

## MEMORANDUM FOR RECORD

**SUBJECT:** Record of Decision and Statement of Findings for Department of the Army (DA) Permit Application SAJ-1993-01395

This document constitutes the Record of Decision, Clean Water Act Section 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings for DA Permit Application SAJ-1993-01395 pursuant to 40 C.F.R. §§ 1505.2 and 1506.4 and 33 C.F.R. Part 325, Appendix B, Paragraph 18. The Final Areawide Environmental Impact Statement (EIS), Addendum, and Supplemental Environmental Assessment (EA) are available on the Jacksonville District, Regulatory Division's website, on the Items of Interest page under Central Florida Phosphate Mining:  
<http://www.saj.usace.army.mil/Missions/Regulatory/Items-of-Interest/>

### 1.0 Application:

1.1 Applicant: Mosaic Fertilizer, LLC  
13830 Circa Crossing Drive  
Lithia, FL 33547

The applicant listed in the June 1, 2012, public notice for this project was CF Industries, Inc. (CF Industries). On March 17, 2014, Mosaic Fertilizer, LLC (Mosaic), acquired CF Industries' Florida phosphate operations, including the proposed South Pasture Extension project, and became the applicant for this project.

1.2 Location and Affected Waterway: The project is located partially in wetlands associated with Brushy Creek, Lettis Creek and Troublesome Creek, which are intermittent streams within the Peace River watershed. Specifically, the project is located along C.R. 663 (Ona Fort Green Road) in Sections 1, 2, 3, 10, 11, and 12, Township 34S, Range 23 East and Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, Township 34 South, Range 24 East in Hardee County, Florida.

1.2.1 Approximate Central Coordinates:

Latitude: 27.549221944 North

Longitude: - 81.937210556 West

1.3 Existing conditions: The 7,512.8-acre project site consists predominantly of agricultural land, with 1,769.2 acres of jurisdictional waters of the United States including: 786.4 acres of forested wetland, 930.1 acres of herbaceous wetland, 31.1 acres of intermittent stream, and 21.5 acres of other surface waters (ditches and cattle ponds). The site also contains 242.3 acres of non-jurisdictional aquatic resources including: 25.8 acres of forested wetland, 186.0 acres of herbaceous wetland, 0.3 acres of intermittent stream, and 30.2 acres of other surface waters (ditches and cattle ponds). Mosaic's currently

operating South Pasture Mine is immediately to the north of the project site, and the proposed Ona Mine is immediately to the south.

- 1.3.1 Project History: The U.S. Army, Corps of Engineers, Jacksonville District Regulatory Division (Corps) received CF Industries' original application for the South Pasture Extension project on April 28, 2010. On August 3, 2010, the Corps prepared a Memorandum for the Record (MFR) stating that an EIS was the appropriate National Environmental Policy Act (NEPA) documentation for permit applications for phosphate mining in the Central Florida Phosphate District, including the application for South Pasture Extension. On January 28, 2011, the Corps prepared a second MFR, in response to requests from the then two applicants for separate Environmental Impact Statements. The second MFR also stated that the EIS was the appropriate NEPA documentation.

The Notice of Intent (NOI) for the EIS was published in the Federal Register on February 18, 2011 (76 Fed. Reg. 9560). Sections 1.8.2 and 1.8.3 of the Final EIS describe the NOI and the subsequent scoping process.

The Notice of Availability for the Draft EIS was published in the Federal Register on June 1, 2012 (Fed. Reg. 77(106), 32635-32636). Sections 1.8.7, 1.8.8, and 1.8.9 of the Final EIS describe the Notice of Availability, the public involvement process, and the public comments received on the Draft EIS respectively. The Corps also published a separate public notice for the South Pasture Extension project on June 1, 2012.

On May 3, 2013, the Corps, U.S. Environmental Protection Agency (EPA), and Florida Department of Environmental Protection (FDEP) published a Notice of Availability for the Final EIS. The South Pasture Extension project is included within the scope of action of the Final EIS. See Final EIS page 1-21 to 1-31. On July 12, 2013, the Corps, EPA, and FDEP published an Addendum to the Final EIS.

The Corps published a second public notice for South Pasture Extension on June 16, 2016. The purpose of the second public notice was twofold: 1) to make a draft of the Section 404(b)(1) and public interest review analyses available to the public, as committed to in the Final EIS, and 2) pursuant to 40 C.F.R. §§ 1501.3(b) and 1502.9(c)(2) to provide the public with an environmental assessment prepared to assist with the permit decision and further the purposes of NEPA.

The Final Areawide Environmental Impact Statement (EIS), Addendum, and Supplemental EA are available on the Jacksonville District, Regulatory Division's website, on the Items of Interest page under Central Florida Phosphate Mining: <http://www.saj.usace.army.mil/Missions/Regulatory/Items-of-Interest/>

- 1.4 Work Proposed: The applicant requests a 20 year construction window to mine phosphate ore located on the project site. The applicant proposes mining operations to extract the phosphate ore reserves on the proposed South Pasture Mine Extension for approximately 14 years. This project would provide phosphate ore to extend the life of the currently operating and adjacent South Pasture Mine and beneficiation plant. Upon completion of mining operations within each phase/mining unit, the applicant proposes to reclaim all land disturbed by mining operations and implement the approved compensatory mitigation plan (Attachment B of this decision document).

The applicant proposes approximately 1218.5 acres of impacts to waters of the United States (WOUS), including 1198.17 acres of wetland impacts, 3.75 acres of stream impacts, and 16.58 acres of impact to other surface waters such as cattle ponds and upland-cut ditches. The June 1, 2012, public notice for this project described a total of 1226 acres of wetland impacts, however the applicant has since minimized wetland impacts by 27.83 acres.

The applicant also proposes to impact 32,161 linear feet of ditched and unditched intermittent or ephemeral streams, which is a reduction of 1180 linear feet of stream impacts from the impacts described in the June 2012 public notice.

The jurisdictional impacts include 0.9 acre of temporary impacts to WOUS for a single, necessary consolidated dragline and infrastructure corridor crossing of Brushy Creek. Construction of this crossing would result in a total of approximately 0.7 acre of temporary impacts to forested wetlands, 0.1 acre of temporary impacts to herbaceous wetlands, and 0.1 acre of temporary impacts to intermittent streams. This impact has not changed from the description in the June 2012 public notice.

- 1.5 Avoidance and minimization statement from applicant: The June 1, 2012, public notice states *“The applicant has proposed to avoid approximately 1,094.6 acres on the property as avoidance and minimization of impacts; this avoided area includes 523.1 acres of wetlands (including 55,501 linear feet of intermittent streams) and 571.4 acres of uplands.”*

Section 5 of this decision document provides additional information about the final avoidance and minimization measures proposed by the applicant, and the Corps’ determination about those measures.

- 1.6 Compensatory mitigation proposal from applicant: The June 1, 2012, public notice states:

*The applicant proposes mitigation on-site on the South Pasture Mine Extension and off-site on applicant property adjacent to South Pasture mining areas for unavoidable impacts to waters of the U.S. In addition to on-site wetland establishment and restoration, both on-site and off-site preservation is proposed.*

On Site Mitigation

*On-site mitigation is proposed to consist of 400.4 acres of wetland preservation (66.4 acres herbaceous wetland, 321.7 acres forested wetland, and 12.4 acres open water), 1,568.7 acres of wetland establishment and 122.7 acres of wetland restoration. In addition, 55,501 linear feet of intermittent stream channel would also be avoided and protected. Of the 1,568.7 acres of proposed wetland establishment, 1,009.0 would be herbaceous wetland, 488.5 acres would be forested wetland, and 71.1 acres would be open water. Of the 122.7 acres of proposed wetland restoration, 92.6 acres would be herbaceous wetland, 25.6 acres would be forested wetland, and 4.6 acres would be open water.*

*As mitigation for the proposed removal of 33,341 linear feet of intermittent stream channel, the applicant proposes to establish 43,838 linear feet of intermittent stream channel on reclaimed landforms and to restore 4,204 linear feet of avoided, historically disturbed intermittent stream channel located in proposed preservation areas.*

*The applicant also proposes to grant a permanent conservation easement prior to commencing mining operations in order to provide permanent protection to 1,094.6 acres within the proposed preservation area where any disturbance by mining would be avoided. This area includes 523.1 acres of wetlands and 571.4 acres of uplands. The conservation easement is proposed to be granted to the Florida Department of Environmental Protection (FDEP), with provisions allowing the Corps to enforce the easement. Upon completion of mitigation, a second conservation easement, totaling 1,789.4 acres, would be granted to provide permanent protection to the established mitigation wetlands and intermittent streams, including stream buffer corridors, also with provisions allowing the Corps to enforce the easement.*

Off-Site Mitigation

*The applicant proposes to grant conservation easements to permanently protect 434.5 acres of off-site wetlands and 481.1 acres of off-site uplands associated with Horse Creek and Payne Creek, all within the Peace River watershed and located on applicant property adjacent to South Pasture mining areas. The entire 915.6 acres that make up these areas would be placed under permanent conservation easements that would be granted to the Florida Department of Environmental Protection, with provisions allowing the Corps to enforce the easements.*

The applicant has revised the mitigation plan since that June 1, 2012, public notice. Section 8 of this decision document provides additional information about the compensatory mitigation. Attachment B of this decision document provides a copy of the final, approved compensatory mitigation plan.

1.7 Project Purpose and Need:

1.7.1 Basic and Overall Project Purpose and Need:

Basic: To extract phosphate ore.

Overall: To extract phosphate ore from the mineral reserves located in the Central Florida Phosphate District (CFPD) and to construct the associated infrastructure required to extract and process the phosphate ore at separation/beneficiation facilities recognizing that the ore extracted must be within a practicable distance to a new or existing beneficiation plant.

The change in applicant from CF Industries to Mosaic did not change the basic or overall purposes for this project.

Public Need: Section 1.2.1 of the Final EIS describes the public's general need.

Applicant's Need: Section 1.2.2 of the Final EIS describes the applicant's general need. In addition, the applicant provided the following statements about the specific need at an overall operational level and at a project specific level:

*Overall Need: Mosaic currently operates the Four Corners, South Fort Meade, South Pasture, and Wingate Creek Mines in the CFPD to meet its phosphate rock needs (EIS page 2-6). The EIS estimate that Mosaic produce 17.1 million short tons of phosphate rock per year (MMTPY) at its four CFPD mines as follows: Four Corners – 6.1 MMTPY; Hookers Prairie – 1.9 MMTPY; South Fort Meade – 4.3 MMTPY; South Pasture – 3.5 MMTPY; and Wingate Creek – 1.3 MMTPY (EIS Table 1-3). The FEIS acknowledges that these estimated production rates are calculated based on mining at 85% of capacity, and that actual production rates may fluctuate from year to year.*

*All of Mosaic's existing CFPD mines will complete extraction of currently permitted ore reserves between 2020 and 2025. In order to continue to obtain an uninterrupted phosphate rock supply to meet projected demands, Mosaic plans to extend mining onto the South Pasture Extension property from the South Pasture Mine (mining activities are currently projected to begin in 2016), extend mining onto the Wingate East property from the Wingate Creek Mine, develop the Ona Mine to replace the Four Corners Mine, and develop the DeSoto Mine to replace the Hookers Prairie and South Fort Meade Mines. This mining development sequence is based upon business factors such as logistics, production needs, and projected rock supply. The USACE's EIS evaluated all four of Mosaic's proposed mines and mine extensions and reasonably foreseeable extensions of the Ona Mine onto the Pioneer and West Pioneer Tracts and the DeSoto Mine onto the Pine Level-Keys Tract.*

Project Specific Need: *The South Pasture Extension parcel, which is located adjacent to*

*the existing South Pasture Mine, will extend the life of the South Pasture Mine and beneficiation plant, thereby maintaining uninterrupted a long-term supply of phosphate rock to meet the fertilizer demand of the Applicant's customers. Without extending mining operations into the South Pasture Extension, the permitted reserves at the South Pasture Mine are projected to be depleted by 2025. This is a mine extension project; the applicant is seeking to extend the life of the South Pasture Plant through at least 2035 rather than construct a new beneficiation plant.*

*The applicant is proposing to optimize blending of South Pasture and South Pasture Extension rock, integrate materials backfill on the two sites, and optimize reserve recovery. In order to continue to produce the phosphate rock currently being supplied by the South Pasture Mine to meet demand uninterrupted, the applicant needs to expand mining operations into the South Pasture Extension as soon as possible to optimize rock blending opportunities and rock recovery between the two parcels. Therefore, mining activities on the South Pasture Extension are scheduled to begin in 2016 and continue for approximately 20 years, to 2035 to allow for rock extraction and beneficiation to be integrated and to optimize rock blending, materials backfill, and reserve recovery at both sites. With this in mind, the applicant needs a minimum life for a mine extension of at least ten years of mining on the South Pasture Extension, which, when integrated with mining on the South Pasture Mine (with mining occurring on both sites at times simultaneously and at times sequentially, as needed to optimize rock blending, reserve recovery, and materials backfill), would supplement and ultimately allow operation of the South Pasture Plant until at least 2035. Timely development of the South Pasture Extension to continue the operation of the South Pasture Plant is necessary for the applicant to continue supplying its customers in the United States and over 40 countries with phosphate fertilizers and feed supplements for another 20 years.*

*The South Pasture Extension is adjacent to and, at its furthest corners, 5.3 miles from the South Pasture Mine beneficiation plant, which allows continued use of the existing South Pasture Plant, clay settling areas (CSAs), and other infrastructure while mining at South Pasture Extension, thereby offering not only cost and logistics benefits but also environmental benefits (e.g., avoiding unnecessary or lengthy movements of large equipment across the landscape, minimizing the overall CSA footprint by utilizing existing storage capacity on the South Pasture Mine, and more efficiently using water). The applicant's overall mining and operations plans will integrate both the South Pasture and South Pasture Extension Life of Mine Backfill Plan, including integrated disposal, storage, and use of generated clay and sand tailings for reclamation. The very close proximity of the South Pasture Extension property to South Pasture Mine and beneficiation facilities allows for the planned optimization of mine activities and facilitates uninterrupted production at the South Pasture Plant.*

As stated in 33 CFR Part 325, Appendix B, when defining the purpose and need for a project "while generally focusing on the applicant's statement, the USACE will in all cases, exercise independent judgment in defining the purpose and need for the project

from both from the applicant's and the public's perspective." Therefore, the Corps independently reviewed and verified the information in the applicant's statements of need.

Section 1.2.1 of the Final EIS includes the information about yearly overall production rates and the plan of mine succession. The Corps determined that this information is valid and will use it in its alternatives analysis.

To independently review and verify the applicant's statement about the project-specific production needed for the South Pasture Extension project (3.5 MMTPY for ten years), the Corps evaluated data from the publicly available 2012 and 2013 10-K Reports, as developed pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the South Pasture Mine, as operated by the owner at that time, CF Industries, and the 2014 10-K Report for South Pasture Mine as operated by the applicant.

The applicant states the 3.5 MMTPY is the full capacity of the South Pasture beneficiation plant. However, the 2012 10-K Report indicates that for 2010, the South Pasture Mine's production was 3.34 million short tons (MMT), in 2011, it was 3.5 MMT, and in 2012, it was 3.48 MMT. The 2013 10-K Report states that in 2013, the production was 3.57 MMT. The 2014 10-K Report indicates that the production from South Pasture for approximately nine months was 2.6 MMT. This extrapolates out to approximately 3.25 MMT. The average yearly production for the South Pasture Mine from 2010 to 2014 is 3.43 MMT. A project alternative would need 34.3 MMT of mineable reserves to meet this production for a ten-year period. However, the applicant states that their Preferred Alternative, as described in Sections 5.2.2 and 5.4.3 of this decision document, which would recover a total of approximately 33.7 MMT of phosphate rock, would meet their project-specific need.

The Corps will consider a need for 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered, in its alternatives analysis for this project. As described above this is the most conservative value for the project-specific need. The Corps will also consider the mining development sequence described in the statement of overall need in the alternatives analysis.

1.7.2 Water-dependency determination: Because the project's basic purpose, extracting phosphate ore, does not require siting within a water of the U.S., the proposed discharge is not water dependent.

**2.0 Authority:** Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344) Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344) Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344) Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344) Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344) of the Clean Water Act of 1972 (33 U.S.C. § 1344) Section 404

- 2.1 Jurisdictional Determination Information: The Corps issued an approved jurisdictional determination for the project on October 18, 2012.

### 3.0 Scope of Analysis

- 3.1 National Historic Preservation Act (NHPA) "Permit Area" – *The NHPA scope is defined as "permit area". The permit area for an undertaking is defined in 33 CFR 325, Appendix C. The following three (3) tests must all be satisfied for an activity undertaken outside of waters of the United States to be included within the "permit area".*

- 3.1.1 Tests (*check all that apply*):

a. The activity outside of waters of the United States would not occur but for the authorization of the work or structures within waters of the United States.

b. The activity outside waters of the United States is integrally related to the proposed work or structures within waters of the United States (or, conversely, the proposed work or structures within waters of the United States must be essential to the completeness of the overall project or program).

c. The activity outside waters of the United States is directly associated (first order impact) with the proposed work or structures within waters of the United States.

- 3.1.2 Scope Determination: Activities outside waters of the United States are included because all of the above tests apply to this project.

- 3.1.3 NHPA Scope Summary and Description: The NHPA scope includes the entire South Pasture Extension parcel, including upland areas and non-jurisdictional aquatic resources.

- 3.2 Endangered Species Act (ESA) "Action Area" – *The ESA scope is defined as "action area". The action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action; and, is defined for an undertaking in 50 CFR 402.02, Definitions.*

- 3.2.1 Determined Scope: The ESA scope includes the entire South Pasture Extension parcel, including upland areas and non-jurisdictional aquatic resources, plus downstream aquatic resources potentially affected by the proposed activities.

- 4.0 Public Involvement (*Public Notice required by 33 CFR 325.3*):



4.1 a) EIS: Section 1.8 of the Final EIS describes the public involvement process for the EIS review, including the public meetings held ahead of the NEPA process, the EIS scoping, the project website, the interagency coordination including newsletter updates, the public meetings for the Draft EIS, and the Draft EIS comment review. Appendix A of the Final EIS and the Addendum to the Final EIS provide the comments received on the Draft EIS and the Corps' responses to those comments.

b) The Corps received the application for the SPE project on May 7, 2010, and considered it complete on May 31, 2012. The Corps published a public notice for the project on June 1, 2012, with an initial 30-day comment period, which the Corps later extended to 60 days. The Corps published a second public notice for the project on June 16, 2016, to provide additional opportunity for public review and comment on the draft CWA Section 404(b)(1) Guidelines analysis and public interest review as committed to in the Final EIS. Attachment A of this decision document provides the comments on the 2012 and 2016 public notices as described in Section 4.3 below.

4.2 Public Meeting(s): Yes  
Discussion/Explanation: Section 1.8 of the Final EIS summarizes the public participation process for the EIS, including the public scoping meetings and the public meetings held during the Draft EIS comment period.

4.3 Public Notice Comments: Attachment A provides comments received and the Corps' responses, organized into two sections. Section 1 provides the table of 2012 public notice comments and the Corps' responses, and the comments as received. Section 2 provides the table of 2016 public notice comments and the Corps' responses, and the comments as received.

The Corps organized the responses into tables, and responded to each comment individually. The Corps responded to general statements with the response "comment acknowledged." Although the Corps did not summarize comments as was done in Appendix A of the Final EIS (with the exception of one set of comments received), comments with similar themes or messages have similar or identical responses, with references made to sections of the Final EIS (including those sections modified by the Addendum) or this decision document as specifically as possible. In the case of identical, or nearly identical, comments on the 2016 public notice that were generated through the website of the Center for Biological Diversity, the Corps summarized similar comments for response, and provided those commenters' names in lists. Where commenters added additional language that required individual responses, the Corps responded individually, and provided copies of those comments.

4.4 Comments/Issues Forwarded to Applicant/Applicant Responses: The Corps sent the comments received on the 2012 public notice to the applicant on June 13, 2013, along with the Corps' own comments. The applicant responded on September 25, 2013. The Corps sent comments on the 2016 public notice to the applicant on July 11, 2016, on

July 18, 2016, and on August 10, 2016. The applicant responded on September 12, 2016, and on September 20, 2016.

- 4.5 Corps Purview – The following comments are not discussed further in this document as they are outside the Corps purview: As shown in the comment response tables, the Corps did not provide further discussion on topics outside of the Corps’ regulatory authority, or topics that the Corps considered to be outside the scope of analysis for this review, including but not limited to fertilizer manufacturing and mandatory reclamation of mined areas.

Section 1.3.1 of the Final EIS describes the scope of action for the EIS, and for the Corps’ project-specific reviews of the four actions considered in the EIS, including South Pasture Extension. As stated there, the Corps determined that the four actions are single and complete actions, and have independent utility from the fertilizer plants, including from the phosphogypsum stacks created from a byproduct of the manufacturing process. The fertilizer plants could conceptually continue operations using rock from other sources than the proposed mines. Therefore, the EIS, and the Corps’ project-specific reviews of South Pasture Extension and the other three actions, did not consider the direct and indirect effects of the plants or the phosphogypsum stacks. The cumulative impact analysis did include the plants and phosphogypsum stacks where appropriate, along with other past, present, and reasonably foreseeable future actions.

FDEP and the USEPA both directly regulate the fertilizer plants and phosphogypsum stacks. FDEP maintains a Phosphogypsum Management Program that regulates the design, construction, operation, and maintenance of phosphogypsum stack systems. USEPA regulates the plants and stacks under the Resource Conservation and Recovery Act of 1976 (RCRA). Under RCRA, USEPA defines and identifies hazardous waste; establishes standards for its transportation, treatment, storage, and disposal; and requires permits for persons engaged in hazardous waste activities.

- 4.6 Public Hearing Request – *(33 CFR 327) Requests for a public hearing shall be granted unless the district engineer determines that the issues raised within the request(s) for a public hearing are insubstantial or there is otherwise no valid interest to be served by the hearing. The district engineer will make such a determination in writing, and communicate his reasons therefor to all requesting parties.*

Public Hearing: Public hearings were requested, but denied

Discussion/Explanation: As described in Sections 4.1 and 4.2 of this decision document and Section 1.8 of the Final EIS, the Corps held public meetings in accordance with NEPA requirements. In accordance with 33 CFR 327.4(b), the Corps determined that the issues raised by the requests for a public hearing were either insubstantial or there was otherwise no valid interest to be served by a hearing because the issues raised by

the requestor were addressed in the EIS, Addendum, supplemental environmental assessment, or this ROD. The Corps received public hearing requests as follows:

Date	Requested By
June 15, 2012	Beverly Griffiths, Sierra Club Florida Phosphate Committee
June 16, 2012	Dr. Helen Jelks King, Protect Our Watersheds, Inc.
June 18, 2012	Dennis Mader, People for Protecting Peace River
July 6, 2012	Dennis Mader, People for Protecting Peace River
July 31, 2012	Mary Olsson
June 3, 2013	Sarasota County
July 20, 2016	Jaclyn Lopez, Center for Biological Diversity

The Corps sent a letter to all of the above parties stating that their request for a public hearing had been denied, and providing the reasons for that denial.

**5.0 Alternatives Analysis** – *(40 CFR 230.10, HQ Regulatory SOP July 2009, RGL 93-2, RGL 84-09) If the project is sited in a special aquatic site (such as a wetland), and if the project does not need to be in or near the special aquatic site to fulfill its basic purpose (i.e., the project is not "water-dependent"), it is presumed that there are practicable alternatives that do not involve special aquatic sites. To overcome this presumption, the applicant must clearly demonstrate to the Corps that practicable alternatives are not available. If the presumption is not overcome, the Corps must deny the permit application. If the project is not sited in a special aquatic site and/or is water-dependent, the applicant is not required to overcome the presumption that upland alternatives are available. However, the Corps must still address whether there are any upland alternatives (or alternatives with less impact), and if any are identified, the applicant must clearly demonstrate that they are not feasible. If such a demonstration cannot be made, the Corps must deny the permit application. The Corps performed an evaluation of alternatives, as described below:*

5.1 Offsite/Avoidance Alternatives Screening Process and Evaluation Criteria: Section 2.2.4.1 and Appendix B of the Final EIS describe the screening process for offsite, or avoidance, alternatives used for the Final EIS. The Corps' project-specific evaluation of avoidance alternatives under Clean Water Act Section 404(b)(1) began with the list of parcels identified in the Final EIS: South Pasture Extension, Pioneer Tract, Desoto, Pine Level/Keys Tract, Site A-2, Site W-2, Ona, and Wingate East.

40 CFR 230.10(b)(2) states “An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” As described in Section 3.1.5 of the Final EIS, the Corps has determined that ten miles is the practicable pumping distance to move material to and from a phosphate beneficiation plant. Therefore, the first step in the Corps’ evaluation of avoidance alternatives considered whether an alternative (or any part of an alternative) lay within a ten-mile radius of the applicant's South Pasture Mine beneficiation plant. Three alternatives met this criterion - Ona (22,457 acres), Pioneer Tract (9496 acres), and Wingate East (1519 acres). The acreage figures are the area of each parcel located within the 10-mile practicable pumping distance. Because the other four parcels identified in the Final EIS (Desoto, Pine Level/Keys Tract, Site A-2, and Site W-2) are outside of the ten-mile radius and therefore are not practicable alternatives, the Corps eliminated them from further consideration.

The avoidance alternatives carried forward for further analysis included a No Action Alternative, South Pasture Extension, (the Applicant’s Preferred Site Alternative), and the three offsite alternatives (Ona, Pioneer Tract, and Wingate East).

Figure 2-8 in Chapter 2 of the Final EIS shows the locations of all of the alternatives considered in the Final EIS, including the avoidance alternatives identified above and evaluated in Section 5.2 of this decision document. Appendix C of the Final EIS has aerial photographs of the alternatives.

As stated in 40 CFR 230.1(a), “No discharge will be permitted if there is a practicable alternative which would have less adverse impact on the aquatic ecosystem provided the alternative does not have other significant adverse environmental consequences.” Therefore, for the next step in the avoidance alternatives analysis the Corps independently reviewed and verified the criteria for considering both the practicability (based on 40 CFR 230.10(b)(2), as described above) and the environmental impacts of each of the avoidance alternatives.

5.1.1 Practicability Criteria: The Corps considered the following specific criteria:

- a) the estimated total length of pipelines needed to carry material between an offsite alternative and the South Pasture beneficiation plant,
- b) the number of stream crossings needed for pipelines (stream crossings),
- c) the number of dragline crossings,
- d) the ability of an alternative to support other necessary mine infrastructure such as clay settling areas (considering factors such as available area),
- e) compliance with state (FDEP) or local (Hardee County) permitting requirements,
- f) the ability of an alternative to produce 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered, and meet the project need as described in Section 1.7.1 of this decision document,

g) the ability of an alternative to fulfill the mining development sequence described in the overall need.

In regards to practicability criteria a), the length of pipelines and number of stream crossings was estimated based on the distance between each offsite alternative and the beneficiation plant. The Corps also estimated that seven pipelines each would be needed for South Pasture Extension, Ona, and Pioneer alternatives in order to maintain a maximum of 3.5 MMTPY production. The Corps estimated that the Wingate East alternative would only need two pipelines due to the size of the alternative. The estimates for the number of pipelines are further based on the expected number of draglines that would work each site – three each for South Pasture Extension, Ona, and Pioneer, and one for Wingate East.

In regards to practicability criteria b) and c), the mine plans for South Pasture Extension, Ona, and Wingate East are the basis for the stream and dragline crossing information used for those alternatives' analyses. The Corps estimated the percentage of the Pioneer Mine that would be avoided by a mine plan for purpose of this alternatives analysis only because there currently is no mine plan for Pioneer. The Corps considered that 16% of Pioneer would not be mined based on GIS data and an application of the mitigation framework described in Section 5.4 of the Final EIS. This estimated no-mine area also determines the number of stream crossings potentially needed for Pioneer.

In regards to practicability criteria d), the Corps considered each alternative's total acreage, estimated phosphate reserves and associated clay to estimate the total size of the clay settling areas needed.

In regards to practicability criteria e), the Corps considered the mine plans' compliance with applicable state or local permitting requirements, rules, and regulations.

In regards to practicability criteria f), to eliminate any discrepancies in the comparison of the three alternatives with mine plans (and their associated onsite avoidance and minimization of wetland impacts) from the one alternative without a mine plan the Corps considered production data based on each site's total mineable reserves. As with the crossing information, the Corps used estimated production values for South Pasture Extension, Ona, and Wingate East alternatives based on those alternative's mine plans. For the Pioneer alternative, the Corps again assumed an unmined area of 16%.

- 5.1.2 Environmental Criteria: In addition to the determinations of practicability described above, the Corps evaluates the environmental impacts of project alternatives. As stated in 40 CFR 230.1(a), "No discharge will be permitted if there is a practicable alternative which would have less adverse impact on the aquatic ecosystem provided the alternative does not have other significant adverse environmental consequences."

For the environmental criteria used to evaluate the avoidance alternatives, the Corps used wetland acreage based on National Wetland Inventory data (NWI wetlands) and Southwest Florida Water Management District data (SWFWMD wetlands). The Corps chose these criteria to ensure a consistent approach to evaluating the environmental impacts of the off-site alternatives and because the data is publicly available.

## 5.2 Evaluation of the Avoidance Alternatives

### 5.2.1 No Action Alternative: Section 4.1.9 of the Final EIS describes the two No Action Alternatives – No Mining and Upland Only Mining. This section of the decision document will address the No Action – No Mining alternative. Section 5.4.1 of this decision document describes the Corps' evaluation of the No Action– Upland Only Mining alternative as a minimization alternative.

Under the No Action – No Mining alternative, the applicant would not mine South Pasture Extension at all. There is no construction of any mine infrastructure, including pipelines, crossings, or clay settling areas, within the South Pasture Extension parcel. This alternative does not produce any phosphate rock at all

Because the No Action Alternative – No Mining alternative does not produce any phosphate rock, it does not satisfy the overall project purpose described in Section 1.7.1 of this decision document, nor does it meet the project-specific need of 3.37 MMTPY for ten years/33.7 MMT of total production described in Section 1.7.1. Therefore, the No Action Alternative – No Mining alternative is not a practicable alternative.

The South Pasture Extension parcel contains 1472.5 acres of NWI wetlands and 2663.5 acres of SWFWMD wetlands. Because there is no new mining, there are no mining-related impacts to these wetlands.

The No Action Alternative – No Mining alternative is less environmentally damaging than the Applicant's Preferred Alternative.

### 5.2.2 Applicant's Preferred Alternative: This is the approximately 7513-acre South Pasture Extension parcel described in Section 1 of this decision document. The entire 7513 acres is within ten miles of the South Pasture beneficiation plant. This alternative requires approximately 30.5 miles of pipelines and one stream crossing. The applicant states that this alternative has sufficient space for the necessary clay settling areas. Mining the South Pasture Extension parcel would produce 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate.

This alternative meets the overall project purpose and the applicant's need on both the overall and the project-specific levels; therefore, this alternative is practicable.

For the purpose of comparison to the other avoidance alternatives, the South Pasture Extension parcel contains 1472.5 acres of NWI wetlands and 2663.5 acres of SWFWMD wetlands.

- 5.2.3 Ona: This alternative considers mining 18,752 acres of the 22,457 acres of the overall Ona parcel that lie within the ten-mile practicable pumping distance of the South Pasture beneficiation plant. This alternative requires approximately 55.5 miles of pipelines and 3 stream crossings. Mining the 18,752 acres would produce 3.37 MMTPY for at least ten years, or a total of 150 MMT of phosphate.

The Ona alternative meets the overall project purpose and the project-specific need. However, as explained in Section 1.7.1 of this decision document, the applicant's mining development sequence has the phosphate production from the Ona Mine replacing the production from the Four Corners Mine after that mine's reserves run out. Therefore, this alternative does not meet the applicant's overall need. Also, this alternative would require 25 more miles of pipeline and two more crossings than the Applicant's Preferred Alternative.

The Ona alternative contains 3896.9 acres of NWI wetlands and 6143.7 acres of SWFWMD wetlands. Based on the Ona site having a greater acreage of wetlands than South Pasture Extension, and the additional amount of pipelines and crossings needed for Ona versus South Pasture Extension, the Corps expects this alternative to be more environmentally damaging than the Applicant's Preferred Alternative.

- 5.2.4 Wingate East: This alternative considers mining 1364 acres of the 1519 acres of the Wingate East parcel that are within the 10-mile practicable pumping limit. This alternative requires approximately 37.2 miles of pipelines and two stream crossings. Mining this alternative would produce less than 3.37 MMTPY (based on the single dragline) for less than ten years, with a total of 10.9 MMT of phosphate.

The Wingate East alternative does not meet the project-specific need identified in Section 1.7.1 because it would not produce enough phosphate rock. In addition, as explained in Section 1.7.1 of this decision document, the applicant's mining development sequence has the phosphate production from the Wingate East Mine replacing the production from the Wingate Mine after that mine's reserves run out. Also, this alternative would require 6.7 more miles of pipeline and one more crossing than the Applicant's Preferred Alternative. Therefore, this alternative is not practicable.

The Wingate East alternative contains 466.7 acres of NWI wetlands and 346.8 acres of SWFWMD wetlands. Even with the additional length of pipelines and the additional

crossing, the Corps considers Wingate East to be a less environmentally damaging alternative than South Pasture Extension.

- 5.2.5 Pioneer Tract: Consideration of this alternative assumes mining 7977 of the 9496 acres of Pioneer Tract that are within the ten-mile practicable pumping limit. There is no current application to mine this parcel and no mine plan. Therefore, as stated in Section 5.1 of this decision document, the analysis of this alternative relies on an estimated mine plan that assumes avoidance of 16% of the waters of the United States. This alternative requires approximately 61.5 miles of pipelines and three stream crossings. Mining this alternative would produce 3.37 MMTPY for at least ten years, or a total of 63.8 MMT of phosphate.

The Pioneer Tract alternative meets the overall project purpose and the project-specific need. The applicant did not specifically include Pioneer Tract in the mining development sequence as described in Section 1.7.1 of this decision document, however as stated in Section 4.12.1.4 of the Final EIS, the applicant has previously indicated that the Pioneer Tract is a proposed future mine. Also, this alternative would require 31 more miles of pipeline and two more crossings than the Applicant's Preferred Alternative.

The Pioneer Tract alternative contains 2097.6 acres of NWI wetlands and 3818.3 acres of SWFWMD wetlands. Considering the potential wetland impact acreage, the Pioneer Tract alternative is more environmentally damaging than the Applicant's Preferred Alternative.

- 5.3 Onsite/Minimization Alternatives and Evaluation Criteria: The Corps evaluated seven minimization alternatives for South Pasture Extension:

- a) the No Action – Uplands Only alternative,
- b) Upland Mining with Crossings of WOUS,
- c) The Applicant's Preferred Alternative,
- d) The Original Mine Plan - Maximum Recovery/Minimal Avoidance,
- e) UMAM-Based Avoidance,
- f) Applicant's Preferred Plus Additional Avoidance, and
- g) Maximum Framework Avoidance

Each of these onsite alternatives represents a different mine plan for the project. Attachment C to this decision document provides maps of each of these plans.

As with its evaluation of the avoidance alternatives, the Corps independently reviewed and verified both the practicability and the environmental impacts of the minimization alternatives in accordance with 40 CFR 230.1(a) and 40 CFR 230.10(b)(2).



5.3.1 Practicability Criteria: The Corps considered the following specific criteria:

- a) the estimated total length of pipelines needed to carry material to the South Pasture beneficiation plant and the estimated total length of the ditch and berm system around areas not to be mined,
- b) the number of crossings needed for pipelines and draglines,
- c) the ability of an alternative to support other necessary mine infrastructure such as clay settling areas (considering factors such as available area),
- d) compliance with state (FDEP) or local (Hardee County) permitting requirements, and
- e) the ability of an alternative to produce 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered, and meet the project need as described in Section 1.7.1 of this decision document.

5.3.2 The environmental criteria included each alternative's expected level of impacts to WOUS (based on the October 18, 2012, approved jurisdictional determination), and agreement with the mitigation framework described in Section 5.4 of the Final EIS. As stated in Section 5.4.1 of the Final EIS, the mitigation framework was applied after consideration of the applicable presumptions for proposed discharges of fill into special aquatic sites under the Section 404(b)(1) Guidelines and does not modify any law or regulation or the jurisdictional authority of USACE or any other agency.

As described in Section 5.4.3 of the Final EIS, there are four steps in the mitigation framework:

- a) Step 1 is the identification of priority-based avoidance areas (reference Final EIS Section 5.4.3.1). Such resources include perennial and intermittent streams, forested wetlands, and high quality herbaceous wetlands (defined as having an overall UMAM score of 0.7 or higher).

Section 5.4.3.1 of the Final EIS also describes how the Corps can apply other factors in Step 1 of the mitigation framework, such as giving greater priority to areas where multiple criteria apply, higher-quality forested wetlands and streams, and other environmental criteria such as a wetland's or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species.

The final part of Step 1 describes how the Corps can consider other criteria to support its evaluations, such as Critical Lands and Waters Identification Project (CLIP) priority, the Integrated Habitat Network, and 100-year floodplains.

b) Step 2 of the mitigation framework, as described in Section 5.4.3.2 of the Final EIS, is to determine the extent of onsite avoidance that is practicable under the Section 404(b)(1) Guidelines. Sections 4(e)(i)-(vii) below provide the Corps' evaluation of the seven alternatives for mine plans for South Pasture Extension.

c) Step 3 of the mitigation framework, as described in Section 5.4.3.3 of the Final EIS, evaluates opportunities to minimize impacts through best management practices (BMPs) and mine plan design. Section 5.5 of this decision document describes how the Corps considered Step 3 in its evaluation. Sections 6.0 ("Evaluation of the 404(b)(1) Guidelines") and 7.0 ("General Public Interest Review") of this decision document also describe many of these minimization measures.

d) Section 8 of this decision document, "Compensatory Mitigation", and Attachment B, the approved compensatory mitigation plan, address Step 4 of the mitigation framework (reference Final EIS Section 5.4.3.4

#### 5.4 Evaluation of the Minimization Alternatives

- 5.4.1 No Action – Uplands Only mine plan: This alternative involves mining only non-Corps-jurisdictional areas, including uplands and aquatic resources not considered to be WOUS, with no direct impacts to any WOUS and no other action that would trigger the need for a DA permit under Section 404 of the CWA, including from dragline and infrastructure crossings. Under this plan, the applicant could recover 7% of the total commercially mineable phosphate reserves, or 2.9 MMT, from 350.2 acres of mined area. The applicant would not need to construct any wetland or stream crossings with this plan, and has stated that it is possible that existing clay settling areas (for example, on South Pasture) could handle this alternative's output. This alternative requires an approximately 86,936-linear foot (16.5-mile) ditch and berm system and ten miles of pipelines. The applicant did not indicate that this alternative specifically conflicted with any local or state permitting requirements.

As stated in Section 1.7.1 of this decision document, there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. The No Action – Uplands Only alternative does not meet this project-specific need because it produces only 2.9 MMT of phosphate rock over an expected 10 month period. Therefore, this alternative is not practicable.

This mine plan avoids 100% of the onsite WOUS overall, and 100% of the wetlands and 100% of the streams prioritized by the mitigation framework. Because there are no

impacts to resources prioritized by the mitigation framework, this alternative agrees with Steps 1 and 2 of the mitigation framework.

With no wetland or stream impacts, and agreement with of Steps 1 and 2 of the mitigation framework, this alternative is less environmentally damaging than the Applicant's Preferred Alternative.

- 5.4.2 Upland Mining with Crossings of WOUS: In this plan, the applicant would only mine upland/non-Corps-jurisdictional areas; however, the applicant would impact wetlands and streams for dragline and infrastructure crossings. This plan allows the applicant to recover 27% of the total commercially mineable phosphate reserves, or 10.7 MMT, with 1290 acres of mining. Unlike the No Action Alternative, this alternative generates more clay waste than existing clay settling areas can accommodate, and there would be insufficient space to create new clay settling areas on the South Pasture Extension property with this mining plan. This mine plan involves 19 crossings of WOUS, 30 miles of pipelines, and 305,149 linear feet (57.8 miles) for the ditch and berm system.

As stated in Section 1.7.1 of this decision document there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. The Upland Mining with Crossings of WOUS alternative does not meet this project-specific need because it produces only 10.7 MMT of phosphate rock over an expected three year, two month period. Also, the inability to store the waste clay produced would conflict with state and local requirements for disposal of such material. Therefore, this alternative is not practicable.

This mine plan impacts 5.5 acres of the onsite WOUS overall (avoiding approximately 99.7%), including 2.7 acres of mitigation framework priority wetlands (avoiding approximately 99.8%) and no streams prioritized by the mitigation framework (100% avoidance). Because there are impacts to only 0.2% of the resources prioritized by the mitigation framework, this alternative agrees with Steps 1 and 2 of the mitigation framework.

With less impact to WOUS overall and to framework wetlands and streams, and agreement with the mitigation framework, this alternative is less environmentally damaging than the Applicant's Preferred Alternative.

- 5.4.3 The Applicant's Preferred Alternative: This is the project as described in Section 1.4 of this decision document. This alternative allows the applicant to recover 86% of the total commercially mineable phosphate reserves, or 33.7 MMT, with 4132.6 acres of mining. The state and county have approved this mine plan. This plan involves one crossing of WOUS, 30.5 miles of pipelines, and 160,781 linear feet (30.5 miles) for the ditch and

berm system around avoided areas. This alternative has sufficient area for the necessary clay settling areas.

As stated in Section 1.7.1 of this decision document there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. This alternative meets that production level, with mining for ten years. The Applicant's Preferred Alternative meets the overall project purpose and the project-specific need. The Corps considers this alternative to be practicable.

This mine plan impacts 1218.5 acres of the onsite WOUS overall (avoiding approximately 29.1%), including 597.7 acres of mitigation framework priority wetlands (avoiding approximately 39.5% in total, including 41.6% of forested wetlands and 28.9% of high-quality herbaceous wetlands) and 2084 linear feet of streams prioritized by the mitigation framework (94.6% avoidance). The avoided area includes the riparian corridors of all natural intact intermittent streams onsite (there are no perennial streams onsite). In addition, this alternative integrates five of the six high quality wetland areas, along with other avoided areas of wetlands, streams, and upland buffers, into a contiguous landscape. Doing so addresses the environmental criteria in the mitigation framework such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. For priority avoidance overlap areas, this mine plan avoids 73.2% of intermittent streams in lower-quality forested wetlands, 99.3% of intermittent streams in high-quality forested wetlands, and 85.7% of intermittent streams in high-quality herbaceous wetlands.

Due to the contiguous avoided area, which contains natural streams, floodplains, high-quality forested and herbaceous wetlands, and upland buffers, this mine plan agrees with Steps 1 and 2 of the mitigation framework.

As with the avoidance alternative described in Section 5.2.2 of this decision document, the Applicant's Preferred Alternative for minimization is the basis of comparison for the environmental impacts.

- 5.4.4 The Original Mine Plan - Maximum Recovery/Minimal Avoidance: This alternative avoids only the main stem of Brushy Creek and mines all other areas other than required property setbacks. Under this plan, the applicant would recover 94% of the total commercially mineable phosphate reserves, or 36.7 MMT, with 4527 acres of mining. FDEP rejected this mine plan during its review of the proposed project. This plan involves no crossings of WOUS, 29 miles of pipeline, and 112,836 linear feet (21.4

miles) of ditch and berm. This alternative has sufficient area for the necessary clay settling areas.

As stated in Section 1.7.1 of this decision document there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. This alternative exceeds that production level, with mining for approximately ten years and 10 months. The Original Mine Plan - Maximum Recovery/Minimal Avoidance alternative meets the overall project purpose and the project-specific need. However, because the state rejected this mine plan, it is not practicable.

Environmentally, this mine plan impacts 1546.6 acres of the onsite waters of the United States overall (1% avoidance), 816 acres of mitigation framework priority wetlands (avoiding approximately 17.5%, including 19.1% of forested wetlands and 9.2% of high-quality herbaceous wetlands) and 23,046 linear feet of streams prioritized by the mitigation framework (40.2% avoidance). The alternative only avoids the southern/lower part of the main stem of Brushy Creek, including the highest quality forested wetlands, and an area of uplands and wetlands to the east of the creek. This alternative does not address other environmental criteria for avoidance such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. For priority avoidance overlap areas, this mine plan avoids 0% of intermittent streams in lower-quality forested wetlands, 46.8% of intermittent streams in high-quality forested wetlands, and 0% of intermittent streams in high-quality herbaceous wetlands.

This mine plan has more overall impacts to WOUS, impacts to framework wetlands, and impacts to framework streams than the Applicant's Preferred Alternative. Also, because this mine plan avoids such a low level of the priority framework resources, including overlap areas, and does not address other environmental avoidance criteria, it does not agree with Steps 1 and 2 of the mitigation framework. Therefore, this alternative is more environmentally damaging than the Applicant's Preferred Alternative.

- 5.4.5 **UMAM-Based Avoidance:** For this alternative, the applicant would avoid all high quality wetlands (UMAM score of 0.7 and above) and streams regardless of location, surrounding land use, connectivity, and other Final EIS mitigation framework criteria (as described in Section 5.4.3.1 of the Final EIS). Under this plan, the applicant could recover 88% of the total commercially mineable phosphate reserves, or 34.6 MMT, with 4292.9 acres of mining. This alternative has sufficient area for the necessary clay settling areas; however, the applicant states that the clay settling area configuration required under this mine plan would not comply with state and local requirements. This

plan involves two crossings of WOUS, 34 miles of pipelines, and 200,822 linear feet (38 miles) of ditch and berm.

As stated in Section 1.7.1 of this decision document there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. This alternative exceeds that production level, with mining for approximately ten years, three months. The UMAM-Based Avoidance alternative meets the overall project purpose and the project-specific need. However, if the state or county could not approve this plan, it would not be considered practicable.

Environmentally, this mine plan impacts 1288.8 acres of the onsite WOUS overall (25% avoidance), including 567.9 acres of mitigation framework priority wetlands (avoiding approximately 42.6%, including 44.7% of forested wetlands and 32% of high-quality herbaceous wetlands) and 5979 linear feet of streams prioritized by the mitigation framework (84.4% avoidance). The avoided area includes the riparian corridors of Brushy and Lettis Creeks and all of the high quality wetland areas, along with a 100-foot upland buffer. Some of the avoided wetlands would be contiguous with the avoided stream corridors; however, several avoided wetlands and stream corridors would be separated due to mining. For priority avoidance overlap areas, this mine plan avoids 0% of intermittent streams in lower-quality forested wetlands, 99.5% of intermittent streams in high-quality forested wetlands, and 85.7% of intermittent streams in high-quality herbaceous wetlands.

This alternative impacts 70.3 more acres of wetlands overall, 29.8 less acres of framework wetlands overall, and 3895 more linear feet of streams prioritized by the mitigation framework than the Applicant's Preferred Alternative. However, this alternative does not avoid any areas where intermittent streams are within lower-quality forested wetlands. Also, as described above, and as shown on Figure 5 of Attachment C to this document, this alternative leaves several of the avoided areas separate and isolated from other no-mine areas, with no consideration of other environmental criteria such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. The lack of overlap between priority criteria and the lack of consideration of other environmental criteria are both contrary to the part of Step 1 of the mitigation framework described in Section 5.4.3.1 of the Final EIS. Therefore, although the measures of impact are comparable to the Applicant's Preferred Alternative, the UMAM-Based Avoidance alternative is more environmentally damaging than the Applicant's Preferred Alternative.

Applicant's Preferred Plus Additional Avoidance: This mine plan adds the avoidance of WOUS in Sections 5 and 6, Township 34 South, Range 24 East, and the avoidance of a section of Troublesome Creek. This alternative considers additional mitigation framework-based avoidance (forested wetlands, high-quality herbaceous wetlands, and perennial and intermittent streams) without conflicting with the applicant's planned siting of clay settling areas.

Under this plan, the applicant could recover 82% of the total commercially mineable phosphate reserves, or 32.2 MMT, with 3916.4 acres of mining. Although the additional avoided areas are in close proximity to an area proposed for future development by the county, the applicant did not indicate that this alternative specifically conflicted with any local or state permitting requirements. This plan involves two crossings of WOUS, 27 miles of pipelines, and 185,775 linear feet (35.1 miles) of ditch and berm. This alternative has sufficient area for the necessary clay settling areas.

As stated in Section 1.7.1 of this decision document there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. The Applicant's Preferred Plus Additional Avoidance alternative does not meet this project-specific need because it produces only 32.2 MMT of phosphate rock over an expected nine year, six month period. Therefore, this alternative is not practicable.

This mine plan impacts 1038 acres of the onsite WOUS overall (avoiding approximately 40%), including 456.4 acres of mitigation framework priority wetlands (avoiding approximately 53.8%, including 55.1% of forested wetlands and 47.8% of high-quality herbaceous wetlands) and no streams prioritized by the mitigation framework (100% avoidance). The avoided area includes the riparian corridors of all natural intact intermittent streams onsite (there are no perennial streams onsite). This alternative integrates five of the six high quality wetland areas, along with other avoided areas of wetlands, streams, and upland buffers, into a contiguous landscape. Doing so addresses the environmental criteria in the mitigation framework such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. This alternative does create one separated avoidance area in the eastern half of the project area along the southern part of the Troublesome Creek system. For priority avoidance overlap areas, this mine plan avoids 94.1% of intermittent streams in lower-quality forested wetlands, 100% of intermittent streams in high-quality forested wetlands, and 100% of intermittent streams in high-quality herbaceous wetlands.

This alternative impacts 180.5 less acres of wetlands overall, 141.3 less acres of framework wetlands, and 2084 less linear feet of framework streams than the Applicant's Preferred Alternative. With the exception of the Troublesome Creek section, the contiguous avoided area contains natural streams, floodplains, high-quality forested and herbaceous wetlands, and upland buffers; therefore, this mine plan agrees with Steps 1 and 2 of the mitigation framework. Overall, the Applicant's Preferred Plus Additional Avoidance alternative is less environmentally damaging than the Applicant's Preferred Alternative.

- 5.4.7 Maximum Framework Avoidance – For this alternative, the applicant would avoid all wetlands and streams identified as “priority” under the mitigation framework, with exceptions made for temporary crossings and to allow two clay settling areas east of County Road 663.

This plan allows the applicant to recover 66% of the total commercially mineable phosphate reserves, or 25.8 MMT, with 3123.6 acres of mining. The two clay settling areas do not provide sufficient capacity for clay storage, even at the expected, reduced production level. This plan involves ten crossings of WOUS, 32 miles of pipelines, and 311,773 linear feet (59 miles of ditch and berm).

As stated in Section 1.7.1 of this decision document there is a project-specific production need of 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered. The Maximum Framework Avoidance alternative does not meet this project-specific need because it produces only 25.8 MMT of phosphate rock over an expected seven year, seven month period. Therefore, this alternative is not practicable.

This mine plan impacts 481.2 acres of the onsite WOUS overall (avoiding approximately 72%), 173.3 acres of mitigation framework priority wetlands (avoiding approximately 82.5%, including 80.1% of forested wetlands and 94.1% of high-quality herbaceous wetlands) and 53 linear feet of streams prioritized by the mitigation framework (99.9% avoidance). The avoided area includes the riparian corridors of Brushy and Lettis Creeks and all of the high quality wetland areas. Most of the avoided wetlands and streams are contiguous; however, they lack a supporting surrounding landscape of uplands and lower-quality wetlands. In addition, some of the avoided areas would be separated by mining. For priority avoidance overlap areas, this mine plan avoids 0% of intermittent streams in lower-quality forested wetlands, 99.5% of intermittent streams in high-quality forested wetlands, and 85.7% of intermittent streams in high-quality herbaceous wetlands.



This alternative impacts 737.3 less acres of wetlands overall, 423.9 less acres of framework wetlands, and 2031 less linear feet of framework streams than the Applicant's Preferred Alternative. With some exceptions, the avoided areas are contiguous and contain natural streams, floodplains, high-quality forested and herbaceous wetlands, however the avoided areas lack a supporting surrounding landscape of uplands and lower-quality wetlands. Therefore, this mine plan does not agree with Steps 1 and 2 of the mitigation framework. Even considering the lack of agreement with Steps 1 and 2, because of the degree of impact reduction overall and within the framework resource categories, the Corps has determined that the Maximum Framework Avoidance alternative is less environmentally damaging than the Applicant's Preferred Alternative.

- 5.5 Least Environmentally Damaging Practicable Alternative (LEDPA): In consideration of the information noted above, the Corps has determined that the Applicant's Preferred Alternative, as described in Sections 5.2.2 and 5.4.3 above, is the LEDPA that would achieve the overall project purpose. This determination considers cost, existing technology, and logistics, in addition to the consideration of impacts to the environment.
- 5.6 Additional Minimization Measures – As stated in Section 5.4.3.3 of the Final EIS, "Impact minimization considerations may address both physical and temporal impacts as well as direct, indirect, and cumulative impacts. Potential minimization measures include, but are not limited to, reducing the widths of infrastructure corridors; using existing CSAs and constructing contiguous CSAs so that they have a common wall; minimizing CSA footprints through design and operation methods; using existing stream crossings created for agricultural operations; sequentially reusing disturbed areas; using upland buffers; using recharge ditch systems; and maintaining habitat interconnectivity and existing wildlife corridors." The measures described below are part of the mine plan for the Applicant's Preferred Alternative for South Pasture Extension, as described in 8.3 of this decision document.
- 5.6.1 Corridor widths: The single crossing proposed for the Applicant's Preferred Alternative is approximately 300 feet wide between the upstream and downstream headwalls, including 100 feet of perimeter berms and slopes and 200 feet to accommodate a dragline walk path, a 25kva power line, and pipelines to transport collected stormwater, mine process water, and slurries of ore matrix and sand tailings. The dragline walk path will require approximately 100 feet, plus 20 feet on each side for mobile equipment to assist and support the dragline crossing, for a total of 140 feet, leaving 60 feet for the pipe lines and power line. The width of the crossing has been minimized to the extent technically feasible and to the extent mine safety is not compromised.

- 5.6.2 CSAs: Implementation of the Applicant's Preferred Alternative allows the applicant to minimize CSA impacts through several means including utilization of existing CSA capacity within CF's adjacent South Pasture Mine and stage filling; proper design of the overall mine backfill plan to advantageously site CSAs in areas with greater overall mining depths, thereby maximizing unit storage capacity in terms of disposal capacity per acre of land; strategic location of CSAs contiguous to each other so that common walls may be utilized and thereby reduce the overall footprint; and proper consideration of site hydrology effects in developing the mine backfill plan such that changes in runoff or recharge are not disproportionately assigned to any one subwatershed associated with the project.
- 5.6.3 Using existing crossings: The Applicant's Preferred Alternative proposes one crossing for infrastructure at the narrowest point along Brushy Creek and at a location where historic uses of the property crossed Brushy Creek with agricultural equipment. The existing agriculture crossing is approximately 150 feet wide and void of trees, such that the applicant's proposed use represents a widening of an existing disturbed crossing rather than clearing of an undisturbed riparian corridor.
- 5.6.4 Buffers: Ninety percent of the wetland acreage within the avoided area has an upland buffer of greater than 100 feet. The width of this buffer is greatest where the native habitat is most prevalent and the wetlands are of a higher quality. A mine's ditch and berm system also buffers the adjacent area from the mining activity. As described in Section 5.4.3.3 of the Final EIS, "The berm of the ditch and berm system is set back approximately 135 feet to 150 feet from the edge of a stream or wetland; the ditch is between the berm and the mining/reclamation area."
- In addition to a physical buffer, the applicant proposes to have a "temporal buffer" for avoided streams. Temporal buffers are manipulations of mine/reclamation sequencing that will prevent concurrent disturbance along both sides of avoided streams.
- 5.6.5 Recharge ditches: The ditch and berm systems protect the adjacent WOUS and the surficial aquifer by maintaining water table elevations at sufficient levels to hydrate nearby wetlands or streams while the adjacent mine cuts are temporarily dewatered. The recharge ditch delivers water to the nearby wetland via the surficial aquifer. This delivery mechanism mimics an important natural pathway and provides high quality water. The ditch and berm system also constitutes an effective and recognized BMP to protect downstream waters from water quality impacts and is a requirement of FDEP's ERP permit for the project.

5.6.6

Maintaining connectivity: Although mine sequencing is subject to change for various operational reasons, the applicant has committed to maintain a 1,000 foot minimum natural or reclaimed buffer (along at least one bank) of each preserved stream within the avoided areas. The land within the 1,000 feet described above may be unmined land or recontoured mine lands, but will not be open mine cuts. This will act as a buffer/corridor for wildlife movement. The FDEP ERP for the project includes a condition requiring this buffer.

## **6.0 Evaluation of the 404(b)(1) Guidelines:**

(40 CFR 230) For each of the below listed evaluation criterion, this section describes the potential impact, any minimization measures that would be used to reduce the level of impact, and the resultant impact level. For the purpose of this evaluation, the fill associated with this project is the activity described in Section 1.4 of this decision document.

6.1 Factual determinations (40 C.F.R. § 230.11, Subpart B).

6.1.1 Physical Substrate (40 C.F.R. § 230.11(a)): As described in Section 4.10 of the Final EIS, phosphate mining leads to a moderate to major degree of effect on surficial geology and soils, including soils and substrate present in wetlands and waterbodies. However, the reclamation required by the state, and the mitigation required by the state and the Corps, will offset the adverse direct impacts of mining. In addition, the BMPs described throughout the Final EIS, including the perimeter ditch and berm system that separates the active mine from adjacent wetlands and surface waters, should protect those aquatic resources from indirect effects to substrate. Attachment B of this decision document provides the applicant's approved mitigation plan.

6.1.2 Water circulation, fluctuation, and salinity (40 C.F.R. § 230.11(b)): Section 4.2.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on surface water flows within the Peace River, Horse Creek, and Payne Creek. The Final EIS states that the project will have minor to no effect on the Peace River or Payne Creek, and a potentially moderate effect on Horse Creek. The Final EIS also states that measures such as monitoring and the use of recharge ditches to maintain flow in Horse Creek would reduce that moderate level of effect.

Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).

- 6.1.3 Suspended particulate/turbidity (40 C.F.R. § 230.11(c)): Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).
- 6.1.4 Contaminant Availability (40 C.F.R. § 230.11(d)): Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).
- 6.1.5 Aquatic Ecosystem Effects (40 C.F.R. § 230.11(e)): Section 4.5.1.5 of the Final EIS describes the predicted effects of South Pasture Extension on aquatic biological communities. As stated in that section, the applicant must provide compensation for lost function, which reduces the predicted level of impact to moderate, at the greatest. Similarly, Section 4.5.2.5 described the predicted effects on wetlands, and states that with mitigation, South Pasture Extension would have no impact to a minor impact on wetlands.
- Chapter 5 of the Final EIS further describes mitigation, including the Corps' requirements, the sequence of avoidance, minimization, and compensation, and the mitigation framework developed for the evaluation of the four main phosphate mining projects. Section 8 of this document further describes the specific proposed compensatory mitigation for the South Pasture Extension project.
- 6.1.6 Proposed Disposal Site (40 C.F.R. § 230.11(f)): The BMPs described throughout the Final EIS, including the perimeter ditch and berm system that separates the active mine from adjacent wetlands and surface waters, will confine the discharged materials within the mine boundaries.
- 6.1.7 Cumulative Effects (40 C.F.R. § 230.11(g)): Section 4.12 of the Final EIS describes the predicted cumulative effects of the four proposed phosphate mines, including South Pasture Extension, plus two reasonably foreseeable future mines, plus other past, present, and reasonably foreseeable future actions, both mining-related and non-mining related, on five resource categories: surface water resources, groundwater resources, surface water quality, ecological resources (including aquatic resources and upland habitat), and economic resources.
- 6.1.8 Secondary Effects (40 C.F.R. § 230.11(h)): As stated in Section 4.1 of the Final EIS, the evaluations of impacts described in the Final EIS included both direct and indirect, or secondary, impacts. Therefore, Chapter 4 of the Final EIS describes the secondary

effects of the South Pasture Extension project.

- 6.2 Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (40 C.F.R. Part 230, Subpart C): Chapter 4 of the Final EIS describes the South Pasture Extension's potential impacts on substrate, suspended particulates/turbidity, water, current patterns and water circulation, normal water fluctuations, and salinity gradients.
- 6.3 Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (40 C.F.R. Part 230, Subpart D): Chapter 4 of the Final EIS describes the South Pasture Extension's potential impacts on threatened or endangered species, fish, crustaceans, mollusks, and other aquatic organisms, and other wildlife. As described in Section 10.1 of this decision document, by letter dated June 9, 2014, the United States Fish and Wildlife Service (USFWS) provided a biological opinion (BO) for the proposed project. As also described in Section 10.1 of this decision document, the result of a November 6, 2013, discussion of the project with the National Marines Fisheries Service Protected Resource Division (NMFS-PRD) was a determination by the Corps that the proposed mines would have no effect on the smalltooth sawfish. On December 16, 2015, the NMFS Habitat Conservation Division (NMFS-HCD) stated that they anticipated any adverse effects associated with the proposed project that might occur on marine and anadromous fishery resources would be minimal and, therefore, they did not object to issuance of a permit.
- 6.4 Potential Impacts on Special Aquatic Sites (40 C.F.R. Part 230, Subpart E): Chapter 4 of the Final EIS describes the South Pasture Extension project's potential impacts on sanctuaries and refuges, wetlands, mud flats, vegetated shallows, and riffle and pool complexes. Chapter 5 of the Final EIS further describes mitigation, including the Corps' requirements, the sequence of avoidance, minimization, and compensation, and the mitigation framework developed for the evaluation of the four main phosphate mining projects. Section 8 of this document further describes the specific proposed compensatory mitigation for the South Pasture Extension project. There are no coral reefs potentially impacted by the proposed South Pasture Extension project.
- 6.5 Potential Impacts on Human Use Characteristics (40 C.F.R. Part 230, Subpart F): Chapter 4 of the Final EIS describes the South Pasture Extension project's potential impacts on municipal and private water supplies, recreational and commercial fisheries, water-related recreation, and aesthetics.
- 6.6 Contaminant Evaluation and Testing (40 C.F.R. Part 230, Subpart G): Section 4.4 and Appendix D of the Final EIS describe the surface water quality monitoring, including aquatic biological monitoring, associated with existing phosphate mines, and reasonably expected to be required for proposed mines, including the South Pasture Extension.
- 6.7 Actions to minimize adverse effects (40 C.F.R. Part 230, Subpart H):

Section 5.4 of this decision document describes actions to be undertaken in response to 40 CFR Section 203.10(d) to minimize the adverse effects of discharges of dredged or fill material.

6.8 Restrictions on Discharges (Subpart B, section 230.10) *(an answer marked with an asterisk indicates noncompliance with the Guidelines):*

<b>No</b>	Based on the discussion in Section 5, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the US" or at other locations within these waters?
<b>Yes</b>	Based on the discussion in Section 5, if the project is in a special aquatic site and is not water-dependent, has the applicant clearly demonstrated that there are no practicable alternative sites that do not involve SAS?  Will the discharge:
<b>No</b>	Violate state water quality standards?
<b>No</b>	Violate toxic effluent standards (under Section 307 of the Act)?
<b>No</b>	Jeopardize endangered or threatened species or their critical habitat?
<b>No</b>	Violate standards set by the Department of Commerce to protect marine sanctuaries?  Will the discharge contribute to significant degradation of "waters of the US" through adverse impacts to:
<b>No</b>	Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites?
<b>No</b>	Life stages of aquatic life and other wildlife?
<b>No</b>	Diversity, productivity, and stability of the aquatic ecosystem, such as the loss of fish or wildlife habitat, or loss of the capacity of wetland to assimilate nutrients, purify water or reduce wave energy?
<b>No</b>	Recreational, aesthetic, and economic values?
<b>Yes</b>	

	Will all appropriate and practicable steps (40 CFR 23.70-77) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?
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6.9 Compliance with the 404(b)(1) Guidelines: Reference Section 12 of this decision document.

**7.0 General Public Interest Review** – (33 CFR 320.4 and RGL 84-09): All public interest factors have been reviewed and summarized below. The Corps considers both cumulative and secondary impacts on these public interest factors within the geographic scope as defined in Chapter 4 of the Final EIS. The Corps has used information as provided in the Final EIS to the maximum extent, as appropriate. Additional information evaluated by the Corps for any of the specific public interest review factors is described below in the section for the specific factor.

Public Interest Factors Considered:

a. Wetlands (33 C.F.R. § 320.4(b); Corps’ Wetland Policy): Neutral as a result of mitigative action - Section 4.5.2 of the Final EIS describes how the Corps considered direct and secondary impacts to wetlands in the Final EIS. Section 4.5.2.5 of the Final EIS describes the specific evaluation of wetland impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.12.5 of the Final EIS describes the cumulative effects on ecological resources, including wetlands. Section 1.4 of this decision document describes the final project, including the level of impacts to Corps-jurisdictional aquatic resources. Attachment B to this decision document is the final, approved compensatory mitigation plan to offset the project’s wetland and surface water impacts.

b. Fish and wildlife (33 C.F.R. § 320.4(c)): Negligible - Section 4.5.1 of the Final EIS describes how the Corps considered direct and secondary impacts to aquatic biological communities in the Final EIS. Section 4.5.1.5 of the Final EIS describes the specific evaluation of aquatic biological community impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.5.3 of the Final EIS describes how the Corps considered direct and secondary impacts to wildlife habitat in the Final EIS. Section 4.5.3.5 of the Final EIS describes the specific evaluation of wildlife habitat impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.12.5 of the Final EIS describes the cumulative effects on ecological resources. As described in Section 10.1 of this decision document, by letter dated June 9, 2014, the USFWS provided a BO for the proposed project. As also described in Section 10.1 of this decision document, the result of a November 6, 2013, discussion of the project with the NMFS-PRD was a determination by the Corps that the proposed mines would have no effect on the smalltooth sawfish. On December 16, 2015, the NMFS-HCD stated that they anticipated any adverse effects associated with the

proposed project that might occur on marine and anadromous fishery resources would be minimal and, therefore, they did not object to issuance of a permit.

c. Water quality (33 C.F.R. § 320.4(d)): Neutral as a result of mitigative action - Section 4.4 of the Final EIS describes how the Corps considered direct and secondary impacts to water quality in the Final EIS. Section 4.4.2 of the Final EIS describes the specific evaluation of water quality impacts associated with all of the action alternatives conducted for the Final EIS. Section 4.12.4 of the Final EIS describes the cumulative effects on surface water quality. The FDEP issued a water quality certification on June 22, 2012, as part of their Environmental Resource Permit (ERP). If the Corps issues a permit for this project, it will include a general condition requiring compliance with the conditions specified in the certification as special conditions to that permit.

d. Historic, cultural, scenic, and recreational values: No adverse effect – Section 4.9 of the Final EIS describes how the Corps considered direct and secondary impacts to cultural resources and historic properties in the Final EIS. Section 4.9.5 of the Final EIS describes the specific evaluation of cultural resource and historic property impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.1.8.5 of the Final EIS describes how the Corps considered aesthetic impacts associated with phosphate mining, and Section 4.1.8.7 describes how the Corps considered effects on recreation. Section 10.3 of this decision document describes how the project complies with the National Historic Preservation Act of 1966.

e. Effects on limits of the territorial sea (33 C.F.R. § 320.4(f)): No Effect - The South Pasture Extension project will not affect coastal waters, either by erosion or accretion.

f. Consideration of property ownership (33 C.F.R. § 320.4(g)): No Effect - The applicant owns the property that is the subject of this permit application. The project will not affect navigation nor riparian rights to navigable waters.

g. Activities affecting coastal zones (33 C.F.R. § 320.4(h)): No Effect - The South Pasture Extension project will not affect coastal zones.

h. Activities in marine sanctuaries (33 C.F.R. § 320.4(i)): N/A - The South Pasture Extension project is not within a marine sanctuary.

i. Other Federal, state, or local requirements (33 C.F.R. § 320.4(j)): No Effect - Section 10 of this decision document describes the project's compliance with other federal, state, and local requirements.

j. Safety of impoundment structures (33 C.F.R. § 320.4(k)): Neutral as a result of mitigative action - The construction and operation of the clay settling areas will comply with federal, state and local requirements. Specifically, the FDEP's NPDES permit will require compliance with Rule 62-672, F.A.C., "Minimum Requirements for Earthen



Dams Used in Phosphate Mining and Beneficiation Operations and for Dikes Used in Phosphogypsum Stack System Impoundments.” Also, the Hardee County Development Order requires additional inspection, reporting, and emergency management elements that apply to the dams proposed for the South Pasture Extension.

k. Floodplain management (33 C.F.R. § 320.4(l)): Neutral as a result of mitigative action - Section 4.1.8.4 of the Final EIS describes how the Corps considered floodplain impacts associated with phosphate mining. As stated in that section, FDEP regulations state that no net encroachment into the floodplain, up to that encompassed by the 100-year event, can be allowed unless equivalent compensating storage is provided between the seasonal high water level and the 100-year flood level. FDEP issued an ERP for the project on June 22, 2012. Additionally, the Corps’ evaluation of wetland impacts described in Section 7(a) of this decision document includes consideration of floodplains.

l. Water supply and conservation (33 C.F.R. § 320.4(m)): Neutral as a result of mitigative action - Section 4.2.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on surface water flows within the Peace River, Horse Creek, and Payne Creek. The Final EIS states that the project will have minor to no effect on the Peace River or Payne Creek, and a potentially moderate effect on Horse Creek. The Final EIS also states that measures such as monitoring and the use of recharge ditches to maintain flow in Horse Creek would reduce that moderate level of effect.

Section 4.12.2.5 of the Final EIS describes the cumulative effects of phosphate mining on water supply withdrawals in the lower Peace River, and Section 4.12.2.6 describes the magnitude and significance. As stated in those two sections, the cumulative effect of mining on water supply withdrawals has at most a minor level of effect.

Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).

Section 4.3.5 of the Final EIS describes the predicted effects of South Pasture Extension on groundwater resources. As stated there, South Pasture Extension will have a minor degree of effect on any aquifers.

Section 4.12.3.12 of the Final EIS describes the cumulative effect of phosphate mining on groundwater resources, and Section 4.12.3.13 describes mitigation, monitoring, and adaptive management measures to protect groundwater resources. As stated in those two sections, the cumulative effect of phosphate mining on groundwater resources would be at most be minor.

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m. Energy conservation and development (33 C.F.R. § 320.4(n)): Negligible - The Corps does not consider the proposed action, a phosphate mine, to be an energy project. In addition, the project will not significantly increase demands on energy production over and above the current levels at the South Pasture Mine.

n. Navigation (33 C.F.R. § 320.4(o)): No Effect - The proposed project will not have any effects on navigation.

o. Environmental benefits (33 C.F.R. § 320.4(p)): Beneficial (minor) - The proposed project will cause the short-term disruption of the existing altered ecosystem; however, successful implementation of the proposed reclamation plan and compensatory mitigation plans will result in long term benefits through the reclamation of native habitat and mitigation of aquatic resources. The proposed compensatory mitigation plan provides for the reestablishment, management, and preservation of wetland habitats.

p. Economics (33 C.F.R. § 320.4(q)): Beneficial (minor) - Section 4.6.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on the economy of Hardee County.

q. Mitigation (33 C.F.R. § 320.4(r)): Chapter 5 of the Final EIS further describes mitigation, including the Corps' requirements, the sequence of avoidance, minimization, and compensation, and the mitigation framework developed for the evaluation of the four pending phosphate mine applications. Attachment B to this decision document is the final, approved compensatory mitigation plan to offset the project's wetland and surface water impacts.

r. Conservation: Beneficial (minor) - Decades of agricultural activity have resulted in a degraded condition for many of the onsite wetlands. As described in Section 5.3 of this decision document, and in accordance with the mitigation framework described in Section 5.4 of the Final EIS, the applicant has preferentially avoided forested wetlands, higher-quality herbaceous wetlands, and stream systems in their mine plan. As described in the approved mitigation plan (Attachment B to this decision document), the applicant also will preserve and manage these avoided areas as part of the compensatory mitigation plan.

s. Shore erosion and accretion: No Effect - The proposed action will not affect shore erosion or accretion.

t. Safety: Neutral as a result of mitigative action - Industry OSHA and MSHA requirements will be in place during all construction activities. Section 4.8 of the Final EIS addresses the potential effects of radiation associated with phosphate mining.

u. Food and fiber production: Neutral as a result of mitigative action – The FDEP-required reclamation plan includes provisions for returning areas to agricultural uses.

7.1 The relative extent of the public and private need for the proposed structure or work:

Section 1.2.1 of the Final EIS describes the public's need. Section 1.2.2 of the Final EIS and Section 1.7.1 of this decision document describe the applicant's general need.

7.2 Are there unresolved conflicts as to resource use? No

If so, are there reasonable and practicable alternative locations and/or methods to accomplish the objectives of the proposed action? N/A

7.3 The extent and permanence of the beneficial and/or detrimental effects, which the proposed work is likely to have on the public and private use to which the area is suited:

As described in Sections 4.6 and 4.12.6 of the Final EIS, the phosphate industry is a major constituent of the regional economy, contributes to the tax base, and provides local jobs. On the private side the company benefits by being allowed to continue its mining activities which continues to generate income for their stockholders.

**8.0 Mitigation – 33 CFR 320.4 (r); 33 CFR 332; 40 CFR 230.70-77; 40 CFR 230.90-99 and 40 CFR 1504.12(f):**

8.1 Mitigative Actions (33 C.F.R. §320.4(r) and 40 C.F.R. Part 230, Subpart F): Chapter 4 of the Final EIS describes actions proposed by the applicant to avoid, minimize, and offset adverse impacts to the human and natural environment associated with phosphate mining in addition to the avoidance, minimization, and compensation of impacts to aquatic resources. For example, Section 4.1.8.1 describes the best management practice of watering down roads within the mine to reduce fugitive dust and protect air quality. Section 4.1.8.5 describes how the berms around the mine function as a visual barrier to protect aesthetics in addition to being part of the overall water management system. Chapter 5 of the Final EIS provides information about compensatory mitigation for impacts to aquatic resources and mitigation alternatives for phosphate mining within the Central Florida Phosphate District, with consideration of the mitigation proposed at that time for the four pending phosphate mine applications (South Pasture Extension, Ona, Wingate East, and Desoto).

Sections 5.1 and 5.2 of this decision document describe the measures to avoid impacts to aquatic resources proposed by the applicant and considered by the Corps.

Sections 5.3 and 5.4 of this decision document describe the minimization measures to avoid impacts to aquatic resources proposed by the applicant and considered by the Corps.

- 8.2 Compensatory Mitigation for Unavoidable Impacts to Aquatic Resources (33 C.F.R. § 332):
- 8.2.1 Is Compensatory Mitigation required:
- No
- Yes
- 8.2.2 Are the impacts to the jurisdictional aquatic resources in the service area of an approved mitigation bank? Yes. There are two banks, one with freshwater forested wetland credits available, and one with freshwater herbaceous credits available.
- 8.2.3 Does the mitigation bank have the appropriate number and resource type or credits available? No. The two banks do not have sufficient credits to completely offset the project's impacts. Neither bank has stream mitigation credits. The applicant could partially offset wetland impacts by purchasing mitigation bank credits, however Section 8.2.7 of this decision document, and the approved compensatory mitigation plan (Attachment B), document why the use of permittee-responsible mitigation to offset all of the impacts is environmentally preferable, and in compliance with the 2008 Compensatory Mitigation Rule.
- 8.2.4 Are the impacts to the jurisdictional aquatic resources in the service area of an approved in-lieu fee program? No
- 8.2.5 Does the in-lieu fee program have the appropriate number and resource type or credits available? NA
- 8.2.6 Identify the selected compensatory mitigation option(s):
- mitigation bank credits
- in-lieu fee program credits
- permittee-responsible mitigation under a watershed
- permittee-responsible mitigation, on-site
- permittee-responsible mitigation, off-site
- 8.2.7 As the selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6) and/or incorporates permittee-responsible mitigation, explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) and §332.4(c)(2)-(14):

a) §332.3(a)(1) states that the fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the United States authorized by DA permits, with consideration of environmental preferability based on likelihood of ecological success and sustainability, the location of the compensation site relative to the impact site, the significance within the watershed, and costs. §332.3(a)(1) further states that mitigation banks or in-lieu fee programs may, in many cases, be environmentally preferable because they consolidate resources, provide financial planning and scientific expertise, reduce temporal loss, and reduce risk. However, the Corps has determined that the applicant's compensatory mitigation plan (Attachment B), as independently reviewed and verified by the Corps, is the environmentally preferable option, as outlined below.

i) As described in the approved plan, the applicant has conducted extensive monitoring and data collection of the existing conditions, and modeled the pre- and post-mining hydrology and topography in support of the planning of the locations and types of onsite and offsite wetland and surface water mitigation areas. Sections 5.2 and 5.3 of the Final EIS provide additional information on the methodologies used by the applicant, such as transplanting donor muck, and using laser and GPS-guided earthmoving equipment, in reestablishing mitigation areas. In addition, as also described in the mitigation plan, the applicant proposes perpetual preservation and management of the mitigation areas, ensuring the long-term success and sustainability.

ii) As of June 3, 2016, there are two federally-approved mitigation banks whose service areas cover the proposed project – Boran Ranch Mitigation Bank, which is approximately 27 miles away and Peace River Mitigation Bank, which is approximately eight miles away. The applicant proposes to preserve, enhance, and after mining and reclaiming discrete units within the project boundaries, establish wetland and stream mitigation areas onsite, and establish two offsite wetland mitigation areas on the adjacent property to the north (less than three miles of the project site). The proposed permittee-responsible mitigation is much closer to the impacts than the mitigation banks.

The entire South Pasture Extension parcel, including the onsite mitigation areas, is within the Peach River watershed, as are the two offsite permittee-responsible mitigation areas and the Peace River and Boran Ranch Mitigation Banks. However, as described in Section 4.2.5 of the Final EIS, 71% of the South Pasture Extension project is within the Horse Creek subwatershed, with the remaining 29% in the Peace River at Arcadia and Payne Creek subwatersheds. As also described in the Final EIS, and as pointed out in many of the comments received on this project, Horse Creek is a very important tributary to the Peace River, and an important resource in its own right. Neither of the two available mitigation banks are within the Horse Creek subwatershed, and therefore neither provides compensation within the subwatershed where the impacts occur.

iii) The Charlotte Harbor National Estuary Program (CHNEP) Comprehensive Conservation and Management Plan (CCMP), a watershed plan pursuant to 33 C.F.R. § 332.3(c), identifies four Priority Problems for the Peace River watershed:

1) Water Quality degradation: Pollution from agricultural and urban runoff, point-source discharges, septic systems and wastewater treatment systems, atmospheric deposition, groundwater, and other sources;

2) Hydrologic alterations: Adverse changes to amounts, locations, and timing of freshwater flows, the hydrologic function of floodplain systems and natural river flows;

3) Fish and wildlife habitat loss: Degradation and elimination of headwater streams and other habitats, conversion of natural shorelines caused by development, cumulative impacts of docks and boats, invasion of exotic species and cumulative and future impacts; and

4) Stewardship gaps: Limitations in people's knowledge of choices and management decisions that will lead to sustainability within their community. These gaps include overarching issues such as public outreach, advocacy, and data management.

The CCMP further identifies fifteen short-term Objectives and 76 Priority Actions to address the Priority Problems. The permittee-responsible mitigation addresses several of these Priority Actions by improving and protecting water quality to offset other anthropogenic impacts (CHNEP Priority Action WQ-E), establishing and maintaining a more natural seasonal variation in freshwater flows by eliminating ditches and reducing peak runoff rates (CHNEP Priority Action HA-E), restoring and protecting freshwater wetlands on at least an acre-for-acre basis (CHNEP Priority Action FW-C), restoring and protecting aquatic and terrestrial native habitat (CHNEP Priority Action FW-F), and increasing the acreage of land protected under conservation easements (CHNEP Priority Action FW-H).

In terms of size, the permittee-responsible mitigation for South Pasture Extension totals over 2400 acres, including preservation of 396.23 acres of wetlands (329.13 acres forested and 67.1 acres herbaceous), 55,501 linear feet of streams, and 699 acres of adjacent upland buffers, and enhancement of 123.5 acres of wetlands (20.6 acres forested and 102.9 acres herbaceous) prior to mining, and establishment of 1304.28 acres of wetlands (569.3 acres forested and 734.98 acres herbaceous) and 18,402 linear feet of streams after mining, with preservation of the enhanced and reestablished areas after they achieve the required performance criteria. By contrast, Boran Ranch Mitigation Bank totals 403.52 acres and Peace River Mitigation Bank totals 487 acres.

iv. Section 5.7.1 of the Final EIS describes the FDEP mandatory reclamation requirements, which include acre-for-acre, type-for-type wetland and stream restoration on-site. Section 5.8 of the Final EIS describes the FDEP environmental resource permit program, which includes compensatory mitigation requirements similar to the Corps' requirements. Requiring the purchase of mitigation bank credits as Corps mitigation when the FDEP would require the applicant to reclaim and mitigate wetlands onsite would be a more expensive option than the proposed option.

As described above and in Attachment B, the applicant's mitigation plan consolidates resources by preserving and enhancing key landscape systems and then locating reestablished wetlands and streams in close proximity to those areas, provides financial planning in the form of financial assurance for implementation and long-term management of the mitigation areas, provides scientific expertise in the form of the extensive pre-construction planning and modeling and the post-construction mitigation methodologies and expertise, and addresses temporal loss and risk by applying applicable factors to the functional analysis for the mitigation. Therefore, again the Corps has determined that the applicant's compensatory mitigation plan (Attachment B) is the environmentally preferable option.

b) In accordance with §332.4(c)(2)-(14), the applicant has provided the following 12 components of a compensatory mitigation plan:

i. Objectives: As summarized in Tables 1 and 2 of the compensatory mitigation plan (Attachment B to this decision document), the required compensatory mitigation includes:

a. 1259.58 acres of on-site wetland establishment (524.6 acres forested, 734.98 herbaceous), providing 417.4 units of wetland function (139.33 units forested, 278.07 units herbaceous), and 44.7 acres of off-site forested wetland establishment providing 13.5 units of wetland function, as specified in Table 8 of the compensatory mitigation plan, along with associated upland buffers.

b. 396.23 acres of Immediate Level I (completed prior to initiating the work authorized by this DA permit) on-site wetland preservation (329.13 acres forested, 67.10 herbaceous), providing 59.31 units of wetland function (48.7 units forested, 10.62 units herbaceous) as specified in Table 9 of the compensatory mitigation plan, along with associated upland buffers, for a total of approximately 1093 acres of upfront preservation.

c. 123.52 acres of on-site wetland enhancement (20.61 acres forested, 102.91 herbaceous), providing 30.61 units of wetland function (4.03 units

forested, 26.58 units herbaceous) as specified in Table 10 of the compensatory mitigation plan, along with associated upland buffers.

d. 18,402 linear feet (lf)/3.5 miles on on-site stream establishment providing 4437.46 units of stream function as specified in Table 4C of the compensatory mitigation plan, along with associated upland buffers.

e. 55,501 lf/10.5 miles of Immediate Level I (completed prior to initiating the work authorized by this DA permit) on-site stream preservation providing 9003.16 units of stream function as specified in Table 4B of the compensatory mitigation plan. Each stream segment shall have a minimum 120-foot wide (60 feet on either side of the channel) preserved riparian buffer.

In addition, the applicant will provide the specific wetland types by Florida Land Use and Cover Classification System (FLUCCS) and acreages for individual wetland establishment areas as shown in Table 8 of the compensatory mitigation plan, unless the Corps approves adaptive management measures as described in the Mitigation Adaptive Management/Alternatives Special Condition of the DA permit (as shown in Attachment D to this decision document).

After achievement of performance standards, the applicant will preserve all enhanced wetlands and established wetlands and streams with a conservation easement, as described in Section 8.2.7(b)(iii) of this decision document, the compensatory mitigation plan (Attachment B to this decision document), and the DA permit special conditions (Attachment D to this decision document).

The upland buffers associated with the preserved and established wetland mitigation areas described above did not provide direct compensation for the loss of aquatic resource functions. However the Corps did consider the upland buffers' effect on and support of the wetland mitigation areas in its review and approval of the functional analysis of the wetland compensatory mitigation.

Section 8.2.7(a) of this decision document describes how the anticipated functions of the mitigation project will address watershed needs, as does the Objectives section of the compensatory mitigation plan (Attachment B to this decision document).

ii. Site Selection: The Corps has independently reviewed and verified the applicant's site selection criteria, including both the onsite and offsite mitigation areas, as described in the Site Selection section of the compensatory mitigation



plan (Attachment B to this decision document), except for the discussion of why purchasing mitigation bank credits is not a practicable mitigation alternative. Section 8.2.7(a) of this decision document describes how the Corps determined that the applicant's compensatory mitigation plan (Attachment B) is the environmentally preferable option.

Section 8.2.7(a)(iii) describes how the proposed mitigation meets watershed needs within the Peace River watershed.

Figure 3 of Attachment C to this decision document shows the Applicant's Preferred Alternative for minimization, including the areas that the applicant has avoided on-site. The applicant proposes to preserve all of these areas before mining. The proposed enhancement areas are also within the avoided/no-mine areas. Section 5.4 of this decision document explains how the Corps considered other onsite alternatives.

As explained in the Site Selection section of the compensatory mitigation plan, the applicant based the locations of the reestablished onsite and offsite wetlands and the onsite streams on extensive monitoring, data collection, analyses and modeling. The attachments to the compensatory mitigation plan provide additional information on that monitoring, data collection, analyses, and modeling. The Corps has independently reviewed and verified that information as part of its overall review and approval process for the compensatory mitigation plan and for this project.

iii. Site Protection Instrument: The applicant will provide long-term protection of the mitigation areas by granting conservation easements to the FDEP over the mitigation areas. The DA permit will require the applicant to record legally sufficient conservation easements that are consistent with the goals of the compensatory mitigation plan and long-term management plan and provide third party rights of notice and enforcement to the Corps. The applicant will be required to submit the draft conservation easements, scale drawings of the areas to be included within the conservation easements, legal descriptions, and surveys for review and approval by the Corps pursuant to 33 CFR Section 332.7(a). Furthermore, the applicant will be required to provide title evidence demonstrating sufficient legal interest to ensure long-term protection of the mitigation areas and a title insurance policy in an amount equal to the current market value of the unencumbered property. Any existing encumbrances that are not consistent with the goals of the compensatory mitigation plan or long-term management plan will be required to be subordinated to the conservation

easement. Finally, the applicant will be required to provide a certified copy of the recorded conservation easement to the Corps.

iv. Baseline Information: As described in the June 1, 2012 public notice for the South Pasture Extension project, the 7,512.8-acre project site consists predominantly of agricultural land, with 1,769.2 acres of jurisdictional waters of the United States including: 786.4 acres of forested wetland, 930.1 acres of herbaceous wetland, 31.1 acres of intermittent stream, and 21.5 acres of other surface waters (ditches and cattle ponds). The site also contains 242.3 acres of non-jurisdictional aquatic resources including: 25.8 acres of forested wetland, 186.0 acres of herbaceous wetland, 0.3 acres of intermittent stream, and 30.2 acres of other surface waters (ditches and cattle ponds). The existing land use surrounding the project site consists of A-1 zoning designation, which is agricultural land.

The applicant has collected ecological baseline data for the site since 2004 including wetland delineations, wetland quality assessments using UMAM, detailed vegetation and land use mapping, and wildlife and listed species surveys. A hydrologic assessment was also completed as a part of the MIKE SHE / MIKE-11 integrated groundwater / surface water modeling analysis. Data collected for water modeling analysis included stream and drainage area characteristics, topography, precipitation rates, measurements of evapotranspiration, and hydrogeology.

As described in the Site Selection section of the compensatory mitigation plan, the applicant included the offsite mitigation areas to address a predicted debit of forested wetland functional units in the functional analysis. These areas are currently part of the active South Pasture mine, however they are part of the extensive modeling of pre and post-mining hydrology and topography associated with the overall compensatory mitigation plan.

The Corps considered this baseline information both in its evaluation of the proposed impacts associated with the South Pasture Extension project and its evaluation of the proposed compensatory mitigation.

v. Determination of Credits: The Corps has independently reviewed and verified the applicant's functional assessment of proposed wetland and stream impacts and compensatory mitigation. Based on functional analyses using the Uniform Mitigation Assessment Method (UMAM), the proposed unavoidable wetland impacts cause the loss of 204.95 units of forested wetland function, and 315.22

units of herbaceous wetland function, and the mitigation provides 205.55 units of functional gain for forested wetlands and 315.27 units of functional gain for herbaceous wetlands. Based on functional analyses using the FDEP stream habitat assessment methodology, the proposed unavoidable stream impacts cause the loss of 13,361.14 units of stream function, and the proposed mitigation provides 13,440.6 units of functional gain for streams. Tables 1 and 2 in the compensatory mitigation plan (Attachment B to this decision document) provide additional details on the acreage and functional loss or gain by wetland type (forested or herbaceous) or stream type (ephemeral or intermittent; natural or ditched), and by mitigation type (on-site establishment, on-site preservation, on-site enhancement, or offsite establishment). Attachment E to the compensatory mitigation plan provides the UMAM data sheets for the impact and mitigation sites. Tables SRO-4, Section 2 of Attachment A to the compensatory mitigation plan, the Stream Work Plan, provides details of the stream functional analysis.

The Determination of Credits section of the compensatory mitigation plan provides additional information about the wetland and stream functional analyses, including explanations of how those analyses consider risk and temporal lag.

Also in the Determination of Credits section, under the heading "Preservation Mitigation Calculations", is an explanation of the preservation mitigation. As stated in that subsection:

Section 332.3(h) of the CMR dictates that preservation may be used to provide compensatory mitigation for activities authorized by DA permits when the five specific criteria listed below are met.

- i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed
- (ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available
- (iii) Preservation is determined by the district engineer to be appropriate and practicable
- (iv) The resources are under threat of destruction or adverse modifications

(v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust)

The compensatory mitigation plan provides information about the resources and their contributions related to items (i), (ii), (iii), and (v). For item (iv), the Corps considered the potential for the aquatic resources proposed for preservation to be degraded by changes in land use within and adjacent to the resources to more intensive and damaging uses.

UMAM allows for a comparison between the 'without preservation' condition of a proposed preservation area and its condition 'with preservation'. As described in Table 9 of the compensatory mitigation plan and in the UMAM data sheets (Attachment E to the compensatory mitigation plan), 'without preservation' the preserved wetlands' would score lower than their current condition. The Corps determined that 'with preservation', however, there would be no improvement above the current condition in the wetlands' condition in the categories of water environment or community structure because preservation would only prevent degradation from occurring, not improve conditions. The Corps did allow for increases above the current condition for location and landscape support due to the inclusion of upland buffers, the inclusion of two of the main streams and their floodplains in the preservation areas, and the expected connectivity between the preservation areas and offsite mitigation areas. The Corps did not approve direct wetland mitigation credit for the preservation of upland areas.

The Corps did approve direct wetland mitigation credit for preservation of 22.16 acres of wetlands that are not considered waters of the United States based on the Corps' October 18, 2012, approved jurisdictional determination (included by reference). As stated in the compensatory mitigation plan, these areas provide appropriate compensation for impacts to waters of the United States because they replace many of the functions lost due to the proposed impacts, including but not limited to providing habitat for wildlife such as the wood stork.

Additional information about UMAM is available from the FDEP's website: <http://www.dep.state.fl.us/Water/wetlands/mitigation/umam/index.htm>. Additional information about the Corps' implementation and use of UMAM is available here, in the "Uniform Mitigation Assessment Methodology (UMAM) – FDEP" section: <http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>. Additional information about the stream habitat assessment methodology is available here: <http://dep.state.fl.us/water/bioassess/training.htm#Stream>.

vi. Mitigation Work Plan: Section 1 of Attachment A to the compensatory mitigation plan provides details of the wetland work plan, as independently reviewed and verified by the Corps. The following is a summary of the wetland work plan.

The enhancement described in Section 8.2.7(b)(i)(c) of this decision document includes the placement of a ditch block at the southern end of a 103-acre wetland, and removal of an impoundment the western end of a 1.2-acre wetland, to restore natural hydrology and drainage.

For the wetland reestablishment mitigation, after mining and reclamation, the applicant proposes to create forested and herbaceous wetlands on sand tailings, and then grade and cap the wetlands with suitable wetland topsoil/muck, if available, or other suitable organic matter with specific depths and structure to be determined by habitat type. To create microhabitat and habitat heterogeneity within the wetlands, the applicant will grade the created systems to provide a range of habitat types and distinct zonations, from seasonal to permanent inundation. In addition, the applicant will install habitat enhancements including snags to encourage wildlife usage, and stumps, logs, and shrubs to provide hummocks in the created wetlands where appropriate. The applicant will directly transfer small shrubs and trees from the future mining areas into the reestablished wetlands to the extent practicable. Where direct transfer or natural recruitment of vegetation is not sufficient, the applicant will plant vegetation that is consistent with the species diversity and density of the targeted wetland community type.

Section 2 of Attachment A to the compensatory mitigation plan provides details of the stream work plan, as independently reviewed and verified by the Corps. The following is a summary of the stream work plan.

The stream reestablishment and enhancement incorporates in-stream channel design and improvements, as well as a comprehensive overview of all lotic site conditions, which include headwater wetlands and in-line wetlands and the surrounding habitat zones of flanking wetlands and terrestrial communities within and along the riparian valley. To accomplish these goals, forested corridors and native upland riparian zones will typically replace those that were historically cleared for agriculture on the SPE. The reclaimed valleys will form an unditched drainage network with a flow regime that is not artificially flashy like the existing ditched systems. The Stream Restoration Plan pays significant attention to landscape scale associations important to overall stream function by matching

drainage area to valley geomorphology, width of the meander belt, and functional process zone (FPZ) types and sequences. The design covers a full hierarchy of scales, restoring a series of habitat patches and zones progressing from in-stream meso-habitats, such as individual logs and pools a few feet long, to the geomorphic and hydraulic linkages of entire lentic, paralotic, and lotic waterbodies and their associated ecotones encompassing many acres. These landscape linkages are based largely on the historic conditions of the property, prior to land clearing and ditching, which will provide a better overall lotic system versus that existing immediately prior to mining. The successful implementation of the stream restoration plan will result in the restoration of historic native, pre-agricultural conditions, wherever practical.

vii. Maintenance Plan: The applicant will conduct mitigation maintenance in conjunction with monitoring to ensure the mitigation sites progress towards success as defined by the permit performance standards and in accordance with the mitigation work plan.

For enhanced and established wetlands, and upland buffers, after the initial enhancement activities, the permittee will semi-annually inspect and conduct maintenance activities, including but not limited to exotic and nuisance species control to less than five percent cover, for the first two years, and then annually (unless instructed otherwise by the Corps).

viii. Performance Standards: The Performance Standards section of the compensatory mitigation plan (Attachment B to this decision document) provides the details of the performance standards for wetlands and streams. The performance standards include requirements for hydrology and plant species composition and coverage as appropriate by wetland type, coverage by exotic and nuisance species, macroinvertebrate richness and diversity in streams, and hydrology and other physical characteristics as appropriate by stream type. The performance standards also include time limits for achievement of the standards. Those time limits correspond with the temporal factors considered in the functional analyses for the wetland and stream mitigation. The performance standards in the compensatory mitigation plan for preserved wetlands, and for preserved and established streams, also have requirements based on the functional analyses.

The Mitigation Performance Standards special conditions in the DA permit (as shown in Attachment D to this decision document) for enhanced and established

wetland mitigation areas also require that those areas achieve the UMAM scores described in Tables 10 and 8, respectively, of the compensatory mitigation plan.

ix. Monitoring Requirements: The DA permit special conditions (Attachment D to this decision document) include requirements for monitoring, including descriptions of the parameters monitored, a schedule for monitoring and reporting, and the format for reporting.

x. Long-Term Management Plan: After the Corps' determination that a mitigation area has achieved the necessary performance standards, the applicant will maintain that mitigation areas in perpetuity in accordance with mitigation objectives and an approved Long-term Management Plan. The long-term management plan includes a description of long-term management needs and the annual cost estimates for these active long-term management needs, an identified funding mechanism for the long-term management, a requirement for an Ecological Baseline Report, provisions for management of proposed secondary uses of the mitigation areas such as cattle grazing, hunting, and passive recreation, and annual reporting to document the ecological conditions within the post-release mitigation areas, the status of secondary activities conducted within the mitigation areas, and maintenance activities expenses. A surety bond and standby trust, as independently reviewed, verified and approved by the Corps, provides the long term funding mechanism for the long term management needs of the mitigation areas.

Section 10 of the Long-Term Management Plan provides the bases for the cost estimates for the annual maintenance of the mitigation areas, including costs for maintaining fences, signage, and existing trail and road crossings of streams and wetlands, prescribed burning, herbiciding as necessary, and inspections and reports. The applicant states that the annual cost of maintenance overall is \$65 per acre; the Corps has reviewed and accepted the applicant's cost estimates for long-term maintenance.

Based on that per acre cost, the annual cost of managing the 1093 acres of Immediate Level I preservation described in Sections 8.2.7(b)(i)(b) and 8.2.7(b)(i)(e), including associated upland buffers, is \$71,175. As described in the Long-Term Management Funding special condition of the DA permit (as shown in Attachment D to this decision document), the funding mechanism will provide for an initial principal of \$3,588,750 to cover the annual cost of managing these 1093 acres. The Corps independently verified this amount using a method for calculating a principal amount of a long-term funding mechanism described in the

document Wetland and Stream Mitigation: A Handbook for Land Trusts, written by The Environmental Law Institute and Land Trust Alliance in September 2012 (included by reference, available at:

[https://www.epa.gov/sites/production/files/2015-08/documents/wetlands\\_and\\_stream\\_mitigation\\_-\\_a\\_handbook\\_for\\_land\\_trusts\\_0.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/wetlands_and_stream_mitigation_-_a_handbook_for_land_trusts_0.pdf)).

The method first requires a capitalization rate, which is the expected rate of return, minus an inflation rate, and minus administrative costs, such as for fund management. The applicant proposed a capitalization rate of 2%, based on a 6% rate of return, minus an assumed 3% inflation rate, minus 1% for costs. The method then applies a formula that divides the annual maintenance costs by the capitalization rate;  $\$71,175/0.02 = \$3,588,750$ .

As also described in the Long-Term Management Funding special condition of the DA permit, as the Corps determines that additional mitigation areas have achieved their performance standards and can be put under long-term management, the applicant will increase the amount of long-term financial assurance.

xi. Adaptive Management Plan: To ensure the mitigation meets the required performance standards, Mosaic acknowledges that an adaptive management approach will be an integral part of the CMP implementation.

As described in the Monitoring Requirements section of the CMP and as required by the DA permit, Mosaic will implement a comprehensive and extensive monitoring program designed to gather sufficient data to evaluate the progress of wetland and stream mitigation areas towards achievement of performance standards. Mosaic will also implement corresponding mitigation compliance reporting in accordance with the requirements of the DA permit.

If monitoring or compliance inspections identify performance deficiencies such as inappropriate hydrology or exotic/nuisance vegetation, or if the USACE otherwise determines that the mitigation is not progressing towards achievement of performance standards, Mosaic will promptly assess the mitigation to determine the cause(s) of the problem(s), and develop and implement a site-specific adaptive management/corrective action plan that addresses specific construction, maintenance, and/or enhancement measures to achieve the design objectives. Examples of corrective actions may include but would not be limited to adjusting wetland hydrology, supplemental plantings, or changing the exotic and nuisance species control frequency or methods. Mosaic shall submit any



such adaptive management plan to the USACE for approval prior to implementation, and include a description of the implementation and results in the annual monitoring reporting.

As also required by the DA permit, Mosaic will monitor and provide annual reports on the construction compliance, including the acreage and location of mitigation areas implemented during the reporting period and cumulatively. If the site has areas that are determined to be different from the originally permitted mitigation area boundaries or community types, Mosaic shall request a permit modification to delineate the correct boundaries and/or community types and requisite functional assessment adjustments.

xii. Financial Assurances: The Corps requires sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. 33 C.F.R. § 332.3(n)(1). The Corps may consider an alternate mechanism that ensures with a high level of confidence that the compensatory mitigation will be provided and maintained. Financial assurances required for compensatory mitigation projects under state law may be an appropriate alternative when the same compensatory mitigation project will be used to satisfy the requirements of the Corps Regulatory Program, as well as the state regulatory program.

The applicant proposes to provide the same financial assurance mechanism to meet the requirements of 33 C.F.R. § 332.3(n) as that required by the State permit, which is a surety bond equal to 110 percent (%) of the estimated mitigation costs for WOUS affected in the first three years of operation, including monitoring and maintenance. The applicant proposes to update the financial responsibility yearly to cover, on a rolling basis, the cost of mitigation activities proposed to be undertaken over the next three year period, with a 10% contingency factor for any adaptive management that might be required. The applicant will update the mechanism with revised costs until release.

On 22 June 2012, the State of Florida, Department of Environmental Protection issued Environmental Resource Permit No. 0294666-001 under part IV of chapter 373, F.S. for the construction of the proposed 7,513 acre South Pasture Extension (SPE) phosphate mine. The State permit included the approval of a financial assurance mechanism that was developed to satisfy the regulatory requirements of the State for the State approved compensatory mitigation plan. Specifically, the State permit requires an initial financial responsibility demonstration equal to 110 percent of the estimated mitigation costs for wetlands

and other surface waters affected in the first three years of operation under the permit. 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.

As stated previously, financial assurances required for compensatory mitigation projects under state law may be a satisfactory alternate mechanism provided it ensures, with a high level of confidence, that the Corps required compensatory mitigation will be provided and maintained. In June, 2011, the Institute for Water Resources (IWR) provided a reference resource to aid in the key design and implementation issues and considerations relating to the use of financial assurances for mitigation project success. Titled "Implementing Financial Assurance for Mitigation Project Success," the document, updated in March, 2016, has been referenced to determine if the State financial assurance plan is sufficient to ensure with a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. The Corps has therefore considered the following:

- **Size, Type & Location:** The State permit and this DA permit both require on-site and adjacent off-site permittee-responsible mitigation based on a watershed approach. The size and type of mitigation required by each plan is listed in the Table 1 below. The overall acreage of Corps required forested wetland establishment is 525 acres whereas the State requirement is 489 acres. The overall acreage of Corps required herbaceous wetland establishment is 735 acres whereas the State requirement is 988 acres. The overall acreage of Corps required forested wetland enhancement is 21 acres whereas the State requirement is 26 acres. The overall acreage of Corps required herbaceous wetland enhancement is 103 acres whereas the State requirement is 96 acres. The overall acreage of Corps required forested wetland preservation is 329 acres whereas the State requirement is 322 acres. The overall acreage of Corps required herbaceous wetland preservation is 67 acres whereas the State requirement is 66 acres. The overall length of Corps required stream establishment is 18,402 linear feet whereas the State requirement is 43,838 linear feet.

Table 1

Mitigation Type	Corps CMP	State CMP
Forested Establishment	525 ac.	489 ac.

Forested Establishment (off-site)	45	0
Herbaceous Establishment	735	988
Forested Enhancement	21	26
Herbaceous Enhancement	103	96
Forested Preservation	329	322
Herbaceous Preservation	67	66
Stream Creation	18,402 lf	43,838 lf
Stream Preservation	55,501 lf	71,918 lf

- Implementation of the CMP: The State and Corps have approved the same mitigation construction timetable.
- Wetland Preservation: Both the Corps and State CMPs include the preservation of on-site, undisturbed wetlands and associated upland buffer areas. The current 8 acre shortfall in State required preservation is a result of modifications to the mitigation plan since the State permit was issued in 2012. The applicant is responsible for requesting adjustments to the State approved mitigation plan prior to construction. Both plans require the Permittee to record these preserved areas in conservation easements prior to initiating the authorized work.
- Stream Preservation: Both the Corps and State CMPs include the preservation of on-site natural streams. Both plans require the Permittee to record these preserved areas in conservation easements prior to initiating the authorized work. The State plan includes an additional 16,417 linear feet of stream preservation.
- Wetland Enhancement: Both the Corps and State CMPs include the enhancement of on-site wetlands along with associated upland buffers. The Corps plan includes an additional 2 acres of wetland enhancement. Both plans require the enhancement and protection of these areas in recorded conservation easements prior to initiating the authorized work.
- Wetland Establishment: Onsite herbaceous and forested wetland establishment shall occur sequentially across the 7,513 acre site following completion of mining operations in each mining block (segment of mining). According to the timetable in Table 2, Phase A plantings must commence no later than 24 months after completion of mining operations, final

grading, and muck placement. Phase B plantings will commence following two years of hydrological monitoring, and Phase C plantings will commence as conditions allow. Table 2 is part of the Corps approved CMP. Table 2 is included in Specific Condition 16 of the State permit.

Table 2

Activity Relative Time Frame	Relative Time Frame
Commencement of Severance/Site preparation	No more than six (6) months prior to mining operations (unless approved by the USACE 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 Specific Conditions and the Monitoring 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 the objectives of the Compensatory Mitigation Plan)	At least two (2) years prior to release in forested wetlands

- Stream Establishment: On-site stream establishment will occur on a rolling basis across the site, as restoration follows behind mining. Attachment A, Part 2 of the Corps approved CMP details the stream design

characteristics and timetables. The Corps approved stream restoration plan matches the State approved plan (See Appendix 10 of the State permit) except the State plan includes an additional 25,436 linear feet of stream restoration.

**Mitigation Monitoring:** Below is a comparison of Corps' and the State's mitigation monitoring requirements. The Corps and the State requirements are similar.

- Corps: For established wetland mitigation areas, the Corps requires semi-annual monitoring of mitigation areas for the first two years following construction, and then annual monitoring thereafter. Semi-annual monitoring shall be combined into one annual monitoring report. Monitoring parameters include percent cover by desirable species by stratum, percent cover by exotic or nuisance species, dominant species, Water depth relative to zonation, soil monitoring relative to muck depth, color, texture, litter accumulation and moisture, the health and viability of the trees by measuring DBH and height. Annual monitoring reports shall be submitted until the Corps determines that the mitigation area(s) have achieved their performance standards. For streams, the Corps requires semi-annual monitoring of each stream establishment area for the first three years and then perform annual monitoring thereafter for a minimum of seven years. Monitoring parameters include drainage area, average bankfull cross-sectional area, average bankfull width, bankfull thalweg depth, hydraulic depth, width/depth ratio, pool depth, Rosgen class, sinuosity, stream length, bed slope, flood-prone width, functional process zone type, and habitat assessment score (HAS). Annual monitoring reports shall continue to be submitted until the Corps determines that the stream mitigation area have achieved their performance standards for five consecutive years.
- State: Semi-annual vegetative monitoring for each mitigation area, and the submittal of the reports beginning one year after planting. Subsequent vegetation statistical reports shall be submitted in years two, three, five, and biennially thereafter until release. Vegetative monitoring will include a species list and % cover, FLUCCS level III map, % bare ground and open water, nuisance spp. cover, upland spp. cover, tree density, shrub density, tree height, tree dbh, and fruit and seedlings. All monitoring data shall be submitted no later than March 1st of the following year. In addition to

annual vegetative monitoring reporting, hydrology and water quality monitoring reports must be submitted annually. For stream mitigation, annual monitoring shall occur in years one through five, then every other year until release. Stream monitoring will include bank and channel stability, map of channel, sinuosity, stream length. Stream slope, bankfull indicators present, bankfull area, depth, width, maximum depth, width depth ratio, entrenchment ratio, radius of curvature large woody debris abundance, and vegetation cover in stream channel.

**Performance standards:** Below is a comparison of Corps mitigation performance and the State permit mitigation release criteria. The Corps and the State have similar performance standards.

<b>Preserved Wetlands</b>	<b>Corps</b>	<b>State</b>
Baseline hydrology maintained	Yes	No
UMAM Community Structure scores maintained	Yes	No
Invasive exotic plant species (maximum)	5%	10%
Performance standards met prior to mining	Yes	Yes
Conservation easement recorded	Yes	Yes

<b>Enhanced Wetlands</b>	<b>Corps</b>	<b>State</b>
Corps/State Jurisdictional	Yes	Yes
Percent cover by appropriate wetland species (minimum)	80%	N/A
Appropriate soil hydrology	Yes	Yes
Years to achieve the performance standards	3	N/A

**Corps      State**

**Established Wetlands (Herbaceous)**

Corps/State Jurisdictional	Yes	Yes
Percent cover by appropriate wetland species (minimum)	80%	80%
Invasive exotic plant species (maximum)	5%	10%
Maximum percent cover by single species	30%	50%
Maximum relative percent cover by single groundcover species	30%	80%
Years to achieve the performance standards	5	7

**Established Wetlands (Forested)**

**Corps    State**

Corps/State Jurisdictional	Yes	Yes
Percent cover by appropriate wetland species (minimum)	No	80%
Invasive exotic plant species (maximum)	5%	10%
Maximum percent cover by single species	No	No
Appropriate soil hydrology	Yes	Yes
Minimum number live trees per acre that are at least 12' tall	400	400
Minimum number of shrubs per acre	100	100
Maximum years to achieve the performance standards	15	12

**Preserved Stream Segments**

**Corps    State**

Required FDEP visual habitat assessment scores (HAS) maintained in perpetuity	Yes	No
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Riparian buffers 60 foot wide with native wetland or upland vegetation	Yes	No
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Established Stream Segments	Corps	State
Rosgen Type stream segments with the specific characteristics as described in work plan.	C5 or E5	C or E
Macroinvertebrate species richness and diversity within the range of or which exceeds the reference stream segments	Yes	Yes
FDEP visual habitat assessment score (HAS) of 105 with a minimum buffer width of 60 feet on each side and stable stream banks.	Yes	Yes
Minimum riparian buffer width with native vegetation	60'	95', 60', and 25'
Maximum years to achieve performance standards within each established stream segment	10	12

**Notification to the Corps of Termination, Revocation, Modification, Amendment, Partial Release, or Disbursement:** The draft surety bond provided by the applicant (CMP Attachment H) stipulates that the Surety provide notice to the Corps at least 120 days in advance of any termination or revocation of the bond, and provide notice to the Corps at least 30 days in advance of modifications, amendments, partial releases, or disbursements. By providing advance noticing language directly in the State Financial Assurance legal instrument, an additional measure of confidence has been provided that the financial assurance required by the State for the construction of the compensatory mitigation project is sufficient for the purposes of achieving compliance with compensatory mitigation requirements of the DA permit, and is in compliance with 33 CFR 332.3(n)(1)-(6).



**Cost:** Rationale behind the cost estimate for providing replacement mitigation which considers costs for land acquisition, planning and engineering, legal fees, mobilization, construction, and monitoring. [See Institute for Water Resources (IWR) “Implementing Financial Assurance for Mitigation Project Success, June 2011” Updated March 2016]

- **Cost of Land Acquisition:** The approved permittee responsible, on site mitigation has been subjected to comprehensive hydrologic modeling, geologic and soils testing, and ecological analyses by the permittee. It was designed to fit the post-mining landscape which itself was designed to replicate or improve water resource features (i.e. wetlands), that were present prior to mining. In the event that the permittee abandoned the mitigation prior to release, remediation would be desirable and likely to be successful. If necessary, access to the mitigation sites by an independent, third-party contractor for remediation work and monitoring and maintenance is facilitated by the location of the property. The property directly abuts a public roads, as opposed to being surrounded by private properties whose owners may limit or deny access to the mitigation sites. For these reasons stated above, the Corps has determined that there is no need to include component costs for land purchase when setting assurance amounts.
- **Cost of Planning And Engineering:** As is the case with land acquisition, the approved permittee responsible mitigation plan is the result of comprehensive hydrologic modeling, geologic and soils testing, and ecological analyses by the permittee. Likewise, the mitigation sites are designed to fit the post-mining landscape which itself is designed to replicate or improve water resource features (i.e. wetlands), that were present prior to mining. The risk of failure of the mitigation based on design deficiencies beyond that which could be corrected through on-site remediation, by a third party contractor, is unlikely.
- **Legal Fees:** The financial assurance instruments (surety bond, and the standby trust agreement) will be funded and in place prior to commencement of the authorized activities. The procedure for triggering the release of those funds from the surety bond into the standby trust, and administering those funds for the mitigation work until performance

standards are achieved have already been established. Legal fees associated with implementing the financial assurance should therefore be minimal.

- **Cost of Mobilization, Construction, and Monitoring:** Cost estimates for mobilization, construction, maintenance and monitoring of the mitigation sites are based on the permittee's history of competitive bidding associated with similar wetlands mitigation projects. Cost estimates are updated annually to account for inflation based on the Construction Cost Index (CPI) as published in the Engineering News-Record. In addition to estimating costs based on other projects, the permittee has provided copies of signed contracts for earthwork, surveying, planting, maintenance, monitoring, and project management for wetland mitigation of a similar size. The Applicant has provided the estimated mitigation liability for the first three years of mining operations.

**Determination:** On 23 May 2016, the Corps received a copy of the initial wetland mitigation financial assurance demonstration provided to the State. The estimated mitigation liability for the first three years of operations under the South Pasture Extension ERP is \$14,237,428. The Corps has independently reviewed and verified the mitigation construction cost estimate as approved by the State and based on the submitted documentation and as described in the attached Financial Assurance Supplement (Attachment E to this decision document), the Corps has determined that the State-approved mitigation financial assurances provides sufficient financial resources to complete or replace the permittee's obligations to implement the required mitigation project and to meet specified performance standards in DA permit number 1995-00794, in the event that the permittee proves unable or unwilling to meet those obligations. Additional financial assurances are not necessary at this time.

The DA permit includes special conditions (Attachment D to this decision document) concerning the execution and funding of, changes to, and release of the implementation financial assurance, and requiring the financial assurances to be in place prior to commencement of the authorized activities.

- 9.0 Cumulative and Secondary Impacts** – *(40 CFR 230.11(g) and 40 CFR 1508.7, RGL 84-9) Cumulative impacts result from the incremental environmental impact of an action when added to all other past, present, and reasonably foreseeable future actions. They can result from individually minor but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider both direct and*

*indirect, or secondary, impacts. Indirect impacts result from actions that occur later in time or are farther removed in distance from the original action, but still reasonably foreseeable.*

Section 4.12 of the Final EIS provides the Corps' cumulative impacts analysis of the effects of the four current actions (the four applied-for phosphate mines, including South Pasture Extension), in combination with the effects of other past, present, and reasonably foreseeable actions, both mining-related and non-mining-related.

## **10.0 Other Federal, State, and Local Requirements:**

10.1 Endangered Species Act (ESA): By letter dated June 9, 2014, the USFWS provided a BO for the proposed project. In that BO, the USFWS concurred with the Corps' determinations of 'may affect, not likely to adversely affect' for the Florida panther, Florida scrub jay, and Florida grasshopper sparrow. The USFWS also concurred with the Corps' determinations of 'may affect' for the Audubon's crested caracara, eastern indigo snake, and wood stork, and provided reasonable and prudent measures to minimize incidental take of the caracara, indigo snake, and wood stork. The DA permit for this project includes a special condition requiring compliance with the BO and have the BO as a permit attachment.

On November 6, 2013, the Corps and NMFS-PRD held a meeting to discuss the effects of phosphate mining, including this project, on the smalltooth sawfish and the sawfish critical habitat unit in Charlotte Harbor. In regards to surface water quality effects, as described in Sections 4.4.6 and 4.12.4 of the Final EIS, and Sections 6 and 7 of this decision document, individually and cumulatively the expected level of potential impact is low enough that there will be no effect downstream on the sawfish or its critical habitat. In regards to surface water quantity effects, as described in Sections 4.2.5 and 4.12.2 of the Final EIS, and Sections 6 and 7 of this decision document, individually and cumulatively the expected level of potential impact is low enough that there will also be no effect downstream on the sawfish or its critical habitat. Therefore, the Corps determined that the proposed project would have no effect on the smalltooth sawfish.

10.1.1 Compliance with ESA: Yes

10.2 Magnuson-Stevens Act – Essential Fish Habitat (EFH): On December 16, 2015, the NMFS Habitat Conservation Division (NMFS-HCD) stated that they anticipated any adverse effects associated with the proposed project that might occur on marine and anadromous fishery resources would be minimal and, therefore, they did not object to issuance of a permit.

10.2.1 Compliance with Magnuson-Stevens Act: Yes

10.3

National Historic Preservation Act – Section 106: Section 6.3 of the Final EIS describes how the actions considered in that document, including this proposed action, will comply with the National Historic Preservation Act of 1966. The SHPO, by letter dated June 20, 2012, stated their review of the Florida Master Site File indicates that no historical properties are recorded within the project area. Furthermore, because of the location and/or nature of the project, the SHPO determined that it is unlikely that historic properties will be affected. The DA permit for this project includes a special condition requiring protection of previously unidentified archaeological/cultural materials and notification of appropriate authorities including the SHPO and THPO.

In addition, the Seminole Tribe of Florida's Tribal Historic Preservation Officer (STOF-THPO), by letter dated June 25, 2012, stated that they had no objection to the proposed project provided the applicant avoided the Turkey Feeder Site (8HR702). The applicant avoided that site, and it is within the boundaries of a preservation area. The DA permit for this project includes a special condition requiring protection of previously unidentified archaeological/cultural materials, including human remains, and notification of appropriate authorities including the SHPO and THPO.

- 10.3.1 Compliance with National Historic Preservation Act: Yes
- 10.4 Corps Wetland Policy: Based on the public interest review (Section 7 of this document), the beneficial effects of the project outweigh the detrimental impacts of the project.
- 10.5 Water Quality Certification under Section 401 of the Clean Water Act: The FDEP issued a water quality certification on June 22, 2012, as part of their ERP.
- 10.6 Coastal Zone Management Consistency under Section 307c of the Coastal Zone Management Act (CZMA): The FDEP issued a coastal zone management consistency determination on June 22, 2012, as part of their ERP.
- 10.7 Effects on Federal Projects (*33 CFR 320.4(g)(4)*): This project is not located in the vicinity of an authorized federal project.
- 10.8 Effects on the limits of the territorial seas (*33 CFR 320.4(f)*): This proposed project does not include any structure or work affecting coastal waters.
- 10.9 Safety of impoundment structures (*33 CFR 320.4(k)*): The construction and operation of the clay settling areas will comply with federal, state and local requirements. Specifically, the FDEP's NPDES permit will require compliance with Rule 62-672, F.A.C., "Minimum Requirements for Earthen Dams Used in Phosphate Mining and Beneficiation Operations and for Dikes Used in Phosphogypsum Stack System Impoundments." Also, the Hardee County Development Order requires additional

inspection, reporting, and emergency management elements that apply to the dams proposed for the South Pasture Extension.

10.10 Activities in Marine Sanctuaries (*33 CFR 320.4(i)*): This proposed project is not located in a marine sanctuary as established by the Secretary of Commerce under authority of Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972.

10.11 Other Authorizations:

a. Fish and Wildlife Act of 1956, Migratory Marine Game-Fish Act, Fish and Wildlife Coordination Act, and other acts protecting fish and wildlife resources: Chapter 4 of the Final EIS describes the South Pasture Extension's potential impacts on threatened or endangered species, fish, crustaceans, mollusks, and other aquatic organisms, and other wildlife. As described in Section 10.1 of this decision document, by letter dated June 9, 2014, the United States Fish and Wildlife Service (USFWS) provided a biological opinion (BO) for the proposed project.

b. Marine Mammal Protection Act of 1972: The proposed project does not affect any marine mammals.

c. Section 7(a) of the Wild and Scenic Rivers Act: Section 6.10 of the Final EIS describes how the actions considered in that document, including this proposed action, will comply with Section 7(a) of the Wild and Scenic Rivers Act.

In addition, Section 4.2.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on surface water flows within the Peace River. The Final EIS states that the project will have minor to no effect on the Peace River. Section 4.12.2 of the Final EIS describes the predicted cumulative effects on the Peace River, and Section 4.12.2.6 describes the magnitude and significance of those cumulative effects. As stated in the Final EIS, the cumulative effects are minor to no effect, and not significant.

d. Section 402 of the Clean Water Act: The state of Florida issued an NPDES permit for the South Pasture mine on April 23, 2015. Prior to operation of the South Pasture Extension, including discharge from outfalls, the applicant will need to request and receive a modification of that NPDES permit.

e. Migratory Bird Treaty Act: Section 6.12 of the Final EIS describes how the actions considered in that document, including this proposed action, will comply with the Migratory Bird Treaty Act.

10.12 Significant issues of Overriding National Importance (*33 CFR 320.4(j)(2)*):  
NA

10.13 Discussion (*if necessary*): NA

**11.0 Final Project Description and Special Conditions:**

11.1 Final Project Description: The final project description is as described in Section 1.4 of this decision document.

11.2 Special Conditions: Attachment D to this decision document provides the special conditions included in the DA permit for South Pasture Extension.

**12.0 Findings and Determinations:**

12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit would not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this permit action.

12.2 Relevant Presidential Executive Orders:

12.2.1 EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians: This action has no substantial effect on one or more Indian tribes, Alaska or Hawaiian natives.

12.2.2 EO 11988, Floodplain Management: Alternatives to location within the floodplain, minimization and compensatory mitigation of the effects were considered above.

12.2.3 EO 12898, Environmental Justice: The Corps has determined that this proposed project would not use methods or practices that discriminate on the basis of race, color or national origin nor would it have a disproportionate effect on minority or low-income communities.

12.2.4 EO 13112, Invasive Species: Through the performance standards for the mitigation as described in the compensatory mitigation plan (Attachment B to this decision document) and the special conditions of the DA permit (Attachment D to this decision document), the permittee will be required to control the introduction and spread of exotic species.

12.2.5 EO 13212 and EO 13302, Energy Supply and Availability: The project was not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

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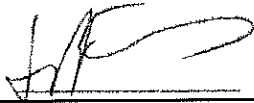
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- 12.2.6 EO 13547, Stewardship of the Ocean, Our Coasts, and the Great Lakes: The project would not adversely affect America's stewardship of the ocean, coasts, or Great Lakes.
- 12.3 Compliance with NEPA: All practicable means to avoid or minimize environmental harm from the alternative selected have been adopted.
- 12.4 Compliance with the Section 404(b)(1) Guidelines: Having completed the evaluation in Section 6, the undersigned have determined that the proposed discharge complies with the Guidelines.
- 12.4.1 As described in Section 5.5 of this decision document, the proposed action is the LEDPA.
- 12.5 Public Interest Determination: We find that issuance of a Department of the Army Permit is not contrary to the public interest.

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**Prepared By:**



John P. Fellows  
Team Leader, Mining Team

Date: 9 November 2016

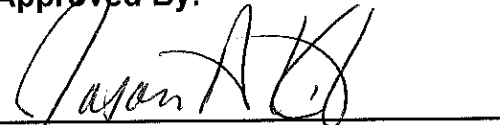
**Reviewed By:**



DONALD W. KINARD  
Chief, Regulatory Division

Date: 11/10/16

**Approved By:**



JASON A. KIRK, P.E.  
Colonel, U.S. Army  
Jacksonville District Commander

Date: 10 Nov 2016



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## List of Attachments

Attachment A: Public Notice Comments and Responses

Attachment B: Compensatory Mitigation Plan (CMP)

CMP Attachment A-1: Wetland Work Plan

CMP Attachment A-2: Stream Work Plan

CMP Attachment A-3: Mitigation Categories (drawings/maps)

CMP Attachment C: Conservation Easement Template

CMP Attachment D: Mitigation Long-Term Management Plan

CMP Attachment E: UMAM Sheets (impact and mitigation areas)

CMP Attachment F: Reference Sampling Plan

CMP Attachment G: Title Info

CMP Attachment H: Temporal Lag Tables

Attachment C: Onsite Alternative (drawings/maps)

Attachment D: Department of the Army Permit Conditions

Attachment E: Corps Memorandum for the Record on Construction Financial Assurance