Florida Department of Environmental Protection

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ENVIRONMENTAL RESOURCE PERMIT

APPLICANT
Mosaic Fertilizer, LLC
c/o Mr. Russell Schweiss
Director of Land and Resource Strategies
13830 Circa Crossing Drive
Lithia, Florida 33547

PROJECT NAME
Permit/Authorization No. MMR_331292-001
Date of Issue: April 7, 2017
Expiration Date of Construction Phase:
April 7, 2062
County: DeSoto
Project: DeSoto Mine

This permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit (ERP). Pursuant to Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity. This permit also constitutes certification compliance with water quality standards under Section 404 of the Clean Water Act, 33 U.S.C. 1344.

A copy of this authorization has also been sent to the U.S. Army Corps of Engineers (USACE) for review. The USACE may require a separate permit. Failure to obtain this authorization prior to construction could subject you to enforcement action by that agency. You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above-named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. **This permit is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached General Conditions and Specific Conditions, which are a binding part of this permit.** You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit/certification, as specifically described below.

The application for this permit was deemed complete as of July 1, 2016. The applicant waived the time requirement for the Department to issue or deny an application for a permit until December 14, 2016. The Department issued a Notice of Intent to Issue an ERP, File No. MMR_331921-001, on December 9, 2016. On December 21, 2016, DiMare Fresh, Inc. (DiMare) requested a time extension to file a petition for formal administrative proceeding. The Department granted the time extension to January 16, 2017. On January 13, 2016, DiMare filed a petition for formal administrative proceeding. The petition was assigned OGC Case No. 16-1482. The case was referred to the Division of Administrative Hearings (DOAH) and assigned DOAH Case Number 17-0671. On February 22, 2017, Mosaic submitted a revised draft permit to remove the placement of conservation easements on specific parcels and to correct the referenced acreages for conservation easements. The petition filed by DiMare was voluntarily withdrawn on April 3, 2017. On April 5, 2017, the Administrative Law Judge ordered the file closed and relinquished jurisdiction back to the Department.

PROJECT DESCRIPTION:

The activities authorized by this permit are located within a 18,287-acre project site known as the Mosaic Fertilizer, LLC, DeSoto Mine. The permittee is authorized to conduct phosphate mining activities on 16,181 acres of uplands, wetlands, and other surface waters within an approximately 18,287-acre area and to reclaim approximately 16,181 acres of uplands, wetlands, and other surface waters following the completion of mining activities. The project includes the construction of an onsite beneficiation plant, office, associated maintenance shops/buildings, entrance road, railroad spur, and an approximately 37 mile, 30-inch water pipeline.

The uplands to be disturbed consist of approximately 10,945.2 acres of agricultural areas, 691.7 acres of prairies and rangelands, 1,601 acres of upland forests, and 60.8 acres of urban, barren, and road areas. The project includes the disturbance of approximately 2,881.8 acres of wetlands and other surface waters (OSW), which includes 1,473.1 acres of herbaceous wetlands, 1,273.3 acres of forested wetlands, 135.4 acres of OSW, and disturbance of approximately 54,901 linear feet of streams which includes 36,050 linear feet of ditched natural stream channels and 18,851 linear feet of natural stream channels. Approximately 1,738 linear feet of streams and 26 acres of wetlands within the avoided areas will be disturbed for access corridor crossings and restored in place. Approximately 2,107 acres will remain unmined, including 1,349.2 acres of wetlands, 6.7 acres of other surface waters, and 751.1 acres of undisturbed uplands.

Pursuant to Section 10.2.2.2 of the Applicant's Handbook, Volume 1 (A.H.) for ERP applications as incorporated by reference in Rule 62-330.010(4), F.A.C., disturbance of

ditches and cattle ponds constructed entirely in uplands does not constitute an adverse impact to wetlands and/or other surface water functions since the areas within this project do not provide significant habitat for threatened and endangered species. Mitigation is therefore not required for 110.20 acres of impacts to upland-cut ditches and cattle ponds.

To offset unavoidable impacts associated with the foregoing activities, Mosaic proposes on-site and off-site mitigation. Preservation of approximately 4,851.6 acres by perpetual conservation easements will be provided in phases. The majority of the onsite mitigation will be protected by perpetual conservation easements and consists of 4,211.3 acres within the DeSoto Mine which includes approximately 1,891.5 acres of unmined lands and supporting native upland habitat and up to 2,319.8 acres of created and reclaimed wetlands and OSWs, and the restoration, enhancement or creation of up to 63,875 linear feet of natural stream channels. Off-site mitigation (wetland and stream enhancement and preservation) will be conducted on Horse Creek and its associated floodplain, in an additional 640 acres of riparian corridor, on a property adjacent to and contiguous to the eastern DeSoto Mine boundary. This includes 608 acres of wetlands, 32 acres of uplands, and 47,498 linear feet of stream. Once mitigation work is complete, the entirety of the 640 acre Horse Creek riparian corridor will be preserved in a perpetual conservation easement.

Reclamation consists of approximately 6,707.1 acres of agricultural areas, 893 acres of prairies and rangelands, 5,029.2 acres of upland forests, 0.2 acre spoil area, 1,556.2 acres of herbaceous wetlands, 1,561.5 acres of forested wetlands, and 433 acres of OSWs. Upon completion of reclamation, the DeSoto Site will include over 668.9 acres of additional wetlands and OSWs than currently exist, as well as over 8,974 linear feet of additional streams.

The Horse Creek Enhancement Project is an offsite, regionally significant project to be implemented prior to any wetland impacts at the DeSoto Mine and used to offset the temporal loss associated with mining disturbance. The project area is located directly adjacent to the DeSoto Mine and involves the restoration of an approximate 5-mile degraded segment of Horse Creek, as well as wetlands and tributaries within its 100-year floodplain. The project includes (1) enhancement of 26,612 linear feet (5.0 miles) of Horse Creek; (2) restoration and/or enhancement of 13,459 linear feet of natural stream and 7,428 linear feet of ditched natural stream tributaries to Horse Creek; (3) establishment of 302.2 acres of historic forested floodplain and 13.9 acres of herbaceous wetlands; (4) enhancement of 286.4 acres of forested wetland and 3.3 acres of herbaceous wetlands; and (5) protection of approximately 640 acres of Horse Creek's riparian corridor by a perpetual conservation easement. The conservation easement will include approximately 608 acres of wetlands, 32 acres of uplands, and 47,498 linear feet of stream following restoration activities.

PROJECT LOCATION:

The DeSoto Mine is wholly-located in northwest DeSoto County, Florida, west of the town of Arcadia. The DeSoto Mine property can be accessed by traveling east on State Road (SR) 70 or SR 72 from the interchange with Interstate Highway 75 for approximately 32 miles or by traveling west on SR 70 or SR 72 from the intersection with U.S. Highway 17. The DeSoto Mine property fronts SR 70 and SR 72 and Pine Level Street, 30th Street, Tom Mizell Avenue, Borrow Avenue, Florida Avenue, Keen Street, County Road 661, County Road 661A, Lily Grade Road, Tall Oaks Terrace, Desoto County Line Road, Wuthrich Drive, Clermont Drive, Coker Street, and Larson Street. Wetlands and other surface waters within the DeSoto Mine project boundary are associated with the Horse Creek and its named tributaries (Brandy Branch, Buzzard Roost Branch, and other unnamed tributaries) and Oak Hill Branch which is a separate tributary to the Peace River; all Class III waters. The off-site mitigation area, Horse Creek Enhancement Project, is located adjacent to the mine area within the Peace River watershed. The water supply pipeline originates in Polk County traversing through Hardee County terminating at the DeSoto Mine.

GENERAL CONDITIONS:

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007)*, and the *Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008)*, which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control

plan is approved or other water quality control measures are required as part of the permit.

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], incorporated by reference herein (http://www.flrules.org/Gateway/reference.asp?No=Ref-02505), indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in Rule 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.

5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
   a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
   b. For all other activities – "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
   c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:
   a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
   b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:
   a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
   b. Convey to the permittee or create in the permittee any interest in real property;
   c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
   d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the Agency in writing:
   a. Immediately if any previously submitted information is discovered to be inaccurate; and
   b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American

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

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

SPECIFIC CONDITIONS:

1. SOVEREIGN SUBMERGED 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, F.S., 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." Pursuant to Chapter 18-4, F.A.C., if such work is done without consent, or if a person otherwise damages state land or products of

state land, the Board of Trustees may levy administrative fines of up to $10,000 per offense. No sovereign submerged lands have been identified on the property.

2. HISTORICAL AND ARCHAEOLOGICAL ARTIFACTS: Pursuant to General Condition 14, if historical or archaeological artifacts are discovered within the project site the permittee shall immediately notify the Bureau of Historic Preservation, Division of Historical Resources, R. A. Gray Building, 500 S. Bronough Street, Tallahassee, Florida 32399- 0250. The permittee shall also notify the Department either by email at MiningAndMitigation@dep.state.fl.us, by mail at 2600 Blair Stone Road, MS 3577, Tallahassee, Florida 32399, or by phone at 850.245.8336.

3. FINANCIAL RESPONSIBILITY: Financial responsibility shall be provided by the applicant as follows:
   a. Prior to the initiation of mining operations, the final version of the financial responsibility mechanism for the mitigation costs shall be provided to and approved by the Department as required by Section 10.3.7.4(a), A.H. No work shall be initiated on any area authorized until the Department has approved, in writing, the executed final version of the financial responsibility mechanism. Pursuant to subsection 373.414(19), F.S., the initial financial responsibility mechanism shall be equal to 110 percent of the estimated mitigation costs for wetlands and other surface waters affected by the first three (3) years of operations covered under this permit; and, for each year thereafter, the financial responsibility demonstration shall be updated, including to provide an amount equal to the 110 percent of the estimated mitigation costs for the next year of operations under the permit for which financial responsibility has not already been demonstrated. The amount shall be adjusted to reduce the financial responsibility, for areas complete through revegetation, to the amount covering the remaining monitoring and maintenance costs for that area. Financial responsibility amounts shall no longer be required for individual wetlands and other surface waters that have been released by the Department, as described in Specific Condition 32 (Mitigation Release Procedures). Adjustments shall be submitted with the annual status report required in Specific Condition 8 (Annual Status Reports).
   b. The mitigation cost per acre for the wetland types shall be adjusted annually, either by recalculating the cost of constructing, managing, and monitoring the mitigation in current dollars or using an inflation factor based on the annual Construction Cost Index, as presented in the first issue of the Engineering News Record published in December of each year. Adjustments shall be submitted with the annual status report required in Specific Condition 8 (Annual Status Reports).

c. In accordance with the Applicant's Handbook, Volume 1 (October, 2013):
   1. A permittee must notify the Agency by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the permittee as debtor within 10 business days after the commencement of the proceeding.
   2. A permittee who fulfills the requirements of Sections 10.3.7 through 10.3.7.9, by obtaining a letter of credit or performance bond will be deemed to be without the required financial assurance in the event of bankruptcy, insolvency or suspension or revocation of the license or charter of the issuing institution. The permittee must reestablish in accordance with sections 10.3.7 through 10.3.7.9, a financial responsibility mechanism within 60 days after such event.
   3. When transferring a permit, the new owner or person with legal control shall submit documentation to satisfy the financial responsibility requirements of Sections 10.3.7 through 10.3.7.9. The prior owner or person with legal control of the project shall continue the financial responsibility mechanism until the Agency has approved the permit transfer and substitute financial responsibility mechanism.

4. CONSERVATION EASEMENTS:
   a. The permittee shall provide perpetual conservation easements (CE) to the Department on approximately 4,851.6 acres, including 4,211.3 acres within the DeSoto Mine and 640 acres in the off-site Horse Creek Enhancement Project. The CEs shall be provided in phases, as set forth below. A Long Term Management Plan (LTMP) (Appendix 4-4-C), covering all of these areas is incorporated as part of this permit. Onsite, the CE area shall include approximately 1,891.5 acres of unmined lands and supporting native upland habitat within and adjacent to the 100-year floodplains of Horse Creek and its four (4) main tributaries (Brandy Branch, Buzzard Roost Branch, unnamed Buzzard Roost Branch tributary, and unnamed Horse Creek tributary) [Phase A Lands (Maps 4-8-B-i and 4-8-C)]. The CE shall also include approximately 2,319.8 acres of reclaimed land within the DeSoto Mine [Phase B and C Lands (Maps 4-8-B-i and 4-8-C)].
   b. The mitigation lands include 3,095 acres of wetlands and other surface waters, 55,976 linear feet of streams, and 478 acres of uplands including an approximate 25-foot upland buffer around each mitigation wetland, stream, or other surface water shown on Map 4-8-B-i.
   c. Additionally, a CE shall be placed on the 640 acres within the Horse Creek Enhancement Project [Phase D Lands (Map 4-8-C-A)], which shall

include approximately 608 acres of wetlands, 32 acres of uplands, and 47,498 linear feet of stream.

d. A Baseline Documentation Report shall be completed in accordance with Section 3 of the LTMP, for each of the above categories of lands within the CE prior to execution and recording of each phase of the easement. Baseline reports shall be submitted to the Department for review prior to execution of the easements and shall be recorded with the easement. The Baseline Documentation Report shall be modified for the Phase C lands following release of all the enhancement areas from all mitigation requirements.

e. Within one (1) year of the DeSoto Mine permit issuance or at a later time approved in writing by the Department, the permittee shall execute in a format acceptable to the Department, the CE and an accurate legal description for the Phase A lands. Within 90 days of execution by the Department, the permittee shall have the document recorded in the public records of DeSoto County. Conservation easements and legal descriptions for the post-Reclamation Phase B and C lands shall be developed and executed in a format acceptable to the Department following the release of each of the individual reclamation units shown on Map CRP-10, LRU Boundaries, that contain mitigation wetlands or other surface waters. Release of a reclamation unit (LRU) shall include release of all uplands, wetlands, and other surface waters in that LRU from the reclamation requirements of Chapter 62C-16, F.A.C., and release of all mitigation wetlands and other surface waters from the requirements of Specific Condition 31 (Mitigation Release Criteria). The accurate legal descriptions CE's for Phase B and C lands shall be executed by the permittee, in a format approved by the Department, within one (1) year from the date that the Department has released all lands within that LRU from all reclamation and mitigation requirements. Within 90 days of execution by the Department, the permittee shall have the document recorded in the public records of DeSoto County. For the off-site Phase D lands, the CE and an accurate legal description shall be executed by the permittee, in a format approved by the Department, within one (1) year from the date that the Department has released all lands within the off-site area from all mitigation requirements. Within 90 days of execution by the Department, the permittee shall have the document recorded in the public records of DeSoto County. The CE, Exhibits, Amendments, LTMP, and the Baseline Documentation Reports shall be incorporated and made part of this permit document.

5. LONG TERM MANAGEMENT PLAN: The Long Term Management Plan (LTMP) associated with the CE required by Specific Condition 4 (Conservation Easements), shall go into effect at different times for each phase of the CE. For Phase A lands, the LTMP shall be effective following recording of the CE. For

Phase B lands, the LTMP shall go into effect following release of all mitigation areas from the requirements of Specific Condition 31 (Mitigation Release Criteria) and approval of the revised Baseline Documentation Report required by Specific Condition 4 (Conservation Easements). For Phase C lands, the LTMP shall go into effect on the protected areas in each released LRU following modification of the CE to add these protected areas. For Phase D lands, the LTMP shall go into effect once the project has been released from all mitigation requirements and the CE has been recorded.

6. CONSERVATION EASEMENT SIGNAGE: All areas within the Phase A lands shall be clearly identified in the field with appropriate signage within 90 days of Department's execution of the CE document and shall remain so for the duration of mining operations in the permitted area. All areas within each of the Phase B lands shall be clearly identified in the field within 90 days of the Department's execution of the CE document.

7. HORSE CREEK ENHANCEMENT PROJECT OFF-SITE MITIGATION: Within six (6) months of the DeSoto Mine permit issuance or a later date as approved in writing by the Department, the creation, restoration, enhancement, and preservation activities will be initiated on 32 acres of uplands and 608 acres of wetlands and other surface waters. The project shall be initiated as detailed in Appendix 4-2-B (Horse Creek Enhancement Plans) and includes:
   a. Enhancement of 26,612 linear feet (5.0 miles) of Horse Creek by stabilizing eroding banks and re-vegetating the riparian forest to pre-disturbance widths.
   b. Restoration and/or enhancement of 13,459 linear feet of natural stream and 7,428 linear feet of ditched natural stream tributaries to Horse Creek by restoring ditched systems to more naturally meandering streams, adding instream habitat, stabilizing eroding bends, and/or re-vegetating riparian corridors.
   c. Establishment of 302.2 acres of historic forested floodplain and 13.9 acres of herbaceous wetlands by restoring wetland hydrology (i.e. plugging agricultural ditches) and native plantings.
   d. Enhancement of 289.1 acres of forested wetland and 3.4 acres of herbaceous wetlands by plantings and maintenance.
   e. Protection of approximately 640 acres of Horse Creek's riparian corridor by a perpetual conservation easement, which will ultimately include approximately 608 acres of wetlands, 32 acres of uplands, and 47,498 linear feet of stream following restoration activities (Appendix 4-2-B).
   f. Upon completion of the mitigation activities identified in Appendix 4-2-B, monitoring shall be conducted as described in the Specific Condition 37 (Monitoring Required). Reports shall be submitted in accordance with Specific Condition 8 (Annual Status Reports).

g. Once the Department has determined that the project has met the success criteria described in Specific Condition 26 (Mitigation Construction Standards), the Permittee shall complete and execute a Baseline Documentation Report concurrent with the execution and recording of the Horse Creek Enhancement Project off-site mitigation area conservation easement as described in Specific Condition 4(c) [Phase D lands, (Map 4-8-C-A)].

8. ANNUAL STATUS REPORTS: Annual narrative reports shall be submitted to the Department in Tallahassee indicating the status of the project. These reports shall include the following information:

a. Date permitted activity was begun or projected commencement date if work has not begun on site;

b. Brief description and extent of work (site preparation, mining operations, restoration) completed since the previous report or since the permit was issued. Indicate on copies of the permit drawings those areas where work has been completed. This description shall include details on construction of isolation berms adjacent to unmined wetlands, clearing, wetland severance, muck removal, storage and placement, and completed earthwork, and planting;

c. Brief description and extent of work (site preparation, mining operations, restoration) anticipated in the next year. Indicate on copies of the permit drawings those areas where it is anticipated that work will be done;

d. The results of any pre-mining wildlife and endangered/threatened species surveys conducted during the year. Copies of any permits obtained and a description of activities taken to avoid or relocate these species during the reporting year shall also be provided; and

e. The information required in Specific Conditions 3 (Financial Responsibility), 7 (Horse Creek Enhancement Project), 9 (Annual Hydrology/Water Quality/Vegetative Monitoring Reports), 10c (Surface Water Quality Protection), 11 (Surface-Water and Ground-Water Quality Monitoring), 15 (Water Quantity Protection), 19 (Wildlife Management), 21b (Timetables and Mining Operations), 31 (Mitigation Release Criteria), 34 (Waste Clay and Sand Tailings Disposal Plans), and 37 (Monitoring Required), as needed.

f. The annual status reports shall be incorporated into the annual reclamation report required by Chapter 62C-16, F.A.C. The reports should include: a description of problems encountered and solutions undertaken and anticipated work for the following year. The annual report for the previous calendar year is due on or before March 1st of each year following permit issuance.

9. ANNUAL HYDROLOGY/WATER QUALITY/VEGETATIVE MONITORING REPORTS: Annual hydrology and water quality reports that include the information required in Specific Conditions 11 (Surface-Water and Ground-Water Quality Monitoring), 15 (Water Quantity Protection), 23 (Listed Plants), and 37 (Monitoring Required) shall be submitted to the Department. Vegetation statistical reports of the data required in Specific Condition 37 (Monitoring Required) shall also be submitted to the Department beginning one (1) year after initial planting and in years two (2), three (3), five (5), and biennially thereafter until release. Reports are due upon completion or no later than March 1st of the year following monitoring. Specific monitoring and reporting requirements are described in Specific Condition 37 (Monitoring Required).

10. SURFACE WATER QUALITY PROTECTION: Water quality in wetlands or other surface waters adjacent and/or downstream from site preparation, mining operations, and reclamation activities shall be protected as follows:
    a. Prior to any clearing or mining operations, the areas to be disturbed shall be severed from adjacent wetlands and other surface waters. This severance includes the construction of an isolation berm or an isolation berm and ditch adjacent to, but not within, the undisturbed wetlands and other surface waters. The areas to remain undisturbed, shown as "Avoidance Areas" on Map 3-2, shall not be disturbed by mining operations.
    b. Ditch, berm, and retention systems shall be designed and constructed prior to initiation of mining operations to manage or prevent discharge from a 25-year, 24-hour storm event. The Applicant's Handbook, Volume II (effective date October 1, 2013), shall be used to determine the design storm characteristics. Operation, maintenance, and inspection of the berm, ditch, and retention systems shall be in accordance with the permittee's "Stormwater Management Plan" (Appendix 3-6-C), including the applicable requirements for impoundments specified therein.
    c. Prior to the use of any ditch and berm systems, the permittee shall have in its possession, engineering design as-built drawings, signed, and sealed by a Professional Engineer registered in the state of Florida, confirming that they have been constructed in accordance with the stormwater management plans attached to this permit and in accordance with the design drawings. As-built drawings shall be submitted to the Department, as they become available, or with the annual status reports required in Specific Condition 8 (Annual Status Reports).
    d. The top of the outside berm (including temporary roads) on all recharge ditches or severance berms adjacent to areas not designated for mining operations (including preservation areas) shall be sloped such that they drain towards the recharge ditch or mine pit. Where recharge ditch and berms are constructed, the top of the outside berm shall be at an elevation that is sufficiently higher than the designed height of the interior berm

between the recharge ditch and the mine-cut, as determined by a registered professional engineer, to ensure that overflow of the recharge ditch, if any, will be directed to the mine cut and not undisturbed areas.

e. The isolation berms and recharge ditch and berms shall remain in place until mining operations and reclamation have been completed, all applicable monitoring indicates that applicable State Water Quality Standards are met, and the Department has determined that the reclaimed wetlands are adequately stabilized and sufficiently acclimated to ambient hydrological conditions. The determination of when the severance berms and recharge ditch and berms may be removed shall be made by the Department, in writing, upon the written request of the permittee. This determination shall be based on a site inspection and water quality monitoring data collected in accordance with Specific Condition 11 (Surface-Water and Ground-Water Quality Monitoring). At that time, the ditch and berms shall be removed and revegetated to meet the topography and land use(s) identified on Map 4-5 and Map 4-2-B-ii, respectively.

f. Best management practices or any other Department approved practices for turbidity and erosion control shall be implemented and maintained to prevent siltation and turbid discharges outside of the disturbance area. Methods shall include, but are not limited to, the use of staked filter cloth, silt-control polymers, sodding, seeding, mulching, and the deployment of turbidity screens around the immediate project site, as appropriate for each area. Except as otherwise provided in this permit, in no case shall offsite discharges result in exceedance of State water quality standards pursuant to Chapter 62-302, F.A.C.

g. During all phases of recharge ditch and isolation berm construction and removal authorized by this permit, the permittee shall be responsible for ensuring that erosion control procedures are followed and that erosion and turbidity control devices are inspected and maintained daily and after each rainfall event >1/2 inch. Erosion and turbidity control devices shall also be inspected and maintained on a regular basis during all phases of mining operations and reclamation. Inspectors shall have completed stormwater erosion control training and be familiar with all BMP plans. Records of inspections shall be maintained on site for a period of three (3) years and shall be available to Department staff upon request. Erosion control devices shall remain in place until all areas are sufficiently stabilized to prevent erosion, siltation, and turbid discharges. If the berm impounds water above the downstream toe of the outside berm, then the berm shall also be visually inspected daily to ensure its integrity and stability during the period(s) that water is impounded by the berm. Berms shall be maintained to prevent any breaches of the berms or prevent erosion sufficient to cause violations of state water quality standards for turbidity.

h. There shall be no discharges unless specifically authorized by this permit or the permittee's Integrated Water Use Permit (IWUP) No.

20011400.025, or by an IW/NPDES Permit issued by the FDEP as required by Chapters 62-620 and 62-671, F.A.C., and Section 403.0885, F.S.

11. SURFACE-WATER AND GROUND-WATER QUALITY MONITORING: A surface and groundwater quality monitoring program shall be implemented as part of this permit and shall continue through the end of mine life. Data shall be submitted to the Department with the annual status reports required under Specific Condition 8 (Annual Status Reports). Data shall be collected as specified in Table MR-A, and as follows:
    a. The parameters listed in Table 2-3-B, Page 6 of 6, shall be monitored quarterly during the construction phase at surface water stations PL-SW-1, PL-SW-1A, PL-SW-3, PL-SW-4, PL-SW-5, PL-SW-6, PL-SW-7, PL-SW-8, PL-SW-9, PL-SW-11, PL-SW-13, PL-SW-15, PL-SW-16, PL-SW-17, and PL-SW-24. The surface water monitoring locations are shown on Map 2-3-B.
    b. The parameters listed in Table 2-3-A, Page 4 of 4, shall be monitored semi-annually prior to and through the construction phase in groundwater monitoring wells PNL-GW-1R, PNL-GW-2, PNL-GW-3, PNL-GW-7, PNL-GW-8, PNL-GW-9, PNL-GW-10, PNL-GW-11, and PNL-GW-12. The groundwater monitoring well locations are shown in Map 2-3-A.
    c. The permittee shall obtain approval by the Department prior to relocating a surface water monitoring station or groundwater quality monitoring well specified in this permit. The location and elevations of each replacement station and well shall be resurveyed.
    d. The permittee may submit a request for the cessation of water quality sampling at specific surface water or groundwater monitoring locations and/or specific water quality parameters after at least five (5) years of data has been collected. Each submittal shall contain sufficient information, including analytical results and the progression of mining and reclamation activities, to support the request. Sampling shall continue in these monitoring locations until Department approval.
    e. The following parameter shall be monitored daily during severance from or reconnection to any preserved or offsite connected wetland or other surface water at locations 50 meters upstream and 50 meters downstream of the construction area: Turbidity.
    f. The following parameter shall be monitored daily during construction and removal of the dragline/utility corridor crossings at locations 50m upstream and 50m downstream of the construction area: Turbidity.
    g. In all created streams and wetlands designed to reconnect to preserved or off-site wetlands or other surface waters, the following parameters shall be monitored monthly from June to October prior to reconnection: turbidity, temperature, DO, pH, conductivity, and each parameter for which a Total

Maximum Daily Load has been established for the immediate receiving waterbody.

h. Discharging process water from the DeSoto Mine shall be authorized by an IW/NPDES Permit issued by FDEP as required by Chapters 62-620 and 62-671, F.A.C., and Section 403.0885, F.S.

i. The water quality sampling required above in Specific Conditions 11.a, b, and c may be suspended for surface water stations and groundwater monitoring wells when their locations are within the boundary of an active NPDES system. Water quality sampling shall be resumed at each station and well in accordance with Specific Condition 11a, b, and c above when the sample location is no longer within the boundary of an active NPDES system.

j. By law, the IW Permit shall establish the following:
   1. The water within the NPDES system shall be discharged through designated outfalls and discharge points. Rules 62-620.620(2), F.A.C., require specific conditions regarding effluent limitations; standards and prohibitions at outfalls and discharge points; require discharge sampling; reporting requirements; and corrective measures and confirmation sampling procedures and frequency, and request the revision of any condition.
   2. Best management practices and pollution prevention procedures and standard operating procedures for wastewater management.

k. The permittee shall contemporaneously send copies of all IW Permit related notices, reports, and applications submitted to the Department's Industrial Wastewater Program, to the Department's Mining & Mitigation Program (2600 Blair Stone Road, MS 3577, Tallahassee, FL 32399-2400 or MiningAndMitigation@dep.state.fl.us). The permittee shall also send a copy of all IW Permit revisions within 30 days of receipt to the Department's Mining & Mitigation Program when requested.

12. EXCEEDANCES OF WATER QUALITY STANDARDS: The following measures shall be taken immediately by the permittee if mining related activities cause turbidity levels within waters of the State on or adjacent to the project site exceed State Water Quality Standards established pursuant to Chapter 62-302, F.A.C.:

a. Immediately cease all work contributing to the water quality violation, until the requirements in paragraph b and c below are completed;

b. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, and install more turbidity containment devices and repair any non-functioning turbidity containment devices;

c. Notify the Department in Tallahassee (Phone: 850.245.7554) within 24 hours of the time the violation is first detected.

13. SPILL REPORTING: The permittee shall report all unauthorized releases or spills of untreated or treated wastewater or stormwater in excess of 1,000 gallons per incident, or where public health or the environment may be endangered, to the Florida State Watch Office, Toll Free Number (800) 320-0519, and the Department's Mining and Mitigation Program at the phone number listed below, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information:
    a. Name, address, and telephone number of person reporting.
    b. Name, address, and telephone number of permittee or responsible person for the discharge.
    c. Date and time of the discharge and status of discharge (ongoing or ceased).
    d. Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater or stormwater).
    e. Estimated amount of the discharge.
    f. Location or address of the discharge.
    g. Source and cause of the discharge.
    h. Whether the discharge was contained on site and cleanup actions taken to date.
    i. Description of area affected by the discharge, including name of water body affected, if any.
    j. Other persons or agencies contacted.
    k. For unauthorized releases or spills of 1,000 gallons or less, per incident, oral reports, or facsimiles when used in lieu thereof, shall be provided to the Department at the address listed below, within 24 hours from the time the permittee becomes aware of the discharge.
    l. A written submission shall also be provided to the Department at the address listed below, within five (5) days of the time the permittee becomes aware of the unauthorized release or spill, greater than 1,000 gallons. The written submission shall contain: all of the information listed above, a description of the unauthorized discharge and its cause; the period of the unauthorized discharge including exact dates and time, and if the unauthorized discharge has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the unauthorized discharge.

Mining and Mitigation Program 2600 Blair Stone Road, MS 3577 Tallahassee, Florida 32399 Phone: (850)245-8336 MiningAndMitigation@dep.state.fl.us	
Phosphate Management 13051 N. Telecom Parkway Temple Terrace, Florida 33637-0926 Phone: (813)470-5911 DWRMIW.PM@dep.state.fl.us	**Homeland Field Office** 2001 Homeland Garfield Road Bartow, Florida 33830 Phone: (863) 534-7077 Fax: (863)534-7143

14. CATTLE DIP VAT: Pursuant to Chapter 376, F.S., any private owner of property in this state upon which cattle-dipping vats are located shall not be liable to the state under any state law, or to any other person seeking to enforce state law, for any costs, damages, or penalties associated with the discharge, evaluation, contamination, assessment, or remediation of any substances or derivatives thereof that were used in the vat for the eradication of the cattle fever tick. Voluntary cleanup of the historic cattle dip vat located in Section 33 should follow the procedures described in the Contaminated Site Cleanup Rule 62-780, F.A.C.

15. WATER QUANTITY PROTECTION: Water levels and flows in wetlands and other surface waters adjacent and downstream from site preparation, mining operations, and reclamation activities shall be protected as follows:
    a. Water Quantity Protection Measures: To provide protection from potential water quantity impacts to wetlands, other surface waters, streams, existing surface water storage, and adjacent lands pursuant to Chapter 62-330.301, F.A.C., the permittee shall implement and comply with Special Conditions 10 through 12, 16, and 17 in the Southwest Florida Water Management District's (SWFWMD) integrated Water Use Permit (IWUP) No. 20011400.025, and the Environmental Management Plan (EMP), dated January 25, 2012, that is incorporated therein as Exhibit "E".
    b. The permittee submitted a proposed Mandatory Mitigation Distance (MMD) for DeSoto Mine. The proposed MMD for DeSoto was calculated by Ardaman and Associates, Inc. to be 1,660 feet and 2,200 feet, depending on depth of excavation and location, as illustrated on Figure 4.2-1. Calculations for the MMD are included in the Setback Analysis Report in Appendix 2-3-I. This calculation is based on the computer application of a seepage model in combination with site specific soil profiles and hydraulic conductivity testing. These MMD calculations are used as part of reasonable assurance that this project will not adversely impact protected environmental features or property boundaries. If

SWFWMD determines that the MMD is not 1,660 and 2,200 feet, the Department reserves the right to reevaluate the locations, methods, timing and compliance criteria for this parameter following review of any modifications to the MMD requirements of the SWFWMD Water Use Permit.

c. Water Quantity Protection and EMP Performance: Appropriate water levels, considering normal seasonal fluctuations and other climatic conditions that may affect the natural system, shall be maintained to ensure that there are no adverse impacts to wetlands from mining activities. Where mining operations have commenced within the applicable Mandatory Mitigation Distance (MMD), as defined in the EMP, conditions in the protected area shall also be verified by both monthly visual inspections by the permittee and in conjunction with periodic mine inspections performed with Department staff. When monitoring under the EMP indicates that water quantity protections are not maintaining the protected wetland functions and values as documented by Section 5.0 of the EMP, the permittee shall separately notify the Department in writing. In addition, the permittee shall contemporaneously submit to the Department a copy of any correspondence with SWFWMD regarding the EMP, including reports specified under Section 10.0 of the EMP and any correspondence related to corrective actions or Adverse Impacts as defined in the EMP. The permittee shall ensure that such reports highlight and specifically identify whenever an External Backstop trigger has occurred as described under Section 6.0 of the EMP, and whenever it is determined that mining activities are or were the cause of deviations from historical water level ranges within the surficial aquifer system (SAS) as described under Section 7.0 of the EMP. The Department may require independent corrective action where water quantity protection and EMP performance are not preventing an adverse impact related to mining activities.

d. Documentation of Surficial Aquifer Restoration: Surface and groundwater modeling shall be conducted to verify that the final post-reclamation topography and lithology will maintain the existing range of hydroperiods and provide adequate groundwater seepage to the preserved wetlands and other surface waters. A model similar to that used in Appendix 2-2-A-iv (Post Reclamation Hydroperiod Modeling) may be used as part of the modeling effort. Data from the existing monitoring wells shown on Map 2-3-A and others installed as a requirement of the IWUP and EMP in Specific Condition 19a and 19b (4-year baseline data), shall be used to help determine the appropriate hydroperiods that shall be maintained. Modeling results shall be submitted to the Department for approval. In addition to the modeling reports, the permittee shall provide the Department waste disposal and reclamation plans, if modifications are required to these plans that ensure reclaimed subsurface flows will

maintain the existing range of hydroperiods of the preserved wetland and other surface waters. The plans should include an analysis of post-reclamation topography, mine cut directions, sand tailings, and overburden depths and locations, the locations of any overburden saddles and overburden composition. Approval of the modeling and disposal/reclamation plan constitutes Department approval to proceed with contouring of the area adjacent to the preserved wetland.

e. Protection of Stream Flow: At all times during the life of the DeSoto Mine, the permittee shall maintain a minimum 500-foot-wide buffer of either natural ground or backfilled mined lands that have been backfilled to the post-reclamation elevations shown on Map 4-5 along at least one (1) bank of each linear foot of preserved stream systems, including the preserved portions of Horse Creek and its four (4) main tributaries (Brandy Branch, Buzzard Roost Branch, unnamed Buzzard Roost Branch tributary, and unnamed Horse Creek tributary) shown within the avoided area boundary on Map 2-2-B-i.

f. Downstream flows from the project area shall not be reduced by mining activities to cause adverse impacts to of Horse Creek and its four (4) main tributaries (Brandy Branch, Buzzard Roost Branch, unnamed Buzzard Roost Branch tributary, and unnamed Horse Creek tributary). Surface water levels shall be monitored continuously at monitoring stations PL-SW-1, PL-SW-1A, , PL-SW-4, PL-SW-5, PL-SW-6, PL-SW-7, PL-SW-9, PL-SW-11, PL-SW-13, and PL-SW-24 as shown on Map 2-3-B. If MFLs are adopted, the MFLs will control. Monitoring results shall be submitted with the Annual Hydrology Reports.

g. Rainfall amounts shall be monitored daily from a minimum of two (2) representative stations. Surface water levels, groundwater levels, and rainfall monitoring at the stations represented on Map 2-3 shall continue until all reclamation activities are completed and have been released by the Department. Monitoring results shall be submitted with the Annual Hydrology Reports required under Specific Condition 9 (Annual Hydrology/Water Quality/Vegetative Monitoring Reports).

16. This permit authorizes the construction of a process water use pipeline in accordance with the attached construction plans, "WATER PIPELINE FOR THE DESOTO MINE PROJECT".

a. All impacts to non-forested wetlands and surface waters (ditches and channels) associated with the Water Supply Pipeline shall be restored in place following pipeline installation. Temporary trenching through identified wetlands and surface waters shall be followed by replacement of soils to match the pre-construction grade and surrounding conditions. The upper (organic) layer of soils in non-forested wetlands subject to these impacts shall be side-cast during construction and then replaced as the top soil layer when the grades are restored. This retention of the top layer of

organic soils (with vegetation, seed and root material) will facilitate rapid re-vegetation of the impact areas. Because these impacts will be restored in place following pipeline placement, no additional compensatory mitigation is required.

b. Existing soils through upland portions of the pipeline corridor shall be temporarily side-cast within the corridor and replaced to restore the pre-construction grades immediately following pipeline installation.

c. Impacts to forested wetlands, as well as major creeks, streams, and rivers shall be avoided through the use of horizontal directional drill (HDD) pipeline installation methods.

d. All HDD activities shall take place during daylight hours only.

e. The permittee shall implement the following Best Management Practices (BMPs) to minimize the potential for adverse environmental impacts during HDD activities:

1. Best management practices for erosion control within the staging area shall be implemented and maintained at all times during construction of the upland entry pit and drilling operations to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C. Methods shall include, but are not limited to, the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site.

2. To provide an additional level of resource protection, the volume of bentonite in the drill string shall be monitored at all times during directional drilling operation. Should a drop in volume of bentonite occur, the following measures will be taken:

(a) Immediately conduct a visual inspection of both terrestrial and subaqueous portions of the HDD corridor. If a frac-out is detected, notify the Department within (two) 2 hours of detection by email at MiningAndMitigation@dep.state.fl.us or by phone at 850.245.8336.

(b) Should the release of drilling materials occur on land, a sediment fence shall be constructed around the site and the material shall be removed by vacuum truck.

(c) Should the release of drilling materials occur, the appropriate actions shall take place in strict accordance with the attached “Frac-out/Bentonite Management and Emergency Spill Plan”.

3. The entry and exit points of the directional drill shall be located on uplands and contained with berms/staked hay bales to contain any material from traveling into surrounding areas.

4. Additives to the bentonite drilling muds shall not be used without the Department’s prior approval. Toxicity evaluations using

aquatic organisms with concentrations of additives representative of those proposed for HDD boring will be required.

17. This permit authorization does not include the construction of any potable water or wastewater systems and does not provide authorization for any consumptive water use. Authorization from the Southwest Florida Water Management District is required for any consumptive water use. Occupancy or use of any facility that will use the potable and/or wastewater systems on site is not authorized by this permit. Mosaic will maintain a Stormwater Management Plan (SMP) for the facility in accordance with the NPDES permit conditions. The SMP prescribes control measures to prevent or minimize the generation and potential for release of pollutants (i.e. waste materials, fuels, and chemicals) from the facility to Waters of the State. A copy of the SMP will be maintained on-site.

18. PR-E Wetland Restoration. The permittee shall design and construct a 160 acre mixed forested and herbaceous wetland system intended to provide functional values analogous to an existing wetland in Section 8, Township 27S, Range 34E within the Oak Hill Branch sub-basin referred to as the PR-E wetland. The proposed post-reclamation wetland shall be contoured and vegetated prior to mining the existing PR-E wetland system. Appendix 2-2-A-i includes surveyed wetland cross sections and Text Figure 3A lists existing land use. Appendix 2-5-A-iii, Reclamation Wetland Mitigation Typical Cross Sections, includes a detailed description of the specific ways that the vegetation, soils, hydrology, and microtopography shall be replaced following mining. In addition to the design criteria listed in Specific Condition 26 (Mitigation Construction Standards), the following shall also be incorporated into the construction:
    a. Hydrology modeling and Final Design: Modeling shall be done to determine the final, pre-construction design. The post-reclamation hydrology shall be analogous to the existing storm event response hydrology and will be verified through ICPR or a similar model approved by the Department. Actual locations and elevations of cast overburden and the hydraulic conductivity of the overburden spoil shall be sampled and used to refine the final design through MODFLOW or a similar model approved by the Department to ensure similar ground water flow volumes shall be provided to the mitigation wetlands. Sub-surface lithological zones and final elevations shall be adjusted to achieve the post reclamation hydroperiod depths and durations that are similar to the existing PR-E wetland as verified with a wetland hydroperiod model approved by the Department.
    b. Topographic and Hydrologic Variability: The topographic variability of the existing PR-E shall be replaced. Additional variability shall be incorporated by constructing hummocks, leaving areas roughly graded, and installing stumps, logs, and/or woody debris piles several inches above the seasonal high water line.

c. Soils: Final soil types for each community type shall be documented in accordance with the Soils section of Specific Condition 37 (Monitoring Required), with each community type representing a wetland.

d. Muck shall be applied in the reclaimed system to achieve the maximum depths for each community type as shown on the Post Reclamation Cross Sections in Appendix 2-5-A-iii. Final muck depths for each community types shall be documented in accordance with the Soils section of Specific Condition 37 (Monitoring Required), with each community type representing a wetland.

e. The PR-E wetland shall be planted as follows:

1. Mine preparations such as clearing shall begin in the location of the proposed wetland shall begin in sufficient time to allow the proposed post-reclamation wetland to be backfilled, contoured and vegetated prior to mining the existing PR-E wetland system [est. to occur in sequence year 11 – 2031, if mining begins as proposed in 2021]. Plans detail that the PR-E replacement wetland site will be mined and receiving tailings in sequence year 5 and that the entire post-reclamation wetland will be backfill and re-contoured in sequence year 7. Immediately following the post-reclamation wetland sites backfilling and contouring, viable wetland muck shall be directly transferred from the existing PRE wetland to the post-reclamation wetland. Following the post-reclamation wetlands construction and establishment a BMP berm and recharge ditch system shall be constructed around it to support the sites hydrology. The wetland system shall be re-connected in two (2) years after establishment, pending FDEP approval or as approved by FDEP in writing.
2. In addition to the natural vegetation recruitment expected with direct muck transfer, the post-reclamation wetlands shall be revegetated at a density of 200 to 600 trees per acre. Approximately 5 percent of the wetland tree plantings shall consist of 7-gallon trees, 45 percent shall consist of 3-gallon trees, and 50 percent shall consist of 1-gallon trees.
3. Post-reclamation uplands shall be revegetated at a density of 400 trees per acre consisting of 12 percent 7-gallon trees, 25 percent 3-gallon trees, and 63 percent seedlings. In 2030, the ditch and berm system shall be removed from the existing PR-E wetland, and the area shall be prepared for mining.
4. All ditch and berm systems shall be removed from the post-reclamation wetland by 2036, pending Department approval and all land in the vicinity of the post-reclamation wetland shall be reclaimed by 2038. The railroad shall be removed during the last year of mining at DeSoto, which is currently estimated to be 2039, unless another date is approved in writing by the Department.

19. WILDLIFE MANAGEMENT: The permittee shall follow the DeSoto Mine Wildlife and Habitat Management Plan (Appendix 2-6-B) for all preclearing wildlife surveys, timing of habitat disturbance, and relocation activities or as required by Florida Fish and Wildlife Conservation Commission/ US Fish and Wildlife Service (FFWCC/USFWS) permits or management plans. The appropriate FFWCC/USFWS coordination shall be initiated prior to the disturbance of habitat if it is being utilized/occupied by listed species, or relocation of any listed wildlife species. Copies of all correspondence, permits, authorizations and reports to or from these agencies shall be provided to the Department with the Annual Status Reports required in Specific Condition 8 (Annual Status Reports).

20. DRAGLINE/UTILITY CORRIDOR CROSSING: Construction of corridor crossings of Oak Hill Branch, Horse Creek, Brandy Branch, and Buzzard Roost Branch as shown on Figure 2, Maps 3-5-A through 3-5-F, and Table 3-5 shall be completed as outlined in the attached "Desoto Mine - Engineering Designs for Dragline/Utility Crossings" (Appendix 3-1-A), and as follows:
    a. Best management practices for turbidity and erosion control shall be used and maintained at all times beginning prior to construction, during use of the temporary dragline/utility crossing, and through the reconstruction and stabilization of the crossings.
    b. In crossing areas to be filled, geotextile fabric shall be installed over the crossing area prior to fill placement. Clean sand shall be compacted over the crossing area and the ground and side slopes shall be sodded within 48-hours to stabilize the crossing area and prevent turbid runoff. Protective riprap shall be installed on the upstream face of the transition slope and at the culvert discharge areas to prevent erosion.
    c. Pipelines for transport of any substance other than clear water shall be double walled, i.e., each pipe shall be fully encased in continuous welded smooth steel or HDPE pipe. The encasement conduits will extend to spill protection basins lying entirely within the BMP's of the mining operations area. Each basin shall be equipped with a spill detection device and shall be designed to contain a pipeline leak of at least 800 gallons per minute (gpm) for a period of at least eight hours. The final details of the containment system shall consider the expected pumping volumes and shall be submitted to the Department for approval prior to construction.
    d. All construction activities associated with the crossing shall be timed to coincide with periods of low flow and shall not be initiated at any time when such work will be ongoing during the months of July, August, or September.
    e. Certified as-built engineering drawings for the dragline/utility crossing shall be submitted to the Department within 60 days of completion of construction of the temporary dragline/utility crossing.

f. Upon the completion of mining operations within the temporary dragline crossing/utility corridor, all equipment shall be removed from the crossing area. All exposed soil shall be seeded and mulched or sodded within 72 hours after final contouring.

g. The final contours of the restored dragline/utility crossing area shall be surveyed in accordance with general survey procedures utilizing a 50-foot grid and showing elevations to 0.1 foot. Within 60 days of final grading, both a cross section and a topographic map of the crossing site extending the width of the 25-year floodplain, showing sampled points and 0.5-foot contours referenced to NGVD, and certified by a land surveyor or professional engineer registered in the state of Florida, shall be submitted to the Mining and Mitigation Program for approval. All topographic maps shall meet the minimum technical standards as set forth in Chapter 472, F.S.

21. TIMETABLES AND MINING OPERATIONS: The mining operations and reclamation activities authorized by this permit shall be completed according to the following generalized timetable except as otherwise noted:

a. Generalized Timetable for Work in Wetlands and Other Surface Waters:

Activity	Relative Time Frame
Commencement of Severance/Site preparation	No more than six (6) months prior to mining operations (unless approved by the Department for the purposes of directly transferring topsoil/muck to a contoured mitigation site), except as otherwise authorized herein.
Final grading, including muck placement	No later than 18 months after completion of mining operations, including backfilling with sand tailings.
Phase A planting (species that tolerate a wider range of water levels)	No later than six (6) months after final grading or 1 year after muck placement
Hydrological Assessment	For two (2) years after contouring in accordance with the specific conditions of this permit.
Phase B planting (species that tolerate a more narrow range of water levels)	Up to 12 months after the completion of the hydrological assessment.
Phase C planting (shade-adapted ground cover and shrub species, additional trees and shrubs to meet density and diversity requirements	At least two (2) years prior to release in forested wetlands

b. Disturbance, mining, and reclamation of wetlands, streams, and other surface waters (Maps 2-2-B-i and 2-2-B-ii), shall proceed as shown on Maps 3-1 and 4-1, and Tables 4-1 and 4-2. The permittee shall submit updates to the approved schedule with the Annual Status Reports required in Specific Condition 8 (Annual Status Reports). Anticipated deviations from these schedules shall be submitted prior to initiating impacts to wetlands, streams, and other surface waters out of sequence and significant changes may require a modification to this permit. Changes in sequence of wetland, stream, and other surface water disturbance shall be acceptable provided a) there are no additional adverse impacts or b) an acceptable mitigation plan to offset these impacts is provided.

22. TOPSOIL UTILIZATION: Prior to conducting mining operations in permitted wetlands, wetland muck, topsoil, or sod shall be removed from the site for use in wetland restoration. The upper 18 inches of wetland muck or topsoil shall be harvested from impacted wetland areas, as practicable, prior to mining and shall be used to establish the final design contours in reclaimed wetland areas. Neither muck, nor topsoil, nor sod shall be collected from wetlands that are highly degraded (have minimal cover of desirable species). If the permittee believes a donor wetland is highly degraded and contains unsuitable soil material, the permittee shall notify the Department, which shall determine if the wetland is degraded to an extent that it meets this condition. Timing between the clearing of donor sites and the completion of wetland restoration shall be optimized to provide greater opportunities for direct transfer of wetland muck or topsoil. In some instances, wetland muck or topsoil may be removed from donor sites more than six (6) months in advance of mining operations. If no contoured mitigation site is available to receive the wetland topsoil, it shall be stored in a manner that minimizes oxidation and colonization by nuisance species.

Whenever practicable, the permittee is encouraged to harvest topsoil from upland areas prior to mining and use the topsoil to establish the final design contours in reclaimed upland areas.

23. LISTED PLANTS: The permittee is encouraged to relocate any threatened or endangered plant species encountered to an appropriate unmined or reclaimed location.

24. SOIL ESTABLISHMENT: Surface soils shall be established for each post-reclamation land use/vegetation community as follows: In all areas proposed to be reclaimed as wetlands, other surface waters, or natural upland systems, several feet of sand tailings shall be placed over the contoured overburden spoil, unless otherwise specified in hydroperiod or other modeling/engineering and design, for the specific habitat type to establish the parent materials for the surface soils and promote water infiltration. Additional overburden may be added to the surface

soils, as needed, to enhance water holding capacity, cation exchange capacity, and nutrient retention, provided that the infiltration zone remains composed of predominantly sandy material and could be classified as sand, loamy sand, or sandy loam pursuant to the USDA-NRCS soil texture classification. A mixture of overburden and sand tailings may be used in areas reclaimed as pasture.

Whenever practicable, topsoil harvested from upland areas prior to mining, shall be used to establish the final design contours in reclaimed habitat areas. Incorporation of additional organic materials into the upland soils through green manuring or amendment with composts or other organic materials is encouraged when topsoil is not available.

Wetland muck that is reasonably free of nuisance and exotic species and harvested from wetland sites prior to mining shall be used to establish the final design contours in reclaimed wetland areas.

25. POST-MINING LANDSCAPE ELEVATIONS: Within 90 days of the completion of contouring and soil establishment in each reclamation parcel, the permittee shall submit as-built topographic surveys to demonstrate that the land surface elevations have been established as shown on Map 4-5. Substantial deviations from the approved reclaimed land surface elevations that have the potential to adversely affect the functions of preserved, off-site, and/or reclaimed wetlands or other surface waters shall be corrected within 90 days of detection,unless another date is approved in writing by the Department.

26. MITIGATION CONSTRUCTION STANDARDS: The wetland and other surface water mitigation and restoration shall be accomplished in accordance with the timetables in Specific Condition 21 (Timetables and Mining Operations), Map 4-5, Table 2-1-A-ii, Appendix 2-2-A-iii (Post Reclamation Wetland Cross Sections), and in the following manner:

<u>For All Mitigation Areas:</u>

a. Final Hydroperiod Modeling: The designs of representative wetlands were modeled as part of the application process based on predicted subsurface conditions following mining and backfilling of mine cuts with sand tailings and overburden (Appendix 2-2-A-iv, Wetland Hydroperiods in the Post-Reclamation Landscape at the DeSoto East Mine). Representative wetlands are those wetlands selected based on their Florida Land Use, Cover, and Forms Classification System (FLUCFCS) code and position in the post reclamation landscape to demonstrate that the hydro periods of the post reclamation wetlands are adequate. Prior to construction, hydroperiod modeling, using similar modeling concepts and techniques, shall be used to finalize the design of the sub-surface lithology, land surface elevations, and topographic gradients in each wetland and other surface water mitigation area and contributing upland watershed. The

hydroperiod modeling results shall confirm that the wetland bottom and outlet elevations, the side slopes, and the subsurface lithology will result in hydroperiod depths and durations appropriate for the community types planned for each mitigation area. A similarly calibrated model shall be used to design the remaining mitigation wetlands and other surface waters to be constructed to achieve the design criteria set forth in Appendix 2-2-A-iv. Modeling results shall be submitted to the Department for review and approval at least 90 days prior to commencement of contouring.

For Forested Wetlands:

b. Soil Establishment: After mining operations and backfilling with sand tailings, forested wetland mitigation areas (FLUCFCS 611, 613, 616, 617, 621, and 630) shall be graded and capped with several inches of wetland muck or topsoil to achieve the final elevations indicated in the attached permit drawings. In the event that sufficient wetland muck or topsoil is not available, the permittee shall coordinate the use of other appropriate materials with the Department. However, all bay swamps shall receive a minimum of one (1) foot of muck or a combination of muck and mulch or other appropriate organic material such as mucky-sand or sandy-muck. Direct transfer of topsoil and live material (stumps, shrubs, small trees) shall be used where feasible. Wetland topsoil should be reasonably free of nuisance and exotic plant species before application to wetland mitigation areas.

c. Hydropattern and Habitat Heterogeneity: The permittee shall construct hummocks, leave some areas roughly graded and install stumps, logs, and/or woody debris piles several inches above the seasonal high water line to provide habitat heterogeneity. Snags shall also be placed within the forested wetlands as appropriate to encourage wildlife usage. Direct transfer of small shrubs and trees from future mining areas shall also be utilized if feasible.

d. Restoration of the Vegetation Community: Forested wetlands shall be planted with sufficient tree, shrub, and herbaceous species to establish the densities and species richness and dominance characteristics appropriate for each community type in accordance with Tables 4-3-A through 4-3-D in order to meet the requirements of Specific Condition 31 (Mitigation Release Criteria). Appropriate species shall be planted based on the design elevations, the results of the hydrology monitoring, and the goals of the mitigation. Up to 49 percent of the trees and shrubs planted in the upper transitional zone (defined as the uppermost one (1) foot change in elevation within the wetland boundary) may consist of appropriate upland and facultative species as found in the reference wetlands.

e. Successional Plantings: Additional plantings of shade tolerant shrubs and herbaceous vegetation shall occur after establishment of suitable canopy/subcanopy cover within the forested wetlands. This shall include a selection of at least five (5) of the following species: swamp azalea

(*Rhododendron viscosum*), highbush blueberry (*Vaccinium corymbosum*), swamp fern (*Blechnum serrulatum*), cinnamon fern (*Osmunda cinnamomea*), woodoats (*Chasmanthium latifolium*), swamp dogwood (*Cornus foemina*), royal fern (*Osmunda regalis*), netted chain fern (*Woodwardia areolata),* chain fern (*Woodwardia virginica*) and lizard's tail (*Saururus cernuus*).

For Herbaceous Wetlands (FLUCFCS 641, 643, and 647):

f. Soil Establishment: After mining operations and backfilling with sand tailings, herbaceous wetland mitigation areas (FLUCFCS 641, 643, and 647) shall be graded and capped with several inches of wetland muck or topsoil, when available, to achieve the final elevations indicated in the attached permit drawings. Direct transfer shall be used where feasible. The muck or topsoil should be reasonably free of nuisance and exotic plant species before application to wetland mitigation areas. Green manuring or amendment with composts or other organic materials is encouraged when topsoil is not available.

g. Hydropattern and Habitat Heterogeneity: Marshes and wet prairies shall be designed to maintain the diversity of community types that existed prior to mining operations in order to support a wide range of wildlife species including birds, reptiles, and amphibians. Both depression marshes and basin marshes shall be constructed. Hydroperiods shall range from seasonal saturation to almost continual inundation. Marshes and wet prairies shall be constructed with variations in topography and slope in order to provide a diversity of hydroperiods, depths of inundation, and available habitat. The outer slopes in most marshes shall be gradual enough to support wide transition zones with a diversity of vegetation, and constructed according to the post reclamation wetland cross sections in Appendix 2-2-A-iii. Depression marshes shall exhibit the distinct zonation patterns typical of the least disturbed depression marshes occurring at the DeSoto Mine.

h. Vegetation Establishment: If muck or topsoil are unavailable, herbaceous wetland species shall be planted on three (3) foot centers according to the species listed on Table 4-3-E, 4-3-F, and 4-3-G, as appropriate for the community type, to establish vegetation density, species richness, dominance characteristics, and ecotone zonation patterns that are typical of reference wetlands of the designed community type and to meet the requirements of Specific Condition 31 (Mitigation Release Criteria). Supplemental planting shall be done in mucked or topsoiled wetlands as necessary to meet the requirements of Specific Condition 31 (Mitigation Release Criteria).

i. Ecotone Development within Herbaceous Marshes: Most herbaceous marshes shall be rim-mulched with several inches of wet prairie, pine flatwoods, or palmetto prairie topsoil or sod unless suitable material is not available within a reasonable hauling distance. Direct transfer shall be

used where feasible. Where top-soiling is not feasible, other methods that are likely to achieve similar diversity of wet prairie/shallow marsh forbs and grasses such as direct seeding or planting in accordance with Tables 4-3-F shall be used as approved by the Department.

j. Additional Requirements for Wet Prairies and Hydric Rangeland: The uplands immediately surrounding wet prairie and hydric rangeland areas shall be direct seeded or planted with native grasses such as creeping bluestem (*Schizachyrium scoparium*), sand cordgrass (*Spartina bakeri*), blue maidencane (*Amphicarpum muhlenbergianum*), broom grass (*Andropogon spp.*), lovegrass (*Eragrostis spp.*), and eastern gama grass (*Tripsacum dactyloides*) to help prevent invasion by range grasses and other non-native grasses.

For Streams:

k. Stream systems (FLUCFCS 511) shall be constructed in accordance with the design criteria set forth in Appendix 2-2-B-i to achieve the approximate stream lengths listed. Individual stream lengths may vary based on Department approval of final design plans. Prior to construction, final design plans based on the actual post mining conditions shall be developed based on hydrologic modeling that includes estimating bankfull flow. Hydrologic modeling results shall be compared to the classifications of the hydrological regimes to confirm that designed stream flow and the relative amount of time that water is present above the bed is at least within the range of existing streams. Modeling results, final design documents, and construction drawings shall be submitted to the Department for approval.

l. Reclaimed stream valleys (FLUCFCS 511) shall be constructed with a minimum of three (3) feet of sand tailings overlain with up to six (6) inches of overburden that is disked into the tailings or as otherwise approved by the Department following review of final design plans. Topsoil shall be used instead of overburden in areas where it is used to establish specific upland or wetland plant communities adjacent to the stream. Overburden may be used to construct the banks if added cohesive strength is necessary. However, stream beds should be constructed from sand tailings.

m. An experienced stream restoration scientist shall be utilized by the permittee, as staff or consultant for the period of stream mitigation construction through release, to provide project guidance and conduct regular inspections during construction and planting activities.

n. No more than 90 days after final grading, the permittee shall prepare an as-built construction report that documents that the restored reach has been constructed in accordance with the specifications outlined in Appendix 2-2-B-i and the final design plans. The as-built survey shall include a longitudinal profile of the entire stream reach that includes mapping of each pool and riffle with thalweg, water surface (if present), top of bank

elevations noted, and representative cross sections measured at a frequency of one per 20 bankfull-widths with locations selected to represent approximately 50 percent pools and 50 percent riffles. Cross section surveys shall include the flood prone width. Repeat surveys shall be required as outlined in Specific Condition 37 (Monitoring Required). The as-built report shall also document the successful establishment of all habitat amendments, including number of bends/pools, number of large woody debris (LWD) snags, number of root wads, number of fine woody fascines, and percent palmetto lining the banks, as applicable for each restored stream reach. As-built reports shall include photo documentation at each cross section and representative structures.

Post Construction Requirements:

o. Documentation of As-Built Conditions: Within 90 days of final grading, the final contours of each created wetland and other surface water shall be surveyed in accordance with general survey procedures utilizing a 50 foot grid and spot elevations to 0.1 of a foot. An as-built contour map will be generated to show one (1) foot contours for uplands, 0.5 of a foot contours in wetlands/surface waters, and the 0.1 of a foot spot elevations, extending 200 feet into the adjacent uplands where accessible. The contour map(s) will reference NGVD and be certified by a land surveyor or professional engineer registered in the state of Florida. All topographic maps shall meet the minimum technical standards as set forth in Chapter 472, F.S.

p. Post-Construction Hydrology Monitoring and Second-Year Hydrology Assessment: Post construction monitoring, as described in Specific Condition 37 (Monitoring Required) (outlined in Table MR-B), shall be performed for all created mitigation areas. All piezometers, staff gauges, and flow meters shall be installed at mutually agreed-upon locations within 90 days of the completion of grading/contouring activities in the mitigation areas to be monitored. Hydrologic data collected for each mitigation monitoring site is to be compiled, analyzed and submitted in both tabular and graphical formats with the Annual Hydrology Reports required in Specific Condition 9 (Annual Hydrology/Water Quality/Vegetative Monitoring Reports).

q. Initial assessment of the site hydrology shall be conducted for at least two (2) years after final contouring of each mitigation area. The results shall be submitted to the Department for review and approval within 30 days of completion of the analysis. Within 30 days of receipt of the data, the Department will review the results and approve the design hydrology, or require additional information or changes to the design. If the hydrology of the site does not meet the design objectives, the permittee shall have 60 days to submit a remedial action plan to ensure that design objectives will be met. Following the initial hydrological assessment, monitoring of each mitigation area shall continue until the requirements of Specific Condition 37 (Monitoring Required) have been met.

r. Upon completion of the mitigation activities, monitoring of each created wetland, stream and other surface water shall be conducted as described in Specific Condition 37 (Monitoring Required). Reports shall be submitted in accordance with Specific Condition 8 (Annual Status Reports).

27. RECLAMATION CONSTRUCTION STANDARDS: The permittee shall reclaim the remaining acres of wetlands and other surface waters, and uplands in accordance with Maps 4-2-B-i and 4-5, Tables 2-1-A-ii, 3-1-B, the attached planting tables (Tables 4-3-A through 4-4-G), Rule 62C-16, F.A.C., and the Conceptual Reclamation Plan MOS-DS-CP, File No. MMR_331292-002.

28. HORSE CREEK ENHANCEMENT PROJECT: The overall objective of the design plan for Horse Creek is to restore the area to pre-development conditions, prior to the ditching of many of the wetlands and tributaries. In addition to the construction requirements listed in Specific Condition 26 (Mitigation Construction Standards), the following shall also apply:
   a. Final design plans for the restored creek shall include those of the channel itself and the adjacent wetlands and other surface waters and shall be based on the modeling described in Appendix 4-2-B. Final design plans and modeling results shall be provided to the Department for review and approval.
   b. The restored stream shall include restoration of at least 40,070 linear feet of channel (FLUCFCS 511).

29. TIME SCHEDULE FOR COMPLETION OF MITIGATION: Forested wetlands, forested other surface waters and created streams shall achieve, or shall be on a clear trajectory toward achieving, all applicable mitigation success criteria listed in Specific Condition 31 (Mitigation Release Criteria) (excluding tree height requirements) within 12 years of final contouring of drainage areas reporting to these mitigation areas. Herbaceous wetlands and other surface waters shall achieve, or shall be on a clear trajectory toward achieving, all applicable mitigation success criteria listed in Specific Condition 31 (Mitigation Release Criteria)within seven (7) years of contouring. The time period for attainment of the mitigation success criteria may be extended by the Department for specific wetlands when circumstances beyond the control of the operator, such as drought or flooding, occur.

In the event that a mitigation site has not met the design objectives within the applicable time frame, and monitoring data do not demonstrate that the site is on a clear trajectory towards achieving all applicable mitigation success criteria listed in Specific Condition 31 (Mitigation Release Criteria), the permittee shall prepare and submit a corrective action plan to the Department detailing additional construction, maintenance, and/or enhancement measures that will be implemented to achieve the design objectives within a two (2) year extended time

period. Upon approval, the permittee shall be granted an additional two (2) year period in which to perform the corrective actions and/or enhancement activities specified in the approved corrective action plan and to provide documentation that the site has achieved or is on a clear trajectory toward achieving the applicable mitigation success criteria listed in Specific Condition 31 (Mitigation Release Criteria).

30. VEGETATION MAINTENANCE: A monitoring and maintenance program shall be implemented to promote the survivorship and growth of desirable species in all mitigation areas:
    a. This program shall include at least semi-annual inspections of mitigation uplands, wetlands, and other surface waters for nuisance and exotic species. Nuisance and exotic vegetation shall be controlled by herbicide, fire, hydrological, or mechanical means in order to limit cover of nuisance species to less than ten (10) percent and to remove exotic species when present in each mitigation area. Manual or chemical treatment of nuisance and exotic species shall be implemented at least annually when cover of nuisance species in any area of one acre or more increases to more than ten (10) percent cover or if exotic species are present. Manual or chemical treatment shall also be implemented if cogon grass (*Imperata cylindrica*) coverage exceeds ten (10) percent on reclaimed sites or five (5) percent within 300 feet of any wetland, stream, or other surface water.
    b. Water levels may be controlled through outflow control structures and/or pumping as necessary to enhance the survivorship and growth of hydrologically sensitive taxa. The location, designs, and need for such structures shall be mutually agreed upon by the permittee and the Department. All water management structures shall be removed at least two (2) years prior to release request.
    c. Supplemental tree and shrub plantings in accordance with Specific Condition 23 shall occur when tree/shrub densities fall below those required to meet Specific Condition 31 (Mitigation Release Criteria).
    d. Supplemental herbaceous plantings in accordance with Specific Condition 26 (Mitigation Construction Standards) shall occur if cover by a diversity of non-nuisance, non-exotic wetland species as listed in rule 62-340.450, F.A.C., falls below the level required to meet Specific Condition 31 (Mitigation Release Criteria).

31. MITIGATION RELEASE CRITERIA: The on-site and off-site mitigation uplands, wetlands, streams, and other surface waters shall be released when they have been constructed in accordance with the requirements of Specific Conditions 23 and the attached permit drawings, the following conditions have been met, and no intervention in the form of irrigation, dewatering, or replanting of desirable vegetation has occurred for a period of two (2) consecutive years unless approved in writing by the Department. If the associated watershed has been reclaimed,

individual wetlands or other surface waters may be released by the Department provided they have met the minimum establishment period for the wetland type and meet all applicable permit conditions. The permittee shall indicate in the Annual Status Report required by Specific Condition 8 (Annual Status Reports) the start date for the non-intervention period for each wetland/other surface water:

a. Water quality in created wetlands and other surface waters shall meet applicable Class III standards (Chapter 62-302, F.A.C.)

b. Hydrology

1. Each created wetland shall have hydroperiods and depths of inundation sufficient to support wetland vegetation, that meet the hydroperiods, depth of inundations, and seepage contributions predicted by the modeling and that are within the range of conditions occurring in the reference wetlands of the applicable community type as determined based on the monitoring data. Reference wetlands are discussed further in Specific Condition 37 (Monitoring Required).
2. Surface waters, other than wetlands and streams, shall flood at a frequency sufficient to produce an apparent ordinary high water line (OHWL) based on hydrologic indicators listed in Section 62-340.500, F.A.C., or hydrologic monitoring demonstrates flooding at frequency that meets the modeled mean annual flood elevation.

c. Vegetation

<u>For All Wetlands and Other Surface Waters:</u>

1. Total cover by non-nuisance, non-exotic FACW, and/or OBL species listed in rule 62 340.450, F.A.C., (desirable species) in the ground cover shall be at least 80 percent, unless another value is listed for a specific community type below. Desirable ground cover plant species shall be reproducing naturally, either by normal vegetative spread or through seedling establishment, growth and survival. Native upland species shall be considered desirable vegetation when evaluating non-wetland, non-stream other surface waters (FLUCFCS 321o, 411o, 425o, 427o, and 434o, as long as the area is determined to be jurisdictional based on other indicators in accordance with Rule 62-340, F.A.C.
2. Cumulative total cover by range grasses, such as Bahia grass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*), shall be less than 10 percent.
3. Non-vegetated open water and/or bare ground shall cumulatively be limited to less than 10 percent of the wetland area.
4. Cover by nuisance vegetation species, including cattail (*Typha spp.*), primrose willow (*Ludwigia peruviana*), and climbing hemp vine (*Mikania spp.*) shall be limited to less than 10 percent of the total wetland area.

5. Invasive exotic vegetation including, but not limited to Cogon grass, melaleuca (*Melaleuca quinquenervia*), Chinese tallow (*Sapium sebiferum*), Japanese climbing fern (*Lygodium japonicum*), Old world climbing fern (*Lygodium microphyllum*), and Brazilian pepper (*Schinus terebinthifolius*) shall not be considered an acceptable component of the vegetative community. Invasive exotic species shall mean those species listed on the Florida Exotic Pest Plant Council's most recent list of invasive exotic plant species (http://www.fleppc.org/).

For Herbaceous Marshes (FLUCFCS 641):

6. Cover within herbaceous marshes shall be dominated by native species typical of reference marshes and shall be distributed in similar zonation patterns. Species richness and dominance regimes shall be within the range of values documented within the reference marshes. At least 50 percent of the marshes shall be dominated by a combination of grass, sedge, and rush species, including but not limited to those identified on Table 4-3-E.

For Wet Prairies (FLUCFCS 643):

7. Total cover by non-nuisance, non-exotic FAC, FACW, and/or OBL species listed in Rule 62-340.450, F.A.C., (desirable species) in the ground cover shall be at least 80 percent. Non-nuisance, non-exotic facultative species will be considered desirable only provided that their contributions to the vegetative community structure are within the range of values documented within the reference wetlands and the mitigation site is jurisdictional in accordance with Rule 62-340, F.A.C.
8. In no case shall temporary dominance by transient facultative species such as dogfennel (*Eupatorium capillifolium*), sesbania (*Sesbania spp.*), wax myrtle (*Myrica cerifera*), shyleaf (*Aeschynomene americana*), or similar species be used to demonstrate achievement of vegetation community performance standards.
9. Relative ground cover by native grasses and sedges from Table 4-3-F shall be at least 60 percent and at least 40 percent of the species on Table 4-3-F shall be present or shall be within the range of values documented within the reference wet prairies.

For Shrub Marshes (FLUCFCS 647):

10. Ground cover within shrub marshes shall be dominated by native species typical of reference herbaceous marshes. Shrub cover shall be dominated by button bush (*Cephalanthus occidentalis*). Cumulative cover by Carolina willow (*Salix caroliniana*) and wax myrtle shall be less than 25 percent.

For All Forested Wetlands other than Hydric Flatwoods (FLUCFCS 625):

11. The canopy layer shall have an average of at least 400 live trees per acre that are on average at least 12 feet tall (the height requirement does not apply to Cabbage Palm (*Sabal palmetto*), which shall have at least one leaf that is three (3) feet long including the stalk). No area greater than an acre in size shall have less than 200 trees per acre.
12. The shrub layer shall have an average of at least 100 live shrubs per acre (unless a different number is specified by community type below), or shall meet or exceed the range of shrub densities in the reference wetlands. Early successional species such as *Salix caroliniana* (Carolina willow), *Baccharis* spp. (saltbush), *Myrica cerifera* (wax myrtle), and *Sambucus canadensis* (elderberry) shall be less than 15% or contributing in a density similar to reference wetlands.
13. The canopy and shrub strata shall each have species richness values and dominance regimes within the range of values documented in the reference wetlands of the target community type or as required by the community specific release criteria below. Canopy and shrub measurements shall be limited to those indigenous species that contribute to the canopy, subcanopy, and shrub strata of the mature forested wetlands in the Peace River basin. Up to 49% of the trees and shrubs in the upper transitional zone (defined as the uppermost one foot change in elevation within the wetland boundary) may consist of appropriate upland and facultative species as found in the reference wetlands as long as there are other indicators to confirm that the area is jurisdictional in accordance with Rule 62-340, F.A.C. Desirable canopy and shrub species shall be reproducing naturally, as evidenced by the presence of fruit and saplings that are greater than one foot tall.
14. Species richness and dominance regimes for herbaceous vegetation shall be within the range of values documented within the reference wetlands of the target community type or as required by the community specific criteria below. The relative age of the mitigation site when compared to mature systems shall be considered in the evaluation.

For Bay Swamps (FLUCFCS 611):

15. The canopy layer shall contain at least seven (7) of the tree species listed on Table 4-3-A and the combined contribution to canopy cover by sweet-bay (*Magnolia virginiana*) swamp bay (*Persea palustris*), loblolly-bay (*Gordonia lasianthus*) and swamp tupelo (*Nyssa sylvatica var. biflora*) shall exceed 60 percent.
16. The shrub layer shall contain at least five (5) of the species listed on Table 4-3-A and shall have an average of at least 100 shrubs per

acre and no one species shall comprise more than 40 percent relative cover.

17. The groundcover shall contain ten (10) or more native wetland (FACW or OBL) species typical of a bayswamp community or shall have at least five (5) of the groundcover species listed on Table 4-3-A, and no one species shall comprise more than 50 percent relative cover. Shade tolerant species such as those listed on Table 4-3-A shall comprise at least 50 percent relative cover.

For Gum Swamps (FLUCFCS 613):

18. The canopy layer shall contain at least five (5) of the tree species listed on Table 4-3-A and at least 50 percent of the trees shall be swamp tupelo (*Nyssa sylvatica var. biflora*).
19. The shrub layer shall contain at least three (3) of the species listed on 4-3-A and shall have an average of at least 75 shrubs per acre, with no one species contributing to more than 50 percent of the total shrub density.
20. Total cover by desirable species in the ground cover shall be at least 50 percent. The groundcover shall contain at least five (5) of the groundcover species listed on Table 4-3-A, and no one species shall comprise more than 50 percent relative cover.

For Inland Ponds and Sloughs (FLUCFCS 616):

21. The canopy layer shall contain at least five (5) of the tree species listed on Table 4-3-B and at least 50% of the trees shall be popash (*Fraxinus caroliniana*).
22. The shrub layer shall contain at least three (3) of the species listed on Table 4-3-B and shall have an average of at least 50 shrubs per acre with no one species contributing to more than 50% of the total shrub density.
23. Total cover by desirable species in the ground cover shall be at least 50%. The groundcover shall contain at least five (5) of the groundcover species listed on Table 4-3-B. and no one species shall comprise more than 50% relative cover.

For Mixed Wetland Hardwoods (FLUCFCS 617 or 615):

24. The canopy layer shall contain at least eight (8) of the tree species listed on Table 4-3-B. No one tree species shall constitute more than 30 percent of the total density or shall be within the range of values of the reference wetlands.
25. The shrub layer shall contain at least five (5) of the species listed on Table 4-3-B with no one species contributing to more than 50 percent of the total shrub density or is within the range of values of the reference wetlands.
26. The groundcover shall contain at least ten (10) species typical of forested wetlands and no one species shall comprise more than 30

percent relative cover. Shade tolerant species such as those listed on Table 4-3-B shall comprise at least 50 percent relative cover.

For Cypress Swamps (FLUCFCS 621):

27. The canopy layer shall contain at least five (5) of the tree species listed on Table 4-3-C and at least 50% of the trees shall be cypress (*Taxodium* spp.).
28. The shrub layer shall contain at least five (5) of the shrub species listed on Table 4-3-C and shall have an average of at least 50 shrubs per acre with no one species contributing to more than 30% of the total shrub density.
29. The groundcover shall contain at least five (5) of the herbaceous species listed on Table 2 (FLUCFCS 621) of Appendix 4-1-C and no one species shall comprise more than 30% relative cover.

For Hydric Pine Flatwoods/Pine Savanna (FLUCFCS 625/626):

30. The canopy layer shall contain at least 100 long leaf pine (*Pinus palustris*) or slash pine (*Pinus elliottii*) per acre. Slash pine shall be an average of at least 12 feet tall and long leaf pine shall be beyond the grass stage. No area greater than an acre in size shall have less than 50 trees per acre.
31. The shrub layer shall contain at least three (3) of the species listed on Table 4-3-H and Table 4-3-I shall have an average of at least 100 shrubs and sub-shrubs per acre.
32. Ground cover shall be dominated by native species typical of reference hydric pine flatwoods, hydric pine savannas or wet prairies. At least 10% of the relative cover shall be derived from wiregrass (*Aristida stricta* var. *beyrichiana*) and other perennial pyrogenic bunchgrasses. Species richness and dominance regimes shall be within the range of values documented within the reference hydric palmetto prairie, wet flatwoods or wet prairie.

For Wetland Mixed Hardwood-Coniferous Forest (FLUCFCS 630):

33. The canopy layer shall contain at least eight (8) of the tree species listed on Table 4-3-D. Neither pines nor hardwoods shall account for more than 66 percent of the crown canopy composition and no one tree species shall constitute more than 30 percent of the total trees.
34. The shrub layer shall contain at least five (5) of the species listed on Table 4-3-D and shall have an average of at least 100 shrubs per acre with no one species contributing to more than 30 percent of the total shrub density.
35. The groundcover shall contain at least ten (10) species typical of forested wetlands and no one species shall comprise more than 30 percent relative cover. Shade tolerant species such as those listed on Table 4-3-D shall comprise at least 50 percent relative cover.

For Pine Flatwoods (FLUCFCS 411) and Palmetto Prairie (FLUCFCS 321):

36. For pine flatwoods areas, the canopy layer shall contain at least 100 pine trees per acre, including at least 50 percent long leaf pine (*Pinus palustris*) per acre, unless the hydrological conditions do not support long leaf pine. Slash pine (*Pinus elliottii*) shall be an average of at least 12 feet tall and long leaf pine shall be beyond the grass stage. No area greater than an acre in size shall have less than 50 trees per acre.
37. The shrub layer shall contain at least seven (7) of the species listed on Table 4-4-A through 4-4-B and saw palmetto (*Serenoa repens)* and gall berry (*Ilex glabra*) shall be the dominant species. There shall be an average of at least 300 shrubs and sub-shrubs per acre and no area greater than one (1) acre in size shall have less than 100 shrubs per acre. Early successional species such as saltbush (*Baccharis spp.*) and wax myrtle (*Myrica cerifera*) do not count toward meeting this requirement.
38. Total groundcover by non-nuisance, non-exotic, native species typical of pine flatwoods or palmetto prairie communities shall be at least 80 percent. At least 20 percent of the relative cover shall be derived from wiregrass (*Aristida stricta* var. *beyrichiana)* and other perennial pyrogenic bunchgrasses. Fire-adapted, native herbaceous species shall be of an adequate density to carry a prescribed fire in the growing season over an average of at least 75 percent of the flatwoods community on an average of a one (1) to three (3) year cycle. Transects shall have an average of at least 45 of the species listed in Table 4-4-A or other native, non-canopy species appropriate to mesic flatwoods, as identified in literature such as the Florida Plant Atlas (USF), Guide to the Vascular Plants of Florida (Wunderlin 2003), and/or Guide to the Natural Communities of Florida (Florida Natural Areas Inventory). Bare ground and leaf litter shall cumulatively constitute 20 percent or less cover. Cumulative total cover by non-native grasses, such as Bahia grass (*Paspalum notatum)*, Bermuda grass (*Cynodon dactylon*), and smutgrass (*Sporobolus indica*) shall be less than 10 percent.
39. Invasive exotic vegetation including, but not limited to Cogon grass (*Imperata cylindrical)*, Chinese tallow (*Sapium sebiferum)*, Brazilian pepper (*Schinus terebinthifolius)*, Japanese climbing fern (*Lygodium japonicum)*, and Old world climbing fern (*Lygodium microphyllum)* shall not be considered an acceptable component of the vegetative community. Invasive exotic species shall mean those species listed on the Florida Exotic Pest Plant Council's most recent list of invasive exotic plant species (http://www.fleppc.org/).

For Xeric Oak Forests (FLUCFCS 421) and Sand Live Oak (FLUCFCS 432)

40. The subcanopy/shrub layer shall contain at least eight (8) of the species listed on Table 4-4-C and scrub/sandhill oaks (*Quercus spp.*) and saw palmetto (*Serenoa repens)* shall be the dominant species. At least three (3) scrub/sandhill oak species shall be present. There shall be an average of at least 200 shrubs per acre and no area greater than one (1) acre in size shall have less than 150 shrubs per acre. Early successional species such as saltbush and wax myrtle do not count toward meeting this requirement.
41. Total groundcover by non-nuisance, non-exotic, native species typical of xeric oak/sandhill forests shall be at least 60 percent. At least 10 percent of the relative cover shall be derived from wiregrass and other perennial pyrogenic bunchgrasses. Transects shall have an average of at least 20 of the species listed on Table 4-4-C or other native, non-canopy species appropriate to xeric oak or sandhill as identified in literature such as the Florida Plant Atlas (USF), Guide to the Vascular Plants of Florida (Wunderlin 2003), and Guide to the Natural Communities of Florida (Florida Natural Areas Inventory). Bare ground and leaf litter shall cumulatively constitute 40 percent or less cover. Cumulative total cover by non-native grasses, such as Bahia grass (*Paspalum notatum)*, Bermuda grass (*Cynodon dactylon*), and smutgrass (*Sporobolus indica*) shall be less than 10 percent.
42. Invasive exotic vegetation including, but not limited to Cogon grass (*Imperata cylindrical)*, Chinese tallow (*Sapium sebiferum)*, Brazilian pepper (*Schinus terebinthifolius)*, Japanese climbing fern (*Lygodium japonicum)*, and Old world climbing fern (*Lygodium microphyllum)* shall not be considered an acceptable component of the vegetative community. Invasive exotic species shall mean those species listed on the Florida Exotic Pest Plant Council's most recent list of invasive exotic plant species (http://www.fleppc.org/).

For Temperate Hardwood, Live Oak and Hardwood-Conifer Mixed Forests (FLUCFCS 425, 427, and 434):

43. The canopy layer in temperate hardwood forests (FLUCFCS 425) shall contain at least eight (8) of the tree species listed on Table 4-4-D and no one tree species shall constitute more than 30 percent of the total trees. At least 66 percent of the trees shall be hardwoods. The canopy layer in live oak forests (FLUCFCS 427) shall contain at least four (4) of the tree species listed on Tables 4-4-D and at least 66 percent of the trees shall be live oak (*Quercus virginiana*).
44. The canopy layer in hard-wood coniferous forests (FLUCFCS 434) shall contain at least eight (8) of the tree species listed on Table 4-

4-E and no one tree species shall constitute more than 30 percent of the total trees. Neither pines nor hardwoods shall account for more than 66 percent of the total trees.

45. An average of at least 300 live trees per acre that are an average of at least 12 feet tall shall be present (the height requirement does not apply to Cabbage Palm (*Sabal palmetto*), which shall have at least one (1) leaf that is three (3) feet long including the stalk), and no area greater than one (1) acre in size shall have less than 100 trees per acre.
46. The shrub layer shall contain at least five (5) of the species listed on Tables 4-4-D and 4-4-E, with no one shrub species contributing more than 30 percent of the total shrubs, and shall have an average of at least 100 live shrubs per acre. Early successional species such as saltbush (*Baccharis* spp.) and wax myrtle (*Myrica cerifera)* do not count toward meeting this requirement.
47. Total groundcover by non-nuisance, non-exotic, native species typical of native upland forest communities shall be at least 70 percent. Bare ground and leaf litter shall cumulatively constitute 20 percent or less cover. Cumulative total cover by non-native grasses, such as Bahia grass (*Paspalum notatum)*, Bermuda grass (*Cynodon dactylon*), and smutgrass (*Sporobolus indica*) shall be less than 10 percent.
48. Invasive exotic vegetation including, but not limited to Cogon grass (*Imperata cylindrical)*, Chinese tallow (*Sapium sebiferum)*, Brazilian pepper (*Schinus terebinthifolius)*, Japanese climbing fern (*Lygodium japonicum)*, and Old world climbing fern (*Lygodium microphyllum)* shall not be considered an acceptable component of the vegetative community. Invasive exotic species shall mean those species listed on the Florida Exotic Pest Plant Council's most recent list of invasive exotic plant species (http://www.fleppc.org/).

d. Streams (FLUCFCS 511)

1. Hydrology: Each reclaimed stream shall have a bankfull discharge comparable to the values provided on Appendix 2-2-B-i and the final design plans required by Specific Condition 26 (Mitigation Construction Standards). Bankfull frequencies shall occur within the range of frequencies documented for reference streams. The velocity of water shall be adequate to preclude the establishment of excessive amounts of vegetation in the channel following canopy closure in the stream buffers. Water depths and flows shall be comparable to those in Appendix 2-2-B-i and the final design plans approved by the Department and at least within the range of the existing streams that were monitored for low flow and bankfull flow frequency

2. Design Consistency: For each restored stream segment, the as-built construction report required by Specific Condition 26 (Mitigation Construction Standards)shall be utilized to document that the conditions of the restored stream segment are consistent with the stream design outlined in Appendix 2-2-B-i and the final design plans approved by the Department per Specific Condition 26 (Mitigation Construction Standards). Specifically, the as-built construction report shall demonstrate that morphological design parameters in Table 11 of Appendix 2-2-B-i and parameter values derived during the final design as approved by the Department were achieved during construction within acceptable tolerances (10 percent). The report shall also demonstrate the successful establishment of all habitat amendments, including number of bends/pools, number of large woody debris (LWD) snags, number of root wads, and percent palmetto lining the banks, as applicable for each restored stream reach.
3. Stream Stability: Morphological parameters shown in Appendix 2-2-B-i shall be consistent with final design values approved by the Department. Variation in morphological parameter values over time from those documented by the as-built survey shall not exceed the range of values (i.e., natural variability) represented by the survey data of reference streams shown in Appendix 2-2-B-i, as based on drainage area and the reference design curve.
4. In-Stream Vegetation: Vegetation cover within the bankfull extent of the restored stream channels shall not exceed 50 percent of the channel bottom by year ten (10) of monitoring or following tree canopy closure.
5. Buffer Vegetation: The riparian buffer shall be established as described in Appendix 2-2-B-i to meet the land uses as shown in Map 4-2-B-ii. Vegetation in the adjacent buffer area shall be trending toward meeting the success criteria listed for that community type in Specific Condition 31 (Mitigation Release Criteria). Relative cover by nuisance and exotic species within the riparian buffers shall be less than 10 percent.
6. Biota: Representation and relative abundance of lotic versus lentic macroinvertebrate taxa, representation and relative abundance of functional feeding groups, species diversity, and species richness values shall be similar to those documented in reference streams. Mosaic shall prepare and submit reference stream data and reference values that will be used for macroinvertebrate performance criteria for Department approval within 90 days of permit issuance. Determination of lotic versus lentic species and functional feeding guilds shall be assigned based on Meritt and Cummins, An Introduction to the Aquatic Insects of North

America, or similar published literature. In instances when a genus or species is assigned as both lotic and lentic, each individual sampled of that genus/species shall be considered as one half of an individual for each designation. Fish sampling shall demonstrate that a viable fishery resource has established in each restored stream. Fish collections document the presence of at least 4 native species, with at least one being a piscivore, or support at least 8 native species without a piscivore. Alternatively, fish collections may demonstrate a fish Index of Biotic Integrity (IBI) score within the range of values of Florida reference streams based on drainage area.

e. Wetlands and Other Surface Waters Jurisdiction

1. Mine wide, not less than 3,550.8 acres of created wetlands and other surface waters and 63,875 linear feet of created stream channels (FLUCFCS 511 and 516) shall be determined to be jurisdictional pursuant to Chapter 62-340, F.A.C. This includes 1,561.5 acres of forested wetlands, 1,556.2 acres of herbaceous wetlands, and 433 acres of other surface waters. The minimum acreage for each wetland identified on Maps 4-2-B-ii, 4-8-B-i shall be achieved as indicated on Table 2-2-C-i. At least the minimum length of each stream segment identified on Map 4-3-B shall be achieved as indicated on Table 2-2-C-i. However, minor changes in the size, shape, or location of individual wetlands and streams may be acceptable subject to review and written approval from the Department. The acreage of wetlands shall be determined pursuant to Chapter 62-340, F.A.C., and the boundaries shall be mapped with GPS. Stream lengths shall be determined based on survey data or GPS mapping of the channel thalweg.
2. For the off-site Horse Creek Enhancement Project, not less than 608 acres of wetlands shall be enhanced, not less than 47,498 linear feet of stream shall be enhanced.

32. MITIGATION RELEASE PROCEDURES: The required mitigation shall be released when Specific Condition 31 (Mitigation Release Criteria) has been met. Mitigation wetlands and streams shall be released as follows:

a. The permittee shall notify the Department whenever the permittee believes the mitigation is ready for release, but in no event earlier than two (2) years after the mitigation is completed. This notice shall be sent to the Program Administrator, Mining and Mitigation Program, MiningAndMitigation@dep.state.fl.us or to the Department of Environmental Protection, 2600 Blair Stone Road, MS 3577, Tallahassee, FL 32399.

b. Within 120 days of receipt of this notice, the Department shall notify the Permittee that either the Department has determined:

1. That the mitigation can be released; or
2. That the mitigation cannot be released, identifying those elements of the mitigation that do not meet the release criteria.

33. LONG TERM MANAGEMENT RELEASE CRITERIA: The on-site and off-site mitigation uplands, wetlands, streams, and other surface waters shall be released from the Long Term Management Plan (LTMP) required in Specific Condition 5 (Long-Term Managment Plan), when the Department has verified that the site specific mitigation is self-sustaining when compared to the Baseline Documentation Reports. The criteria used to demonstrate self-sustainability will be a minimum of two (2) consecutive reports as described in Section 8 of the LTMP, verifying that no significant deviations from baseline conditions have resulted based on the management activities utilized.

34 WASTE CLAY AND SAND TAILINGS DISPOSAL PLANS:
Waste Clay Disposal:

a. An Annual Narrative on Waste Clay Disposal for the mine shall be completed and submitted annually. The narrative shall describe the clay disposal and waste clay sampling activities and provide the available sampling data from the previous and current years. The applicant shall request, in writing, and receive approval from the Department's Mining and Mitigation Section prior to commencing construction of any new clay settling area – after the initial clay settling areas D-1A and D-1B within the DeSoto Mine are constructed and are in operation. The requested approval shall include information demonstrating whether or not additional waste clay disposal capacity is needed when considering the most recently updated Life of Mine Waste Clay Disposal Plan, and a comparison of updated clay production estimates with the remaining storage capacities for existing clay settling areas in the DeSoto Mine.
b. An updated Waste Clay Disposal Plan (Appendix 3-4-A) and Phosphatic Waste Clay Consolidation Model for the mine shall be completed and submitted every five (5) years or when there is a major change in the Waste Clay Disposal Plan; which may include, but are not limited to, major changes in the production rate, addition of reserves, and changes in the approved waste clay disposal areas. The updated Phosphatic Waste Clay Consolidation Model shall incorporate the clay disposal information and the waste clay sampling data acquired since the previous update. The permittee may request modification to the requirements of this specific condition.
c. An update to the Hydrology Analysis shall be required prior to approval of changes to the footprint of the approved waste clay disposal area. Such changes shall include but not be limited to the addition of a new clay settling area, the deletion of a clay settling area, and the expansion or

reduction of a clay settling area. The permittee may request modification of the requirements of this specific condition.

Sand Tailings Disposal:

d. Pursuant to Rule 62C-16.0051(9)(b)2., F.A.C., "Sand tailings shall not be permanently disposed or deposited within, or used for the construction of, clay settling areas unless authorized by the department." The sand tailings stockpiled in the South Stockpile area shall be removed in conjunction with construction of CSA D-3C as shown Map 3-4 and in Table 3-4-B (DeSoto Estimated Tailings Schedule), unless another schedule is approved in writing by the Department.

e. An Annual Narrative on Sand Tailings Disposal for the mine shall be completed and submitted annually. The narrative shall identify the overall facility sand tailings production and utilization based on known production and mining areas, and identify the reclamation parcels where tailings were disposed the previous year. The narrative shall also include the proposed reclamation parcels for tailings disposal during the current year.

f. An updated Sand Tailings Disposal Plan for the mine shall be completed and submitted every five (5) years. A year by year production and void creation for the overall facility shall be provided, in order to evaluate potential stockpiles or deficits that will occur through the life cycle. The plan shall also provide yearly sand tailings disposal projections specific for each reclamation parcel. In the event that a sand tailings balance assessment identifies a potential sand tailings deficit that could affect an area exceeding 5 percent of the remaining sand tailings disposal acreage, then the assessment shall also identify the specific sand tailings areas where the approved land surface elevations shown on Map 4-5 may not be able to be established, and describe all wetlands and streams identified on Maps 4-3-B and 4-8-B-i that may be affected by a deficit in material. In the event that such areas are identified, the permittee shall, within 90 days, submit a plan to the Department detailing actions that will be taken to ensure that all required mitigation will be completed in a timely manner.

35. OPERATION AND MAINTENANCE: The surface water management system approved in this permit shall meet the following requirements:

a. All construction, operation and maintenance shall be as set forth in the plans, specifications, and performance criteria approved by this permit.

b. If revisions or modifications to the permitted project are required by other regulatory agencies, the Department shall be notified of the revisions so that a determination can be made whether a permit modification is required.

c. Within 90 days after removal of the berm and separation of the surface water management system of a reclamation parcel from lands that report to any surface water discharges permitted under Chapter 62-620, F.A.C.,

the permittee shall submit one set of certified record drawings of the surface water management system as actually constructed and notify the Department that the facilities are ready for inspection and approval.

d. Within 30 days after sale or conveyance of the permitted surface water management system, the land on which the system is located, or portions thereof, the owner in whose name the permit was granted shall notify the Department of such change of ownership. Transfer of this permit or portions thereof, shall be in accordance with the provisions of Chapter 373, F.S., and Section 6.2 and 6.3, A.H. All terms and conditions of this permit shall be binding upon transfer.

e. The operational phase applies to those lands disturbed by mining operations, where reclamation has been complete, that no longer report to any surface water discharges permitted under Chapter 62-620, F.A.C., but have not been released in accordance with mitigation success criteria in Specific Condition 31 (Mitigation Release Criteria), the reclamation requirements of Chapter 62C-16, F.A.C., and the Long Term Management Plan requirements of Specific Condition 5 (Long-Term Managment Plan), as applicable.

f. Pursuant to rule 330.310(7)(a), F.A.C., the operation phase of mining activities subject to the land reclamation requirements of Chapter 378, F.S., shall terminate, without the need to apply for abandonment of the permit, after the mine, or its subunits as applicable:

1. Has been successfully reclaimed in accordance with Chapter 378, F.S., other than lands disturbed by mining operations that are not subject to the requirements of Chapter 378, F.S.;
2. Has met all success requirements of the individual permit issued under Part IV of Chapter 373, F.S.; when the construction phase of the permit includes all phases of construction, abandonment, reclamation, and final success determination over reclaimed lands; and
3. Does not contain components that require long-term operation or maintenance, such as: stormwater management systems; achievement of mitigation success criteria; work in conservation easements requiring a permit under this chapter; state-owned submerged lands authorizations; dams; above-grade impoundments; works; water control structures; erosion and sedimentation controls; and dewatering pits.

g. For mitigation areas covered by the CE(s) and LTMP required by Specific Conditions 4 (Conservation Easements) and 5 (Long-Term Managment Plan), the operational phase shall remain in effect until the Department has determined that the site specific mitigation is self-sustaining when compared to the Baseline Documentation Reports as outlined in the LTMP and Specific Condition 31 (Mitigation Release Criteria).

36. REPORTING: Except as otherwise specifically provided in this permit, the required submittals, such as certifications, monitoring reports, notifications, etc., shall be submitted to the Department in a digital format (via electronic mail, CD/DVD, USB device, or through file transfer site), when practicable. All submittals shall include the project name and indicated permit number when referring to this project. Unless otherwise specified, all notices, plans, reports or other documents or information required by this permit to be submitted to the Department shall be provided to:

Electronic mail:
MiningAndMitigation@dep.state.fl.us

Or postal mail:
Department of Environmental Protection
Mining and Mitigation Program
2600 Blair Stone Road, MS 3577
Tallahassee, Florida 32399-2400

Telephone:
850-245-8336 voice

37. MONITORING REQUIRED:
    a. General Monitoring Requirements:
        1. Annual status reports shall be submitted to the Department detailing the progress of the mitigation as specified in Specific Condition 8 (Annual Status Reports). Annual hydrology and water quality monitoring reports shall be submitted to the Department as specified in Specific Condition 9 (Annual Hydrology/Water Quality/Vegetative Monitoring Reports). Vegetation monitoring reports shall be submitted to the Department beginning one year after planting as specified in Specific Condition 26 (Mitigation Construction Standards). Subsequent vegetation monitoring reports shall be submitted in years two (2), three (3), five (5), and biennially thereafter until release. Vegetation monitoring reports shall include on the cover page, just below the title, the certification of the following statement by the individual who supervised preparation of the report: "This report represents a true, accurate, and representative description of the site conditions present at the time of monitoring."
        2. All monitoring data (other than data collected for compliance purposes) shall be submitted as available, but by no later than March 1st of the following year as specified in Specific Condition 8 (Annual Status Reports). Please clearly include in the reports:

"This information is being provided in partial fulfillment of the monitoring requirements in Permit No. MMR_331292-001.

3. Vegetation and hydrology monitoring plans detailing specific sampling techniques and proposed sampling locations shall be submitted for approval at least 60 days prior to sampling. Methods used shall be consistent in reference and created wetlands throughout permit duration. The methods should provide an accurate representation of site conditions.
4. No additional permits are required under Part IV of Chapter 373, F.S., for the installation of piezometers, monitoring wells, staff gauges, or any other devices associated with conducting the monitoring required by this permit.
5. Annual hydrology reports shall include the daily rainfall amounts for the DeSoto Mine, with monthly totals.
6. Proposed minor changes to monitoring locations, parameters, and frequencies shall be submitted to the Department in writing. If approved, such changes shall not be considered a formal modification of this permit and shall not require a fee.

b. Selection of Reference Wetlands

1. Several high-quality wetlands of each community type to be created shall be selected by the permittee and submitted to the Department for review and approval for those community types where reference wetlands are chosen to be used to determine compliance with Specific Condition 31 (Mitigation Release Criteria). For the purposes of this section, “high quality” shall mean wetlands that achieve a score of at least 0.77 or receive an 8 for the Community Structure component through application of Chapter 62-345, F.A.C. Reference wetlands may include systems within the onsite preservation areas, or within other protected areas within the region. Additional stage and hydroperiod data shall also be collected from representative wetlands. The permittee shall submit a proposed sampling plan including vegetation and hydrology sampling methods, locations, and sampling frequencies to the Department for approval within one (1) year of permit issuance.
2. Several high-quality first order reference streams representing each type of functional process zone to be created under this permit shall be selected by the permittee and submitted to the Mining and Mitigation Program for review and approval. For the purposes of this section, "high quality" shall mean unditched streams that achieve a score of at least one of the following: a 0.75 through application of Chapter 62-345, F.A.C.; 105 on the Department's Physical Stream Habitat Assessment (DEP-SOP-FT 3001 and 3100); or comparable score using a comparable method applicable

to streams proposed by the permittee and approved by the Department. All reference streams shall be located within the Peace River Basin or comparable hydrophysiographic region. The permittee shall submit a proposed stream habitat, macroinvertebrate, and fish sampling plan including sampling methods, locations and sampling frequencies to the Department for approval within one year of permit issuance.

c. Compliance Monitoring: Water Quality and Water Quantity

1. Water quality data collected during dragline/utility corridor construction and removal shall be submitted weekly. All monitoring reports shall include the following information: (1) permit number; (2) dates of sampling and analysis; (3) a statement describing the methods used in collection, handling, storage and analysis of the samples; (4) a map indicating the sampling locations; and (5) a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data. Monitoring reports shall also include the following information for each sample that is taken: (1) time of day samples taken; (2) water temperature (°C); (3) depth of water body; (4) depth of sample; (5) antecedent weather conditions; and (6) direction of flow. Water quality shall be monitored in accordance with Table MR-A.
2. Water quality data collected in accordance with Specific Condition 11 (Surface-Water and Ground-Water Quality Monitoring) shall be submitted with the Annual Monitoring Reports as specified in Specific Condition 8 (Annual Status Reports). All monitoring reports shall include field notes documenting the sampling procedures; cumulative analytical summary tables, including the applicable surface water and groundwater standards; groundwater elevation contour maps; sample location maps; surface water sampling logs; Groundwater Sampling Logs per DEP-SOP-001/01 FS2200 or a similar form; analytical laboratory reports; and conclusions and recommendations.
3. Hydrology data shall be submitted with the Annual Monitoring Reports as specified in Specific Condition 8 (Annual Status Reports). Hydrology data shall be compared and presented in both a tabular and graphical format, with the on-site daily rainfall data. Any hydrological and/or biological indicators of wetland impacts noted during the monitoring program should be fully discussed in the annual report in regard to: (1) the overall hydrologic setting, (2) whether the noted impacts are negative or positive, and (3) whether the said impacts are of any significance.
4. Water levels in wetlands and other surface waters shall be monitored in accordance with Table MR-B.

5. A temporary mixing zone of 50 meters shall be allowed adjacent to construction in waters of the State pursuant to Rule 62-4.244, F.A.C. This 50-meter zone applies only during construction, including removal and restoration of the dragline/utility crossing described in Specific Condition 20 (Dragline/Utility Corridor Crossing). This 50-meter zone shall be considered the limits of the temporary mixing zone for turbidity during construction. If monitoring reveals levels at the compliance site more than 29 NTUs above the level at the corresponding background site upstream from the activity, construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported as described in Specific Condition 13 (Spill Reporting).

d. Stream Monitoring

1. For stream projects, visual monitoring shall be conducted along the entire length of each reach to document observable stream conditions associated with sediment transport and stream stability, such as bank instability, instability/failure of instream structures, structure piping, headcuts, lateral bank migration, and excessive sediment deposition or degradation of the channel. Digital photographs of observed and noted problems will be taken. GPS coordinates, latitude and longitude, in decimal degrees will be collected at noted problem areas. Visual monitoring of streams shall be conducted only by individuals that have the appropriate training and/or expertise to assess the stability of streams and the condition of in-stream structures.
2. A brief narrative of the results of the visual assessments shall be included in the Annual Monitoring Report. The narrative in the Annual Monitoring Report should include the results from the visual assessments conducted in that monitoring year. Any areas of concern shall be annotated on a plan view of the site with GPS coordinates, latitude and longitude, in decimal degrees, with photographs, and with the written narrative describing the features and issues of concern. Once a feature of concern has been identified, that same feature shall be reassessed on all subsequent visual assessments. Photographs should be taken from the same location year-to-year to document the current condition of the concern. The Monitoring Report shall identify all recommended courses of action, which may include continued monitoring, repair, or other remedial action to alleviate the concerns.
3. Reclaimed streams shall be surveyed annually to assess morphological stability. Three (3) 100-meter reaches shall be surveyed for every 1,000 meters of reclaimed stream length. The

selection of survey reaches shall be representative of overall reach conditions and include areas that may be predisposed to potential problems, such as particularly tight meanders, channel confluences, or changes in bed slopes. The upstream and downstream extents of the survey reaches shall be permanently monumented and referenced to the thalweg stations from the original design. Surveying shall be conducted for ten (10) years, with monitoring events occurring on years 1, 2, 3, 5, 7, and 10.

4. Surveying shall include longitudinal thalweg, bank, water surface (if present), and bankfull indicator profiles and representative cross-sections. A total of six (6) cross-sections shall be surveyed in each surveying reach: three (3) in riffles and three (3) in pools located in meander bends. Meander bend pool cross-section locations shall be selected to include a range of meander radius of curvatures. Cross-sections shall include thalweg, water surface (if present), bankfull, top of bank elevations, and measurements of Bank Height Ratio (BHR) and Entrenchment Ratio (ER). Cross-sections shall be permanently monumented and referenced to the thalweg stations from the original design.
5. The as-built survey of the longitudinal thalweg profile, water surface, bankfull indicators, and top of banks, collected during the as-built survey of the constructed channel shall be used as the baseline condition for comparing and assessing morphological monitoring data. Survey monitoring data shall be used to calculate all morphological parameters contained in Appendix 2-2-B-i. Morphological parameter values derived from morphological monitoring shall be compared to the parameter values calculated from the as-built survey data to determine if release criteria are met.
6. Hydrology Monitoring: Hydrology shall be monitored as specified in Table MR-B.
7. Macroinvertebrate and Fish Monitoring: To establish a standard method, the Department's Standard Operating Procedures for Stream Condition Index sampling and calculation shall be used to monitor establishment of a macroinvertebrate community in reclaimed streams. Macroinvertebrate and fish sampling shall be conducted annually, providing flow conditions are sufficient, for at least three (3) years prior to release. The three (3) samples do not have to be in consecutive years to allow for sampling under suitable flow conditions. Sampling shall be conducted in one (1) 100-meter reach for every 1,000 feet of reclaimed stream length up to a total of three (3) sampling reaches per stream segment. The 100-meter reaches sampled shall be chosen from the same 100-meter reaches used for surveying. The individual SCI metrics shall

be compared to reference data approved by the Department under Specific Conditions 31 (Mitigation Release Criteria), 28d6 31 (Mitigation Release Criteria: Macroinvertebrates), and 28d7 31 (Mitigation Release Criteria: Fish). If the stream does not meet release criteria after three (3) sampling events have been completed, additional annual sampling shall be conducted until the release criteria is met.

e. Mitigation Monitoring

1. Vegetation: All herbaceous vegetation monitoring shall occur during or immediately after the summer growing season. The reports should include statistical summaries of all monitoring required under this section, a description of the methods used to collect the data (include citations and strata definitions (trees, shrubs, groundcover), photographs taken from the same permanent stations, and maps of sampling locations. Means and one standard error of the mean for each variable measured shall be reported in each report. Percent cover shall be reported as both total and relative. Information shall be reported graphically against time in the final report submitted prior to the request for release. Reports shall be submitted in the following format:

i. Data shall be reported separately for individual wetlands. For wetlands that include both herbaceous and forested areas, provide separate groundcover data tables for each wetland type.

ii. DEP mitigation data shall be reported separately from data collected from non-DEP mitigation areas.

iii. Shrub data shall be reported separately.

iv. Summary data tables including the following information shall be provided for each wetland and wetland type:

Trees:

- Density of each species (numbers per acre, not just numbers sampled)
- Mean height of each species
- Numbers recruited if they meet the specified tree definition

Shrubs:

- Density of each species (numbers per acre, not just numbers sampled)
- Numbers recruited if they meet the specified shrub definition

Ground cover (report both total and relative cover):

- percent cover of each species
- percent cover of desirable species
- percent cover of nuisance species
- percent cover of all wetland species

- percent cover of upland species
- percent cover of open water (total cover only)
- percent cover of bare ground (total cover only)
- qualitative description of vegetation zonation along the wetland ecotone

2. If any supplemental planting was done, provide a table that lists species and numbers planted.
3. Provide species data by both scientific and common name.

f. Soils: For each created wetland, the initial monitoring report shall also include information on the final soil types within the wetland, including the range of muck or wetland topsoil depths and a description of the upper foot of soil, below any muck or wetland topsoil. Descriptions for soils below the muck or topsoil can include sand tailings or overburden. The texture of the overburden should be described (sandy-loam, sand, etc.). Actual measurements of muck depths shall be obtained from at least five (5) locations in the 611 FLUCCS wetlands. If no muck or topsoil was applied, then this should be noted.

g. Water Quality: Water Quality shall be monitored as specified in Table MR-A.

h. Water Quantity: Water quantity shall be monitored in accordance with Table MR-B. Water quantity data shall be compared and presented in both a tabular and graphical format, with the on-site daily rainfall data being collected as shown on Table MR-B.

MR-A: Water Quality Monitoring (Page 1 of 2)

Locations	Parameters	Methods	Frequency/ Duration	Compliance Criteria
1. Existing Surface Water Stations: PL-SW-1, PL-SW-1A, PL-SW-4, PL-SW-5, PL-SW-6, PL-SW-7, PL-SW-9, PL-SW-11, PL-SW-13, PL-SW-15, PL-SW-24	pH, Temperature, DO, Conductivity, Turbidity, Total Alkalinity, Hardness, TSS, TP, Ammonia, Ortho Phosphate, Total Nitrogen, TKN, Nitrate/Nitrite, Fluoride, Sulfate, Total Organic Carbon (TOC), Chloride, Chlorophyll-a, Aluminum, Selenium, Calcium, Magnesium, Arsenic, Cadmium, Chromium, Iron, Lead, Nickel, and Zinc	DEP Standard Operating Procedures (SOPs) or according to an approved QAPP.	**Quarterly** prior to and through construction phase.	62-302.530, F.A.C., Class III Standards and 62-330, F.A.C.
2. Existing Monitoring Wells: PNL-GW-1R, PNL-GW-2, PNL-GW-3, PNL-GW-7, PNL-GW-8, PNL-GW-9, PNL-GW-10, PNL-GW-11, and PNL-GW-12	pH, temperature, Conductivity, Turbidity, TDS, Total Alkalinity, Hardness, TP, Ortho Phosphate, Total Nitrogen, TKN, Nitrate/Nitrite, Fluoride, Sulfate, Chloride, Aluminum, Selenium, Calcium, Magnesium, Arsenic, Cadmium, Chromium, Iron, Lead, Nickel, and Zinc.	DEP SOPs or according to an approved QAPP.	**Semi-Annually** prior to and through construction phase.	62-520.420, F.A.C., Class G-II Standards
3. Existing Surface Water Stations and Monitoring Wells: PL-SW-1, PL-SW-1A, PL-SW-4, PL-SW-5, PL-SW-6, PL-SW-7, PL-SW-9, PL-SW-11, PL-SW-13, PL-SW-15, PL-SW-24, PNL-GW-1R, PNL-GW-2, PNL-GW-3, PNL-GW-7, PNL-GW-8, PNL-GW-9, PNL-GW-10, PNL-GW-11, and PNL-GW-12	Gross Alpha and Radium 226/228. If gross alpha is greater than 15, then Uranium shall also be monitored.	DEP SOPs or according to an approved QAPP.	**Annually** prior to and through construction phase.	62-302.530, F.A.C., Class III Standards, 62-330, F.A.C and 62-520.420, F.A.C., Class G-II Standards

MR-A: Water Quality Monitoring (Page 2 of 2)

Locations	Parameters	Methods	Frequency/ Duration	Compliance Criteria
4. Stream Crossings: Field located 50 meters (m) upstream and 50 m downstream of each dragline/utility corridor crossing.	Turbidity	DEP SOPs or according to an approved QAPP.	**Daily** during construction and removal of each dragline/utility corridor crossing.	62-302.530, F.A.C., Class III Standards
5. Preserved Streams and Wetlands: Field located 50 m upstream and 50 m downstream of the point of severance and reconnection of each stream or wetland.	Turbidity	DEP SOPs or according to an approved QAPP.	**Daily** during severance or reconnection to preserved wetlands or streams.	62-302.530, F.A.C., Class III Standards
6. Reclaimed Streams and Wetlands: Field located in stream and mitigation wetlands at or near the connection to preserved wetlands/streams.	Turbidity, Temperature, DO, pH, and Conductivity.	DEP SOPs or according to an approved QAPP.	**Monthly** from May through October prior to reconnection to preserved wetlands.	62-302.530, F.A.C., Class III Standards
7. Reclaimed Streams and Wetlands: Field located in streams and mitigation wetlands at or near vegetation transects.	Turbidity, Temperature, DO, pH, and Conductivity.	DEP SOPs or according to an approved QAPP.	**Three** weekly samples prior to release request.	62-302.530, F.A.C., Class III Standards

Table MR-B: Water Quantity Monitoring (Page 1 of 1)

Locations	Parameters	Methods	Frequency/ Duration	Compliance/ Release Criteria
1. Rain Gauges: RG-61, RG-62	Rainfall	Rain gauge	**Daily**	N/A
2. Existing Surface Water Gauging Stations: PL-SW-1, PL-SW-1A, PL-SW-4, PL-SW-5, PL-SW-6, PL-SW-7, PL-SW-9, PL-SW-11, PL-SW-13, PL-SW-15, PL-SW-24	Water level and flow hydrographs.	Continuous stage level recorders and DEP SOP FT 1800.	**Continuously** through construction phase. Flow measurements taken **monthly or as needed** to refine the existing flow rating curves.	Downstream flows shall not be reduced to the point where lack of flow exiting the mine property causes water quality violations in major tributary systems.
3. Wetland Hydrographs: In each created wetland.	Water levels, average water depth, and hydroperiod hydrographs	Staff gauges, piezometers, and visual inspection	Piezometers **weekly** for at least 2 years after contouring is complete for initial hydrological assessment, then **monthly** continuing until release.	Within the range of values documented in reference wetlands of the appropriate community type.
4. Stream Gauging: In downstream most portion of each created stream reach.	Water level and flow hydrographs, occurrence of bankfull events.	Continuous stage level recorders and DEP SOP FT 1800	Stage **- continuously** until release. Flow measurements - **as needed** to develop flow rating curves.	See Specific Condition 31d1

Table MR-C: Vegetation, Soil, and Stream Macroinvertebrate Monitoring (Page 1 of 2)

Monitoring Type	Locations	Parameters	Methods	Frequency/ Duration	Compliance/Release Criteria
1. Vegetation	Field located randomly selected replicate sites field located along several transects across each created mitigation wetland.	Species list and % cover, FLUCFCS level III map, % bare ground and open water, nuisance spp. cover, upland spp. cover, wetland spp.cover, tree density, shrub density, tree height, tree dbh (starting year 5), and fruit and seedlings (starting year 7).	Modified line-intercept, belt-transects; point-frames, and/or elongated quadrats.	Years 1, 2, 3, and 5 following final planting, then every other year through the year prior to release request.	Specific to community type. See Specific Condition 31c.
2. Soils	In mitigation wetlands at or near vegetation transects described above.	Substrate description (hydric indicators/ depth to hydric indicators), litter accumulation, compaction, and soil moisture.	soil auger, shovel, penetro-meter, soil moisture meter	During vegetation sampling.	Specific Condition 37f..

Table MR-C: Vegetation, Soil, Stream Macroinvertebrate Monitoring (Page 2 of 2)

Monitoring Type	Locations	Parameters	Methods	Frequency/ Duration	Compliance Criteria
3. Stream Channel Integrity and Morphology	Entire channel profile and representative cross sections of each created stream reach for as-built condition; then 3 representative 100-m reaches for each 1,000 m of stream thereafter.	Bank and channel stability, map of channel, sinuosity, stream length, stream slope, bankfull indicators present, bankfull area, depth and width, max depth, width/depth ratio, entrenchment ratio, radius of curvature, large woody debris abundance, and vegetation cover in stream channel.	Visual inspection. Survey equipment, and GPS	Visual inspection of the channel after significant rain events for at least the first two years after contouring. Initial – Survey entire channel, survey profile and representative cross sections. Then representative reaches during years 2, 3, 5, 7 and 10 after completion of construction.	See Specific Conditions 31d2 and 31d3.
4. Macro-invertebrates	One 100m reach for each 1,000 feet of stream up to a total of 3 reaches per stream.	DEP Stream Condition Index (SCI) parameters	Dipnet sampling, (DEP SCI SOP)	Annually for at least three years prior to release request. Sampling shall be conducted in late August or early September.	See Specific Condition 31d6.
5. Fish	One 100m reach for each 1,000 feet of stream up to a total of 3 reaches per stream.	Number and identity of each taxa, diversity, richness, trophic guild	Seine/Electo-shocking	Annually for at least three years prior to release request.	See Specific Condition 31d6

Executed in Tallahassee, Florida.
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Orlando E. Rivera, PWS
Program Administrator
Mining and Mitigation Program

Prepared by Dennis Tyus

ATTACHMENTS:
List of Attachments

LIST OF ATTACHMENTS

The following figures, sheets, and plans are hereby attached to, and become part of this permit:

Item Designation	Description	Date Received
Documents		
SID	Supplemental Information Document	July 1, 2016
SID	Section 4	February 22, 2017
ERP Tables		
1-1	Adjoining Property Owners	July 1, 2016
1-2	Acres by County, Range, and Section	May 27, 2015
1-2-A	Pipeline Length by Section	May 27, 2015
2-1-A-ii	FDEP Site Land Use Cover - Vegetation Cover	July 1, 2016
2-2-C-i	FDEP JD Wetland and OSW Impact Summary by Land Use	July 1, 2016
2-2-C-ii	FDEP JD Wetland Impact Summary by ID	May 27, 2015
2-2-D-i	FDEP Stream Impact Summary	May 27, 2015
2-2-E	Land Cover within 60 feet of Existing Streams	May 27, 2015
2-3-A	Groundwater Quality	July 1, 2016
2-3-A-i	Groundwater Monitoring Stations	July 1, 2016
2-3-B	Surface Water Quality	July 1, 2016
2-3-B-i	Surface Water Monitoring Stations	July 1, 2016
2-3-C	SWFWMD Database - Existing Wells (Onsite and Within 500 ft)	May 27, 2015
2-4-B	Summary of UMAM Values	February 22, 2017
2-4-D	Preservation UMAM Summary by ID	February 22, 2017
2-4-F	Creation UMAM Summary by ID	February 22, 2017
2-5-A	Site Soil Descriptions	July 1, 2016

2-6-A	Federal and State Listed Wildlife Observed on Site	May 27, 2015
2-6-B	Federal and State Listed Wildlife - Potential to occur Onsite	May 27, 2015
2-6-C	Summary of all Listed Species / Wildlife Likelihood of Occurance	May 27, 2015
2-6-D	Summary of Federally and State Listed Plant Species	May 27, 2015
3-1-B	FDEP Mine Impact Summary	July 1, 2016
3-2	Mine Plan Summary	May 27, 2015
3-3	Water Balance Example	May 27, 2015
3-4-A	Clay Settling Area Summary	May 27, 2015
3-4-A-i	Clay Settling Area Filling Summary	May 27, 2015
3-4-B	Estimated Sand Tailings Schedule	May 27, 2015
3-5	Access Corridor Stream Crossings	May 27, 2015
4-1	Mine Reclamation Schedule	May 27, 2015
4-2	Minimum FDEP Rule Reclamation Schedule	May 27, 2015
4-3-A	Proposed Plantings in Bay & Gum Swamps (FLUCFCS 611 & 613)	May 27, 2015
4-3-B	Proposed Plantings in Inland Ponds & Sloughs and Mixed Hardwoods (FLUCFCS 616 & 617)	May 27, 2015
4-3-C	Proposed Plantings in Cypress Wetland Forests (FLUCFCS 621)	May 27, 2015
4-3-D	Proposed Plantings in Wetland Forested Mix (FLUCFCS 630)	May 27, 2015
4-3-E	Proposed Herbaceous to be Planted in Freshwater Marsh (FLUCFCS 641)	May 27, 2015
4-3-F	Proposed Herbaceous to be Planted in Wet Prairie Marsh or Ephemeral Wetlands (FLUCFCS 643)	May 27, 2015
4-3-G	Proposed Herbaceous to be Planted in Shrub Marsh (FLUCFCS 647)	May 27, 2015
4-3-H	Proposed Plantings in Hydric Pine Flatwoods (FLUCFCS 625)	May 27, 2015
4-3-I	Propsoed Plantings in Hydric Pine Savannna (FLUCFCS 626)	May 27, 2015
4-4-A	Proposed Plantings in Palmetto Prairie (FLUCFCS 321)	May 27, 2015
4-4-B	Proposed Plantings in Pine Flatwoods (FLUCFCS 411)	May 27, 2015

4-4-C	Proposed Plantings in Xeric Oak Scrub (FLUCFCS 421) and Sand Live Oak (FLUCFCS 432)	May 27, 2015
4-4-D	Proposed Plantings in Live Oak and Temperate Hardwood (FLUCFCS 427 & 425)	May 27, 2015
4-4-E	Proposed Plantings in Hardwood-Conifer Mixed (FLUCFCS 434)	May 27, 2015
4-4-F	Proposed Plantings in Cabbage Palm Hammock (FLUCFCS 428)	May 27, 2015
4-4-G	Proposed Plantings in Upland Forests (FLUCFCS 420) and Mixed Hardwoods (FLUCFCS 438)	May 27, 2015
ERP MAPS		
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1-2	General Vicinity	May 27, 2015
1-2-A	General Vicinity Pipeline	May 27, 2015
1-3	USGS Quadrangle	May 27, 2015
1-3-A	USGS Quadrangle Tiled Sheets	May 27, 2015
1-4	Aerial Photo	May 27, 2015
1-4-A	Aerial Photo Tiled Sheets	May 27, 2015
1-5	Historical Aerial Photo 1940	May 27, 2015
1-5-A	Historical Aerial Photos 1940s (on CD and in Appendix 1-3-B-i)	May 27, 2015
1-6	Adjacent Property Owners	July 1, 2016
1-6-A	Adjacent Property Owners Tiled Sheets	July 1, 2016
1-6-B	Pipeline Adjacent Property Owners	July 1, 2016
1-6-B-i	Pipeline Adjacent Property Owners Tiled Sheets	July 1, 2016
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2-1-B-ii	FDEP Land Use & Vegetation (FDOT Level III)	May 27, 2015
2-1-B-ii-a	FDEP Land Use & Vegetation (FDOT Level III) Tiled Sheets	May 27, 2015
2-2-B-i	Jurisdictional Wetlands and Other Surface Waters	July 1, 2016
2-2-B-i-a	Jurisdictional Wetlands and Other Surface Waters Tile Sheets	July 1, 2016
2-2-B-ii	Jurisdictional Streams	May 27, 2015

2-2-B-ii-a	Jurisdictional Streams Tiled Sheets	May 27, 2015
2-2-B-iii	Stream Orders	May 27, 2015
2-2-B-iv	Wetland Impacts During First 3 Years	May 27, 2015
2-3-A	Groundwater Monitoring Stations	July 1, 2016
2-3-A-i	Groundwater Quality Monitoring Stations	July 1, 2016
2-3-B	Stream Monitoring Locations	July 1, 2016
2-3-C	SWFWMD Well Inventory (Onsite and Adjacent within 500 ft)	May 27, 2015
2-3-E	Seasonal Low Water Table Depth	May 27, 2015
2-3-F	Seasonal High Water Table Depth	May 27, 2015
2-3-G	Soil Boring Locations	May 27, 2015
2-4-B	Wetland UMAM Values	May 27, 2015
2-4-B-a	Wetland UMAM Values Tiled Sheets	May 27, 2015
2-5-A	Existing Soils Tiled Sheets	May 27, 2015
2-5-B	Existing Soils Along Pipeline	July 1, 2016
2-5-B-a	Existing Soils Along Pipeline Legend Description	July 1, 2016
2-5-B-i	Existing Soils Along Pipeline Tiled Sheets	July 1, 2016
2-6-A	Wildlife Survey Transects	May 27, 2015
2-6-B	Listed Wildlife Locations	May 27, 2015
2-7	Existing Topography	May 27, 2015
2-7-A	Existing Topography Tiled Sheets	May 27, 2015
2-8-A	100-Year Floodplain	May 27, 2015
2-8-B	25-Year Floodplain	May 27, 2015
2-8-D	FEMA Floodplain	May 27, 2015
2-9-A	Existing Drainage Basins	May 27, 2015
2-10-A	Archeological Study Area Archeological Sites Archeological Sites Avoided	May 27, 2015
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3-2	Mine Disturbed Areas Including Infrastructure	May 27, 2015
3-2-A	Pre Mining Infrastructure (Development Prior to Startup)	May 27, 2015
3-2-B	Pre Mining Infrastructure (Development Prior to Startup in Years)	May 27, 2015
3-3	Plant Site	May 27, 2015
3-4	Waste Disposal Areas	May 27, 2015
3-5-A	Oak Hill Branch Crossing Aerial	May 27, 2015
3-5-B	Horse Creek Stream Crossing Aerial	May 27, 2015
3-5-C	Brandy Branch North Crossing Aerial	May 27, 2015
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3-5-E	Buzzards Roost Branch North Crossing Aerial	May 27, 2015
3-5-F	Buzzards Roost Branch South Crossing Aerial	May 27, 2015
3-6	Mine Plan Ditch and Berm Buffer	May 27, 2015
3-7	Ft. Green Wells Location	May 27, 2015
4-1	Reclamation Schedule	May 27, 2015
4-2-B-i	FDEP Land Use & Vegetation (FDOT Level I)	July 1, 2016
4-2-B-ii	FDEP Land Use & Vegetation (FDOT Level III)	July 1, 2016
4-2-B-ii-a	FDEP Land Use & Vegetation (FDOT Level III) Tiled Sheets	July 1, 2016
4-3-B	FDEP Post Reclamation Streams	July 1, 2016
4-3-B-a	FDEP Post Reclamation Streams Tiled Sheets	July 1, 2016
4-4	Post Reclamation Soils	July 1, 2016
4-5	Post Reclamation Topography	July 1, 2016
4-5-A	Post Reclamation Topography Tiled Sheets	July 1, 2016
4-6	Post Reclamation Drainage Basins	July 1, 2016
4-8-B-i	Mitigation Wetlands & Streams	July 1, 2016
4-8-B-i-a	Mitigation Wetlands & Streams Tiled Sheets	July 1, 2016
4-8-B-ii	UMAM Scores Without Project	February 22, 2017

4-8-B-iii	UMAM Scores With Project	July 1, 2016
4-8-B-iii plotter	UMAM Scores With Project Plotter Size Map	March 8, 2017
4-8-C	Proposed Conservation Easements	February 22, 2017
4-8-C-A	Proposed Conservation Easements Offsite Mitigation Projects	February 22, 2017
4-8-D	Post Reclamation Wetland Cross Section Locations	July 1, 2016
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3-A	Photos of Typical Ditch & Berm	May 27, 2015
3-B	Typical Ditch & Berm Cross Sections	May 27, 2015
5-A	Alderman Bay System Top Soils	May 27, 2015
5-B	Sod Harvester Top Soils	May 27, 2015
5-C	Maron Run Top Soil – Mulch	May 27, 2015
5-D	Tributary A Top Soil – Compost	May 27, 2015
7-A	Typical Cross Section of FLUCFCS 611 & 613	May 27, 2015
7-B	Typical Cross Section of FLUCFCS 617	May 27, 2015
7-C	Typical Cross Section of FLUCFCS 621	May 27, 2015
7-D	Typical Cross Section of FLUCFCS 630	May 27, 2015
7-E	Typical Cross Section of FLUCFCS 641	May 27, 2015
7-F	Typical Cross Section of FLUCFCS 643	May 27, 2015
7-G	Typical Cross Section of FLUCFCS 647	May 27, 2015
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7-I	Typical Cross Section for FLUCFCS 625 & 626	May 27, 2015
9-B	Prioritized Streams	May 27, 2015
9-C	Prioritized Forested Wetlands	May 27, 2015
9-D	Prioritized Herbaceous Wetlands	May 27, 2015
9-E	Priority Streams and Wetlands Key Landscape Area	May 27, 2015

10	Typical Hydrostatographic Column	May 27, 2015
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1-3-B-i	Aerial(s)	May 27, 2015
1-8	List of Acronyms	May 27, 2015
2-2-A-i	Existing Wetland Cross Sections (Reference Wetlands)	May 27, 2015
2-2-A-iii	Post Reclamation Cross Sections	May 27, 2015
2-2-A-iv	Post Reclamation Hydroperiod Modeling	July 1, 2016
2-2-A-v	Post Reclamation Lake Cross Section	May 27, 2015
2-2-B-i	Stream Report	July 1, 2016
2-2-B-ii	Mine Fish Monitoring Report	May 27, 2015
2-2-B-iii	SWFWMD Stream Stage Hydrographs	July 1, 2016
2-6-B	Site Habitat Management Plan	May 27, 2015
3-1-C	Water Supply Pipeline Plans	July 1, 2016
3-1-D	Railroad Spur Design	May 27, 2015
3-4-A	Life of Mine Waste Disposal Plan	May 27, 2015
3-4-B	Clay Characterization	May 27, 2015
3-5	Stream Reroute Design	May 27, 2015
3-6-A	Mosaic's Stormwater Ditch, Berm and Retention System Design Policy	May 27, 2015
3-6-B	FDEP's BMPs for Non-Clay, Phosphate Mining and Reclamation Berms and Impoundments	May 27, 2015
3-6-C	Mosaic's Stormwater Management Plan	May 27, 2015
3-7	Isopach Maps	May 27, 2015
4-2-B	Horse Creek Enhancement Project	May 27, 2015
4-4-C	Long Term Management Plan	February 22, 2017
4-6-I	PR-E Construction Sequence Presentation	May 27, 2015

CERTIFICATE OF SERVICE

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

USACE, Jacksonville District Regulatory Division, SAJ-RD@usace.army.mil
FDEP, Office of General Counsel, Agency_Clerk@dep.state.fl.us
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FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Marjorie C. Taylor
Clerk

4/07/2017
Date