturbed before July 1, 1975; land mined or disturbed from July 1, 1975 to October 1, 1986; land mined or disturbed from October 2, 1986 to present; land to be mined or disturbed, land to remain undisturbed; and the sum of these acres. **N/A**
- x.  For limestone and other resources mines that began operations on or before October 1, 1986, provide, within the footprint of the current ERP application, a figure that shows areas disturbed by mining operations on or before January 1, 1989 and the number of acres and current status for each area. Examples of status include: reclaimed, reclamation in progress, mined out, mining, disturbed only, stock piles, overburden piles, and tailings disposal. Include aerial photographs as a basis for this figure. **N/A**
- y.  For phosphate, heavy mineral and fuller's earth mines, provide, within the footprint of the current ERP application, the information below in acres for lands mined or disturbed prior to July 1, 1975. For limestone and other resources mines that began operations on or before October 1, 1986, provide the information below in acres for lands mined or disturbed on or before January 1, 1989. **N/A**

	In Use*	Unreclaimed	Reclaimed
1. <input type="checkbox"/> Mined only			
2. <input type="checkbox"/> Mined – waste disposal use			
3. <input type="checkbox"/> Disturbed only			
4. <input type="checkbox"/> Disturbed by waste disposal			
5. <input type="checkbox"/> Total			
*For mining operations			

N/A

- z.  For above grade settling or disposal areas provide the geometric characteristics of each area, including the average dike height (feet), dike crest elevation (feet & datum), maximum operating water level (feet & datum), crest width (feet), outside and inside slopes (below and above grade), effective area (acres), effective depth (feet & datum), effective pit bottom depth below grade (feet), and effective storage volume (acre-feet). **N/A. Tailings settling / disposal is proposed to be at or below grade.**
- aa.  For phosphate mines, estimate the following information for each disposal site: **N/A**

Waste Clay Disposal Site Designation	Site 1	Site 2	Site 3	Site 4
Disposal Acres				
Dam Height Above Grade (ft.)				
Minimum/Maximum/Average				
Type of Disposal	N/A			
Cap Thickness (ft.)				
Average Storage Depth (ft.)				
Storage (acre-feet)				
Infill Rate (Dry Tons/yr.)				
Percent Solids in Fill*				
Immediate Percent Solids**				

\* At entry into CSA

\*\*Point at which self-weight consolidation begins

- bb.  For phosphate mines, provide the following drainage information and acreages based on the Florida Land Use Cover and Forms Classification System, Level III: **N/A**

Drainage Information	Pre-mining Quantity	Pre-mining Acres	Post-reclamation Quantity	Post-reclamation Acres
1st order drainage basins		N/A		
2nd order drainage basins				
wetlands under 20 acres				
wetlands 20 acres or over				
Lakes (waterbodies)				

- cc.  If the proposed project will include stream disturbances, provide a stream assessment and mitigation/reclamation plan that includes maps and an analysis of the existing streams. Identify the stream type (Rosgen Level II or other classification system approved by the Department), flow type (perennial, intermittent, or ephemeral), stream order, stream habitat quality, and channel lengths. Distinguish between natural streams and ditched or channelized natural streams and identify which streams are proposed for disturbance. The plan shall also describe how the streams proposed for disturbance will be reclaimed and include the reference reach or regional curve information used in the design, stream type, stream order, individual stream lengths and designs (dimension, pattern, and profile), and stream construction specifics, including construction staking, erosion control, streambank construction, riparian corridor revegetation, and in-stream habitat creation. **N/A**

## Part 2: Construction Plans

Provide clear, construction level detailed plans for the proposed project, including specifications, plan (overhead) views, cross section views (with the locations of cross section shown on the corresponding plan view) and profile (longitudinal) views. Include a scale, scale bar, county name, Section, Township, and Range, and a north arrow on each sheet. The plans must be signed, dated, and sealed by an appropriate Florida-licensed professional. These plans shall include cumulative information from all applicable sections of the application.

- a.  Provide the project, permit, and property boundaries and total acreages, including distances and orientation from roads or other landmarks on a recent aerial legible for photo interpretation with a scale of 1 inch = 400 feet, or more detailed. The project boundary shall only include the portions of the property that will be altered or disturbed by permitted activities, e.g. surface areas where



there will be construction, alteration, operation, maintenance or repair; abandonment; or removal of any stormwater management system, dam, impoundment, reservoir, work (including dredging or filling), or appurtenant work. The permit boundary includes the proposed project areas and mitigation areas. Include the date of the photo. **Exhibit SWRP-ERP-E5**

- b.  Provide individual plans for the existing, during–mining (and intermediate stages, if necessary), and post-reclamation conditions. Include the following:
1.  Topography extending at least 100 feet off the permit area shown on a recent aerial map. All topography shall include location and description of benchmarks referenced to NGVD 1929 or NAVD 1988 along with the conversion factor(s) if the application documents refer to more than one datum. Blend the proposed contours into the undisturbed contours in the construction and post-reclamation conditions. **Exhibits SWRP-ERP-E5 and SWRP-ERP-E10**
  2.  US Geological Survey topographic map. **Exhibit SWRP-ERP-E11**
  3.  Provide existing and proposed maps accurately describing the vegetative community and landscape types. Generally, this is best done using the Florida Land Use and Cover Classification System (FLUCCS) (FDOT 1999) or the Florida Natural Areas Inventory Guide to the Natural Communities of Florida. Additional or alternative descriptions may also be used if the overall submittal provides a clear, complete, and scientifically accepted description of all vegetative community and landscape types. For vegetated areas dominated by exotic vegetation, use the descriptors representative of the native community type that was present prior to exotic infestation. Also identify each community with a unique identification number which must be consistent in all exhibits. **Exhibits SWRP-ERP-E6 and SWRP-ERP-E7**
  4.  Wetlands and other surface waters to be impacted or avoided and mitigation areas, including acreages. **Exhibit SWRP-ERP-E8**
  5.  Undisturbed upland buffers adjacent to wetlands and other surface waters, including width of each buffer. **Exhibit SWRP-ERP-E8**
  6.  Areas and acreages to be excavated, the proposed mine cells and sequence of excavation or excavation. **Exhibit SWRP-ERP-E8**
  7.  Staging/temporary overburden storage areas, product stockpiles areas, processing areas, and waste disposal areas (e.g. disposal areas for humate, waste clays, and tailings). **Exhibit SWRP-ERP-E8**
  8.  Utility, pipeline, equipment, dredge, and dragline crossings and corridors. Distinguish between temporary (single use) and long-term crossings and corridors. Provide an approximate length of time and schedule to perform the construction and removal activities for each crossing or corridor. **Exhibit SWRP-ERP-E8**
  9.  Impervious surfaces (including directly connected impervious surfaces), vehicle parking areas, and haul roads, including stormwater management systems for these areas. **Exhibits SWRP-ERP-E8 and SWRP-ERP-E15**
  10.  Internal and external perimeter berms. **Exhibits SWRP-ERP-E8 and SWRP-ERP-E15**
  11.  Recirculation ditches, recharge ditches, and stormwater ditches.  
**There are currently irrigations canals and ditches that feed water to and drain water from the existing agricultural fields. There are no existing recirculation ditches, recharge ditches, or stormwater ditches.**  
**There are no proposed recirculation ditches, recharge ditches, or stormwater ditches. Stormwater in active pits will be managed by containment are described previously in the application.**  
**During excavation operations, the existing system of local canals, pumps, and culverts will be maintained to serve adjacent agricultural fields without impact to their operation.**  
**See Exhibits SWRP-ERP-E8 and SWRP-ERP-E9.**
  12.  Connections/outfalls to wetlands or other surface waters

**There are no connections to wetlands or other surface waters. Stormwater in active excavation areas will be managed by containment as described in Part 2.b.11 above.**

13.  Normal mine operation water elevation, the seasonal high and low water elevations, and the average annual water elevation. **Exhibit SWRP-ERP-E8**
  14.  All water management structures, volumes, and invert elevations. **Exhibits SWRP-ERP-E8, SWRP-ERP-E9 and Attachment SWRP-ERP-A10.**
  15.  Where the proposed water management system for a mine will partially replace an existing surface water management system, provide drainage plans and reports showing how the system outside of the mine will function as mining and reclamation proceed. **N/A**
  16.  For phased projects where each phase is a stand-alone system, provide a master development plan clearly delineating the limits of each phase of construction. **Exhibit SWRP-ERP-E8**
  17.  For post-reclamation plans, show how areas subject to the reclamation requirements of Chapter 378, F.S., will meet the standards of the applicable reclamation rules. A separate Conceptual Reclamation Plan or a Notice of Intent to Mine shall be provided prior to the start of mining activities in accordance with the applicable reclamation rules. For mines using the provisions of Section 373.414(6)(b) or (c), F.S., for wetland mitigation, the Conceptual Reclamation Plan shall be provided with the ERP application. **See Exhibit SWRP-ERP-E8 and Attachment SWRP-ERP-A9 for the SFWMD letter of support for the project to have a post-excitation land use as water storage reservoirs for support of Everglades restoration projects, versus traditional reclamation.**
- c.  Where agricultural ditches are present, illustrate how the area hydrology will be altered due to the proposed project. Provide plan drawings that show the internal, perimeter, and surrounding agricultural ditches for the existing, construction, and post-reclamation conditions. Clearly indicate whether the perimeter ditches are within or outside the project area. Flow direction arrows (include any seasonal flow reversals with an explanation of use, if applicable) and proposed alterations to the ditches must be shown in each drawing. Provide maps that clearly depict the progression of ditch severance as the stormwater management system expands.
- **The existing site is made up of multiple agricultural fields that are actively irrigated with water to and from the adjacent Miami Canal. An onsite system of local canals, pumps, and culverts (existing irrigation system) is used to bring water to and drain water from the existing agricultural fields. During excavation operations, the existing irrigation system will be maintained and continue to serve adjacent agricultural fields without impact to their operation. The proposed 3-foot-high containment berm will isolate excavation operation from the existing irrigation system.**
  - **Excavation will be completed 'in the wet' through drag-line excavation. Water levels in active pits will equalize to adjacent groundwater elevations, thereby not having any appreciable impact to adjacent surface nor groundwater levels.**
  - **When cells are actively excavated, the historical agricultural water demand from that cell will be eliminated. Because of the containment system, any limited runoff that would have historically drained off the active cell will be detained onsite method for runoff to discharge offsite is infiltration and evapotranspiration. Similarly, the rail yard and processing site will be graded with a stormwater detention area to detain runoff onsite with the only method for runoff to discharge offsite is infiltration and evapotranspiration.**
  - **See SWRP-ERP-E9 – Site Drainage Conditions**
    - **E9a - Existing Conditions Drainage Overview**
    - **E9b - Cell 1 Construction Stage**
    - **E9c - Cell 2 Construction Stage**
    - **E9d - Cell 3 Construction Stage**
    - **E9e - Post-reclamation Conditions**
  - **Canal and ditch crossings and related runoff characteristics for the Site Access Road and Rail are currently being developed.**

d.  Paving, grading, and drainage information for the existing, construction (and intermediate stages, if necessary), and post-reclamation conditions, which includes, but is not necessarily limited to, the following:

1.  Plan view of proposed construction, including processing area and water quality treatment areas. **See Exhibit SWRP-ERP-E8.**
2.  Proposed elevations and/or profiles, including datum. **See Exhibit SWRP-ERP-E8.**
3.  Roadway, parking, and pavement grades. **See Exhibit SWRP-ERP-E8.**
4.  Floor slabs, walkways, and other paved surfaces. **See Exhibit SWRP-ERP-E8.**
5.  Earthwork grades for pervious landscaped areas. **See Exhibit SWRP-ERP-E8.**
6.  Perimeter site grading, tying back into existing grades. **See Exhibit SWRP-ERP-E8.**
7.  Location of all water management areas, including elevations, dimensions, side slopes, and design water depths.

**As previously described, 3-foot-high containment berms will be constructed around the actively excavated cell and haul road to prevent runoff from leaving the site. Similarly, the rail yard and processing site will be graded with a stormwater detention area to detain runoff onsite.**

**See Exhibit SWRP-ERP-E8.**

8.  Location, size, and invert elevations of existing and proposed stormwater conveyance systems.

- **Existing Conditions:**

- **The existing site is made up of multiple agricultural fields that are actively irrigated with water to and from the adjacent Miami Canal. An onsite system of local canals, pumps, and culverts are used to bring water to and drain water from the existing agricultural fields.**
- **Exact elevations of existing culverts is not currently known, however these agricultural operation culverts outside the phase will not be affected by that phase and any agricultural operation culverts inside the phase will be removed and the phase isolated from the agricultural water management system.**

- **Excavation Construction Conditions:**

- **During excavation operations, the existing system of local canals, pumps, and culverts will be maintained to serve adjacent agricultural fields without impact to their operation.**
- **Excavation will be completed 'in the wet' through drag-line excavation. Water levels in active pits will equalize to adjacent groundwater elevations, thereby not having any appreciable impact to adjacent surface nor groundwater levels.**
- **The containment berms around the actively excavated cell and haul road will prevent runoff from leaving the site.**
- **The internal site grading of the processing facility / rail yard will be completed to internally surface drain runoff to a surface depression / detention area located in the southeast corner of the processing facility site.**
- **Three additional crossings of ditches will be made as required for haul road construction (crossing IDs C1, C2, and C3) (see Exhibit SWRP-ERP-E9 Sheets E9b and E9c). Exact size and invert elevations of proposed culverts will be completed in subsequent phases, once the topographic survey of the existing site is completed, which will identify location, size, and invert elevations of existing culverts. The proposed culverts will be sized consistent with the adjacent existing culverts to maintain ditch conveyance capacity.**
- **Canal and ditch crossings and related runoff characteristics for the Site Access Road and Rail are currently being developed.**

- **Post-construction Conditions:**

- Upon completion of excavation activity, excavated cells will be converted into integrated water storage reservoirs. Water stored will be utilized in nearby STAs. These post-excavation activities will be permitted through a permit modification
- The processing site, tailings area, and stockpile area will be reverted back to agricultural use.

See Exhibits **SWRP-ERP-E8** and **SWRP-ERP-E9**

**Site Drainage Conditions**

- E9a - Existing Conditions Drainage Overview
- E9b - Cell 1 Construction Stage
- E9c - Cell 2 Construction Stage
- E9d - Cell 3 Construction Stage
- E9e - Post-reclamation Conditions

9.  Vegetative cover plan for all on-site and off-site earth surfaces disturbed by construction. See Exhibits **SWRP-ERP-E8** and **SWRP-ERP-E15**.
  10.  Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes (including access), and rights-of-way and easements for the existing drainage system, if any. See Exhibit **SWRP-ERP-E8**.
- e.  Stormwater detail information, including but not necessarily limited to, the following:
1.  Cross section of all stormwater management areas, including elevations, dimensions, crest widths, side slopes, and proposed stabilization measures (with location of the cross section(s) shown on the corresponding plan view).  
  
**As previously described, stormwater will be contained onsite with a combination of containment berms, swales, and depressed stormwater detention areas.  
See Exhibit **SWRP-ERP-E8**.**
  2.  Provision for permanent stabilization of the slopes through the establishment of permanent vegetative cover or other appropriate methods.  
  
**Upon completion of excavation activities, disturbed areas of highly erodible soil will be stabilized with fertilizer, turf seed, and mulch.**
  3.  Detail of all proposed control structures, including elevations, dimensions, and skimmer, where applicable.  
  
**As previously described, stormwater will be contained onsite with a combination of containment berms, swales, and stormwater retention areas.  
See Exhibits **SWRP-ERP-E8** and **SWRP-ERP-E9**.**
  4.  Details of proposed stormwater management systems, such as underdrains, exfiltration trenches, vaults, and other proposed Best Management Practices (BMPs).  
  
**As previously described, stormwater will be contained onsite with a combination of containment berms, swales, and stormwater retention areas.  
See Exhibit **SWRP-ERP-E8**.**
- f.  Provide a cross sectional view of the reclamation lake(s) and shoreline. Show the lake configuration, including side slopes and grade-break; elevations for the shoreline; lake bottom elevation; the average (normal pool), seasonal high, and seasonal low water elevations; littoral zone; vegetation cover designation; and associated control structures. See Exhibit **SWRP-ERP-E8**.

g.  For limestone mines, provide a cross-sectional view of reclaimed sheer walls, including transition shelves and other means of access control. Refer to Rule 62C-36.008, F.A.C., for sheer wall design requirements. Provide a plan view showing the location and extent of areas to be reclaimed with sheer walls. For fuller's earth and other resources (gravel, sand, clay) mines provide a cross-sectional view of reclaimed high walls. Provide a plan view showing the location and extent of areas to be reclaimed with high walls. Refer to Rules 62C-38.008 or 62C-39.008, F.A.C., fuller's earth and other resources, respectively, for limits on steepness of slopes. Provide the appropriate geotechnical engineering study whenever the proposed slopes will be steeper than the limits provided by rule. **N/A. No shear walls planned for excavation operation.**

h.  Provide groundwater elevation contour maps showing existing, construction, and post-reclamation elevations extending at least 100 feet off the proposed permit area. All elevations shall be referenced to the common benchmark or datum (NGVD/NAVD) being utilized for the permit area. Cite the date and data source for the existing condition. If the elevations are compiled data, identify if the contours represent average seasonal high water, average annual, or seasonal low water table elevations.

**Groundwater monitoring is currently being conducted. Water level loggers are being installed in onsite piezometers and groundwater data will be collected and reported monthly. See Attachments SWRP-ERP-A6 and SWRP-ERP-A7 for current geotechnical and groundwater information.**

i.  Provide a Federal Emergency Management Agency (FEMA) flood map (include the proposed permit boundary on the map).

**See Exhibit SWRP-ERP-E13. For the effective FIRM panel, see the following:**

<http://www.pbcgov.com/pzb/pzbmaps/femamaps/12099C0650F.png>

<http://www.pbcgov.com/pzb/pzbmaps/femamaps/12099C0850F.png>

If the proposed project will impede or restrict the flow of offsite stormwater runoff, provide plan and cross-section figures showing the locations and elevations of the proposed berms and water control structures (to prevent erosion) that will allow offsite runoff to either enter the stormwater management system or be routed around the project area. Present these drainage conditions for the construction and post-reclamation scenarios.

**The project will be designed to maintain the current drainage patterns within the site. An onsite system of local canals, pumps, and culverts (existing irrigation system) is used to bring water to and drain water from the existing agricultural fields. During excavation operations, the existing irrigation system, which also serves as the stormwater drainage system, will be maintained and continue to serve adjacent agricultural fields both within the ultimate project limits and adjacent offsite agricultural fields without impact.**

**Within active excavation areas, all stormwater runoff will be contained on site, thereby reducing the net loading of runoff to the existing system.**

**See Exhibit SWRP-ERP-E8**

**See Exhibit SWRP-ERP-E9 – Site Drainage Conditions**

- E9a - Existing Conditions Drainage Overview
- E9b - Cell 1 Construction Stage
- E9c - Cell 2 Construction Stage
- E9d - Cell 3 Construction Stage
- E9e - Post-reclamation Conditions

j.  Provide the location of any nearby existing offsite features (such as wetland and other surface waters, municipal well fields, large irrigation wells, stormwater management ponds, gas pipelines, and buildings or other structures) which might be affected by or affect the proposed permit activities.

**All nearby land consists of agricultural fields with related infrastructure (irrigation system, service roads). The excavation activities will be constructed without impacting those facilities. The project will include service roads separated from agricultural roads. An onsite system of local canals, pumps, and culverts (existing irrigation system) is used to bring water to and drain water from the existing agricultural fields. During excavation operations,**



the existing irrigation system, which also serves as the stormwater drainage system, will be maintained and continue to serve adjacent agricultural fields both within the ultimate project limits and adjacent offsite agricultural fields without impact.

Within active excavation areas, all stormwater runoff will be contained on site, thereby reducing the net loading of runoff to the existing system.

See Exhibit **SWRP-ERP-E9** – Site Drainage Conditions

- E9a - Existing Conditions Drainage Overview
  - E9b - Cell 1 Construction Stage
  - E9c - Cell 2 Construction Stage
  - E9d - Cell 3 Construction Stage
  - E9e - Post-reclamation Conditions
- k.  Provide the digital GIS data layers for the wetlands, Land Reclamation Units, and mandatory mined areas and relevant metadata, including the source data and map projection systems for the existing and post-reclamation conditions for the proposed project. **N/A**

### **Part 3: Stormwater Drainage and Treatment Information and Analyses**

Provide drainage calculations signed, dated, and sealed by an appropriate Florida-licensed professional, and supporting documentation demonstrating that the proposed project meets the conditions for issuance under Rules 62-330.301(1)(a), (b), (c), and (e), F.A.C. **Larger mines or more complex mine plans require one or more intermediate stage maps or GIS data layers and drainage calculations to explain how the proposed water management system and offsite flows will change as mining and reclamation progress.** The plans and calculations shall include the following:

- a.  Provide separate drainage maps for the existing, construction, and post-reclamation conditions that include the drainage patterns and basin/sub-basin boundaries. Provide the acreage for each basin/sub-basin and include flow direction arrows showing any off-site runoff being routed through or around the system, topographic information, and connections between wetlands and other surface waters below the 25-year 24-hour design storm event applied to the average annual water table. Merge the construction and post-reclamation elevation contours with the existing elevation contours in areas that will remain undisturbed.

**As previously described, the existing irrigation/drainage system will remain in place during and after construction to maintain existing drainage conditions for unaffected areas. Areas actively excavated, haul roads, and the rail yard/processing facility will contain all runoff on site.**

See Exhibit **SWRP-ERP-E8**.

See Exhibit **SWRP-ERP-E9** – Site Drainage Conditions

- E9a - Existing Conditions Drainage Overview
  - E9b - Cell 1 Construction Stage
  - E9c - Cell 2 Construction Stage
  - E9d - Cell 3 Construction Stage
  - E9e - Post-reclamation Conditions
- b.  Identify the existing and proposed onsite hydrologic soil names and classifications (e.g. Type A, C, B/D, D). Reference the source, such as the U.S. Department of Agriculture/Natural Resource Conservation Service Soil Survey (NRCS), used in estimating the existing onsite hydrologic soil name and classifications. Provide maps, as appropriate, on which the permit area has been delineated.
- See Exhibit SWRP-ERP-E4. The entire site is classified as A/D hydrologic soil group.**
- c.  Indicate the existing and post-reclamation land use and land cover. Provide the acreages and percentages of the total project, for the following:

1.  Impervious surfaces (and directly-connected impervious surfaces) excluding buildings, wetlands and other surface waters;
2.  Buildings;
3.  Pervious surfaces (green areas not including wetlands);
4.  Lakes, canals, retention areas, other open water areas; and
5.  Wetlands (**Please refer to Section C to ensure consistency in wetland acreages**).

See Attachment **SWRP-ERP-A10** for tabular data of acreage of the various land cover types.

See Exhibit **SWRP-ERP-E8** – Wetland extents.

See Exhibit **SWRP-ERP-E15** – Site Land Cover.

- E15a - Existing Land Cover – Cells 1, 2, and 3
  - E15b – Post-Reclamation Land Cover – Cells 1, 2, and 3
  - E15c - Existing Land Cover – Processing/Tailings Site
  - E15d – Post-Reclamation Land Cover – Processing/Tailings Site
  - E15e – Existing/Post Reclamation Land Cover – Stockpile Site
  - E15f – Proposed Land Cover – Processing/Tailings Site
  - E15g – Proposed Land Cover – Stockpile Site
- d.  Identify the wetland and/or waterbody that will receive discharge from the stormwater management system. Provide the receiving wetland/waterbody seasonal high water or mean high tide elevation, including the dates, datum, and methods used to determine these elevations.

**N/A. As previously described, stormwater will be managed via containment up through the regulatory storm (100-yr/3-day storm). There is no discharge anticipated. Containment berms will have 1 foot of freeboard. An emergency spillway, 1.5 ft below the top of freeboard will be provided in the event of a storm larger than the regulatory flood control storm. In the case of a storm event larger than the regulatory storm, runoff would enter the existing canals within the project site and ultimately discharge to the Miami Canal (L-24).**

- e.  Provide mine-wide drainage analyses for the existing and post-reclamation peak rates of discharge, volumes of runoff, and peak stages for the appropriate design storm events demonstrating that the proposed project meets the stormwater design criteria in the applicable Applicant's Handbook, Volume II. Account for all onsite depressional storage and offsite contributing areas. Refer to the applicable Volume II for the design storm event(s) that applies to the project area. Typically, the information includes the following:
1.  Runoff characteristics, including area; runoff curve number or runoff coefficient; hydrologic soil classifications; and time of concentration for each drainage basin/subbasin in the existing and post-reclamation conditions;

**Runoff characteristics were estimated following the methodologies outlined in the NRCS (formerly SCS) Technical Release 55 (TR-55). 100-percent of the soils within the project limits are A/D soils, based on soils maps from the NRCS Websoil survey (<https://websoilsurvey.sc.egov.usda.gov/>). Time of Concentration flow paths were estimated for existing conditions because runoff can theoretically leave the drainage basins. The Graphical Peak Discharge Method (TR-55) was used to estimate the peak runoff rate. Because runoff up to and including the 100-year/3-day storm will be contained within each basin, no runoff rate was estimated for post-reclamation conditions.**

The existing site consists entirely of agricultural fields, irrigation canals, ditches, and service roads. The hydrology of the site is highly manipulated by the irrigation system, which impacts drainage areas and runoff characteristics. Drainage basins are delineated based on the agricultural fields and canals/ditches that have been segmented typically following Public Land Survey System (PLSS) Section and Quarter Section lines. See Tables in Attachment **SWRP-ERP-A10** (A10a, A10b, and A10c), and Exhibit **SWRP-ERP-E14-Drainage Areas**.

Under proposed post-reclamation conditions, the boundaries of the excavated / reservoir cells, stockpile area, processing site, rail yard, and tailings area also follow the same Section and Quarter Section lines. As a result, the basin delineations under post-reclamation conditions are the same as existing. Land cover conditions, and subsequently runoff curves numbers used for post-reclamation conditions consist of surface water (for proposed reservoirs and seepage canals), vegetated cover (for berms), and gravel surface (for service / haul roads), rooftops in processing site buildings, and pavement in the processing area for parking stalls and refueling area. See Tables in Attachment **SWRP-ERP-A10** (A10a, A10b, and A10c), and Exhibit **SWRP-ERP-E14** (Drainage Areas).

The runoff characteristics of the site access drive / rail spur corridor are currently being developed.

2.  Design storms used including rainfall depth, duration, frequency, and distribution; **The 100-year / 3-day storm was used to estimate stormwater runoff volumes. Because the intent of the project is to contain all runoff on site without discharge, storage sizing has been based on the 100-year / 3-day and not the 25-year / 3-day storm as listed in the Applicant's Handbook. The methodology described in TR-55, Chapter 4 were followed to determine peak flow rates. The 100-year / 1-day storm was used to estimate peak flow rates. The 100-year / 3-day storm depth is 10 inches and the 100-year / 1-day storm depth is 9 inches (from Figure C-9 of the ERP Applicant's Handbook, Volume 2). Because hydrographs were not generated for this analysis, distributions are not estimated.**
3.  Runoff hydrograph(s) for each basin/subbasin, for the required design storm event(s); **Because of the nature of the project, hydrographs were not generated. For existing conditions, Time of Concentration(Tc's) were estimated for each drainage basin, and peak runoff flow rates (Qp) were estimated using the methodology described in TR-55, Chapter 4. See Tables in Attachment **SWRP-ERP-A10**.**
4.  Stage-storage computations for any area such as a reservoir, closed basin/subbasin, detention area, or channel, used in storage routing; **See Table in Attachment **SWRP-ERP-A10d****
5.  Stage-discharge computations for any storage areas at a selected control point, such as a flow control structure or natural flow restriction; **N/A**
6.  Flood routings through on-site flow conveyance and storage areas; **N/A**
7.  Water surface profiles in the primary drainage system for each required design storm event(s); **N/A**
8.  Runoff peak rates and volumes discharged from the site for each required design storm event(s); **See Table in Attachment **SWRP-ERP-A10** (A10a, A10b, A10c, and A10d)**

9.  Design tailwater elevation(s) (peak stages) for each storm event at all points of discharge (include source or method of estimate); **N/A. There is no discharge to a downstream system, therefore there is no tailwater.**
10.  Pump specifications and operating curves for range of possible operating conditions (if used in the system); and **N/A**
11.  Discharge rate comparisons for the mean annual, 25-year and 100-year, 24-hour design storm events and necessary erosion control measures and locations. **N/A. There is no discharge offsite, therefore there is no rate to compare.**
- f.  Provide a description of the engineering methodology, assumptions, and references for the drainage parameters listed above, and a copy of all computations, engineering plans, and design specifications used to analyze the system. Include basin-node-reach schematics and show the time of concentrations, flow conveyance structures, and flow comparison locations (Flow Evaluation Points or Critical Points) in the engineering plans and/or drainage maps. If a computer model is used for the analysis, provide the name of the model, the input and output GIS data layers listed below in digital format that were used in the hydrological analysis. Provide the relevant metadata, including the source data and map projection systems, for the existing and post-reclamation conditions for the proposed project. The data layers shall include the project boundary, topography, basins, land use, evaluation points, nodes, reaches, drainage patterns, time of concentration, and hydrologic soil groups. Provide the input and output data tables in digital table format, such as Excel, Access, or a similar format.
- Runoff characteristics were estimated following the methodologies outlined in the NRCS (formerly SCS) Technical Release 55 (TR-55). 100-percent of the soils within the project limits are A/D soils, based on soils maps from the NRCS Websoil survey (<https://websoilsurvey.sc.egov.usda.gov/>). Time of Concentration flow paths were estimated for existing conditions because runoff can theoretically leave the drainage basins. The Graphical Peak Discharge Method (TR-55) was used to estimate the peak runoff rate. Because runoff up to and including the 100-year/3-day storm will be contained within each basin, no runoff rate was estimated for post-reclamation conditions. Calculations were completed in spreadsheets. See Table in Attachment **SWRP-ERP-A10 (A10a, A10b, A10c, and A10d)****
- g.  If there will be no discharge, provide sufficient freeboard in compliance with Appendix I of the Applicant's Handbook, Volume I, in the stormwater management system to prevent the occurrence of overtopping. Provide the basis for determination of the freeboard, such as staging the applicable design storm event on the seasonal high water elevation (or control elevation) plus an effective freeboard. Perform a wave run-up analysis, if required.
- As previously described, stormwater will be managed via containment up through the regulatory storm (100-yr/3-day storm). There is no discharge anticipated. Containment berms will have 1 foot of freeboard. An emergency spillway, 1.5 ft below the top of freeboard will be provided in the event of a storm larger than the regulatory flood control storm. In the case of a storm event larger than the regulatory storm, runoff would enter the existing canals within the project site and ultimately discharge to the Miami Canal (L-24).**
- h.  For traversing works, in accordance with the applicable Applicant's Handbook, Volume II, provide the following:
1.  Hydraulic calculations for all proposed traversing works; and
  2.  Water surface profiles showing upstream impact of traversing works.

**Proposed haul roads from Cells 1, 2, and 3 will cross existing irrigation ditches at three locations (Ditch Crossings C1, C2, and C3) (see Exhibit **SWRP-ERP-E9 (E9b, E9c, and E9d)**. Immediately adjacent to these proposed crossing locations are existing culvert crossings for the existing agricultural road crossings. The proposed haul road crossing culverts will be the equivalent size of the existing culverts or larger.**

**Canal and ditch crossings and related runoff characteristics for the Site Access Road and Rail are currently being developed.**

- i.  For impacts to regulated floodplains, in accordance with the applicable Applicant's Handbook, Volume II, provide the following:
1.  Location and volume of encroachment within regulated floodplain(s); and
  2.  Plans and calculations for compensating floodplain storage, if necessary, and calculations required for determining minimum flood elevations for buildings and roads.

**The entire project footprint is within the regulatory Zone AE floodplain with a Base Flood Elevation of 12.0 ft (NAVD88) (See Exhibit SWRP-ERP-E13). The containment berms, rail yard, and processing site will be set elevations above 12.0 ft (NAVD88) thereby filling approximately 250 acres of floodplain.**

**Portions of the access road and rail spur may be set above the Base Flood Elevation (12.0 ft NAVD88). The Site Access Road and Rail design are currently being developed.**

- j.  For treatment other than or prior to containment, provide construction plans and calculations that address the required treatment volume and recovery, as well as stage-storage and design elevations, which demonstrate compliance with the water quality treatment design criteria in the applicable Applicant's Handbook, Volume II. If a computer model is used for the analysis, provide the name and a description of the model, the input and output data, and a justification for the model selected. **N/A. All runoff is being contained.**
- k.  If the receiving waterbody is known to be impaired, and/or has an established Total Maximum Daily Load (TMDL) or Basin Management Action Plan (BMAP), provide specific descriptions of all water quality parameters for which the waterbody is known to be impaired. Provide reasonable assurance that the proposed project will not contribute to violations of state water quality standards for TMDLs in accordance with the applicable Applicant's Handbook, Volume II. **N/A**
- l.  If the proposed project will have a direct discharge to a Class I, Class II, Outstanding Florida Waters (OFW), or Class III waters that are approved, conditionally approved, restricted, or conditionally restricted for shellfish harvesting, provide additional water quality treatment in accordance with the applicable Volume II. **N/A**

**Part 4: Construction Schedule and Techniques**

Provide a construction schedule and a description of construction techniques, sequencing, and equipment. This information shall include, as applicable, the following.

- a.  Access and staging of equipment.  
**Access to the project site is planned to be from US Highway 27 via private road running approximately 1 mile south of the Okeelanta Road. Access will follow the private road for approximately 4.7 miles west, then south paralleling the proposed rail spur being constructed as part of the project. Please refer to Exhibit SRWP-ERP-E8.**

**Temporary staging of equipment will be within the proposed rail yard and aggregate processing areas as shown on Exhibit SRWP-ERP-E8.**

- b.  Location and details of the temporary erosion, sediment, and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-reclamation condition.  
**The Project will be constructed in sequential phases.**



Active project areas will typically be limited to one Section (1 square mile). The intent is for active areas, called Cells, to be progressively excavated and then converted into water storage reservoir(s) to be owned and operated by the South Florida Water Management District (SFWMD). Excavation of material will be performed 'in the wet' through drag-line excavation operations with no active dewatering necessary. Stormwater within active Cells and in areas used for the processing and shipping of aggregate such as haul roads, processing and rail yard areas will be contained on site within the Project site. A three (3) foot high containment berm will be constructed around the entire perimeter of active excavations (Cells) and processing/shipping areas to contain stormwater runoff up to the runoff volume from a 100-year, 3-day design storm during active excavation operations. The 100-year, 3-day design storm precipitation depth is 10 inches based on isohyetal maps contained in Appendix C of the SFWMD Environmental Resource Permit Applicant's Handbook, Volume II. This storm meets the design storm requirements of the Palm Beach County design standards. Adequate area will be set aside to retain the runoff volume from this storm. The runoff volume takes into account changes in surface conditions (e.g., agricultural field to predominantly compacted gravel). Roads will be sloped to a retention swale that runs adjacent to the roads or drain into the active Cell to contain the stormwater runoff them. The aggregate processing facility site and rail yard grade will be raised to elevation 15.0 ft (NAVD88) which is three (3) feet higher than the effective FEMA base flood elevation (BFE) of 12 ft (NAVD88). Similarly, the processing facility / rail yard will be graded to internally surface drain runoff to stormwater retention areas set aside within the limits of the site.

Erosion control will primarily be achieved by on site containment meaning runoff from the project site being contained on site. Berms, drainage swales and retention areas will be constructed with stable side slopes and stabilized with vegetation upon their construction completion. Additional erosion control, such as mulching, erosion control blankets, silt fence, and/or hay bales will be provided as needed to stabilize the berms, trap sediment, and slow the flow of stormwater runoff.

Similar to the construction phase the post-excavation water reservoirs will be designed to contain stormwater runoff on site.

- c.  A demolition plan for any existing structures to be removed.  
**N/A. A review of the project area shas shown limited structures within the project area. Individual cells will be taken out of use for farming in a Phased approach following the sequence outlined on Exhibit **SWRP-ERP-E8**. Associated structures within each cell's limits will be demolished or salvaged in coordination and consultation with the appropriate landowners Any structures to be demolished will be disposed of in accordance with local, state, and federal guidelines.**

Moreover, the intent is to maintain operation of perimeter canals bordering the project site to minimize impacts to farming practices, consequently, the removal of structures such as pump stations and water control structures within these canals should be minimized.

- d.  Dewatering plan details. Provide the dewatering location(s), methods to contain the discharge, methods of isolating dewatering areas, the period of time the dewatering structures will be in place, and the hydrologic monitoring plan. Contact the appropriate water management district regarding the need and requirements for a Consumptive Use or Water Use permit for dewatering.  
**N/A. There are no plans to dewater during the excavation operations. Excavation is conducted via a dragline with no dewatering necessary. To support the function of water**

storage, related project components will be constructed, namely water control structures (WCS) to move water from one cell to another and off site, along with a proposed pump station to facilitate moving stored water into and out of the reservoirs. During construction of these various water resource project components, there will be isolated temporary dewatering activities which will be permitted under separate permit(s).

- e.  Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge. **No barges will be used in transportation of equipment and materials. Equipment and materials will be transported to site as follows:**

- **Equipment and incidentals will be transported to and from the site using light trucks and heavy trucks and tractor trailers (all rubber tire).**
- **Aggregate from the project will be transported from the site using the proposed rail and rail cars (open-top hopper type).**
- **Tanker trucks will deliver fuel (gasoline and diesel) to the site.**

**Please refer to the Boundary Survey (Attachment **SWRP-ERP-A11**) for the proposed access to the project site.**

- f.  Describe the measures that will be taken to protect and secure monitoring wells, piezometers, and staff gauges during mining and reclamation activities so that they will be available for water quality and/or quantity sampling through the duration of the permit. Also, describe how the elevations of the monitoring equipment will be surveyed and a schedule, if the elevations will be intermittently confirmed.

**There are no existing monitoring wells within the project boundary or immediate vicinity.**

**The intent is to maintain operation of perimeter canals bordering the project site. By doing so these staff gauges within the canals will not be impacted by excavation activities.**

**To date the project has installed four (4) nested piezometers which are located around the project boundary (see geotechnical report for locations). Each nest piezometer location and casing elevation has been surveyed by a professional surveyor registered in the State of Florida (see attached geotechnical report). The nested piezometers have been positioned on the perimeter of the project boundary outside of the anticipated work areas allowing them to remain undisturbed during excavation operations and post-reclamation. Presently, groundwater level data is collected monthly from each nested piezometer during the collection the piezometers will be visually inspected and any damage reported.**

- g.  Identify the schedules and parties responsible for completing hydrologic and vegetative monitoring, record drawings, and as-built certifications for the proposed project when completed. **No dewatering is planned during excavation operations, therefore the existing system of local canals, ditches, field ditches, pumps, and culverts will be maintained to serve adjacent agricultural fields without impact to their operation. Four nested piezometers have been installed throughout the project site. Monitoring of the piezometers is described in the Groundwater Monitoring Plan (Attachment **SWRP-ERP-A12**). Additionally, the landowners monitor surface water levels throughout canals and ditches in and around the project area. The surface water monitoring is a combination of staff gauges and level data loggers. The information from the landowners and the nested piezometers will be compiled quarterly into a data report.**

**The project site lies entirely within existing, ongoing active farmland that has been used for sugar cane cultivation therefore no vegetative monitoring is planned.**

- h.  Provide a detailed "Erosion and Sediment Control Plan" in accordance with the requirements of the Applicant's Handbook, Volume I, Part IV, Erosion and Sediment Control.  
**Erosion control will primarily be achieved by the runoff from the project site being contained on site. Perimeter berms constructed with stable side slopes to contain stormwater water will be stabilized with vegetation upon their construction completion. Additional erosion control, such as mulching, erosion control blankets, silt fence, and/or hay bales will be provided as needed to stabilize the berms, trap sediment, and slow the flow of stormwater runoff.**
- i.  Provide the projected production and disposal schedule for waste materials, such as waste clay, humate, and tailings, by year and location. Provide the total storage capacity for each disposal location and the remaining capacity (if it is an existing disposal location).

**The annual average production of excavated material is anticipated to be 1.4 million yards, of which 482 yards is expected to be tailings. It is anticipated that approximately half (50%) of tailings produced will be either sold as product or re-used in the construction of embankments for the water storage reservoirs, leaving approximately 241 yards of waste tailings annually. As currently envisaged waste tailings are planned to be returned to excavated areas (Cells).**

- j.  Provide a production and utilization schedule for the backfill materials to demonstrate that there is sufficient backfill material available to construct the proposed post-reclamation elevations.

**It is anticipated that all material used to construct the earthen embankments for the water storage reservoirs will be sourced from material excavated at the site.**

#### **Part 5: Operation and Maintenance and Legal Documentation**

- a.  Describe the overall maintenance and operation schedule for the proposed system.  
**During the construction of the Project Phillips and Jordan, Inc. will be responsible for maintenance and operation. The construction phase of the project is anticipated to span twenty (20) or more years.**
- b.  Identify the entity (or entities) that will be responsible for operating and maintaining the system (or parts of the system) to demonstrate that the entity (or entities) meet(s) the requirements of Section 12.3 of the Applicant's Handbook, Volume I. Provide information for the construction and post-reclamation conditions.  
**During the construction of the Project Phillips and Jordan, Inc. will be responsible for maintenance and operation. The construction phase of the project is anticipated to span twenty (20) or more years.**
- c.  If different from the permittee, provide a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long-term maintenance.

**N/A, the permittee is the same entity responsible for maintenance and operations.**

- d.  If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity or the future acceptance of the system by an entity which will operate and maintain the system.  
**N/A, the permittee is the same entity responsible for maintenance and operations. During the construction of the Project Phillips and Jordan, Inc. will be responsible for maintenance and operation. The construction phase of the project is anticipated to span**

twenty (20) or more years. Once a Cell has been excavated it will be converted into a water storage reservoir. It is anticipated an agreement will be in place with the South Florida Water Management District for the operations and maintenance of the storage reservoir(s). Please refer Attachment **SWRP-ERP-A13**.

- e.  Provide drafts of all proposed conservation easements, stormwater management system easements, draft property owner's association documents, and survey plats for the property containing the proposed system. For onsite and/or offsite applicant-responsible mitigation proposed for preservation (as defined in Volume I), submit draft conservation easement documents or other forms of restrictive covenants, as required by Section C of the application.

**As described in this and previous sections of this application, there is a 385-acre area located along the southern boundary of the Project that is being set aside to provide onsite mitigation, and a buffer to the A-2 STA and A-2 Reservoir. The mitigation area will follow the phased implementation of the Project meaning the mitigation area will be developed in phases in concert with each new phase of the Project. As the details of the mitigation plan are more completely developed a draft Conservation Easement document that provides for protection of the mitigation area in perpetuity that is compliant with the Applicant's Handbook, Volume 1, Section 10.3.8 will be provided.**

**The goal of the Project is to construct much needed water storage for the SFWMD. It is anticipated that a future agreement, similar to the C-51 Reservoir Project, will be developed transferring ownership of the Project to the SFWMD.**

- f.  Provide legal reservations for access to the treatment system for maintenance and operation by future maintenance entities for subdivided projects.

**N/A.**

- g.  Provide a description or letters from utility providers documenting how potable water and wastewater service will be supplied.

**N/A as no wastewater or potable water connections are proposed for the project from an existing public or private utility. Potable water will be delivered to the site via tanker truck and sewage will be trucked off site for disposal.**

- h.  Provide a copy of the boundary survey and/or legal description and acreage of the total land area within the permit boundary, including all areas with proposed works or activities, and any mitigation areas.

**See attached boundary survey prepared by a professional survey registered in the State of Florida. Refer to attachment **SWRP-ERP-A11**.**

#### Part 6: Water Use

- a.  Identify if any part of the stormwater management system will be used as a water supply source, e.g. for irrigation or recreation.

**N/A. No part of the stormwater management system will be used as a water source or for irrigation or recreation.**

- b.  If a Consumptive Use or Water Use permit has been issued for the project, provide the permit number:

**N/A. The project will not be a consumptive user of water.**

- c.  If a Consumptive Use or Water Use permit has not been issued for the project, indicate if such a permit will be required and when the application will be submitted.

**N/A. The project will not be a consumptive user of water.**

- d.  Indicate how any existing water use wells (private or public) located within the project site will be utilized or properly abandoned.

**N/A. No private or public wells are located within the project boundary.**

**Part 7: Special Basin Information**

- a. Is the proposed project located within a Special Basin identified in the applicable Applicant's Handbook, Volume II?

**Yes.**

- b. If yes, please demonstrate that the project will meet the applicable Special Basin criteria.

**The project site is located in the Everglades Agricultural Area; however, during the initial excavation phase of the project in this application there will be no discharges and no need to obtain authorization under Chapter 40E-63, F.A.C.**

**In future permit phases as this water resources project is brought online and connection to the Miami Canal occurs such authorization as may be needed will be obtained in close coordination with SFWMD and FDEP.**