

Hillsborough County Phosphate Mining Public Hearing Agenda

Sept. 13, 2023 6:00 p.m. County Center County Commission Board Room Second Floor/Hybrid

PUBLIC HEARING

I.	Application Number:	23-0742	
	Phosphate Reference No.:	723.01P	
	Applicant:	Mosaic Fertilizer LLC DRI 263 – Four Corners and Lonesome Mines Continue final deposition of a mass of clay determined to be extracted from Hardee County into Hillsborough County clay settling areas L-1, L-2, L-3, F-4, F-5, F-7 for 5-years or until the CSA have reached fill capacity.	
	Mine:		
	Request:		
	Туре:	Mining Related Activities	
	Size:	Current Overall Mine	~53,937 acres

Recommendation: Approval with Conditions.



Phosphate Application Information Data Sheet Phosphate Mining Hearing Master

Sept. 13, 2023, 6:00 P.M. Agenda Item 1

APPLICATION NUMBER:	23-0742
PHOSPHATE REFERENCE NO.:	723.01P
MINE:	DRI 263 Lonesome and Four Corners Mines
REQUEST:	Final deposition of clay mass determined to be extracted from Hardee County into Hillsborough County clay settling areas L-1, L-2, L-3, F-4, F-5, F-7 for five more years or until the CSA have reached fill capacity.
BOCC HEARING DATE:	Nov. 7, 2023
APPLICANT:	Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive Lithia, FL 33547
	Attn: Russel Schweiss, Vice President, Land & Resource Strategies Telephone: (813) 500-6891
PROPERTY OWNER:	Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive Lithia, FL 33547
	Attn: Russel Schweiss, Vice President, Land & Resource Strategies Telephone: (813) 500-6891
AUTHORIZED AGENT:	Stearns Weaver Miller Weissler Alhadeff & Sitterson, P.A. 401 East Jackson Street, Suite 2100 Tampa, FL 33602
	Attn: Vinette Godelia, Esq. Attorney for Mosaic Phosphates Company Main Number: (813) 223-4800 Email: VGodelia@sternsweaver.com



Phosphate Mining Application Review Report

Clay Settling Area Resolution (DRI 263)

PGM Application No. 23-0742

Phosphate Reference No. 723.01P

Preparation Date: Sept. 5, 2023

Hillsborough County Public Utilities Department Environmental Services Division 332 North Falkenburg Road Tampa, Florida 33619 Sept. 2023

Kimberly Cruz U Environmental Supervisor Environmental Services Division Public Utilities Department Email: <u>CruzKi@hillsboroughcounty.org</u> Phone: (813) 276-8370

Greenwell, P.E.

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Report Index

- 1. Application Information
- 2. Intent Statement
- 3. Location Information
- 4. Discussion of Request
- 5. Agency Review Comments
- 6. Staff Recommendations

Attachment 1: Consolidated Mines DRI 263

Attachment 2: Expiring Resolution R18-129

Attachment 3: Site Maps

Attachment 4: Notice Approvals for Clay Settling Areas

Attachment 5: Agency Comments

Attachment 6: Requests for Additional Information and Response

Phosphate Mining Application Review Report

1.0 Application Information

Phosphate Hearing Master Date:	September 13, 2023
BOCC Meeting Date:	November 7, 2023
Application Number:	23-0742
Applicant:	Mosaic Fertilizer, LLC
Mine:	Consolidated Mines
Submittal Date:	June 29, 2023
Request:	Approval of DRI 263 Development Order/Operating Permit Amendment

2.0 Intent Statement

This application has been submitted to request an amendment of the Mosaic Fe1iilizer, L.L.C. Consolidated Mines ("DRI 263") Development Order/Operating Permit for a period of five years ending on November 15, 2028, or until the clay settling areas have reached their full design capacity. This Amendment would allow the waste clays fraction of phosphate ore originating from Hardee County, resulting from processing of phosphate ore at the Four Corners Beneficiation Plant, to be disposed of in existing DRI 263 clay settling areas L-1, L2, L3, F-4, F-5, and F-7 with excess capacity.

3.0 Locational Information

3.1	Location:	East and west of and south of Co	f County Road 39, north unty Road 674.
3.2	Size:	Overall Mine	= 53,937 acres

3.3 Adjacent Surrounding Land Use:

North:	Phosphate Mining, State
South:	Phosphate Mining, Crops
East:	Phosphate Mining, Orchard/Citrus, Crops, Pasture
West:	Phosphate Mining, Utility

3.4 Zoning: AM

4.0 Discussion of Request

Application No. 23-0742/Phosphate Reference No. 723.01P was submitted by the applicant, Mosaic Fertilizer, LLC ("Mosaic"), to extend the date for operation of clay setting areas and time authorized by Resolution R 18-129 which allows six Clay Settling Areas , L-1, L-2, L-3, F-4, F-5, F-7, within DRI 263 Consolidated Mines area located in Hillsborough County to accept final deposition of more clay than was generated from Hillsborough County that is determined to be from Hardee County until each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever comes first unless expressly extended by the Hillsborough County Board of County Commissioners. Specifically, this application proposes to amend, for a period of five years, the DRI #263 Composite Development Order and Operating Permit; DRI #263 Developer Commitment (ADA, 38A11) set forth in Composite Attachment A, Section VI. MINING. DRI #263 is provided in Attachment 1 and the previous amendment, Resolution R 18-129, expires on November 14, 2023, and a copy is provided in Attachment 2.

A site plan depicting the relative locations of the CSAs is provided in Attachment 3. Construction of CSA F-4 was approved by the Hillsborough County Board of County Commissioners (BOCC) as Permit No. 1199.10P on August 22, 2000; F-5 was approved as Permit No. 505.05P on January 24, 2006; F-7 as Permit No. 608.06P on January 13, 2009; L-1 was approved as Permit No. 497.05P on April 21, 1998; L-2 was approved as Permit No. 1010.09P on March 22, 2011; L-3 was approved as Permit No. 314.02P on September 9, 2014. The Notice of Approval for construction of each CSA is presented in Attachment 4.

The language proposed to be amended within the Developer Commitment is provided in the italicized language below. Only existing previously permitted CSAs F-4, F-5, F-7, L-1, L-2, and L-3 would be utilized.

<u>DRI 263 Section VI. – Developer Mining Commitments From TBRPC DRI Final</u> <u>Reports</u>

4. The following list of commitments cover only those that are above and beyond all existing federal, state, and local rules and regulations. MOSF commits to the following in accordance with the Developer Commitments shown on Pages 36 through 40 of the TBRPC DRI #213 Phase I Final

Report (January 11, 1993), Pages 31-36 of the DRI#213 Phase II Final Report (May 9, 1994) and pages 21-29 of the DRI #263 Final Report (May 14, 2007), unless specifically modified by the County or agency action:

Mining

MOSF commits to balance the clay disposal so that the amount of clay that is produced in each county is disposed in that county. (ADA, 38A-11)

The Four Corners Beneficiation Plant (FCBP) processes matrix that is a mixture of clay, sand, and matrix slurry from mines within Hillsborough County, Hardee County, and Manatee County. The matrices from all Counties are comingled during the beneficiation phase at FCBP; therefore, it is impossible for the Mosaic to return specific clay material to the County that the clay originated from. Instead, the balance of returning clays to each County is accomplished by calculating the mass of clay received from each County. Deposition of clays within the proposed CSAs located within Hillsborough County would not exceed the balance of Hardee County and Hillsborough County calculated clay mass.

Existing and previously approved infrastructure connects the active mining operations to the FCBP will be utilized; therefore, no new pipelines or clay transportation mechanisms will be constructed in Hillsborough County to accommodate any clay derived from Hardee County. Mosaic indicates that the stage filling method provides more clay storage capabilities within the CSAs. Instead of constructing new CSAs, Mosaic proposes to continue filling the existing CSAs using the stage filling method. Mosaic will not construct or operate CSAs L-4, L-5, L-6, and F-8.

Compliance

Mosaic provided provide annual progress reports regarding Resolution R18-129, provided in Attachment 5.

The CSAs were designed and are operated in accordance with Chapter 62-672, Florida Administrative Code, (F.A.C.), Minimum Requirements for Earthen Dams Used in Phosphate Mining and Beneficiation Operations and for Dikes Used in Phosphogypsum Stack System Impoundments. All aspects of the Clay Settling Area's design, construction and maintenance are in accordance with the terms and conditions of any permit or authorization given in connection with the design, construction, and maintenance of the Settling Area, which shall include but not limited to the Florida Department of Environmental Protection (FDEP) Phosphate Management Facility Permit (PMFP).

According to the annual CSA earthen dam inspections for years 2018 through 2022 conducted by a third-party, Ardaman & Associates, Inc., the CSAs operated by Mosaic were generally well-maintained and safely operated within industry standards. Ardaman and Associates provided recommendations each year concerning maintenance and indicated that critical conditions were not observed, and the recommendations were not associated with immediate corrective maintenance. Each annual report indicated that the minimum water level freeboard for each CSA was met at the time of the inspections.

Florida Department of Environmental Protection (FDEP) National Pollution Elimination Page 5 of 10 Discharge Permits (NPDES) require Mosaic to ensure that the water quality standards for Class III freshwaters as defined in Rules 62-302.500 and 62-302.530, F.A.C., are not exceeded at the points of discharge from the CSA outfalls, except when allowed by permit or Official Agency Action. Water quality is monitored and regulated by FDEP.

Mosaic reports CSAs L-1, L-2, L-3, F-4, F-5, and F-7 have remaining capacities that range from 11% to 17% and averaging 13% for an estimated remaining proposed capacity of 101,131,000 tons through year 2028 in the six Hillsborough County CSAs assuming the CSAs remain active through the year 2028. Based on the constructed volume of each CSA, the current estimated construction filled volume is 84% to 92% full as of August 1, 2023. The estimated proposed percent of constructed fill volume is estimated to be 98 to 99%% for each CSA in 2028.

Benefits

Mosaic discovered that the CSAs can be utilized to their maximum capacity through a process described as stage filling which increases the capability to store more clay extending the useful life of the CSAs and provides potential opportunities to improve reclamation than what was originally predicted. Mosaic's application indicates that extending the usefulness of CSAs L-1, L-2, L-3, F-4, F-5, and F-7 eliminates the need for the Mosaic to construct more CSAs that could encompass more than 2,000 acres. Mosaic indicates that mined lands that would no longer have additional CSAs constructed can be reclaimed faster with increased habitat diversity and more options for economic redevelopment. CSAs are constructed in historic high spots between river valleys and designed to be hydrologically integrated with wetlands and downgradient hydrology is dependent on water runoff from the CSAs. According to a technical memorandum provided with the application, Hydroecology of Clay Settling Area Stage-Fill in Hillsborough County, FL developed by Black & Veatch, stage filling the proposed CSAs to the designed capacity is expected to prevent pooling and wet depressions that often occur when CSAs that are not filled to capacity which could prevent positive drainage to local streams, as intended. Additionally, the Black & Veatch assessment indicates that filling CSAs designed to have treatment wetlands on top tend to be fully vegetated and would provide a water quality benefit.

If the proposed resolution is approved, the conditions within Section 2 of Resolution R18-129 will carry over to the new Resolution.

5.0 Agency Review Comments

Agency comments are provided in Attachment 6 and summarized below.

5.1 The following agencies <u>do not object</u> to this proposed application:

Hillsborough County Development Services - Department Natural Resources

5.2 The following agencies <u>did not provide comments</u> regarding this proposed application:

Hillsborough County Development Services Page 6 of 10 Hillsborough County Conservation and Environmental Lands Hillsborough County Planning Commission Hillsborough County Transportation Tampa Bay Regional Planning Council Tampa Bay Water, Florida Fish and Wildlife Commission Florida Department of Environmental Protection.

5.3 The following agencies indicated <u>no comments</u> regarding this proposed application:

Hillsborough County Environmental Protection Commission (EPC) – Wetlands Division Hillsborough County Environmental Protection Commission (EPC) – Water Management Division.

5.4 The following agencies <u>requested additional information</u> regarding this application. Mosaic's response to the requested information is provided in Attachment 7. HC EVSD found Mosaic's responses sufficient with three items recommended to be included as conditions of approval and referenced in section 5.5 of this report:

Hillsborough County Environmental Services Division (EVSD):

- 1. For the time extension regarding the Emergency Order, please provide your calculation. See recommended conditional approval in section 5.5 below.
- 2. As of 8/14/2023, the Executive Orders have added 354 days plus 6 months for each order (182 days x 2), which amounts to 718 days. The timelines shall be recalculated prior to the PHM meeting and subsequently prior to the BOCC meeting, if applicable. See recommended conditional approval in section 5.5 below.
- 3. Revise Section 1.C. of the proposed Resolution to add a statement that the clays deposited will not exceed the freeboard elevations conditioned in the Florida Department of Environmental Protection (FDEP) permits.
- 4. To be consistent with Resolution R18-129, the following language shall be included in the proposed Resolution at the end of the Section 2.B.: 'as part of the report referenced in Section 2.E., below.'
- 5. To be consistent with Resolution R18-129, the following language in the proposed Resolution shall be included in Section 2.E. in front of 'furthermore': This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners.
- Submit a copy of the most updated version of the Clay Waste Disposal Plan (also known as Life of Mine Waste Disposal Plan) to be included with the Page 7 of 10

application. See recommended conditional approval in section 5.5 below.

- 7. The application indicates that F-2A, F-2C, and F-2D will continue to be used for water management and clay thickening to support the transfer of clays to other Clay Settling Areas (CSA). Provide a summary of this process and how the process relates to Hillsborough County receiving clay from Hardee County.
- 8. The application mentions a Regional Clay Plan. Does the Regional Clay Plan include an agreement between Mosaic, Hillsborough County, and Hardee County? If applicable, provide a copy of the Regional Clay Plan to be included with the application packet.
- 9. The County requests paragraph 2 be reworded similar to the following: Ultimately, the HC BOCC approved a temporary amendment for a duration of five years which allows for clays calculated to be from Hardee County be deposited in the Hillsborough County CSAs with associated monitoring and reporting requirements as codified in R18-129.
- 5.5 The following agencies indicated <u>no objection with conditions</u> regarding this proposed application:

Hillsborough County Environmental Services Division (EVSD):

- 1. Mosaic shall continue associated monitoring and reporting requirements as codified in R18-129.
- 2. Mosaic shall obtain and maintain all applicable Federal, State, or local permits.
- 3. Reclamation shall be completed in accordance with the Hillsborough County Board of County Commissioners (HC BOCC) approved postreclamation plans and timelines.
- 4. Emergency Orders 22-218 and 22-253 with subsequent extensions outlined on page five of the proposed Resolution, declared by the Florida Governor; Ron DeSantis may continue to be renewed and at this time are ongoing. Mosaic plans to exercise its rights, per § 252.363, Florida Statutes (F.S.), to extend the DRI # 263 expiration dates upon expiration of the related emergency orders and associated declared time extensions. The timeline extensions shall be updated in the proposed resolution prior to the Phosphate Hearing and HC BOCC hearing. At this time, Mosaic has provided an updated table in the Responses to Agency Comments submittal dated August 24, 2023.
- 5. Within 90 days of the HC BOCC approval of this application, Mosaic shall review the Life of Mine Waste Disposal Plan dated August 4, 2020, and revise the plan to incorporate this application's request to continue to utilize

the Hillsborough County CSAs to store clay determined to be extracted from Hardee County until November 15, 2023 until each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever comes first unless expressly extended by the Hillsborough County Board of County Commissioners.

- 6. At a minimum, the annual reports shall include the following clay balance information in a table with the report signed and sealed by a P.E.: total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the remaining available volume for clay disposal in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined in Hardee County and returned to Hardee County, Clays deposited in each clay settling area in tons, the remaining available volume in acre-feet and tons, and provide any correspondence and/or data related to compliance with FDEP's Phosphate Management Facility Permit (PMFP) and relating to any modification or change related to the CSAs.
- 7. Reporting period for the CSA annual reports associated with the new resolution shall be from November 1st through October 31st and shall be submitted within 90 days from the end of the reporting period.

6.0 <u>Staff Recommendation</u>

Mosaic application demonstrates commitment to implement the existing Hillsborough County BOCC approved reclamation plans and timelines for completion. Mosaic's proposal to fill the CSAs to capacity will provide improved water quality and better survival rate of the planned land reclamation type. The application provides competent and substantial evidence that the proposed mining activities will meet Objective 1.3 of the One Water Goal and Objective 3.2 of the Environmental and Sustainability Element of the Hillsborough County Comprehensive Plan.

Based on the above information, and agency review comments in the preceding section of this report, staff is recommending conditional approval of the request based on the following conditions and are incorporated into the revised proposed Resolution:

- 1. Mosaic shall continue associated monitoring and reporting requirements as codified in R-18-129.
- 2. Mosaic shall obtain and maintain all applicable Federal, State, or local permits.
- 3. Reclamation shall be completed in accordance with the Hillsborough County

Board of County Commissioners (HC BOCC) approved post-reclamation plans and timelines.

- 4. Emergency Orders 22-218 and 22-253 with subsequent extensions outlined on page five of the proposed Resolution, declared by the Florida Governor; Ron DeSantis may continue to be renewed and at this time are ongoing. Mosaic plans to exercise its rights, per § 252.363, Florida Statutes (F.S.), to extend the DRI # 263 expiration dates upon expiration of the related emergency orders and associated declared time extensions. The timeline extensions shall be updated in the proposed resolution prior to the Phosphate Hearing and HC BOCC. At this time, Mosaic has provided an updated table in the Responses to Agency Comments submittal dated August 24, 2023.
- 5. Within 90 days of the HC BOCC approval of this application, Mosaic shall review the Life of Mine Waste Disposal Plan dated August 4, 2020, and revise the plan to incorporate this application's request to continue to utilize the Hillsborough County CSAs to store clay determined to be extracted from Hardee County until November 15, 2023 until each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever comes first unless expressly extended by the Hillsborough County Board of County Commissioners.
- 6. At a minimum, the annual reports shall include the following clay balance information in a table with the report signed and sealed by a P.E.: total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the remaining available volume for clay disposal in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined in Hardee County and returned to Hardee County, Clays deposited in each clay settling area in tons, the remaining available volume in acre-feet and tons, and provide any correspondence and/or data related to compliance with FDEP's Phosphate Management Facility Permit (PMFP) and relating to any modification or change related to the CSAs.
- 7. Reporting period for the CSA annual reports associated with the new resolution shall be from November 1st through October 31st and shall be submitted within 90 days from the end of the reporting period.
- 8. In no event shall any approval granted herein exceed or expand any approval granted pursuant to the FDEP's PMFP.

STAFF REVIEW REPORT REVISED PROPOSED RESOLUTION WITH CONDITIONS OF APPROVAL

RESOLUTION R23-

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by Commissioner_____, seconded by Commissioner _____, the following Resolution was adopted by a vote of _____ to ____ with Commissioner(s)______voting "No."

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974, and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975, and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Comers, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer, Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and

WHEREAS, on September 26, 2000, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and

WHEREAS, on January 25, 2005, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 05-021, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening Station; and

WHEREAS, on March 11, 2008, Hillsborough County Board of County Commissioners approved Resolution 08-047, which added approximately 1,540 acres to form the Hillsborough County Mines Addition Area - DRI #263 (hereinafter "DRI #263 Addition Area Phase"); removed approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; added a mine infrastructure corridor, revised mining plans and incorporated clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, revised reclamation plans reflecting these changes as well as the reclamation already completed in the DRI #213 area; updated DRI #213 Development Order conditions already satisfied or no longer applicable; updated the approved methods for transporting product between the mines and plants; and updated product shipment destination points and deletion of certain destination points and route segments (hereafter "DRI #263 Composite Development Order and Operating Permit"); and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed a Notice of Proposed Change ("NOPC") and an application to amend the Operating Permit/Master Mine and Reclamation Plan for the Hillsborough County Mines Development of Regional Impact DRI #263 proposing to add approximately 75 acres of land, previously owned by Kathy Surface (hereinafter referred to as the "Surface Parcel"), to DRI #263 Composite Development Order and Operating Permit"; and

WHEREAS, on August 10, 2010, the Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution R10-113, amending DRI #263 Composite Development Order and Operating Permit, and the Master Mine and Reclamation Plan to add the approximately 75 acre Surface Parcel; and

WHEREAS, per § 252.363, Florida Statutes, and by letter dated November 3, 2017, from counsel for Mosaic, as confirmed by letter from the County dated April 4, 2018, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 31, 2027	December 22, 2030
Restriction on Downzoning		
Composite Attachment A-	December 31, 2027	December 22, 2030
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 31, 2018	December 22, 2021
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 31, 2026	December 22, 2029
Development-		
Reclamation Completion Date		

and

WHEREAS, on November 18, 2018, Hillsborough County Board of County Commissioners approved R18-129, amending DRI #263 Composite Development Order and Operating Permit to enable existing clay settling areas (CSAs) L-1, L-2, L-3, F-4, F-5, and F-7 within DRI #263 to accept clays from Hardee County, in addition to clays from Hillsborough County, until such time as each clay settling area is utilized to its existing, permitted full design storage capacity or until November 14, 2023, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master; and eliminating construction of CSAs L-4, L-5, L-6, and F-8; and

<u>WHEREAS</u>, on June 11, 2019, the Hillsborough County Board of County Commissioners approved R19-082, amending the DRI #263 Composite Development Order and Operating Permit to remove a +/- 435-acre parcel owned by Tampa Electric Company from the boundaries of DRI #263 and from the DRI #263 Composite Development Order and Operating Permit; and

WHEREAS, per § 252.363, Florida Statutes, and by letter dated September 13, 2021, from counsel for Mosaic, as confirmed by letter from the County dated January 14, 2022, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 22, 2030	October 9, 2032
Restriction on Downzoning		
Composite Attachment A-	December 22, 2030	October 9, 2032
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 22, 2021	October 9, 2023
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 22, 2029	October 9, 2031
Development-		
Reclamation Completion Date		

and

WHEREAS, per § 252.363, Florida Statutes, Mosaic has indicated via a letter from counsel dated January 5, 2023, that it intends to exercise its rights to extend the DRI #263 expiration dates upon expiration of ongoing hurricane related Emergency Orders 22-218 and 22-253 resulting in anticipated dates of <u>no earlier</u> than the following:

Section & Subject	Prior Date	Extended Date
Section 5	October 9, 2032	November 9, 2034
Restriction on Downzoning		
Composite Attachment A-	October 9, 2032	November 9, 2034
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	October 9, 2023	November 8, 2025
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	October 9, 2031	November 8, 2033
Development-		
Reclamation Completion Date		

and

WHEREAS, June 27, 2023, Mosaic submitted an application to amend the DRI #263 Composite Development Order and Operating Permit to extend the amendment approved in R18-129 to DRI #263 Developer Commitment (ADA, 38A•11) set forth in Composite Attachment A, Section VI. MINING to allow existing Hillsborough County Clay Settling Areas to accept additional clay volume produced by phosphate extraction activities in Hardee County ("Application"); and

WHEREAS, the Application seeks to extend the date for operation of clay settling areas for 5 additional years to November 15, 2028; and

WHEREAS, on______, 2023, the Phosphate Mining Hearing Master reviewed the request to extend the amendment to DRI #263 Composite Development Order and Operating Permit approved in R18-129, pursuant to the Hillsborough County Land Development Code, and filed a recommendation on said Application with the Hillsborough County Board of County Commissioners; and

WHEREAS, it is the intent of the Hillsborough County Board of County Commissioners that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners, as the governing body of the local government having jurisdiction pursuant to Section 380.06(7), Florida Statutes, is authorized and empowered to consider proposed changes to approved Developments of Regional Impact pursuant to standards and procedures in the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code; and

WHEREAS, the public notice requirements of the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code, have been satisfied; and

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and local agencies, and the Phosphate Mining Hearing Master; and

WHEREAS, the Hillsborough County Board of County Commissioners on

______, 2023, held a duly noticed public hearing on said Application, as required by Hillsborough County Land Development Code Section 8.02.07, and has heard and considered testimony and reviewed documents and evidence received thereon.

NOW, THEREFORE, BE IT RESOLVED THIS _____ TH DAY OF _____, 2023 BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, DRI #263 COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT IS HEREBY AMENDED BY ADDING THE FOLLOWING FINDINGS OF FACT AND CONDITIONS, WITH THE BALANCE OF THE ADOPTED DEVELOPMENT ORDER AND OPERATING PERMIT REMAINING IN EFFECT IN ITS ENTIRETY.

SECTION 1. FINDINGS OF FACT:

- MOSF is the Developer of DRI #263. The authorized agent for MOSF is Mr. Russell Schweiss, Senior Director – Land and Resource Strategies, Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, Florida 33547.
- B. The real property that is the subject of this Application is as attached to Section IV to the DRI #263 Composite Development Order and Operating Permit, as amended by R10-113 and R19-082.
- C. Modification of the Developer Commitment in DRI # 263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING (ADA, 38A-11) enabling existing clay settling areas L-1, L-2, L-3, F-4, F-5 and F-7 within DRI #263 to accept clays from Hardee County until such time as each such clay settling area is filled to its design storage capacity – not to exceed the freeboard elevations conditioned in permits for the facilities issued by the Florida Department of Environmental Protection (FDEP) – will not change the existing approved dimensions of those existing clay settling areas and will allow such clay settling areas to be fully utilized.

SECTION 2. CONDITIONS:

A. The Developer Commitment (ADA, 38A-11) by Mosaic in DRI #263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING which originally stated "MOSF commits to balance clay disposal so that the amount of clay produced in each county is disposed in that county" shall be amended to state as follows: "MOSF commits to balance the clay disposal so that the amount of clay <u>that is</u> produced in each county <u>is</u> <u>disposed in that county, provided, however, does not exceed the amount of clay</u> <u>permanently disposed of in that county, with the exception</u> that CSA L-1, L-2, L-3, F-4, F-5 and F-7 in Hillsborough County, are authorized to accept clays mined by MOSF from outside of the <u>Hardee</u> County <u>only</u> until such time as each CSA is utilized to its full design storage capacity or <u>as provided herein. Regardless of</u> whether each CSA is utilized to its full design storage capacity, this authorization to deposit clays from Hardee County in Hillsborough County shall expire on until November 15, 2028, whichever occurs first, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master. Additionally, MOSF will not construct CSAs L-4, L-5, L-6, and F-8."

- B. <u>Mosaic shall continue associated monitoring and reporting requirements as set</u> forth in R18-129.
- C. On each anniversary of this Resolution, Mosaic shall report to the County's Development Services Department the amount of clay from outside Hillsborough County deposited in Hillsborough County clay settling areas in the previous year. This information shall be reported to the Hillsborough County Board of County Commissioners annually as part of the report referenced in Section 2.E. below.
- D. <u>The reporting period for the CSA annual reports associated with this Resolution</u> <u>shall be from November 1st through October 31st and shall be submitted within</u> <u>90 days from the end of the reporting period.</u>
- E. <u>At a minimum, the annual reports shall include the following clay balance information in a table with the report signed and sealed by a licensed professional engineer: total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the remaining available volume for clay disposal in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined in Hardee County and returned to Hardee County, clays deposited in each clay settling area in tons, and the remaining available volume in acre-feet and tons. In addition, the annual reports shall include any correspondence and/or data related to compliance with FDEP's Phosphate Management Facility Permit (PMFP) and any modification or change to the CSAs.</u>
- F. Mosaic shall continue to fill CSAs L-1, L-2, L-3, F-4, F-5, and F-7 with clays originating from Hillsborough County, until such clay supply from mining operations in Hillsborough County is exhausted.
- G. No new pipelines or clay transport mechanisms shall be constructed in Hillsborough County to accommodate any clay derived from outside of the County.

- H. Within 90 days of the adoption of this Resolution, Mosaic shall review the Life of Mine Waste Disposal Plan dated August 4, 2020, and revise the Plan to incorporate this application's request to continue to utilize the Hillsborough County CSAs to store clay determined to be extracted from Hardee County until each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever comes first unless expressly extended by the Hillsborough County Board of County Commissioners.
- I. All aspects of the approved CSAs' design, construction and maintenance shall occur in accordance with the terms and conditions of such permits or authorizations given in connection with the design, construction or maintenance of the clay settling area(s), including but not limited to the FDEP Phosphate Management Facility Permit (PMFP). Nothing herein shall be construed as to exceed or expand the terms or conditions of an approved PMFP. Mosaic shall provide to the appropriate representative of Hillsborough County's Development Services Department copies of any correspondence or any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the clay settling areas. Simultaneous with any submittal to FDEP of any data regarding the composition or content of clay, water or any other substance from a clay settling area within DRI #263, Mosaic shall provide the same data in the same format to the Hillsborough County Environmental Protection Commission (EPC) for review. This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners. Furthermore, Mosaic agrees to allow the EPC or an independent monitor selected by the EPC to take samples from the clay settling areas with reasonable notice, and shall pay all reasonable costs associated with such sampling, testing and monitoring.
- J. Mosaic shall obtain <u>and maintain</u> all required or necessary governmental (Federal, State, and/or Local) approvals, authorizations, permits and documents prior to conducting any mining activity. Mosaic agrees to pay all of the County's reasonable costs and expenses related to monitoring the clay settling areas until such time as all clay settling areas within the DRI are reclaimed.
- K. <u>Reclamation shall be completed in accordance with the Hillsborough County</u> <u>Board of County Commissioners' approved post-reclamation plans and</u> <u>timelines.</u>
- L. Except as amended in this Resolution, the approvals and conditions set forth in

the DRI #263 Composite Development Order and Operating Permit, as amended, shall continue in full force and effect as previously approved.

The changes approved in this Resolution are consistent with the Hillsborough M. County Comprehensive Plan for Unincorporated Hillsborough County, the Hillsborough County Land Development Code, and Section 380.06(7) Florida Statutes.

SECTION 3. ADMINISTRATION:

- The Ex Officio Clerk of the Board of County Commissioners shall send copies of A. this Resolution, by certified mail, within thirty (30) days following the effective date hereof, to MOSF and the Tampa Bay Regional Planning Council.
- B. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

I, Cindy Stuart, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of a Resolution adopted by the Board at its regular meeting of _____, 2023, as the same appears of record in Minute Book of the Public Records of Hillsborough County, Florida.

WITNESS my hand and official seal this day of , 2023.

CINDY STUART CLERK OF THE CIRCUIT COURT

By: _____ Deputy Clerk

APPROVED BY COUNTY ATTORNEY As to Form and Legal Sufficiency

By

Sr. Assistant County Attorney

PHOSPHATE HEARING MASTER RECOMMENDATION

HILLSBOROUGH COUNTY, FLORIDA

ORDER

APPLICATION NO.:	DRI 23-0742
PHOSPHATE REFERENCE NO.:	723.01P
APPLICANT:	Mosaic Fertilizer L.L.C.
MINE:	DRI 263 - Lonesome Mine and Four Corners Mine
REQUEST:	Continue final disposition of a mass of clay determined to be extracted from Hardee County into Hillsborough County's clay settling areas, L-1, L-2, L-3 and F-4, F-5, and F-7, for five years or until the clay settling areas have reached their fill capacity.

DATE OF PUBLIC HEARING: September 13, 2023

I. <u>PROCEDURAL SUMMARY:</u>

Mosaic Fertilizer L.L.C. ("Mosaic") requests an extension of time to complete the disposal of Hardee County clay in six (6) of Hillsborough County clay settling area namely L-1, L-2, L-3, F-4, F-5, F-7 ("CSAs"), currently authorized under Hillsborough County Board of County Commissioner's (" HC BOCC") Resolution No. 18 - 129 ("R 18 - 129"), ¹ and Mosaic's Consolidated Mines "DRI 263" Composite Development Order and Operating Permit² ("Consolidated DRI 263 and Operating Permit"). In exchange, Mosaic agreed not to construct previously HC BOCC approved, but not constructed CSAs' L-4, L-5, L-6, and F-8 which totals 2000 acres of mined land (Tr. p. 48). HC BOCC set a sunset date of November 14, 2023, for performance, even if the above-described CSAs are not utilized to their full design storage capacity, unless the HC BOCC grants an extension of time, following a hearing before the Phosphate Hearing Master ("PHM")'(Tr. pp. 3, 4, 69).

Mosaic now seeks an extension of time for five (5) additional years, up until November 15, 2028, or until the CSAs reach their full design storage capacity, whichever occurs first (Tr. pp. 3, 47, 48). The PHM is authorized under the Hillsborough County Land Development Code ("LDC") to (1) hold this public hearing for an application seeking amendment to the Phosphate Mining Operating Permit³ for mining related activities; and 2) to issue findings and make a recommendation to the HC BOCC as to whether the requested amendment to the operating permit should be approved or denied based on the criteria set forth in in the LDC 8.02.00, et.al. In this instance, the Consolidated DRI 263 and Operating Permit are one in the same document (Tr. pp. 3, 4).

A public hearing was held before a PHM on September 13, 2023, at the Hillsborough County Center, 601 East Kennedy Blvd., County Commission Board Room, Second Floor, Tampa, Florida 33601 (Tr. p. 3). In

¹ Dated November 14, 2023

² Dated March 11, 2008

³ LDC Sec. 9.02.02 B. 1

support of its application, Mosaic submitted evidence in the form of written documents and oral testimony from its experts and management staff (Tr. p. 8) demonstrating it satisfies the applicable requirements of the LDC, Comprehensive Plan,⁴ and R 18-129 for its proposed amendment to the Combined DRI 263 and Operating Permit.

Kim Cruz, Hillsborough County Public Utilities Department Environmental Services Division Environmental Supervisor, testified regarding the County staff's written September 5, 2023 "Phosphate Mining Application Review Report", in review of Mosaic's application, which includes agency review comments (Tr. p. 57), and recommendation with conditional approval ("Staff Report"). The County staff added additional conditions for its approval in the proposed HC BOCC Resolution No. R 23 -_____("proposed R 23 - _____") approving Mosaic's application which is attached hereto and incorporated herein as Exhibit A (Tr. p. 57). Mosaic agrees with all of the County staff's conditions for its recommended approval (Tr. pp. 7, 43, 44, 45,46).

At the public hearing, Mosaic submitted an Exhibit Binder Book labeled "Application for DRI-NOPC 2300472: Amendment Request for Continued Use of Hillsborough County CSAs" which was entered into the record during the public hearing (Tr. p. 7). No witness testified in opposition to the application (Tr. p. 68).

The following Findings of Fact are taken from the Transcript of Proceedings of the September 13, 2023, public hearing, above-described Mosaic's Exhibit Booklet, Application, Staff Report, and documents on file with the County Clerk.

II. FINDINGS OF FACT:

Location of CSAs

The above described six (6) CSAs are located within the geographic boundaries of DRI 263, Southeast Hillsborough County and in the vicinity of State Road 674 and County Road 39. L-1, L-2, and L-3 are located near the southeast corner of the intersection of State Road 674 and County Road 39. F-4, F-5, and F-7 are located just north of the Hillsborough/ Manatee County Line near County Road 39.

Mosaic's Strip-Mining Process

Mosaic mines matrix which is made up of (1) phosphate rock; (2) sand; and (3) clay (Tr. p. 9). The Four Corners Beneficiation Plant ("FCBP") separates these components: (1) phosphate rock which is sent to Mosaic's manufacturing facilities for further processing (Tr. pp. 9, 13, 15, 16); (2) sand which goes back to the mine cuts (Tr. p. 9) used in reclamation of the mined land; and (3) clay in form of liquid clay or slurry is pumped into the CSAs where the clay settles out and is retained (Tr. pp. 9, 10). After the clay settles, the remaining water is recycled for use in the mining and beneficiation processes (Tr. p. 29).

The FCBP straddles the Hillsborough and Manatee County line, with the Hillsborough County portion of the FCBP located within DRI 263 (Tr. p.16). The matrix accepted at the FCBP is comingled from several counties and the specific clay material cannot be returned to its originating County. The mass of clay received from each County at the FCBP is calculated to determine the amount of clay to be returned to a County (Tr. p. 47). Clay proposed to be placed within the Hillsborough County CSAs will be calculated based on the amount of clay mass received from Hardee and Hillsborough Counties (Tr. pp. 47 - 49).

CSAs Design, Construction, Maintenance

The above-described CSAs were constructed under all required permits, applicable laws, and BOCC approvals (Tr. p. 49) between 2006 and 2014.⁵

⁴ LDC Sec.8.02.06 A.4.

⁵ The CSAs were constructed in the following years: F-5 - 01/24/2006; F-7 - 01/13/2009; L-1 - 04/21/98; L-2 - 03/22/2011; and L-3 - 09/9/2014 (Tr. p. 29).

- The design, construction and maintenance are required to comply with all operating permits including Mosaic's FDEP Phosphate Management Facility Permit (PMFP) and Chapter 62-672 Florida Administrative Code (Tr. pp. 17, 18, 29, 49);
- Mosaic's NPDES Discharge Permit which establishes water quality standards for Class III freshwaters as defined in Rules 62-302.500 and 62-302.530 F.A.C. has not been exceeded at the points of discharge from the CSAs outfalls, except were permitted or allowed by Official Agency Action. Water Quality is monitored by the FDEP (Tr. pp. 29, 54); and
- Maintenance: Inspection/Reporting: Mosaic testified to their routine maintenance program conducted by experienced and trained geotechnical inspectors, with oversight by a third-party engineer (Tr. pp. 24 - 27; 30 - 34). According to third-party engineer reports, CSAs were well maintained and safely operated within industry standards. (Tr. pp. 53, 54). County staff confirms that Mosaic has provided the annual progress reports required under R. 18 - 129 (Tr. pp. 53, 54).

Stage Filling Process

The process by which clay is stored within a CSA has evolved over time (Tr. pp 10 - 12). Currently, the process known as stage filling is employed which enables the constructed CSAs to have significantly more capacity for storing clay than previously planned. (Tr. pp. 20 - 24; 27, 28). As a result, a regional clay disposal plan has been established and implemented by Mosaic allowing the existing CSAs to be used for longer periods of time, and to reduce the amount of previously approved, but not constructed CSAs (Tr. pp. 10 - 12).⁶

Benefits

The above-described stage filling process, with capability to store more clay, improves the reclamation of lands from an agricultural perspective when the CSAs are filled to capacity (Tr. pp. 12 - 13). Currently, Mosaic is working with the University of Florida on a trial project growing carbon capture crops on CSAs because nutrients and moisture content is greater on clay soils (Tr. pp. 13 - 15).

Benefit to extending the usefulness of the above-described CSAs eliminates the need for Mosaic to construct the previously approved CSAs that would encompass more than 2000 acres of mined land. County Staff testified that the complete utilization of these CSAs will include improved habitat diversity and more options for economic redevelopment (Tr. p. 53).

Dr. Kiefer testified that the CSAs are constructed on historic high spots between river valleys and upon stage filling, they will generate rainfall runoff, which will be distributed to a series of reclaimed wetlands, streams, different creek systems such as Little Manatee River, south prong of the Alafia River, and Horse Creek, and the natural valleys where water is beneficial for a wide variety of environmental functions (Tr.

⁶ Section 378.207 F.S. reclamation criteria and standards - Department to adopt statewide criteria and standards for reclamation by rule. FL Admin Code R 62C-16.0051-Section 62C-16.0051 - Reclamation and Restoration Standards sets forth the minimum criteria and standards for approval of a conceptual plan or modification application as follows: (9) Waste Disposal.

⁽a) Clay Wastes.

^{1.} Disposal areas shall be reclaimed as expeditiously as possible. Experimental methods which speed reclamation and which are consistent with these rules are encouraged.

^{2.} To the greatest extent practical, all waste clay shall be disposed in a manner that reduces the volume needed for disposal.

^{3.} Above-ground disposal areas shall be reclaimed in a manner so that long-term stabilization of retention dikes and dams is assured.

^{4.} Waste clays shall be disposed of in a manner which minimizes the length of time waste disposal sites are needed for mining operations, reduces the impact on drainage patterns and pre-mining topography, and considers post-reclamation land use potential (Tr. pp. 17, 18, 19).

pp. 36 - 38). County staff concurs with Dr. Kiefer's professional opinion (Tr. p. 53).

According to Dr. Kiefer's Technical Memorandum "Hydroecology of Clay Settling Area Stage Fill in Hillsborough County" stage filling the CSAs to designed capacity is expected to prevent pooling and wet depressions that often occur when CSAs are not filled to capacity, which in turn, could prevent positive drainage to local streams (Tr. pp. 38 - 40). The treatment on top of a stage filled CSA to designed capacity also tends to be fully vegetated and provides a water quality benefit (Tr. pp. 40 - 41).

Full Design Storage Capacity

The above-described six (6) CSAs will continue to accept clay from Hardee County until such CSAs are utilized to their full design storage capacity. This does not change the existing approval for capacity of each of these settling areas within DRI #263 and will allow the clay settling areas to be fully utilized.⁷ The amount of clay disposed of in the above-described CSAs will not exceed the balance of Hardee County and Hillsborough County calculated clay mass.⁸ No new pipelines, or clay transport mechanisms will be constructed in Hillsborough County to accommodate any clay from Hardee County.⁹

Mosaic indicates that the estimated design construction fill volume currently ranges between 84-92% full. If this proposed application is approved, the estimated construction design capacity will be approximately 98 to 99% (Tr. p. 49).¹⁰

III. <u>FINDING OF COMPLIANCE WITH THE LAND DEVELOPMENT CODE AND</u> COMPREHENSIVE PLAN; CONCLUSIONS OF LAW

In accordance with LDC Sec. 8.02.06 A. 4., the PHM, prior to making a recommendation to the HC BOCC for its consideration of this application, must find that the application is in compliance with both the LDC and the Comprehensive Plan.¹¹

Compliance with the LDC

LDC Sec. 8.02.01 B. 2. provides the following criteria and guidance for review of this application:

- The LDC provides a flexible time frame within each application for a permit shall be considered.
- Flexibility is provided to allow for the application to adapt its methods and procedures to changes in technology and the interest of the public.
- This division is based on the traditional methodology used by the phosphate industry in central Florida in which phosphatic clays are placed in well-defined settling ponds for consolidation and separation of water (Tr. p.55).

LDC Sec. 8.02.01, B. 1. states that the purpose of the mining regulations are as follows:

- Protect public health, safety, and welfare.
- Orderly development of mineral resources compatible with the overall development of the

⁷ See Section 1 C of R 18 - 129 and proposed R 23 - .

⁸ See Section 2 A of R 18 - 129 and proposed R 23 - _____.

⁹ See Section 2 D of R 18 - 129 and proposed R-23-

¹⁰ Please see Mosaic's updated "Hillsborough County Clay Settling Area Ac-Ft Summary Chart", which is the most current updated information (Tr. pp. 63 - 65). Footnote 2 under this Chart states in pertinent part "The Proposed Fill Volume assumes fill to a level 1 foot (12 inches) below the Maximum Fluid Level to account for 5 feet of freeboard and another foot for water/storm water management" (Tr. pp. 66, 67). This satisfies the requirements of LDC 8.02.08 A. 14. which states all the clay settling ponds to be designed with the capability of either storing or releasing 12 inches rainfall over the watershed directly affecting the settling pond involved in a period 24 hours (but not less than six inches in 3 hours) without encroaching on the minimum 5 feet of freeboard required by the FDEP.

¹¹ Unincorporated Hillsborough County Comprehensive Plan, last updated April 25, 2023.

County

• Conserve natural and environmental resources for present and future generation to minimize the adverse effects of mining, to ensure that phosphate mining, a temporary land use, is carried out in such a manner as not to preclude future normal uses of mined out lands and to ensure that phosphate mining activities are consistent with the Future of Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County, as amended.

Compliance with the Comprehensive Plan

The Comprehensive Plan sets forth objectives and policies in its Chapter on "One Water Goal, Objective 1.3 "Protect surface water and groundwater quantity and quality for current and future use"; Policy 1.3.1 provides "Manage land and water resources in a manner that protects, enhances, conserves, improves, and restores terrestrial and aquatic ecological systems; while ensuring surface and groundwater resource functions of potable water supplies are maintained for future use". Mosaic says the method of stage filling the existing CSAs has been demonstrated to establish a smoother surface post-consolidation and preventing pooling and wet depressions. Stage filling aids in the setting of drainage divides within the CSAs and assures sufficient positive drainage is directed appropriately. As a result, the reclamation landscape is improved as is the reclamation function of the area to support the flow of surface and groundwater to natural tributaries and nearby reclaimed and natural wetlands, consistent with this policy. Stage filled reclaimed CSAs also promote more fully vegetated wetland conditions in reclamation which reduces nutrient run off and improves water quality. Continuing to add outside clay to these CSAs until full capacity is reached promotes the highest and best post-reclamation land use (Tr. pp. 54 - 57).

Policy 1.3.2 states "All Stormwater management projects will seek to maximize, to the greatest extent practicable, improvements to wetland habitat and water quality and groundwater recharge functions". County staff testified that there will be positive drainage from the CSAs that will contribute to stormwater discharging to the surrounding areas which will contribute to improved wetland habitat and water quality satisfying this Policy. (Tr. pp. 55 - 57).

The Comprehensive Plan in its Chapter on "Natural Open Space; Environmental & Sustainability", Objective 3.2 "Manage mining and reclamation of lands to ensure a healthy environment, economy, and quality of life"; Policy 3.2.1 states that "The prudent operation of mining activities and timely reclamation of mined areas is required ", and Policy 3.2.2 states "The phasing of mining to ensure that limited land areas are affected by excavation and settling ponds at one time and that reclamation occurs in the most effective manner is required." Mosaic has demonstrated it complies with these Policies, because it is using CSAs to their full capacity, and it is addressing known issues with the reclamation topography which ensures a healthy environment as outlined in Policy 3.2. With the commitment to implement the exiting approved reclamation plans within 2 years of the end of each CSAs operating life, and completing reclamation within 4 years of being taken out of use, the requested amendment is consistent with Policies 3.2.1 and 3.2.2 (Tr. pp. 56, 57).

County Staff Conditional Approval

County Staff has evaluated this application, solicited agency review comments with an ongoing exchange and input from Mosaic regarding the same, and made the determination that Mosaic has provided competent substantial evidence that the application is in compliance with the LDC and Comprehensive Plan (Tr. pp. 54 - 57), and recommends conditional approval of this Application (Tr. p. 54) as set forth in their Staff Report and in the proposed R 23 - (Tr. p. 48, 57), as set forth below in Section V. Order, paragraphs 1 - 8. Mosaic agrees with all of the County staff recommended conditions for approval (Tr. pp. 7, 43 - 46).

A copy of proposed R 23 - ______ is included with Mosaic's Exhibit Book under Tab 2 (Tr. p. 7) submitted at the public hearing. The State of Florida Governor's Emergency Orders and subsequent extensions as outlined in the Whereas Clauses of proposed R 23 - _____ may continue to be renewed and are ongoing,

and any timeline extensions for the DRI #263 expiration dates will be updated in proposed R 23 in accordance with Florida Statutes Section 252.363 (Tr. pp. 44 - 46, 57) prior to its submission to the HC BOCC for consideration and approval. Proposed R 23 - _____ is also subject to final review and approval of the County Attorney as to form and legal sufficiency. The intent of the proposed R 23 - _____ is to continue mining activities identical to R 18 - 129 with the exception of the extension of time requested (Tr. pp. 44 - 45).

Conclusion

Based upon my review of the September 13, 2023, Public Hearing Transcript of Proceedings, all documents submitted by Mosaic, the Staff Report, the testimony and explanations offered by Mosaic experts along with its management staff at the hearing; and the testimony of County staff, regarding their review of the application, agency comments, and recommendation for conditional approval of Mosaic's application; I conclude that Application Number DRI 23-0742 requested amendment to its operating permit, ¹² to extend the period of time CSAs L-1, L-2, L-3, F-4, F-5, and F-7 can accept clay from Hardee County is consistent with the LDC and Comprehensive Plan. The existing mining and reclamation plans remain compatible with surrounding land use and consistent with all applicable regulatory approvals and documents governing the property.

It is recommended that the HC BOCC approve the application and requested amendment to extend the period of time CSAs L-1, L-2, L-3, F-4, F-5, and F-7 can accept clay from Hardee County, subject to the conditions set forth below in Section IV. Order.

IV. ORDER

Mosaic's Application is recommended for approval, subject to and conditioned upon the following:

- 1. Mosaic shall comply with the conditions set forth in Section 1. C. and Section 2., paragraphs A. H. of proposed Resolution No. 23 ______ attached hereto and incorporated herein as Exhibit A. The DRI #263 expiration dates described in the Whereas Clauses of this proposed Resolution No. 23 _____ may be recalculated and updated prior to its submission to the Hillsborough County Board of County Commissioners ("HC BOCC") for consideration and approval as a result of new and ongoing Emergency Orders issued by the Governor and in accordance with Section 252.363, Florida Statutes (F.S.). This proposed Resolution No. 23 ______ is also subject to final review and approval by the County Attorney as to form and legal sufficiency, prior to its submission to the HC BOCC for its consideration and approval.
- 2. Mosaic shall continue associated monitoring and reporting requirements as codified in Resolution No. 18-129, and proposed Resolution No. 23 _____.
- 3. Mosaic shall obtain and maintain all applicable Federal, State, or local permits.
- 4. Reclamation shall be completed in accordance with the Hillsborough County Board of Commissioner's (HC BOCC) approved post-reclamation plans and timelines.
- 5. Within 90 days of the HC BOCC approval of this application, Mosaic shall review the Life of Mine Waste Disposal Plan dated August 4, 2020, and revise the plan to incorporate this application's request to continue to utilize the Hillsborough County CSAs to store the clay determined to be extracted from Hardee County until November 15, 2028, or until each CSA is utilized to its full design capacity, whichever comes first, unless expressly extended by the Hillsborough County Board of County Commissioners.

¹² Combined DRI 263 and Operating Permit

- 6. At a minimum, the annual reports shall include the following clay balance information in a table with the report signed and sealed by a Professional Engineer (P.E.): total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined in Hardee County and returned to Hardee County, Clays deposited in each clay settling area in tons, the remaining available volume in acre-feet and tons, and provide any correspondence and/or data related to compliance with FDEP's Phosphate Management Facility Permit (PMFP) and relating to any modification or change related to the CSAs.
- 7. Reporting period for the CSA annual reports associated with this new proposed Resolution No. 23 shall be from November 1st through October 31st and shall be submitted within 90 days from the end of the reporting period.
- 8. In no event shall any approval granted herein exceed or expand any approval granted pursuant to the FDEP's PMFP.
- 9. Nothing herein is to be construed as a waiver of any present or subsequently enacted federal, state, or local law, ordinance, or regulation which as such is deemed fully applicable to the activities regulated herein.

Catherine A. Dinister Catherine R. Ginster October 4, 2023

Date

EXHIBIT A

RESOLUTION R23-

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by Commissioner _____, seconded by Commissioner _____, the following Resolution was adopted by a vote of _____ to ____ with Commissioner(s) ______ voting "No."

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974 and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975 and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Comers, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer, Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and WHEREAS, on September 26, 2000, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and

WHEREAS, on January 25, 2005, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 05-021, amending the ORI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening Station; and

WHEREAS, on March 11, 2008, Hillsborough County Board of County Commissioners approved Resolution 08-047, which added approximately 1,540 acres to form the Hillsborough County Mines Addition Area - DRI #263 (hereinafter "ORI #263 Addition Area Phase"); removed approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; added a mine infrastructure corridor, revised mining plans and incorporated clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, revised reclamation plans reflecting these changes as well as the reclamation already completed in the DRI #213 area; updated DRI #213 Development Order conditions already satisfied or no longer applicable; updated the approved methods for transporting product between the mines and plants; and updated product shipment destination points and deletion of certain destination points and route segments (hereafter "DRI #263 Composite Development Order and Operating Permit"); and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed a Notice of Proposed Change ("NOPC") and an application to amend the Operating Permit/Master Mine and Reclamation Plan for the Hillsborough County Mines Development of Regional Impact DRI #263 proposing to add approximately 75 acres of land, previously owned by Kathy Surface (hereinafter referred to as the "Surface Parcel"), to DRI #263 Composite Development Order and Operating Permit"; and

WHEREAS, on August 10, 2010, the Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution R10-113, amending DRI #263 Composite Development Order and Operating Permit, and the Master Mine and Reclamation Plan to add the approximately 75 acre Surface Parcel; and WHEREAS, per § 252.363, Florida Statutes, and by letter dated November 3, 2017, from counsel for Mosaic, as confirmed by letter from the County dated April 4, 2018, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 31, 2027	December 22, 2030
Restriction on Downzoning		
Composite Attachment A-	December 31, 2027	December 22, 2030
Section III.A. Life and Timing		
of Development-		
Effective Period of		•
Development Order		
Composite Attachment A-	December 31, 2018	December 22, 2021
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 31, 2026	December 22, 2029
Development-		
Reclamation Completion Date		

and

WHEREAS, on November 18, 2018, Hillsborough County Board of County Commissioners approved R18-129, amending DRI #263 Composite Development Order and Operating Permit to enable existing clay settling areas (CSAs) L-1, L-2, L-3, F-4, F-5, and F-7 within DRI #263 to accept clays from Hardee County, in addition to clays from Hillsborough County, until such time as each clay settling area is utilized to its existing, permitted full design storage capacity or until November 14, 2023, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master; and eliminating construction of CSAs L-4, L-5, L-6, and F-8; and

WHEREAS, per § 252.363, Florida Statutes, and by letter dated September 13, 2021, from counsel for Mosaic, as confirmed by letter from the County dated January 14, 2022, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 22, 2030	October 9, 2032
Restriction on Downzoning		
Composite Attachment A-	December 22, 2030	October 9, 2032

Section III.A. Life and Timing of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 22, 2021	October 9, 2023
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 22, 2029	October 9, 2031
Development-		
Reclamation Completion Date		

and

WHEREAS, per § 252.363, Florida Statutes, Mosaic has indicated via a letter from counsel dated January 5, 2023, that it intends to exercise its rights to extend the DRI #263 expiration dates upon expiration of ongoing hurricane related Emergency Orders 22-218 and 22-253 resulting in anticipated dates of <u>no earlier</u> than the following:

Section & Subject	Prior Date	Extended Date
Section 5	October 9, 2032	November 9, 2034
Restriction on Downzoning		
Composite Attachment A-	October 9, 2032	November 9, 2034
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	October 9, 2023	November 8, 2025
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	October 9, 2031	November 8, 2033
Development-		
Reclamation Completion Date		

and

WHEREAS, June 27, 2023, Mosaic submitted an application to amend the DRI #263 Composite Development Order and Operating Permit to extend the amendment approved in R18-129 to DRI #263 Developer Commitment (ADA, 38A-11) set forth in Composite Attachment A, Section VI. MINING to allow existing Hillsborough County Clay Settling
Areas to accept additional clay volume produced by phosphate extraction activities in Hardee County ("Application"); and

WHEREAS, the Application seeks to extend the date for operation of clay settling areas for 5 additional years to November 15, 2028

WHEREAS, on ______, 2023, the Phosphate Mining Hearing Master reviewed the request to extend the amendment to DRI #263 Composite Development Order and Operating Permit approved in R18-129, pursuant to the Hillsborough County Land Development Code, and filed a recommendation on said Application with the Hillsborough County Board of County Commissioners; and

WHEREAS, it is the intent of the Hillsborough County Board of County Commissioners that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners, as the governing body of the local government having jurisdiction pursuant to Section 380.06(7), Florida Statutes, is authorized and empowered to consider proposed changes to approved Developments of Regional Impact pursuant to standards and procedures in the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code; and

WHEREAS, the public notice requirements of the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code, have been satisfied; and

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and local agencies, and the Phosphate Mining Hearing Master; and

WHEREAS, the Hillsborough County Board of County Commissioners on , 2023, held a duly noticed public hearing on said Application, as required by Hillsborough County Land Development Code Section 8.02.07, and has heard and considered testimony and reviewed documents and evidence received thereon.

NOW, THEREFORE, BE IT RESOLVED THIS ______TH DAY OF ______, 2023 BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, DRI #263 COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT IS HEREBY AMENDED BY ADDING THE FOLLOWING FINDINGS OF FACT AND CONDITIONS, WITH THE BALANCE OF THE ADOPTED DEVELOPMENT ORDER AND OPERATING PERMIT REMAINING IN

EFFECT IN ITS ENTIRETY.

SECTION 1. FINDINGS OF FACT:

- A. MOSF is the Developer of DRI #263. The authorized agent for MOSF is Mr. Russell Schweiss, Senior Director – Land and Resource Strategies, Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, Florida 33547.
- B. The real property that is the subject of this Application is as attached to Section IV to the DRI #263 Composite Development Order and Operating Permit, as amended by Rl0-113.
- C. Modification of the Developer Commitment in DRI # 263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING (ADA, 38A-11) enabling existing clay settling areas L-1, L-2, L-3, F-4, F-5 and F-7 within DRI #263 to accept clays from Hardee County until such time as each such clay settling area is filled to its design storage capacity not to exceed the freeboard elevations conditioned in permits for the facilities issued by the Florida Department of Environmental Protection (FDEP) will not change the existing approved dimensions of those existing clay settling areas and will allow such clay settling areas to be fully utilized.

SECTION 2. CONDITIONS:

A. The Developer Commitment (ADA, 38A-11) by Mosaic in DRI #263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING which originally stated "MOSF commits to balance clay disposal so that the amount of clay produced in each county is disposed in that county" shall be amended to state as follows: "MOSF commits to balance the clay disposal so that the amount of clay <u>that is</u> produced in each county <u>is</u> <u>disposed in that county, provided, however, does not exceed the amount of clay</u> <u>permanently disposed of in that county, with the exception</u> that CSA L-1, L-2, L-3, F-4, F-5 and F-7 in Hillsborough County, are authorized to accept clays mined by MOSF from outside of the <u>Hardee</u> County <u>only</u> until such time as each CSA is utilized to its full design storage capacity or <u>as provided herein. Regardless of</u> whether each CSA is utilized to its full design storage capacity, this authorization to deposit clays from Hardee County in Hillsborough County shall expire on until November 15, 2028, whichever occurs first, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master. Additionally, MOSF will not construct CSAs L-4, L-5, L-6, and F-8."

- B. On each anniversary of this Resolution, Mosaic shall report to the County's Development Services Department the amount of clay from outside Hillsborough County deposited in Hillsborough County clay settling areas in the previous year. This information shall be reported to the Hillsborough County Board of County Commissioners annually as part of the report referenced in Section 2.E. below.
- C. Mosaic shall continue to fill CSAs L-1, L-2, L-3, F-4, F-5, and F-7 with clays originating from Hillsborough County, until such clay supply from mining operations in Hillsborough County is exhausted.
- D. No new pipelines or clay transport mechanisms shall be constructed in Hillsborough County to accommodate any clay derived from outside of the County.
- All aspects of the approved CSAs' design, construction and maintenance E. shall occur in accordance with the terms and conditions of such permits or authorizations given in connection with the design, construction or maintenance of the clay settling area(s), including but not limited to the FDEP Phosphate Management Facility Permit (PMFP). Nothing herein shall be construed as to exceed or expand the terms or conditions of an approved PMFP. Mosaic shall provide to the appropriate representative of Hillsborough County's Development Services Department copies of any correspondence or any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the clay settling areas. Simultaneous with any submittal to FDEP of any data regarding the composition or content of clay, water or any other substance from a clay settling area within DRI #263, Mosaic shall provide the same data in the same format to the Hillsborough County Environmental Protection Commission (EPC) for review. This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners. Furthermore, Mosaic agrees to allow the EPC or an independent monitor selected by the EPC to take samples from the clay settling areas with reasonable notice, and shall pay all reasonable costs associated with such sampling, testing and monitoring.

- F. Mosaic shall obtain all required or necessary governmental approvals, authorizations, permits and documents prior to conducting any mining activity. Mosaic agrees to pay all of the County's reasonable costs and expenses related to monitoring the clay settling areas until such time as all clay settling areas within the DRI are reclaimed.
- G. Except as amended in this Resolution, the approvals and conditions set forth in the DRI #263 Composite Development Order and Operating Permit, as amended, shall continue in full force and effect as previously approved.
- 11. The changes approved in this Resolution are consistent with the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County, the Hillsborough County Land Development Code, and Section 380.06(7) Florida Statutes.

SECTION 3. ADMINISTRATION:

- A. The Ex Officio Clerk of the Board of County Commissioners shall send copies of this Resolution, by certified mail, within thirty (30) days following the effective date hereof, to MOSF and the Tampa Bay Regional Planning Council.
- B. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

I, _____, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of a Resolution adopted by the Board at its regular meeting of ______2023, as the same appears of record in Minute Book _____ of the Public Records of Hillsborough County, Florida. WITNESS my hand and official sealthis _____ day of _____ 2023.

CLERK OF THE CIRCUIT COURT

APPROVED BY COUNTY ATTORNEY As to Form and Legal Sufficiency

By___

Sr. Assistant County Attorney

VERBATIM TRANSCRIPT

	Transcript of Proceedings September 13, 2023
	HILLSBOROUGH COUNTY, FLORIDA
	PHOSPHATE MINING
	PUBLIC HEARING AGENDA
	TRANSCRIPT OF PROCEEDINGS
DATE:	September 13, 2023
TIME:	Commencing at 6:00 p.m. Concluding at 7:38 p.m.
PLACE:	Hillsborough County BOCC Development Services Dept. (LUHO, ZHM, Phosphate) 2nd Floor Boardroom 601 East Kennedy Boulevard Tampa, Florida 33601

Reported By: Diane DeMarsh, AAERT No. 1654 Notary Public for the State of Florida

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   ATTENDEES:
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    Catherine Ginster, Hearing Master
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    Joe, Clerk
 4
   Nancy Takamori, Board Member
 5
    Kim Cruz, Staff Member
 6
 7
    Vinette Godelia
 8
 9
    Russell Schweiss
10
    Scott Wuitschick
    Keith Beriswill
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    John Kiefer
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1	PROCEEDINGS
2	MS. GINSTER: Good evening. This will open and begin
3	the public hearing. This is the date, time, and location that
4	was noticed for the public hearing scheduled on a phosphate
5	mining application submitted by Mosaic Fertilizer LLC,
6	Application No. 230742, Phosphate Reference No. 723.01P. Mine
7	is DRI 263, Four Corners and Lonesome Mine. And the request is
8	for Mosaic Fertilizer LLC is requesting an amendment of its
9	consolidated mines, DRI 263, composite development or an
10	operating permit, which are combined. Seeking a 5-year
11	extension to complete the final deposition of a mass of clay
12	determined to be extracted from Hardee County into Hillsborough
13	County's clay settling areas identified as L1, L2, L3, and F4,
14	F5, and F7, which was previously approved by the Hillsborough
15	County Board of County Commissioners by Resolution No. 18129,
16	dated November 19th, 2018. The requested 5-years extension ends
17	on November 15th, 2028 or until applicable clay settling areas
18	have reached their full design storage capacity, whichever
19	occurs first.

I've been appointed by the Hillsborough County Board of County Commissioners as the phosphate mining hearing master to hold this public hearing, which is required under the Land Development Code for an application seeking amendment to the phosphate mining operation permit for mining-related activities, which includes the clay settling ponds, and, in this instance, for the combined document, which is the DRI composite
 development order for the DRI 263 mine, the Four Corners and
 Lonesome Mine.

And the second is to issue findings and make a recommendation to the Board of County Commissioners as to whether the requested amendment to the operating permit and combined document should be approved or denied based on the criteria set forth in the Land Development Code.

9 Now we'll start out with the Pledge of Allegiance, so10 we'll raise. If you could say the Pledge of Allegiance with me.

(The Pledge of Allegiance is recited by all.) MS. GINSTER: Thank you. Please be seated.

So the next part, we're gonna swear in the witnesses, anyone that's gonna be testifying today at the public hearing. So if you plan to testify, please raise your right hand, and I'll swear you in.

17 So do you swear or affirm that the evidence that you 18 are about to give will be the truth, the whole truth, and 19 nothing but the truth?

20

11

12

(All witnesses affirm the oath.)

MS. GINSTER: And let the record reflect that each of the witnesses who have raised their right hand have attested to the oath.

And, when you approach to testify, please sign in with the county clerk first, that's Joe right there, and state --

give him your name and address for the record. And you need to 1 2 also -- when you get up to testify, please confirm that you took the oath that was just administered when you begin your comments 3 4 by just saying, I confirm my oath. In the -- if you have a 5 written document, I'd also ask that you please first give it to the clerk so that he can mark it into evidence and give it a 6 7 number so we can take a look at it for admissibility and relevance to the proceedings. 8

9 And the clerk is the keeper of the file here of all 10 the records in this case; that's the application and staff 11 comments and all the other documents, and will also include the 12 transcript from this hearing. There's a court reporter here 13 that's taking official documentation via transcript, in addition 14 to the recording that's going on now under HCTV.

15 So if you -- by giving your address, if you want to get notice or get documents, you can let the clerk know, and he 16 17 can mail you copies of, like, when the final recommendation is 18 provided to the clerk, within 15 days after following this hearing by myself, or, if you need anything, you know, at 19 20 whatever reasonable cost, you know, that the County charges for 21 those documents. But that way, at least you can -- you'll be 22 able to obtain that information if you so desire.

The procedures for the public hearing are set forth in the Land Development Code. The first applicant, who will present the case for the application, has 15 minutes, and an

additional 15 minutes if requested, and I'll be happy to allow 1 that if you need it. And then next, we hear from the 2 administrator and county staff for five minutes, who will 3 4 present a summary of the application and department findings, 5 but if you need additional time, I'll also permit it. And then the third will be the proponents who will argue in favor of the 6 7 application, and the total time for all of those in favor is 15 minutes, but if we need to give more we can be more flexible 8 about that. And the opponents who will argue against the 9 application, the total time allowed is again 15 minutes. And, 10 11 opponents, anybody that's a participant against the application, that includes the public and any other parties to the record. 12

So after the opponents to the application, then the staff will briefly make any follow-up recommendations or discuss anything for five minutes, and then the applicant will have a final right of rebuttal and summation for five minutes.

17 So I think to start this out, we'll invite the 18 applicant up to the podium to present the case for the 19 application.

MS. GODELIA: Thank you, Hearing Master Ginster. Vinette Godelia with Stearns Weaver Miller, Counsel for Mosaic. My address is 401 East Jackson Street in Tampa. We would request and appreciate your approval of an extra 15 minutes, for 30 minutes of presentation time for our case in chief. MS. GINSTER: Yes, it's approved.

1	MS. GODELIA: Thank you. You covered well, I think,
2	describing where we are with the application, so I'm going to
3	move forward. We're gonna have several binders to put into the
4	record. You have a copy, the clerk has a copy, that has
5	resumes, our PowerPoint presentation; it also has at the very
6	beginning of the binder an expert planning report that's been
7	prepared by Tina Ekblad, AICP that describes how the application
8	meets the criteria for approval, namely, consistency with a
9	comprehensive plan, and the existing DRI 263 development order.
10	So that's the first tab in the binder.

In addition, the binder has an amended draft 11 resolution under Tab 2, Hearing Master. So we noted a 12 13 scrivener's error when the last version of the resolution was 14 filed with the clerk, so the -- the version that you have in 15 front of you fixes that; clarifies that the CSAs that are 16 authorized to accept clays are those -- or the CSAs that are 17 authorized to accept clays minded specifically from Hardee 18 County. So, before, the language referenced counties generally, but Hardee County, to match back with the application itself and 19 20 the prior resolution from 2018. County staff has approved that, 21 review and approved it, and so we wanted to point out that you do have in the binder, under Tab 2, that revised document. 22

And so now I'd like to introduce and tender our experts. We do have a little bit of background we're gonna provide for you today, and so -- which is why we asked for the

30 minutes. And so, first, you're gonna hear from 1 Russell Schweiss; he's Mosaic's senior director of land and 2 resource management. And he's gonna cover CSA use and strategy. 3 4 And then you'll hear from Scott Wuitschick; Mosaic's director of 5 geotechnical services. And he's gonna cover the concept of stage filling, which is central to the request today. 6 Then 7 you'll hear from Keith Beriswill, and he's Mosaic's senior manager of engineering, geotechnical. He's gonna cover our 8 monitoring and reporting compliance. And, finally, for the case 9 in chief, John Kiefer, Black & Veatch, senior hydrologist, and 10 11 he'll cover the reclamation benefits to the stage filling 12 process.

You saw several other folks stand up and raise their hands, so clearly we have a few experts here today. So if you have any questions, I think we are prepared and ready to respond to those. And so now I'll turn it over to Russ.

MR. SCHWEISS: Do I need to sign in first? Okay.

17

18 Good evening, Madam Hearing Master. My name is Russell Schweiss. I have been sworn. I am the senior director 19 20 of land and resource management for Mosaic. My business address 21 is 13830 Circa Crossing Drive in Lithia, Florida. I wanted to 22 speak a little bit with regard to the application at a high 23 level on clay setting areas in general, and how they're used -how they're used, and how our strategy of how we use them has 24 25 evolved over time.

So just to give the basics: So what we mine with the 1 dragline is something that we call matrix, and it's a mixture of 2 clay, sand, and phosphate rock. That phosphate rock is really 3 4 the product that we are pursuing. That rock is -- is separated 5 out from the sand and the clay at the plant. The rock then goes to a manufacturing facility, and we have three of those in 6 7 operation; two in Polk County, one in Hillsborough County. The sand is -- when it's separated out, goes back into mine cuts to 8 be used for reclamation. And then the clay comes out in -- in a 9 liquid form, and it is a solid suspended in a liquid form, and 10 11 it goes to clay settling areas. The reason that you don't send it out with the sand is because sand and clay settle at 12 13 different rates, and you'd end up with a layer of clay across 14 the entire landscape if you did that, and it would make the 15 land -- the broader landscape much less usable because of stability issues. So it is stored separately in what we call 16 17 clay settling areas; oftentimes referred to as CSAs to use less 18 words.

So this is a -- this diagram shows you, you know, how 19 20 the clay comes into the clay settling area. As you can see on 21 the diagram, it enters one side of the clay settling area, and 22 that comes in at a very dilute amount of clay in that water. So 23 if it's coming straight from the plant, it would be about 2% solids. It's water -- so it's 98% water and 2% clay. 24 If you -if it goes to an inter -- through an inter -- intermediary step 25

1 close to the plant where we thicken it, it will come in at about 2 10% clay. So it comes in at one side of that CSA, and then the 3 water sheet flows across the CSA, and as the water moves across 4 that CSA to the decant structure, the clay settles out to the 5 bottom.

And so the storage in the CSA is really driven by --6 7 the amount of storage of each CSA is driven by a number of different factors; it's the size of the footprint of the CSA, 8 the height of those dam walls above grade, but also the amount 9 of material that's removed from the middle when they're 10 11 constructed. Because these are constructed on mined land, so you have all the material that was removed when you minded, but 12 13 then you're also going to construct those dam walls with 14 material from the middle as well. So the -- the overall volume 15 that that CSA can store has those -- those factors are what 16 contribute to that.

17 So the history of this, we were in front of the 18 commission and in front of the hearing master in 2018 with this request. DRI 263 was passed in 2008 and consolidated a number 19 20 of different permits and allowed for stage filling of CSAs which 21 reduce the overall need for CSAs. And we'll explain stage 22 filling in a -- in a little while, but it's essentially you --23 you fill it 'til that water level's up at the top, and then you walk away and allow it to settle, and you recover space, and you 24 can come back to it. They'll give a much better explanation 25

1 than that, but, as I talk about it, I wanted you to understand 2 it.

3 So the mining of those reserves that are permitted 4 under this DRI was coming -- is coming to an end, and we saw 5 that was going to be happening back in 2018, and there was a considerable amount of space still available in the footprint 6 7 that was already constructed. So we came before the County because, as we'll talk about in a minute and I'll discuss in a 8 second, the reclamation is better if the CSA's full, and it's 9 because of differential settling. So we came to the commission 10 11 and asked for permission to top off the existing footprint. 12 That are a number of clay settling areas that had been permitted 13 under DRI 263 for construction that we had not built. We 14 relinquished the rights on those to ensure the County that we 15 weren't going to increase our footprint to put other people's 16 clay in the county.

17 So to give you an idea of, you know, what -- what's 18 changed over time with clay settling areas, so if you were to go 19 back 25 years, 30 years prior to today, there were a lot more 20 companies operating mines in Central Florida. And so if you 21 look at aerials of Polk County, you'll see a lot of areas where 22 there's strips of lakes, and a lot of those are clay settling 23 areas that were not filled. You end up -- because it's on that mined area, if you don't fill the CSA, it ends up taking the 24 25 shape of the mine cuts that existed there prior to the

construction of the CSA. And a lot of that was a result of, you 1 share a boundary on your mine with a competitor; if you mine 2 out, you don't want to give an advantage to your competitor by 3 4 giving them free storage space. So those companies would not 5 allow the competitor to come in and then fill that space with clay because that would save their competitor money from 6 7 building another CSA, which, if you're competitor, you don't want to do that. 8

It's now consolidated all into Mosaic, the entire 9 industry has. So we've looked at ways that we can reduce the 10 11 overall clay settling area footprint in the region as we 12 continue to operate, and this effort -- this discussion that we 13 had with Hillsborough County in 2018 was really aimed at doing 14 that, and also achieving better -- better reclamation. But the 15 State has also recognized that -- and revised their policies to encourage stage filling, because, ultimately -- you know, the 16 way they used to permit CSAs, where you had an expiration date, 17 18 and you had to be reclaimed by this date or you were out of 19 compliance, you were reclaiming a lot of CSAs that could have 20 held more clay, which meant you were building another footprint 21 somewhere else, and you were expanding the clay footprint in the 22 region. So the State has changed their policy to encourage clay 23 to be -- clay settling areas to be filled to capacity to reduce that footprint, but to also have better rec -- better hydrology 24 in the reclaim landscape. 25

1 So I talked about the topography that exists on those CSAs when you fill them being better, and it really drives the 2 utility of the land and the reclaimed landscape from an 3 4 agricultural perspective. Historically, CSAs use after 5 reclamation has been focused on cattle raising. The soil's very rich in nutrients and moisture, so forage density of what --6 7 what grows on top of that clay is significantly higher than traditional Florida grazing lands, and that's just because of 8 that nutrient contact -- content and its ability to hold onto 9 10 water.

Something that we've done just recently was that we've committed to carbon neutrality in our Florida operations by 2030, and clay settling areas are gonna play a huge role in that. That density of forage means that if it's not being used for cattle, you can grow density of other materials and density of biomass that you can then use to store carbon.

17 So we've had some active trials underway, and I'm 18 gonna show you some pictures of those, for carbon capture crops. And we've done several -- we've done trials now on several 19 20 varieties of hemp, on sorghum, Florida sunn hemp, sunflowers, and a number of other crops that we planted that we've been 21 22 working with the University of Florida to do analysis of the 23 amount of carbon uptake in a growing season by each of those And those crops, ultimately what we're planning to do is 24 crops. use them to manufacture biochar, which is a charcoal-like 25

substance that essentially locks carbon. You heat it at a 1 2 high -- you heat the material at a high temperature in an oxygen-poor environment, and that essentially creates this 3 4 charcoal that actually ends up being a really useful soil in 5 that we would then use a significant amount of it in reclamation. That -- that carbon serves as a strong base for 6 7 the soil biome, to degenerate a healthy soil biome. And when you're trying to recreate that in reclamation, it would give you 8 a bit of a jump start, because you have that medium in the soil. 9 And this is a -- these are some pictures of the 10 11 trials, and it gives you an idea of what a CSA looks like. There's no real mystery to it; it's a flat -- a flat piece of 12 13 land when you get up there. It looks like a hill in the 14 landscape until you're on top of it, and it just looks like a 15 flat piece of land or a piece of pasture. And so ultimately what you want to do with these types of crops, because the clay 16 becomes difficult to navigate whenever it's wet, when you're 17 18 looking for crops, you plant them in the dry -- at the end of 19 the dry season, they can grow throughout the wet season, and you can come back to them and harvest them whenever that wet season 20 21 is over, and then convert that into biochar. And so that's what 22 this process looks like; you plant it, then you let it grow, you 23 mow it, windrow it, and then bale it.

And these are some of the crops that we planted. You can see here that the sorghums in the middle, and really that's

1	been the winner of the race so far. It grows extremely well
2	with very little input. So you can plant it up there and pretty
3	much walk away, come back and harvest it. And it is that's
4	really what we're looking for, because it produces the best
5	amount of biomass and requires the least amount of care, and in
6	this latest trial, we're finding that it's outperforming
7	everything else still.
8	So with that, I'll hand it off now to
9	Scott Wuitschick, who's gonna talk about stage filling in much
10	greater detail for you.
11	MS. GINSTER: Before you leave, I have a couple
12	questions for you.
13	MR. SCHWEISS: Sure.
14	MS. GINSTER: So you were talking about your
15	benefication plants; you say there's two in Polk and one in
16	Hillsborough?
17	MR. SCHWEISS: No, ma'am, those are our manufacturing
18	facilities where fertilizer's made.
19	MS. GINSTER: Oh, manufacturing.
20	MR. SCHWEISS: The beneficiation plant is at the mine,
21	and the mine it's two separate operations. So what you see
22	in Riverview, that's manufacturing, right; that's not a mine.
23	MS. GINSTER: Okay. So
24	MR. SCHWEISS: Our Four Corners mine, which is further
25	south, where you have the big dragline machines operating, it

1	has a plant as well, and that plant is taking that matrix, that
2	phosphate rock, sand, and clay that's all mixed together when it
3	comes out of that bucket of the dragline, that goes off to the
4	plant, and that plant separates all that out. The phosphate
5	rock gets shipped off to one of those manufacturing facilities
6	to be turned into fertilizer. What we mine is not water
7	soluble, so it doesn't have a whole lot of marketable value; we
8	have to take it to one of those plants and convert it to a form
9	that is water soluble.
10	MS. GINSTER: So and then so you have one
11	beneficiation plant, and that's in
12	MR. SCHWEISS: Subject to this DRI, yes, there's one
13	plant; that's the Four Corners plant.
14	MS. GINSTER: And it's half in half on Four Corners
15	in DRI 263, and half in Manatee County?
16	MR. SCHWEISS: Yeah, it sits right on the county line,
17	and I think our predecessors, when they constructed that, that
18	was something that was done in coordination with both of the
19	counties, because both of them wanted the tax revenue from the
20	plant, so it's built straddling the line.
21	MS. GINSTER: And your main office is located in
22	Hillsborough County?
23	MR. SCHWEISS: Fish Hawk; yes, in Fish Hawk.
24	MS. GINSTER: Fish Hawk, okay.
25	MR. SCHWEISS: Yeah, and our our corporate

headquarters is right here in Tampa as well. 1 MS. GINSTER: And how many jobs does it produce, like, 2 for --3 4 MR. SCHWEISS: So we have about 3,000 jobs in Florida. 5 MS. GINSTER: And how many in -- in Hillsborough 6 County? 7 MR. SCHWEISS: Oh, jeez, I wish I -- I wish I had that number. We have a lot in Hillsborough County, because all of --8 pretty much most of our corporate office lives in Hillsborough, 9 with a couple that lives in -- live in Pinellas. A large chunk 10 11 of our employees at Riverview obviously live in Hillsborough County, and then there's a mix of Hillsborough and Polk 12 13 throughout the other -- Hillsborough, Polk, and Hardee are the 14 largest contributors of jobs for Mosaic. 15 MS. GINSTER: Now, when the CSAs were constructed -and I read the -- it was all under the permit approval and the 16 17 requirements at the time for design and construct, but who --18 would you be the person to testify as to the size or the 19 capacity? 20 MR. SCHWEISS: We have those folks here. 21 MS. GINSTER: Okay. 22 MR. SCHWEISS: I'm not -- I'm not the -- I'm not the 23 one to do that, but --2.4 MS. GINSTER: All right. 25 MR. SCHWEISS: -- all of the -- I can confirm for you

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that all of the CSAs that are subject to what we're discussing 1 2 today are built under the current standard, the current regulatory standard, which has been extremely successful, with 3 never a failure under that current standard. 4 5 MS. GINSTER: And -- and you can't, I guess -- from what I've read, you can't build anything over -- like, 6 7 structurally over --MR. SCHWEISS: The -- you can, and that has 8 actually -- if you look at South Lakeland, there's a number of 9 places that were built on clay settling areas. But, generally, 10 11 if you have a clay settling area and you have normal ground next to it, you're not gonna take on the expense to create the 12 13 stability necessary to construct on the clay. And in the case 14 of South Lakeland, the growth encapsulated everything else, so 15 they built a Super Target on top of the -- on top of the clay settling area, because there was enough demand for the property 16 17 that they were willing to incur the costs of creating stability. 18 Streamsong Resort, a portion of that is constructed on 19 top of a clay settling area. You just have to take extra 20 measures to put some pilings down to bedrock to create some 21 additional stability, because the clay itself isn't gonna 22 provide you the stability that natural ground would. 23 MS. GINSTER: And as far as the policy of the State for reclamation, I read in the Florida Administrative Code 24 you're almost required by law to do all this, aren't you? 25 Is

that --1 The reclamation, absolutely. Every 2 MR. SCHWEISS: acre that we mine, we have to reclaim, and that's been the case 3 4 since 1975. 5 MS. GINSTER: But there's actually also standards for clay waste, and -- at least if -- I was gonna try to see if I 6 7 could confirm that with you, of someone could bring -- testify to the --8 MR. SCHWEISS: We've got some attorneys here that love 9 to confirm law. 10 11 MS. GINSTER: That would be good. Okay. Yeah, there's a -- there's a Florida Administrative Code 12 13 administrative rule regarding reclamation and restoration 14 standards for waste disposal. 15 MR. SCHWEISS: Yes. MS. GINSTER: So it seems like that you'd almost be 16 17 required under these rules to do what your -- what your plant is 18 doing now in --MR. SCHWEISS: They don't necessarily require us to 19 fill them, but to achieve the reclamation that we're -- that we 20 21 want to achieve on there and the hydrology we want to achieve on 22 there, it's -- it is much more achievable if you have a full 23 CSA, and -- and Dr. Kiefer will speak to that. MS. GINSTER: So what's the reason why, from 2018 to 24 now, the five -- why couldn't you get it done in the five years? 25

MR. SCHWEISS: And -- and that's -- Scott's gonna talk 1 to that in the next --2 3 MS. GINSTER: Okay. 4 MR. SCHWEISS: -- in the next part too, because you 5 have to -- when you -- when you -- when you fill them up, that clay is so dilute, and it also holds onto water a long time, 6 7 right? So when you fill them up, if you walk away and come back in a couple of years, there's now space because it's 8 consolidated further. And, eventually, you reach a point where 9 there's not, but these CSAs have not reached that yet; they're 10 11 resting now, and we know there's gonna be space available again. 12 MS. GINSTER: Okay. All right. Well, thank you. 13 MR. SCHWEISS: Thank you. 14 MR. WUITSCHICK: Good evening. My name is 15 Scott Wuitschick. I'm the director of geotechnical services with Mosaic. Business address is 13830 Circa Crossing Drive, 16 Lithia, Florida. And I'm going to, as Russ teed up, talk about 17 18 stage filling and some of the questions that you just raised. So this slide talks a little bit about clay properties 19 and answers some of those questions. So clay is a material, 20 when we mine it out of the ground, it is in a natural state. 21 22 When we mine it, it gets mixed with water, it absorbs water, and 23 it expands. So if you look at the graph to your left, immediately when we process it, it expands greater than 10 times 24 its original volume. And then the curve on this chart kind of 25

shows you how it then ultimately, you know, returns back to 1 close to where it was before we mined it. But it takes a long 2 time, so those numbers on the bottom axis are years. So it's 3 4 not a -- it's not a quick process. And the front end of that 5 graph, between Year 0 and 2, where you see a steep decline, that's really where the water that's mixed with the clay is 6 7 dropping out and becoming more of a solid and starting its consolidation phase. So that's where clays are settling out of 8 the water and becoming a solid again. 9

Clays have a low hydraulic conduct -- conductivity, 10 11 which, in simple terms, means they like to hold onto water; water does not pass through. They're highly plastic, which you 12 13 can think of like Play-Doh, it deforms. It doesn't break, 14 deforms, and doesn't like to release water. So Play-Doh, you 15 can squeeze it; you can't really squeeze water out of it. But if you leave it out of its jar for a long time on the table, 16 17 it'll eventually dry out, right? Hydraulic conductivity and 18 plasticity collectively control how fast the clays consolidate and how quickly they give up water. And so time is what allows 19 20 us to have additional capacity; the longer that deposit sits 21 there, the more it shrinks. The more it shrinks, the more we can add back to it. 22

23 So stage filling is really, you know, a simple term 24 for reusing the space that becomes available and filling it 25 again. So we're extending the length of time that the CSAs are

used, so that allows those clays to consolidate to a higher density. The higher density decreases the volume, releases the water. In that process, when you get to a lower volume, you can create more space, and then every time you add more clay, you can, you know, reduce the number of CSAs overall, as Russ mentioned.

7 And so this is a conceptual example. So on the left is -- is the hypothetical height of a clay deposit, so the light 8 blue section of that graph would represent the first stage, or a 9 single stage of filling, more traditionally what the industry 10 11 did 20 or 50 years ago. So you see on this graph after about two years, we would've hit that hypothetical 100 feet of 12 13 deposit, below grade and above grade combined; that CSA would 14 have been full traditionally. But if you look at the graph, the 15 dashed line sort of shows you in that 20-year timeframe on the bottom axis, that that clay would eventually over 20 years 16 17 consolidate down from the 100 feet it was deposited at to 18 something more like 44 feet. And so if you did that first stage 19 and walked away, you would probably get something like 18 20 million tons as an example in this hypothetical conceptual CSA.

So this next slide is looking at what a second stage would look like. So you see the light portion of that -- light blue portion of that graph has declined. You see a darker blue portion adding another fill, so this is showing that it consolidated about 18 feet; you would add another 18 feet of

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fill. And so if you follow the dashed line over to the right, at that point you would have been able to add 23 million tons of clay to this CSA, or another 5 million tons, and at final consolidation, it would go from the original single stage of about 44 feet up to 58 feet.

And then a third stage, et cetera. So you kind of see that, you know, as that clay consolidates, you just keep adding more. So this is just an example of a third. It would -- you know, after seven and a half years, you would get eventually to 68 feet, and bring that total deposit up to 27 million tons, so another 3 or 4 million tons put in in that third stage fill.

12 And so if you look at collectively -- if 13 hypothetically, in this example, you had 20 years, you could 14 hypothetically put six stages of fill in here. And so looking 15 at the left, the white line reads off the right hand access. So the first stage would be 18 million tons, and then if you 16 17 progressed all the way to the -- the final stage -- I'm having a 18 hard time reading the number; I think it says 35 million tons. 19 So you've almost doubled the capacity of that CSA be extending 20 its life from that initial stage fill out 20 years.

So, again, just reiterating that time is largely what determines the capacity of a CSA, because time is what allows the consolidation to occur. So capacity at Year 1 is less than that capacity -- capacity after two years, et cetera, on down the line. But the true limit is the mine life. So as the mine

life is extended with new reserves, our operations extend, that 1 timeframe that the CSAs could be used is extended, more 2 consolidation occurs, and you can add more clay into them. 3 4 Ultimately, there's some practical limit where clays -- in that 5 first graph, you saw the line kind of flatten out on consolidation; ultimately, you get kind of to a game of 6 7 diminishing returns or you run out of time, and that's kind of where the final capacity of a CSA is if you're allowed to 8 continue to use it for fill. 9 That's what I have for this presentation, and I'll 10 11 turn it over to Mr. Beriswill unless you have questions. MS. GINSTER: So I'm trying -- okay. So what did you 12 13 do before you just dumped it all in there based on how much was 14 produced in the county at one time? Is that --15 MR. WUITSCHICK: So as -- as Russ was talking about, you know, historically -- when I started in this industry 30 16 17 years ago, a mine life might be 12 or 15 years. So you would 18 build the CSA, you would fill it up in a year, and, you know, 19 all of a sudden you would build the next one, and you might 20 build that one in three years. And then you get to the next one 21 in maybe four or five years, and then you run out of reserves, 22 so that's kind of it, right? As we've consolidated and added 23 reserves that can be processed though this plant, that life has extended; we still have this available storage capacity. 24 And so what's changed is really the consolidation and the -- and the 25

life of our reserves in our facilities. 1 MS. GINSTER: So by setting it, then how long is the 2 life on the CSA itself; like, is there a shelf life or is it 3 4 good for so many years after you construct it? 5 MR. WUITSCHICK: So they're earthen structures --MS. GINSTER: Oh, they're earthen. 6 MR. WUITSCHICK: -- and Keith will talk about them. 7 We have monitoring and maintenance programs. We keep them --8 you know, a CSA today looks like it did when it was built; 9 it's -- you know, the slopes are all even, there's no erosion, 10 11 they're mowed regularly. We do have spillways in them; those are structural features. We have inspections of those, and we 12 13 have to go in and do maintenance just like you would on a house. 14 You know, you build it one year, and then 10 years later, you 15 gotta, you know, start doing maintenance on it, so it's the same story. 16 17 MS. GINSTER: What about the piping from the CSA to the benefication plant or -- 'cause it has to travel; so the 18 19 pipes go in at the same time the CSA is built or --MR. WUITSCHICK: So the pipelines are the same story; 20 21 they're -- they're a wear asset, and they -- you know, they're 22 maintained. You know, a joint of pipe may wear out; you replace 23 it with a new joint. So it's -- it's continually maintained the So a pipeline to the CSA isn't the original pipeline 24 same way. that was on the ground, you know, 20 years ago. It may be in 25

1	the exact same place, but it's been maintained over the years.
2	MS. GINSTER: And those pipes are underground, right?
3	MR. WUITSCHICK: They are not.
4	MS. GINSTER: They're not? They're above-ground?
5	MR. WUITSCHICK: Correct.
6	MS. GINSTER: And then is this all, like, fenced in or
7	posted or each other or
8	MR. WUITSCHICK: Our property is generally fenced,
9	yeah.
10	MS. GINSTER: Oh, okay.
11	MR. WUITSCHICK: Yeah. I mean, it's we have a lot
12	of acres, so not everything is fenced, but for the for the
13	most part, there's, you know
14	MS. GINSTER: And do you know what kind of material
15	the pipes are made out of?
16	MR. WUITSCHICK: So, generally, our clay lines are
17	made out of HDP, which is high-density polyethylene; they're
18	plastic. We may have isolated sections where we may have steel
19	pipe in a certain location because it's right off a pump or
20	something where the pressures are higher. So those lines are
21	all designed with pressure gradients and the appropriate
22	materials.
23	MS. GINSTER: But the volume you're pumping, it was
24	contemplated for the capacity of a CSA with that that amount
25	could go through the pipes as well, right? Is that when it was

1	constructed or designed?
2	MR. WUITSCHICK: So the the pipeline are designed
3	around the production output of the plant, yeah.
4	MS. GINSTER: So and it's based on volume, the
5	capacity?
6	MR. WUITSCHICK: Yes, those systems are more or less
7	based on volume.
8	MS. GINSTER: So now, the whole process, it takes
9	it's like seven years then for you just 'cause you're
10	mixing it all up and you're just giving a percentage, like
11	you just you can pick and choose where you put it, deposit
12	the clay, right?
13	MR. WUITSCHICK: Mmhmm. Correct.
14	MS. GINSTER: 'Cause you just have to make sure it
15	equals whatever was produced in that county normally?
16	MR. WUITSCHICK: Normally, yes.
17	MS. GINSTER: So you can pick and choose where you
18	deposit the clays
19	MR. WUITSCHICK: Mmhmm.
20	MS. GINSTER: you can go through this process
21	MR. WUITSCHICK: Yeah.
22	MS. GINSTER: so it's now, like, a seven year is
23	it seven years for it to fill up all the way from the bottom to
24	the top or does it take longer?
25	MR. WUITSCHICK: It varies from CSA to CSA. Some of

1	our CSAs are, you know, 900 acres in size and a total effective
2	fill depth of, you know, 60 feet. Some of them are 200 acres or
3	250 or 300. So every one of them is a little bit different,
4	because the pipeline that comes from the plant has a fixed
5	volume, so, you know, the time to fill them is variable
6	depending on the size.
7	MS. GINSTER: And so the and is there what
8	causes is there any, like, variables to the drying process
9	when in each one?
10	MR. WUITSCHICK: So drying would be I presume would
11	be its evaporation and consolidation, right? So, again, based
12	on size, evaporation is primarily driven by the surface area.
13	So, you know, certainly there are different dynamics from size
14	to size on how quickly that stuff happens.
15	MS. GINSTER: So it's based on the size of the CSA; is
16	that the for the drying?
17	MR. WUITSCHICK: It's a factor, and the clay
18	properties are the primary driver.
19	MS. GINSTER: So it's the bigger it is the
20	bigger the CSA, the slower it would take to dry?
21	MR. WUITSCHICK: Not necessarily. I think it would be
22	maybe the the speed at which you filled it. So, again, on
23	that curve, if you filled it to capacity really quick, then that
24	process, to come back down the curve and consolidate and get to
25	a more consolidated state, would happen at a different rate.

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1	MS. GINSTER: And you recycle water in your process
2	when you're splitting your
3	MR. WUITSCHICK: Yep.
4	MS. GINSTER: the phosphate from the sand and
5	the so you send part of that water back from the benefication
6	plant, right, to
7	MR. WUITSCHICK: Yes. I didn't mention it, but on
8	this slide, if you look at the line's a little bit off, but
9	if you look at that peak there at the very at the very left
10	hand side after after processing that 10 times swell, and
11	then every, you know, cubic foot of consolidation that occurs,
12	that's water being released; it's purely water. So all that
13	water is returned to the plant and recycled.
14	MS. GINSTER: And then do you use it again, like, to
15	mix the clay or no?
16	MR. WUITSCHICK: Yep, it all becomes commingled and is
17	reutilized in the process over and over.
18	MS. GINSTER: Thank you.
19	MR. WUITSCHICK: Okay. Thank you. Next up is
20	Keith Beriswill.
21	MR. BERISWILL: I'll sign in after I'm done.
22	Good evening. I'm Keith Beriswill. I'm senior
23	manager, geotechnical engineering, and I have been sworn. My
24	business address is 13830 Circa Crossing, Lithia, and today I'll
25	be speaking to you on monitoring and reporting.

And so Florida has a very comprehensive regulatory 1 framework for CSAs that are covered under Rule 62672 of Florida 2 Administrative Code; sounds like you're very familiar with. 3 They undergo a multilevel, multiagency permitting review and 4 5 approval process, including NPDES review through the Florida 6 Department of Environmental Protection. They're designed fully 7 by third-party engineers as well; worth noting. Design criteria and methods as a result of failures which primarily occurred 8 prior to 1972 are what resulted in current the Florida 9 Administrative Code for design. So FDEP adopted stringent 10 design construction and operation standards as a result of those 11 failures with which Mosaic complies. 12

After 1972, there were two dam failures, both occurring in 1994. They occurred at CSAs that were not designed in accordance with the current standard of practice, but rather the previous and predecessor standards of practice. So as a result of those failures, more stringent design criteria, construction, and inspection criteria were instituted, all of which we now comply with.

Inspection is conducted on a routine basis by a trained and experienced team of geotechnical inspectors, with third-party oversight by engineers, and I'll speak to that in the coming slide. Operational input is input on the CSAs on the way our facilities utilize them on a routine basis by professional engineers, and they account for seasonal weather
risks. In the lower right hand corner of this slide is an image of the rainfall totals from Hurricane Ian, and it's important to note that we didn't have any critical conditions noted as a result of Hurricane Ian on any of our CSAs; we had basically routine maintenance on upstream erosion repairs and some compaction that was required, but no extreme exceedances that resulted in critical conditions.

8 So monitoring and reporting is conducted once per shift by trained Mosaic operators, and then once per week, 9 Mosaic technicians go around and inspect all of our CSAs, read 10 the water levels within the dams and within the pour space of 11 the embankment fills, so through piezometers more commonly known 12 13 wells. And so those inspections are done under the direction of 14 the engineering group, my team, and have oversight by 15 professional engineers.

16 And then annually we have a third-party inspection conducted by a professional engineer with experience in design 17 18 and construction and inspection of clay settling areas. And then there's also ongoing inspector and operator training that's 19 20 also conducted for Mosaic staff. We utilize a third-party 21 professional engineer to train our staff, keep them up to date 22 in the inspection and the state of the practice. There are also 23 periodic inspections performed by the Florida Department of Environmental Protection, the Mine Safety Health Administration, 24 and Hillsborough County staff. And then there's also submission 25

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of our annual reports and the findings of those reports to the
Florida Department of Environmental Protection and Hillsborough
County.

Monitoring and reporting help facilitate operation, so 4 we're tracking the water levels in the soil structure to confirm 5 6 the conformance with the design on a routine basis. We have 7 interim operating water levels as we're filling the CSA in that sequence that Scott just presented, and then we're establishing 8 safe interim water levels over the course of that filling. 9 Our inspections also help facilitate adequate maintenance for mowing 10 11 of slopes and ancillary structures. They help dictate and 12 identify areas in need of soil erosion repair, revegetation, 13 maintenance of roadways to maintain access for operation and 14 inspection safety, and then also maintenance of toe ditches.

And with that, if you have no other questions, I'llinterview John Kiefer.

MS. GINSTER: Were you involved with the inspections and the monitoring reports that were required under the prior resolution that was passed in 2018?

20 MR. BERISWILL: I am involved in the routine 21 inspection, correct, yes.

22 MS. GINSTER: So was there any problems with the CSAs 23 in any of the reports that you provided?

24 MR. BERISWILL: Periodically, our third party does 25 note corrective suggestions and items that are in need of repair

or maintenance. 1 MS. GINSTER: For --2 MR. BERISWILL: And then -- and then also in the 3 weekly inspections, yes, we note areas that washouts exist, 4 5 crushed drain repairs, areas in need of mowing, et cetera. MS. GINSTER: And that's done annually, that 6 7 inspection, or is done --MR. BERISWILL: So -- so we have three different 8 9 inspections --10 MS. GINSTER: Okay. 11 MR. BERISWILL: -- we have inspections that are conducted on a per shift base -- basis, we have inspections that 12 13 are conducted on a weekly basis, and then it's by third-party 14 professional engineer on an annual basis, correct. 15 MS. GINSTER: Are you required to hire a third-party professional engineer? 16 17 MR. BERISWILL: We are; that is a -- that is part of 18 Rule 62672, yep. MS. GINSTER: And so the reports that you provide to 19 the FDP, do you provide the identical report to the County? 20 21 MR. BERISWILL: Correct, on the annual -- on the 22 annual reports. MS. GINSTER: On the annual one. 23 MR. BERISWILL: Those -- those are the ones that are 2.4 25 submitted for -- yeah.

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1	MS. GINSTER: And so you do the same with the with
2	the inspections of the CSAs, you're doing the same with the
3	piping that's above ground, which must be easier to
4	MR. BERISWILL: The piping that's above ground is
5	inspected once per shift as well, yep.
6	MS. GINSTER: And how many shifts do you operate?
7	MR. BERISWILL: Two shifts at some facilities, three
8	shifts I guess Four Corners is all two two shifts, 20
9	yeah.
10	MS. GINSTER: Okay.
11	MR. BERISWILL: And that's 24 hours a day, 365 days a
12	year also.
13	MS. GINSTER: I noted in the prior resolution, the one
14	that's in effect now that you voluntarily agreed to have
15	Hillsborough County come in and test the clay; are you involved
16	with that as well? Or taking samples and
17	MR. BERISWILL: So so testing the clay?
18	MS. GINSTER: Mmhmm.
19	MR. BERISWILL: We monitor the filling over periods,
20	and then there's also some index property testing that we
21	conduct periodically as needed to just update our clay modeling
22	software.
23	MS. GINSTER: So you do that yourselves, but did the
24	EPC come in during this 5-year period the resolution's been in
25	effect for the six affected CSAs?

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MR. BERISWILL: I'm not sure; there may be somebody
else that may be able to speak to that.
MS. GINSTER: Oh, okay. All right. They're in the
resolution that's currently in effect for these six affected,
like, CSAs that are the subject matter of this hearing, there
was a requirement for information from a hydrologist
MR. BERISWILL: So
MS. GINSTER: that would report on the amount of
clay deposited.
MR. BERISWILL: Okay.
MS. GINSTER: Do you know what the purpose was for the
hydrologist report?
MR. BERISWILL: I'm not sure, but Dr. Kiefer is to
follow me up, and he is a hydrologist, so he may be able to
speak
MS. GINSTER: Okay. And
MR. BERISWILL: to the context of that requirement.
MS. GINSTER: So but overall, there weren't any
problems really with compliance for the ordinances or
MR. BERISWILL: Not that I'm aware of.
MS. GINSTER: Oh, okay.
MR. BERISWILL: Not that I'm aware of.
MS. GINSTER: All right. Well, thank you so much.
MR. BERISWILL: Okay.
MR. KIEFER: Good evening.

1	MS. GINSTER: Good evening.
2	MR. KIEFER: My name is John Kiefer. I work for the
3	consulting firm Black & Veatch, where I serve as the national
4	ecosystem solutions practice lead. Business address is 1715
5	North Westshore Boulevard here in Tampa, Florida. A little bit
6	about my background: I'm a licensed environmental engineer and
7	a professional engineer, and I and a scientist as well, a
8	fluvial geomorphologist, which is just the study of how terrain
9	and hydrology relate to each other. And and that's really
10	the topic I'm gonna delve into some with respect to stage
11	filling on settling areas, and why that's beneficial in in
12	this case, so oh, I'm in control of the slides. Sorry about
13	that.

14 So there are definitely reclamation benefits that 15 we're seeking by stage filling, that the CSAs -- and, primarily, 16 it enables us to achieve the elevations that we need on those --17 on that piece of geography to drive the hydro -- desirable 18 hydrology. So if you look at the positions of these settling 19 areas on this map, they sit on what we call interfluves, right? Those are the high ground between stream valleys. And so we 20 21 stage fill them so that upon reclamation, they will function 22 like interfluves; they will generate rainfall runoff, and that will be distributed to a series of reclaimed wetlands and 23 24 streams and the natural valleys where we -- where that water is 25 beneficial for a wide variety of environmental functions.

1 So the clay settling areas are designed to provide drainage to specific sub-basins, directing that rainfall runoff 2 to particular water bodies. Stage filling assures that we get 3 4 that kind of positive drainage directed as designed and in 5 accordance with the requirements of the reclamation plan. And in this case, we have, you know, several different creek systems 6 7 that these interfluves are occurring between; the Little Manatee River, the south prong of the Alafia River, and Horse Creek are 8 the main ones. 9

So this is -- these diagrams show a cross-section 10 11 through kind of a typical clay settling area, and the images on the left are what would occur under kind of a single phase fill, 12 13 right? So you have an underlying, undulating pattern of mined 14 ground; deposit the clay on top of that in the interior of 15 the -- the disposal area, the confinement area of the dams. And then that clay would consolidate, and it would sort of drape 16 17 over that undulating ground, so you would be left with a series of sort of independent and reticulated pockets of water at low 18 elevation upon final reclamation. And that's the status we're 19 20 trying to avoid.

So if you look at the condition on the two diagrams on the right, that's more akin to what we get at the end of stage filling. So we're able to get positive drainage off of that landform upon final reclamation. And that's the -- it functions like an interfluve. So that's really what we're mainly after.

1 And then these images just show what it looks like in 2 plan view from the air. So the top set of images, you can see sort of these alternating series of deeper pockets and higher 3 4 around under the clay with water sitting in -- in top; it sort 5 of gets trapped in there, right? And that's what we don't want. The bottom set of images are clay settling areas that were 6 7 reclaimed more with stage fill, and so they have discreet areas of large cont -- contiguous blocks of uplands and wetlands that 8 deliver sufficient water balance off of the settlement area and 9 into the environment upon finally reclamation. They deliver 10 11 high quality water; it's filtering through a lot of wetlands 12 along the way, and so stage filling is really essential to 13 achieving that outcome. It's a countermeasure against having 14 these small-scale differential consolidation areas trapping and 15 holding water that is better -- would be better put into the natural drainage network ultimately. So this results in an 16 17 unfragmented pattern, it improves land use potential of the 18 settling areas, and the water quality that comes off of them.

And that's all I have for the presentation. I'm happyto answer any questions.

MS. GINSTER: In part of the application and the reports, there was a mention of a report that -- I believe that was done by your firm. Let me see here if I can find it... MR. KIEFER: Was it done by EMEC (phonetic) or... MS. GINSTER: It was called the Memorandum of

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1	Hydroecology of Clay Settling Areas Stage Fill in Hillsborough
2	County, developed by Black & Veatch; is that
3	MR. KIEFER: That's mine, yes.
4	MS. GINSTER: Yeah? Okay. Which it's it talks
5	about stage filling design capacity expected to prevent pooling
6	in wet depressions when CSAs are not filled to capacity or full
7	capacity; is that are you familiar with that report or
8	MR. KIEFER: I am.
9	MS. GINSTER: So are you the only author of that
10	theory or
11	MR. KIEFER: Yeah, it's not I wouldn't necessarily
12	refer to it as a theory
13	MS. GINSTER: Okay.
14	MR. KIEFER: I think I am the only author of that
15	particular report
16	MS. GINSTER: Okay.
17	MR. KIEFER: but it's you know, the stage
18	filling and achieving elevation is just that's the physics of
19	it, right? So and I have a long history of evaluating
20	reclamation and designing reclamation for this industry, and so
21	I've seen repetitively seen the outcomes that are described
22	in that report under stage filling versus under partial filling.
23	And, you know, I'm familiar with the circumstances of this
24	particular facility and its settling areas, and and that's
25	what really drives this concept of interfluves because of the

positions of those settling areas are very distinctly on areas 1 that are intended to function as interfluves, so achieving 2 elevation and positive drainage from them is pretty important. 3 4 MS. GINSTER: So you've seen it be successful in 5 practice? 6 MR. KIEFER: Oh, yes. 7 MS. GINSTER: And do other -- besides Mosaic, is it used elsewhere, like, in the industry? Or is it a standard? 8 MR. KIEFER: So, yes, it is used -- stage filling is 9 kind of a common approach for, you know, materials that have 10 11 high water content that you want to decant the water on and take 12 advantage of storage volume and generate particular -- you know, 13 it's like a -- a knob that you twiddle to get to a particular 14 elevation, a particular grade. And it's a -- it's a very 15 effective and -- standard and customary practice in mining. 16 MS. GINSTER: Okay. And then it also indicated that 17 it would provide a water quality benefit through the vegetation 18 that --19 MR. KIEFER: Yeah, because you don't have a lot of, 20 you know, isolated pockets of stagnant water that are only very 21 rarely running off, so you're getting water that -- because with 22 stage filling too, what happens is you get broader areas of 23 differential consolidation that are very shallow and that'll support wetland vegetation. And so the runoff coming off the 24 settling area will run through those areas, and then down 25

through the reclaimed connection to -- to it. So you're always 1 gonna connect to a feature like that within a settling area upon 2 final reclamation. 3 4 MS. GINSTER: So how do you know the area's dry enough 5 for you to then fill more in; is it based on time or visual 6 or --7 MR. KIEFER: That's -- we're -- we're kind of sketching a little bit outside of my area of expertise --8 9 MS. GINSTER: Okay. MR. KIEFER: -- there's people here who could answer 10 11 that better who are, you know, geotechnical engineers. But it -- there's definitely a threshold at which, you know, you can 12 13 walk on these areas and not sink in; they can support a school 14 bus. So there's criteria that can be used to determine when --15 when it's dense enough. I don't know if there's -- Scotty, you want to answer 16 17 that? Sorry. 18 MR. WUITSCHICK: So the question is pertaining to how do you know when it's -- when it's available to put another 19 20 stage in. MS. GINSTER: Yeah, like, how do you know there's not 21 22 pockets of water down there? How do you know it's dry enough to 23 put on your next level; is it based on time? MR. WUITSCHICK: So we don't have to get to dry to 2.4 know when we can put -- it's more of a volume issue. 25 But to

1	answer the question that you're asking, we know from our clay
2	models you know, I talked about the properties; we know how
3	to clay behaves, so we have models to tell us what is the solids
4	content at any given time. And then we do periodically go out
5	with boats and and push down through the clays and verify
6	that that model is, you know, producing a number that's, you
7	know, actually reflected in in reality.
8	MS. GINSTER: Oh, okay. All right. Thank you.
9	Thank you.
10	MR. KIEFER: You're welcome. My pleasure. I think
11	Vinette Godelia is gonna come up and make some closing remarks.
12	MS. GODELIA: Thank you, Dr. Kiefer.
13	Hearing Master Ginster, there were a couple of
14	questions you posed, and I want to provide a little bit of
15	clarification for those before I wrap up.
16	MS. GINSTER: Thank you.
17	MS. GODELIA: We talked about the conditions in the
18	existing 18129 resolution
19	MS. GINSTER: Yeah.
20	MS. GODELIA: in particular, on Page 5,
21	Subsection E. One question you posed had to do with taking
22	samples from the CSAs, and the EPC having the ability to do so;
23	they do, and that condition is being moved forward into the next
24	iteration of the resolution, but no requested has been made
25	within the past five years since the since the approval in

1 20 -- 2018.

You also asked about submittal of data to hydrolyzed 2 clay water and other types of data in Condition E. We worked 3 4 with the County, and in 2020 they defined the parameters of what 5 they wanted to see as far as those numbers, and so we have annually submitted data reflecting what the County asked for. 6 7 And then the resolution that's being proposed tonight, they're actually -- it's either further -- further refinement, and Kim 8 will probably talk about this, of how that data needs to be 9 presented in future annual reports. So that's a part of the 10 resolution that's also pending in front of you. 11

And then, finally, there was a question about jobs. So we have 1,035 employees in Hillsborough County; that's -- a third of our -- Mosaic's employees call Hillsborough home, but then we have about 2,238 if you include our vendors for Hillsborough County.

So with that, we -- we want to note that county staff recommended approval, and there were conditions identified to ensure compliance with the phosphate mining regulations and the comprehensive plan. Mosaic agrees with all of those conditions presented by staff.

22	MS. GINSTER:	You agree with all?
23	MS. GODELIA:	All of them, yes.
24	MS. GINSTER:	I had a question on one of them.
25	MS. GODELIA:	Okay. Would you want to wait for staff

to answer that question or is that something you want to talk
with
MS. GINSTER: No, I wanted to know if you if if
Mosaic agreed with
MS. GODELIA: Okay.
MS. GINSTER: No. 5, 'cause I didn't see it in the
correspondence, so that was the one that I had a question on
that you approved on that that particular condition, which I
believe is numbered 5 on their report.
MS. GODELIA: Okay. Yeah, we
MS. GINSTER: Which is and I also had a so No. 5
is let me just see if their staff report is here It's the
one with they were gonna review the life of mine waste disposal
plan, dated August 4th, 2020.
MS. GODELIA: Yes, yes.
MS. GINSTER: And okay. That was the one about
that particular report; you do agree with that?
MS. GODELIA: Absolutely we agree, and we'll have that
report in by that date.
MS. GINSTER: Okay. And the emergency order
paragraph 'cause it there was, like the dates kept
evolving I think with all the different storms, but is the new
resolution do you actually have that are the are the
dates finalized or are they gonna be changing again?
MS. GODELIA: Those dates continue to change because

the governor just renewed that extension. And so because the 1 ex -- the new dates are tied specifically to that, it continues 2 to change. So what we have in the resolution is the dates, I 3 4 think, as of the -- the most recent extension, but then we say, 5 pending further -- further amendments. MS. GINSTER: Okay. 6 7 MS. GODELIA: Of course the provision as to this, as to our ability to use the CSAs for Hardee clays is -- is outside 8 of the scope of the -- the executive order extensions that's --9 we have to come before you and the BOCC to extend that date. 10 11 MS. GINSTER: Now, have you removed the actual dates from the -- this new draft? 12 13 MS. GODELIA: Yeah, the new draft includes the new 14 dates. 15 MS. GINSTER: Oh, it does include the new dates? 16 MS. GODELIA: Yes. MS. GINSTER: So these are the dates that are good as 17 of today? 18 19 MS. GODELIA: Yes. 20 MS. GINSTER: Okay. Did that -- okay. That was 21 getting a little confusing for --22 MS. GODELIA: Sure. It gets confusing for us as well. 23 MS. GINSTER: I could see there was, like, issues with that one. 2.4 MS. GODELIA: 25 Sure.

1	MS. GINSTER: But it may change again before it gets
2	to the County Commissioner, right?
3	MS. GODELIA: That's that's correct.
4	MS. GINSTER: Gotcha.
5	MS. GODELIA: So we agree with the conditions. The
6	materials, the documentation, and the evidence you've heard
7	today support this a recommendation of approval from you.
8	The proposed amendment would implement specific goals of the
9	comprehensive plan and the phosphate mining regulations. And as
10	I referenced, you do have an expert planning report at the very
11	front of your binder that provides further detail on how we
12	accomplished that goal. And so we'd request a recommendation of
13	approval. Thank you.
14	MS. GINSTER: Thank you.
15	MS. CRUZ: Good evening, Madam Hearing Officer. My
16	name is Kim Cruz; environmental supervisor with Hillsborough
17	County, Environmental Services Division. I have been sworn. I
18	am here to present the staff review of Mosaic Fertilizer's
19	purposed mining activity. Before I get started, I respectfully
20	request an additional 10 minutes.
21	MS. GINSTER: Yes, it's granted. Good evening.
22	MS. CRUZ: The intent of the application is to create
23	a new resolution to continue mining-related activities nearly
24	identical to Resolution R18129, for complete utilization of
25	specific clay settling areas within Hillsborough County. Final

reclamation is benefited by complete utilization of the clay
settling areas.

The proposed amendment would allow final deposition of 3 waste clays fraction of phosphate determined to have originated 4 5 from Hardee County into Hillsborough County clay settling areas until each clay settling area is utilized to its full design 6 7 storage capacity or until November 15th, 2028, whichever comes This is a period of five years after the current 5-year 8 first. resolution expires. The clay settling areas proposed to be 9 utilized within Hillsborough County include L1, L2, L3, F4, F5, 10 and F7, which are located within Consolidated Mines DRI 263 11 12 area.

The estimated balance of Hillsborough County clays will not be sufficient volume to fill the subject clay settling areas. Complete utilization of clay settling areas benefits the final reclamation of the clay settling areas.

The proposed resolution would amend DRI 263, Composite Development Order and Operating Permit, Composite Attachment A, Section 6, Mining, which states: Mosaic commits to balance the clay disposal so that the amount of clay that is produced in each county is disposed of in that county.

The proposed amended language to the development order states -- will state as follows: MOSF commits to balance the clay disposal so that the amount of clay that is produced in each county is disposed of in that county, provided, however,

1	that CSA L1, L2, L3, F4, F5, and F7 in Hillsborough County are
2	authorized to accept clays minded by Mosaic from Hardee County
3	only until such time that each CSA is utilized to its full
4	design storage capacity or as provided herein. Regardless of
5	whether each CSA is utilized to its full design storage
6	capacity, this authorization to deposit clays from Hardee County
7	and Hillsborough County shall expire on November 15th, 2028,
8	unless expressly extended by the Board of County Commissioners
9	after hearing before the phosphate hearing master.
10	Additionally, Mosaic will not construct CSAs L4, L5, L6, and F8.
11	This language is different from the staff attachment
12	provided to you, and has been submitted as a new record today.
13	There were some edits created between the time that it was
14	filled with the clerk and today.
15	MS. GINSTER: Is that regarding the only produced in
16	Hardee County; is that the change?
17	MS. CRUZ: Yes, Hardee County. 'Cause, originally,
18	the first resolution, the resolution from 2018 said, from other
19	counties, and so we made sure this time that it stated
20	explicitly, from Hardee County.
21	MS. GINSTER: Well, actually, the resolution in 2018 I
22	believe said only from Hardee County in the draft. The purposed
23	one did that
24	MS. CRUZ: Yeah, in the summary, but then in the
25	conditions in Section 2, I believe, it didn't include Hardee

County, so we --1 MS. GINSTER: Oh, it did not? 2 3 MS. CRUZ: It did not. 4 MS. GINSTER: Okay. Okay. That was because the resolution from 2018 5 MS. CRUZ: 6 originally was, from other counties, and then it changed to just 7 Hardee County. So for Clay Settling Areas L1, L2, L3, F4, F5, and F7, 8 Hillsborough County Board of County Commissioners approved the 9 construction and operation of clay settling areas between years 10 11 2000 and 2014. Presently, the clay settling areas are in The clay settling areas are designed and operated in 12 operation. 13 accordance with Chapter 62-672, Florida Administrative Code, and 14 the applicant indicates that the estimated design construction 15 fill volume currently ranges between 84% to 92% full. And if 16 this resolution is approved, the estimated construction design 17 capacity will be approximately 98 to 99% full. 18 MS. GINSTER: Can I interrupt you to ask you a 19 question? 20 MS. CRUZ: Absolutely. 21 MS. GINSTER: I read in the code that it requires a 22 foot, I quess, of -- or up to 12 inches of rainfall to be 23 accounted for; is that taken into the actual design storage -like the full storage capacity or --24 25 MS. CRUZ: That is -- that is a question to be

answered by Mosaic specifically.
MS. GINSTER: Okay.
MS. CRUZ: 'Cause I know that the Florida Department
of Environmental Protection NPDS permit sets forth requirements
for freeboard and and such.
MS. GINSTER: Yeah, it's I read that it was, like,
5 5 is it 5 feet for
MS. CRUZ: 5 feet.
MS. GINSTER: freeboard? And that you have that
in the resolution or the draft, but then
MS. CRUZ: Mmhmm.
MS. GINSTER: the issue about the rainfall, which
is in the code, I didn't know if it was taken into account
into the full design capacity, that that's part of it, or you
should you add that to your resolution to account for it?
MS. CRUZ: That that would be a better question to
be answered by Mosaic
MS. GINSTER: Okay.
MS. CRUZ: on how they calculated that.
MS. GINSTER: All right. And I have questions about
how the design capacity was calculated. Because there's charts
attached to the actual DRI order that have design capacity in
acres and feet, and then there's different charts, and the
numbers don't all match up; they're inconsistent. So I didn't
know I was trying to get more of a handle on, you know, the

beginning numbers. I see your comment about having a -- a PE 1 certify the amounts of clay --2 MS. CRUZ: Yes. 3 4 MS. GINSTER: -- that would -- your comment's gonna 5 cover that concern, but --MS. CRUZ: Yes. So basically -- are you talking about 6 7 the clay settling area annual reports, the charts, or are you 8 talking about --MS. GINSTER: Well, the annual report that you require 9 about the clay balance, you're gonna ask for the report --10 11 'cause you have a lot of specifics here in what you want about the available volume, how much is there now. But if -- you 12 13 know, if -- you know, if the beginning number on the storage 14 capacity, the full amount, that would need to be accurate as 15 well, so... 16 MS. CRUZ: So basically the request for additional 17 information is what you're asking about, that -- that additional 18 table that I requested that says 99 to 98% full at the end of the --19 MS. GINSTER: Yeah, and I think it will address the 20 21 concern about whether the numbers are right or not. But the 22 real concern I had was whether or not -- you know, whether or 23 not Hillsborough County would accept Hardee County's waste is dependant on these chars of how much we can take. Because if --24 I mean, you know, so the concern would be that Hillsborough 25

County for some reason wouldn't have enough space left to put 1 their clay in those clay settling areas if the numbers aren't --2 'cause they'll -- if they accept it. 3 MS. CRUZ: So over -- over the years, like Mosaic was 4 5 saying, when they deposit clays into the clay settling areas, 6 there's a period of resting and filling. So as the clays 7 settle, it creates more space, so there's more capacity 8 available. So that's why you see a varying -- a variation in the different charts, at least in the annual reports, but 9 then --10 11 MS. GINSTER: The variation in the charts are actually on the capacity of -- the total design capacity of the actual 12 13 CSAs. 14 MS. CRUZ: Yes. 15 MS. GINSTER: That's what at the beginning number of what it can actual handle, and what that means -- I don't know 16 17 if they're measuring the same -- if it's volume or fill or --18 you know, so... 19 MS. CRUZ: Okay. 20 MS. GINSTER: So, I mean, there is discrepancies here. 21 I have copies of the charts. MS. CRUZ: I can -- I'll defer to Mosaic and allow 22 23 them to explain the difference between the acre, feet, and then the difference between the design storage capacity that I 24 requested in the staff request for additional information so 25

they can provide better detail of how they calculated it. 1 MS. GINSTER: Okay. Thank you. 2 MS. CRUZ: You're welcome. 3 4 Here is depicted the Con -- Consolidated Mines DRI 263 5 in the color green. And then the clay settling areas that 6 Mosaic would be depositing Hardee County clays. Clays 7 determined to be from Hardee County are in purple. The benefits of complete utilization of the clay 8 settling areas include improved habitat diversity and additional 9 options for economic development. And filling the clay settling 10 areas to the maximum design fill level allowed will provide 11 positive drainage to surrounding wetlands and streams, which 12 13 would enable fully vegetated wetland conditions that would 14 provide a water quality benefit to surrounding wetlands and 15 streams. Additionally, Mosaic would not need to construct 16 additionally pipes or infrastructure for depositing clays 17 determined to be extracted from Hardee County into Hillsborough 18 County clay settling areas because they are already established. Mosaic provided their annual reports associated with 19 Resolution R18-129, and the clay settling areas continue to have 20 21 available capacity. Mosaic agrees to continue providing annual 22 clay settling area reports for the purposed resolution. They 23 conducted annual dam inspections between 2018 and 2022 for a third -- by a third party on behalf of Mosaic and indicated the 24 clay settling areas generally were well-maintained and safely 25

operated with industry standards. There are -- there were no 1 immediate corrective maintenance requests reported. And, 2 additionally, Hillsborough County conducts routine visual 3 4 inspections of the clay settling areas. Water quality is 5 monitored and regulated by the Florida Department of 6 Environmental Protection national pollution elimination 7 discharge permits. Mosaic was required to ensure that the water quality standards meet Class 3 Freshwaters defined in Rule 8 62-302.500, and 62-302.530 Florida Administrative Code are not 9 exceeded at the points of discharge through the clay settling 10 area outfalls, and Mosaic monitors those outfalls for water 11 12 quality.

For staff recommendation, this application provides competent and substantial evidence that proposed mining activities will meet Objective 1.3 of the One Water Goal, and Objective 3.2 of the Environmental and Sustainability Element of the Hillsborough County Comprehensive Plan, the Land Development Code, and R18-129.

Specifically, Objective 1.3.1 of the One Water Goal states that: Managed land and water resource in a manner that protects, enhances, conserves, improves, and restores terrestrial and aquatic ecology systems while ensuring surface and groundwater resource functions of potable water supplies are maintained for future use.

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Objective 3.1.2 of the One Water Goal states: All

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stormwater management projects that seek to maximize to the 1 2 greatest extent practically improvements to wetland habitat and water quality and groundwater re -- recharge functions. 3 4 Objective 3.2.1 of the Environmental and 5 Sustainability Element states: The prudent operation of mining 6 activities and timely reclamation of mined areas is required. 7 Objective 3.2.2 of the Environmental and Sustainability Element states: The phases of mining to ensure 8 that limited land areas are affected by evac -- excavation and 9 settling ponds at one time and that reclamation occurs in the 10 11 most effective manner is required. For the Land Development Code, Section 80201B2 states: 12 13 This division provides a flexible frame with -- within which 14 each application for permit shall be considered. Flexibility is 15 provided in order to allow the applicant to adapt his methods 16 and procedures to changes in technology in the interest of the public. This division is based on the traditional methodology 17 18 used by the phosphate industry in Central Florida which phos --19 phosphatic clays are placed in well-defined settling ponds for 20 consolidation and separation of water. Should applications for permits or applications for amendments thereto be based on or 21 22 incorporate other methodologies, such applications or 23 amendments, if in compliance with the spirt and intent of this division, may be approved by the board. 24

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MS. GINSTER: Can I ask you a question on the -- your

findings in relationship to the comprehensive plan, because 1 2 you've added one extra from what Mosaic -- at least from what I read that they proposed, and it's the stormwater management 3 4 project, 1.3.2. Can you just explain why that applies? 5 MS. CRUZ: Okay. So a big component of Mosaic's reclamation is also contouring for post-reclamation, and then 6 7 you're gonna have positive drainage from the clay settling areas that will contribute stormwater discharging to the surrounding 8 areas, so -- and that -- that improves wetland habitat and water 9 quality and -- and making sure that the clay settling areas are 10 11 full and the -- and the knowledge of knowing that when clay settling areas are full, you have more fully vegetated clay 12 13 settling areas, the wetlands can provide a greater improved 14 water quality treatment. 15 MS. GINSTER: Okay. Thank you. 16 MS. CRUZ: You're welcome. 17 MS. GINSTER: And I guess as far the comprehensive 18 plan, because I have to find that the application is in 19 compliance with the comprehensive plan for Unincorporated 20 Hillsborough County, you agree with Mosaic's reasoning behind 21 why it is in compliance with the policies of 1.3.1 -- 1.131, and 22 then 3.2.1 and 3.2.2 -- because they went into more detail --23 from your staff recommendation, you indicated you're -- you agree with -- that they met the policies, but you didn't give 24 any details. And I wondered if -- if your staff report includes 25

an agreement with what was proposed in their application 1 regarding the reasoning why Mosaic --2 MS. CRUZ: You're talking about the reasoning I 3 4 provided in the staff report? 5 MS. GINSTER: You indicated that they complied with 6 these policies, but you didn't give any details. But in their 7 application, they did give details as to why they believe they complied with the same policies that you agreed were met, and so 8 I just wanted to make sure that you agreed with what Mosaic had 9 indicated. 10 11 MS. CRUZ: I do agree. 12 MS. GINSTER: Okay. Thank you. 13 MS. CRUZ: Staff recommends approval with conditions. 14 Mosaic has agreed to the conditions outlined in the Hillsborough County staff review report. Additionally, staff conditions of 15 approval will be incorporated into the proposed resolution 16 17 between now and the Board of -- Board of County Commissioners 18 meeting. MS. GINSTER: I have some questions about the 19 conditions. 20 21 MS. CRUZ: Absolutely. Go ahead. 22 MS. GINSTER: Ask you now? 23 MS. CRUZ: Yes. MS. GINSTER: Why -- do you know why the hydrology 24 25 review was deleted between the -- at least the purposed

resolution and the -- the resolution that's in effect right now? 1 And let me tell you where specifically it's at. So I just -- I 2 just went through to compare the two together, and I noted that 3 4 you caught a lot of details with the differences, and you both 5 worked together to correct that. But as far as -- it would 6 be -- let me see... 7 MS. CRUZ: Do you know what page? MS. GINSTER: Yeah, I'll get to there. Let's see... 8 Just bear with me a minute here. This is -- these are the two 9 resolutions here. So when you look at the current resolution, 10 11 which is the R1 -- 18129, there was language in Section 2B, and I'll -- which also refers to Section 2E, regarding that the 12 13 annual report regarding the amount of clay that's deposited in 14 the settling areas would include review of information by a 15 hydrologist on behalf of the Hillsborough County. So when I looked at the new proposed resolution, it didn't carry over that 16 language. And I wondered why it was deleted. 17 18 MS. CRUZ: Why it was changed from a hydrologist to a 19 PE? MS. GINSTER: No, there's -- no, just deleted the 20 21 hydrologist. I don't believe it was changed to a PE, was it? 22 It --23 MS. CRUZ: Oh, yes, it was --2.4 MS. GINSTER: If you look at --25 MS. CRUZ: Appropriate representative for Hillsborough

1	County development services department copies
2	MS. GINSTER: It's on Page 5 there, the current
3	resolution; it's the bottom of B. I didn't see it carry over,
4	and I just wondered why that particular review if it wasn't
5	considered necessary or why was it deleted? Or why was it in
6	there in the first place?
7	MS. CRUZ: I don't know why it was there in the first
8	place.
9	MS. GINSTER: So you don't think it's necessary?
10	MS. CRUZ: That was the staff position's old title; my
11	staff position's old title was hydrologist.
12	MS. GINSTER: Oh, okay. All right. So and then
13	you do have in here that staff will review it, okay. All right.
14	MS. CRUZ: Correct.
15	MS. GINSTER: So that's why, just a change in title.
16	Okay. That helps. Thanks. Thank you.
17	So then I noted you wanted to change the time for when
18	the annual report's due, which is that's your Comment 7. And
19	Mosaic had agreed to it, but according to what my requirements
20	are for approval, I have to make sure everything's in compliance
21	with the Land Development Code, and there's so I was trying
22	to figure out if if it is, and whether the report qualifies.
23	But the I think if you look at the you want to change the
24	file of the what the current resolution says is that the
25	annual report will be due, like, one year later on the date of

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1	the resolution, which is the language defined that on and
2	you wanted to change it to 30 days, I think
3	MS. CRUZ: Okay. So, yeah, it says, on each
4	anniversary of this resolution, Mosaic shall report to the
5	County's development services department the amount of clay that
6	is outside Hillsborough County deposited in Hills
7	Hillsborough County clay settling areas in the previous year.
8	This information shall be reported to Hillsborough County Board
9	of County Commissioners annually as part of the report
10	referenced in 2E below.
11	MS. GINSTER: Yes.
12	MS. CRUZ: Okay. So this is basically saying that, on
13	the anniversary of this resolution, which would be, you know, a
14	year every year, the resolution was approved in November
15	2018 or November 2018, I believe was it November 2018
16	the last time, so the anniversary date fell on November, so
17	Mosaic would submit it for a for the months between
18	November the beginning of November, end of October. And so
19	for consistency purposes, we felt that it was necessary to keep
20	that schedule.
21	MS. GINSTER: Right, okay. So then the code
22	requires there was a Section 80209, it says it talks about
23	the annual report of operations; is that the same report
24	MS. CRUZ: It is not.
25	MS. GINSTER: It's a totally different one, so we're

1	okay with that.
2	MS. CRUZ: Correct.
3	MS. GINSTER: All right. Okay. So then that's fine.
4	Okay. Do you have anything else to
5	MS. CRUZ: I do not have anything else; do you have
6	any additional questions?
7	MS. GINSTER: I might. I think the questions I'll
8	probably have here will be for Mosaic. I think that we've
9	addressed everything that's covered in the draft resolution.
10	Okay. I think we're fine. Thank you so much.
11	MS. CRUZ: You are welcome.
12	MS. GINSTER: So for Mosaic, I have questions about
13	the capacity of the actual CSAs, for the numbers. And only
14	because in your correspondence with the County, you based your
15	information on a report that was provided by
16	Ardaman & Associates, and then but the information on the
17	total capacity of each CSA and you made up a chart to give
18	that information, to measure how much more percentage would be
19	given under this new resolution, but the chart that's attached
20	to the actual development order had different capacities for
21	when it was constructed. So I was trying to determine if the
22	original information 'cause there must be, like, when the
23	like as-built drawing or something when the you must have
24	some type of information when it was designed and built of how
25	much the volume would be

1 MS. GODELIA: So --MS. GINSTER: -- for full capacity. 2 MS. GODELIA: Okay. I -- I think I understand some of 3 4 what you're saying, Hearing Master. Just to be clear, the 5 charts that we're comparing, there was an RAI response, and the RAI response had a chart that looked at this new five years 6 7 proposed. 8 MS. GINSTER: Correct. MS. GODELIA: Okay. So Scott Wuitschick is able to --9 to discuss that. 10 Now, the other chart though, you seem to be referring 11 a first chart or a comparable chart; I want to make sure that I 12 13 am giving you the --14 MS. GINSTER: No, I understand. And I -- you know, it 15 just -- with the development order, there's -- there was a chart that's attached to it, it's from 2005, and it's Revised Table 16 3BH1, Clay Settling Area Design Summary. And it has capacity 17 18 for -- by acres and feet, so I don't know if that's the same 19 type of capacity that's mentioned in what was created to address 20 the Hillsborough County questions regarding the percentages of what's there now and what's gonna be filled. Because it will 21 22 depend, I think, on the total design -- or I quess what you call 23 constructed volume. 2.4 MS. GODELIA: Sure. 25 MS. GINSTER: So that's where I'm a little confused.

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1	But I thought that the comment that the County had regarding
2	having this information verified by a PE and then certified that
3	that would resolve the issues, to make sure that we know how
4	much 'cause that for the reliability of the numbers or the
5	percentages and what
6	MS. GODELIA: Mmhmm.
7	MS. GINSTER: Because the concern would be, like, that
8	there wouldn't be enough be enough space left if the County
9	produced clay, Hillsborough County, if we're taking you know,
10	I imagine you could adjust it all anyways at the end, but
11	MS. GODELIA: Sure, sure. So Scott can answer that
12	question. The original chart you're talking about is from
13	the the 2008 iteration of the development order
14	MS. GINSTER: Right.
15	MS. GODELIA: that did have it's Hillsborough
16	County Consolidated Mines Edition DRI 263, Table 10-4. The
17	version of what we submitted with the RAI response is an update
18	of that information, but I know that there are questions about
19	the the acre-feet comparison to Scott, is it tons? I
20	can't remember. There's a little bit of a difference in the way
21	we compute it.
22	MS. GINSTER: Okay.
23	MS. GODELIA: And the County has asked us to report
24	now consistently both sets of numbers because of this very
25	reason where old charts use one thing, new charts use a

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different number, and so the County has asked us that future
reports show both.
MS. GINSTER: Okay.
MS. GODELIA: Both numerical indicators. But Scott
can, I think, give you a little bit more of a response.
Scott?
MS. GINSTER: 'Cause I was looking at I mean, you
have you call it constructed volume, so I don't know if that
means the capacity of what it's supposed to hold as constructed
or if it means something else. I didn't read through the
entire
MR. WUITSCHICK: Yeah.
MS. GINSTER: DRI in great detail, but
MR. WUITSCHICK: So this Table 10-4 that I believe was
part of the original resolution, I believe
MS. GINSTER: The original
MR. WUITSCHICK: Yeah.
MS. GINSTER: Which one?
MR. WUITSCHICK: So I believe that that's those
numbers are dated '92 and 2006, so
MS. GINSTER: Right.
MR. WUITSCHICK: my explanation is that these were
probably not as-built volumes, they were planned in some cases.
probably not as-built volumes, they were planned in some cases. So this chart that we submitted with this application would have

1 construction.

MS. GINSTER: Okay. So this would be more accurate. MR. WUITSCHICK: So that's probably the discrepancy. And then working across this, you know, the next column on 8/1/2023 is -- so just -- maybe to make sure we're all on the same page, our CSAs, we don't raise them, so they're constructed to one elevation maximum containment, right? And they stay there forever.

So this chart is intended to show as of 8/1/2023 how 9 much volume is consumed with the current clay, and then as we go 10 11 forward to 8/1 -- 11/15/2028, so the expiration of the application that we're talking about today, what does our model 12 13 show addition volume would be available for consolidation, so 14 this volume would shrink to that, and that's where we're getting 15 the stage fill benefit that we're talking about. So that was the purpose of this chart; it was to illustrate what we project 16 17 will be available during this period.

18 MS. GINSTER: Okay. Thank you.

MR. WUITSCHICK: Stacked against the as-built constructed volumes.

21 MS. GINSTER: Right, okay. Thank you. That -- that 22 clears it up.

23 MR. WUITSCHICK: Thank you.

24 MS. GINSTER: Thank you.

25 MS. GODELIA: And just one final clarification you had

1	about the rainfall inches versus the freeboard requirement
2	MS. GINSTER: Yeah, is that
3	MS. GODELIA: under the code, so I'll have him
4	confirm.
5	MR. WUITSCHICK: So yes, this this table does lay
6	that out. So per 62672, we I don't recall the exact rule
7	language, but it it says that we have to be able to maintain
8	the ability to manage 12 inches of water, of rainfall in
9	essence. So these volumes are do not include that 12 inches;
10	we've reserved that for the purpose intended under that rule.
11	MS. GINSTER: So you reserve the 1 foot actually, I
12	read it in the Land Development Code.
13	MR. WUITSCHICK: Yeah.
14	MS. GINSTER: Okay. So that
15	MR. WUITSCHICK: So we're reserving the 1 foot from
16	what we're stating as our capacity, plus the 5 feet that's
17	required by for freeboard.
18	MS. GINSTER: And so do you when you make your
19	reports, do you include the 1 foot on the rainfall or
20	MR. WUITSCHICK: For our clay capacity, we don't;
21	that's strictly for stormwater management.
22	MS. GINSTER: Okay.
23	MR. WUITSCHICK: It's not clay capacity, it's water.
24	MS. GINSTER: Okay.
25	MR. WUITSCHICK: Yep.
1	MS. GINSTER: But the but for the rainfall part of
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2	it, the reserve that you 'cause I noticed that you do report
3	on the 5 feet freeboard
4	MR. WUITSCHICK: Mmhmm.
5	MS. GINSTER: in your reports to the FDEP or
6	MR. WUITSCHICK: Yep.
7	MS. GINSTER: Yeah.
8	MR. WUITSCHICK: So we have we have the 5 foot
9	maximum fluid level that our designer engineers establish as the
10	safe maximum operating level that's generally that 5 feet below
11	the crest elevation. And then, operationally, we have what we
12	call an OR, an operational restriction, so it's always at least
13	that 1 foot below that maximum fluid level.
14	MS. GINSTER: So 'cause you're filling your plan
15	is to fill these CSAs all the way up to 98%.
16	MR. WUITSCHICK: The 98% subtracts off that 1 foot.
17	MS. GINSTER: It takes off the 1 foot?
18	MR. WUITSCHICK: Yes.
19	MS. GINSTER: And it okay.
20	MR. WUITSCHICK: Yes.
21	MS. GINSTER: And it also takes out your freeboard?
22	MR. WUITSCHICK: Yeah, that 1 foot is never intended
23	for clay storage, it's strictly to manage water, stormwater
24	and
25	MS. GINSTER: Oh, so that's taken off the top then

1	MR. WUITSCHICK: Yeah.				
2	MS. GINSTER: before you even okay.				
3	MR. WUITSCHICK: Yes.				
4	MS. GINSTER: Okay. All right. But it's on top of				
5	the constructed volume it's like you get your constructed				
6	volume, and then you have that amount on top, the 5 and the 1.				
7	MR. WUITSCHICK: Yeah, we always subtract that off our				
8	reported				
9	MS. GINSTER: Okay. All right.				
10	MR. WUITSCHICK: volume, yes.				
11	MS. GINSTER: Okay. Thank you.				
12	MR. WUITSCHICK: Thanks.				
13	Is there do you have anything else? No.				
14	Is there anyone in opposition to the application				
15	that's here today to testify?				
16	Let the record reflect that no one has come forward as				
17	an opponent against the app to argue against the application.				
18	And is there any proponents in favor of the				
19	application that wish to speak or come forward?				
20	Let the record reflect there's no proponents.				
21	And does staff require any additional time?				
22	MS. CRUZ: No, ma'am.				
23	MS. GINSTER: And as far as the applicant, do you have				
24	any final comments that you wish to share?				
25	MS. GODELIA: We appreciate staff's time working on				

this application through the RAIs and getting clarification on 1 the record. And, again, thank you. 2 MS. GINSTER: And I had one final question for you 3 4 though before you leave. When you did the original resolution, 5 it -- it appears like it was contemplated that you have to come back and ask for additional time; the language was there. 6 7 MS. GODELIA: Yes, that's exactly right. MS. GINSTER: Thank you. 8 And at this point then we'll close the final -- we'll 9 close the public hearing. And, again, I'll render my written 10 findings and recommendation, which will be filed with the clerk 11 within 15 working days from tonight, which I understand will be 12 13 October 4th. And for anyone that wants a copy, you should 14 supply the clerk with your name, address, and a stamped 15 self-addressed envelope for that purpose. And the clerk will have three working days from the date when the recommendation --16 17 the written recommendation's furnished to deliver a copy of the 18 recommendation to the applicant and the administrator. 19 And I want to thank everyone for your participation, 20 and I'd also like to add that I've been very impressed with the 21 work of both the applicant and the staff in just the work that 22 goes into the -- providing this information with all the 23 stakeholder agencies that are involved and soliciting all the

24 comments, and the ability to go back and forth between each 25 other to resolve a lot of issues. It really helps me as a

1	hearing admin hearing master, but I think it also will help
2	the county commissioners. But the time, expense, the costs,
3	it's just really incredible what you the dedication that you
4	provide to make sure that the public understands to protect
5	the health, safety, and welfare of the public. So I give you a
6	lot of credit, 'cause it just reading through this, I can see
7	how time consuming this all is for everyone that's involved.
8	But it's very, very I've worked in government for over 30
9	years, and I think you're doing a very impressive job, so thank
10	you.
11	(Proceedings concluded at 7:38 p.m.)
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1	CERTIFICATE OF REPORTER
2	
3	STATE OF FLORIDA
4	COUNTY OF HILLSBOROUGH
5	
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7	of Florida, do hereby certify that I was authorized to and did
8	electronically report the foregoing proceedings; and that the
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14	connected with the action, nor am I financially interested in
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	DATED this 13th day of September, 2023.
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18	NAL NO 6
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13	DATED this 20th day of September, 2023.
14	
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September 13, 2023				
	48:7	2018	3.1.2	
	1715	3:16 7:20	54:25	
0	36:4	10:18 11:5	3.2	
0	18	12:13 19:24	54:16	
21.5	22.19 25	32:19 43:1	3 2 1	
21:5	22.10,23	48:18,21	55.4 56.22	
	10120	49:5 53:23	30.4 30.22	
1	2.15 /2.10	60:15	J.4.4	
	3:15 42:18 50.11	2020	55:7 56:22	
1	58:11	43.4 44.14	30	
23:23 66:11,	1972	2022	6:24 8:1	
15,19 67:13,	30:9,13	E2.22	11:19 24:16	
16,17,22	1975	55:25	60:2 70:8	
68:6	19:4		300	
1,035	1994	3:1/4/:/	28:3	
43:13	30:14	48:7	35	
1.131	19th	2030	23:18	
56:21	3:16	13:13	365	
1.3		23	34:11	
54.15		23:2	3BH1	
1 2 1	Z	230742	62:17	
51.10 56.01	2	3:6		
1 2 2	4 7.10 00 01.5	24		
	19.25	34:11	4	
50:4	10.2J	25	Λ	
10	28	11:19	4	
20:24 25:14	9:23,24	250	23:11	
29:10 46:20	2,238	28:3	401	
10%	43:15	263	6:22	
10:2	20	3.7 9 4.2	44	
10-4	22:11,16	7.9 10.19	22:18 23:5	
63:16 64:14	23:13,20	11.13 16.15	4th	
100	25:25 34:8	47.11 17	44:14 69:13	
22:12,17	43:1	53.4 63.16		
11/15/2028	20-year	27	5	
65:11	22:15	23.10		
12	200	23.10	5	
24:17 49:22	28:2	2D 50.11	23:3 42:20	
66:8,9	2000	20:11	44:6,9,11	
13830	49:11		50:7,8 59:2	
8:21 20:16	2005	58:12 60:10	66:16 67:3,	
29:24	62:16		8,10 68:6	
15	2006	3	5-vear	
5:18.25 6:1.	64:20	<u> </u>	3:10 34:24	
7,10,23	2008	3	47:8	
24:17 69:12	10:19 63:13	23:11 54:8	5-vears	
15th	2014	3,000	3:16	
3:17 47.7	49.11	17:4		
· · · · · · · · ·				
	1			

Transcript of Proceedings

	F	•	
50		46:12	added
22:11	9	accordance	24:22 56:2
58		30:15 37:5	adding
23:5	900	49:13	22:24 23:7
	28:1	account	addition
6	92	30:25 50:13,	5:13 7:11
·	64:20	15	65:13
6	92%	accounted	additional
47:19	49:15	49:23	6:1,5 18:21
60	98	accurate	21:20 46:20
28:2	49:17	51:14 65:2	51:16,17
62-302.500	98%	achievable	52:25 53:9
54:9	9:24 51:18	19:22	61:6 68:21
62-302.530	67:15,16	achieve	69:6
54:9	99	19:20,21	additionally
62-672	51:18	36:16	48:10 53:15,
49:13	99%	achieving	16 54:3
62672	49:17	12:14 38:13	57:15
30:2 33:18		39:18 40:2	address
66:6	λ	acre	5:1,15 6:22
68	A	19:3 52:23	8:20 20:16
23:10	ability	acre-feet	29:24 36:4
	13:9 42:22	63:19	69.17
7	45:8 66:8	acres	addroggod
1	69:24	26:12 28:1,2	61.9
7	able	50:23 62:18	o 1.9
59:18	5:22 23:2	across	
723.01P	35:2,14	9:13 10:3	adjuct
3:6	37:23 62:9	65:4	63.10
7:38	66:7	active	admin
70:11	above	13:17	70.1
	10:9 22:13	activities	administered
0	34:3,4	3:24 46:23	5.3
0	above-ground	54:15 55:6	Administratio
8/1	26:4	activity	n
65:11	absolutely	46:19	31:24
8/1/2023	19:2 44:18	actual	administrativ
65:5,9	49:20 57:21	45:11 49:23	e
80201B2	absorbs	50:22 52:12,	18:24 19:12,
55:12	20:22	10 01:13,20	13 30:3,10
80209	accept	σ σ σ σ σ σ σ σ σ σ σ σ σ σ	49:13 54:9
60:22	7:16,17 48:2	add	administrator
84%	51:23 52:3	21.00 00.1	6:3 69:18
49:15	access	$2 \pm \cdot $	admissibility
	23:15 32:13	50:15 69.20	5:7
	accomplished		
		1	1

adopted 30:10 advantage 12:3 40:12 aerials 11:21 affected 34:25 35:4 55:9 affirm 4:17,20 agencies 69:23 aqo 22:11 24:17 25:25 agree 43:22 44:17, 18 46:5 56:20,24 57:11 agreed 34:14 44:4 57:8,9,14 59:19 agreement 57:1 agrees 43:20 53:21 agricultural 13:4 ahead 57:21 AICP 7:7 aimed 12:13 air 38:2 akin 37:22 Alafia 37:8 Allegiance 4:9,10,11 allow 6:1 10:24

12:5 47:3 52:22 55:15 allowed 6:10 10:20 24:8 53:11 allows 21:19 22:1 23:22 alternating 38:3 amend 47:17 amended 7:11 47:22 amendment 3:8,23 4:6 46:8 47:3 amendments 45:5 55:21, 23 amount 9:22 10:7,9 11:6 13:23 14:5 15:5 26:24 35:8 47:20,24 51:14 58:13 60:5 68:6 amounts 51:2 analysis 13:22 ancillary 32:11 and--67:24 anniversary 60:4,13,16 annual 32:1 33:14, 21,22,23 43:10 51:7,9 52:9 53:19, 21,23 58:13 59:18,25 60:23

annually 31:16 33:6 43:6 60:9 answer 38:20 41:10, 16 42:1 44:1 63:11 answered 50:1,17 answers 20:20 anybody 6:11 anyone 4:14 68:14 69:13 app 68:17 appears 69:5 applicable 3:17 applicant 5:24 6:15,18 49:14 55:15 68:23 69:18, 21 application 3:5,6,23 5:10,25 6:4, 7,10,11,13, 19 7:2,7,19 8:22 38:21 46:22 54:13 55:14 56:18 57:1,7 64:24 65:12 68:14, 17,19 69:1 applications 55:20,21,22 applies 56:4 appointed 3:20 appreciate 6:23 68:25

approach 4:24 40:10 appropriate 26:21 58:25 approval 6:23 7:8 17:16 30:5 42:25 43:18 46:7,13 57:13,16 59:20 approved 3:14 4:7 6:25 7:20,21 44:8 49:9,16 55:24 60:14 approximately 49:17 aquatic 54:22 Ardaman 61:16 area 9:20,21 11:24 12:11 18:11,16,19 28:12 37:11, 15 38:9 40:25 41:2,8 47:6,12 51:7 53:22 54:11 62:17 area's 41:4 areas 3:13,17 8:23 9:11,17 11:12,18,21, 23 12:23 13:13 18:10 31:18 32:12 33:4,5 36:11,19 37:1 38:6,7, 14,18 39:1, 24 40:1,22, 25 41:13 46:25 47:2,

_			1
5,9,15,16	authorized	basis	33:3,8,11,
49:8,10,11,	7:16,17 48:2	30:20,24	17,21,24
12 52:2,5	available	32:6 33:12,	34:4,7,11,
53:5.9.11.	11.6 20.11	13.14	17.19 35:1.
18 20 25		hoor	7 10 13 17
54.4 55.6 9			
54:4 55:0,9	41:19 51:12	58:9	20,22,24
56:7,9,10,	52:8 53:21	bedrock	besides
12,13 58:14	65:13,17	18:20	40:7
60:7	avoid	begin	best
argue	37:20	3:2 5:3	15:4
6:6,9 68:17	aware	beginning	better
around	35:20,22	7.6 51.1 13	10:25 11:9
27:3 31:10	avia	52.15 60.19	12.14 24
38:4	21.2 22.16	52.15 00.10	13.2 38.15
a_{a}	21:3 22:10		11.11 50.16
		53:24 58:15	52.1
01.25 04.25,	В	behaves	
25 85:19		42:3	big
asked	back	behind	15:25 56:5
7:25 11:11	7:19 9:8	56:20	bigger
43:2,6 63:23	10:25 11:5,	believe	28:19,20
64:1	19 14:20	38:22 44:9	binder
asking	15:3 20:7	48.22.25	7:6,10,11,22
42:1 51:17	$21 \cdot 1 \ 22$	57.7 58.21	46:11
asset	28.24 29.5	60.15 64.14	binders
25:21		15 10	7.3
aggodiated	09.0,24	13,19	hiochan
52.19	background	DELOW	
	7:24 36:6	22:13 60:10	13:25 14:21
Associates	balance	67:10,13	biomass
61:16	38:9 47:13,	benefication	13:16 15:5
assures	19,23 51:10	15:15 25:18	biome
37:3	bale	29:5	14:7
attached	14:23	beneficial	bit
50:22 61:19	base	36:11,25	7:24 8:22
62:16	14:6 33:12	beneficiation	14:9 20:19
attachment	based	15.20 16.11	28:3 29:8
47:18 48:11	1.7 24.12	benefit	36:5 41:8
attested	4.7 24.13		42:14 63:20
4.22			64.5
4.22	28:11,15	65:15	Plack
attorneys	41:5,23	benefited	
19:9	55:17,21	47:1	8:10 36:3
August	61:14	benefits	39:2
44:14	basically	8:11 36:14	blocks
author	31:4 51:6,16	47:15 53:8	38:8
39:9,14	60:12	Beriswill	blue
authorization	basics	8:7 24:11	22:9,23
48:6	9:1	29:20.21.22	board
		32:20.24	3:15,20 4:5

48:8 49:9	53 : 1	central	chief
55:24 57:17	call	8:6 11:20	6:24 8:10
60:8	9:2,16 36:19	55:18	choose
boats	43:14 62:22	certain	27:11,17
42:5	64:8 67:12	26:19	chunk
BOCC	called	certainly	17:10
45.10	38.25	28.13	Circa
hodiog	apparition	aartified	0.21 20.16
27.2		certified	0:21 20:10
37:3	01:20	03:2	29:24
bottom	capacity	certify	circumstances
10:5 21:3	3:18 12:23	51:2	39:23
22:16 27:23	17:19 21:20	cetera	clarification
38:6 59:3	23:19,22,23,	23:6,24 33:5	42:15 65:25
Boulevard	24 24:8,24	change	69:1
36:5	26:24 27:5	44:25 45:3	clarifies
boundary	28:23 39:5,	46:1 48:16	7:15
12:2	6,7 47:7	59:15,17,23	Class
break	48:4,6	60:2	54:8
21:13	49:17,24	changed	clav
briefly	50:14,21,22	11.18 12.22	2.11 12 17
6.14	51:14 52:7,	24.25 49.6	2511, 12, 17, 25, 2.2
	12,24 53:21	58.18 21	250.259.5
bring	61:13,17	30.10,21	$\begin{array}{c} \mathbf{D}_{1}, \mathbf{D}_{2}, 1 \mathbf{L}_{1}, \mathbf{L}_{2}, \\ 1 \mathbf{D}_{1}, 1 \mathbf{D}_{2}, \mathbf{D}_{1}, \mathbf{D}_{1} \mathbf{D}_{1} \end{array}$
19:7 23:10	62:2,17,19	changes	13, 17, 20, 21,
broader	64:9 66:16,	55:16	22,24 10:2,4
9:15 40:22	20.23	changing	11:12,16,18,
bucket	capture	44:24	22 12:6,11,
16:3	13.18	Chapter	20,21,22,23
build		49 : 13	13:7,13
18:6 24:18,	carbon	charcoal	14:16 16:2
19.20 25:14	13:12,16,18,	14:4	18:10,11,13,
building	23 14:1,6	charcoal-like	15,19,21
12.7 20	care	13:25	19:6 20:6,
±2.7,20	15:5	charges	19,20 21:6
11 12 1C 00	carry	5.20	22:4,8,16
10 0 10 15	58:16 59:3	5.20	23:3,7 24:3
18:2,10,15	case		26:16 27:12
25:9,19	5:10,25	51:24	28:17 29:15
61:24	6:18,24 8:9	chart	31:18 34:15,
bus	18:13 19:3	20:25 61:17,	17,21 35:9
41:14	36:12 37:6	19 62:6,11,	37:1,11,14,
business	cases	12,15 63:12	16 38:4,6
8:20 20:16	64.23	64:24 65:9,	39:1 42:1,3
29:24 36:4	cattle	16	43:3 46:25
		charts	47:1,5,6,9,
C	$\pm 3, 3, \pm 3$	50:21,23	14,15,16,20.
	caugnt	51:7 52:9,	24 49:8.10.
aslaulsted	58:4	11,21 62:5	11,12 51:2
		63:25	7,10 52:2.5
JU:19,21			.,,, .

53:5,8,10, 18,20,22,25 54:4,10 56:7,10,11, 12 58:13 60:5,7 62:17 63:9 65:10 66:20,23 67:23 clays 7:16,17 21:8,10,18 22:1 24:4 27:18 42:5 45:8 47:4,13 48:2,6 52:5, 6 53:6,16 55:19 clear 62:4 clearly 8:14 clears 65:22 clerk 4:25 5:6,9, 16,18 7:4,14 48:14 69:11, 14,15 close 10:1 21:2 69:9,10 closing 42:11 code 3:23 4:8 5:24 18:24 19:12 30:3, 10 49:13,21 50:13 54:9, 18 55:12 59:21 60:21 66:3,12 collectively 21:18 23:12 color 53:5

column 65:4 combined 3:10 4:1,7 22:13 come 10:1,25 12:5 14:20 15:3 20:7 28:24 34:15,24 42:11 45:10 68:16,19 69:5 comes 9:9,20,22 10:2 16:3 28:4 38:18 47:7 comment 51:1 59:18 63:1 comment's 51:4 comments 5:3,11 68:24 69:24 commingled 29:16 commission 10:18 11:10 Commissioner 46:2 commissioners 3:15,21 4:5 48:8 49:9 57:17 60:9 70:2 commits 47:19,23 committed 13:12 common 40:10 commonly 31:12 compaction 31:6

companies 11:20 12:4 comparable 62:12 compare 58:3 comparing 62:5 comparison 63:19 competent 54:14 competitor 12:2,3,5,6,7 complete 3:11 46:24 47:1,15 53:8 compliance 8:9 12:19 35:19 43:19 55:23 56:19, 21 59:20 complied 57:5,8 complies 30:12 comply 30:19 component 56:5 composite 3:9 4:1 47:17,18 comprehensive 7:9 30:1 43:20 46:9 54:17 56:1, 17,19 compute 63:21 Con 53:4 concept 8:5 39:25 conceptual 22:7,20

concern 51:5,21,22, 25 63:7 concluded 70:11 condition 37:21 42:23 43:3 44:8 conditions 31:3,7 42:17 43:18,20 46:5 48:25 53:13 57:13, 14,15,20 conduct 21:10 34:21 conducted 30:20 31:8, 17,20 33:12, 13 53:23 conductivity 21:10,17 conducts 54:3 confinement 37:15 confirm 5:2,4 17:25 19:7,10 32:5 66:4 confirmed 64:25 conformance 32:6 confused 62:25 confusing 45:21,22 connect 41:2 connection 41:1 conserves 54:21 considerable 11:6

considered 55:14 59:5 consistency 7:8 60:19 consistently 63:24 consolidate 21:18 22:1, 17 28:24 37:16 consolidated 3:9 10:19 12:9 20:9 22:25 24:22 28:25 47:11 53:4 63:16 consolidates 23:7 consolidation 21:8 23:4,23 24:3,6,25 28:11 29:11 38:14 40:23 55:20 65:13 construct 10:13 17:17 18:13 25:4 48:10 53:15 constructed 10:11 11:7 16:17 17:15 18:18 27:1 61:21 62:23 64:8,9,25 65:6,20 68:5 construction 11:13 12:1 30:11,18 31:18 49:10, 14,16 65:1 consulting 36:3 consumed 65:10 consuming 70:7

cont 38:8 contact 13:9 containment 65:7 contemplated 26:24 69:5 content 13:9 40:11 42:4 context 35:17 contiquous 38:8 continually 25:23 continue 12:12 24:9 44:25 46:23 53:20,21 continues 45:2 contouring 56:6 contribute 10:16 56:8 contributors 17:14 control 21:18 36:12 convert 14:21 16:8 coordination 16:18 copies 5:17 52:21 59:1 copy 7:4 69:13,17 corner 31:1 Corners 3:7 4:2 15:24 16:13, 14 34:8

corporate 16:25 17:9 correct 26:5 27:13 32:21 33:14, 21 46:3 58:5 59:14 61:2 62:8 corrective 32:25 54:2 correspondenc е 44:7 61:14 cost 5:20 costs 18:17 70:2 Counsel 6:21 countermeasur e 38:13 counties 7:18 16:19 48:19 49:6 county 3:12,15,20, 21 4:5,25 5:20 6:3 7:18,19,20 9:7 11:7,14, 16,21 12:13 16:15,16,22 17:6,8,12 24:14 27:15 31:25 32:3 33:20 34:15 39:2 43:4,6, 13,16,17 46:2,17,25 47:5,10,13, 21,25 48:1, 2,6,7,8,16, 17,20,22 49:1,7,9 51:23 52:1 53:6,7,17,18 54:3,17

56:20 57:15, 17 58:15 59:1 60:6,7, 8,9 61:14 62:20 63:1, 8,9,16,23 64:1 70:2 County's 3:13 51:23 60:5 couple 15:11 17:10 20:8 42:13 course 32:9 45:7 court 5:12 cover 8:3,5,8,11 51:5 covered 7:1 30:2 61:9 create 18:12,20 22:4 46:22 created 48:13 62:19 creates 14:3 52:7 creating 18:17 credit 70:6 creek 37:6,8 crest 67:11 criteria 4:8 7:8 30:7,17,18 41:14 critical 31:3,7 crops 13:18,21,24 14:16,18,24

Transcript of Proceedings September 13, 2023				
<pre>cross-section 37:10 Crossing 8:21 20:16 29:24 crushed 33:5 Cruz 46:15,16,22 48:17,24 49:3,5,20,25 50:3,8,11, 16,19 51:3, 6,16 52:4, 14,19,22 53:3 56:5,16 57:3,11,13, 21,23 58:7, 18,23,25 59:7,10,14 60:3,12,24 61:2,5,11 68:22 CSA</pre>	31:4,10 32:22 34:2, 25 35:5 36:15 39:6 42:22 45:8 48:10 52:13 61:13 65:6 67:15 cubic 29:11 current 18:2,4 30:9, 15 47:8 58:10 59:2, 24 65:10 curve 20:25 28:23, 24 customary 40:15 cuts 9:8 11:25	14,15,17 day 34:11 days 5:18 34:11 60:2 69:12, 16 decant 10:4 40:11 decline 21:5 declined 22:23 decreases 22:2 dedication 70:3 deeper 38:3 defer 52:22 defined 43:4 54:8 60:1	<pre>department 6:4 30:6 31:23 32:2 50:3 54:5 59:1 60:5 depend 62:22 dependant 51:24 depending 28:6 depicted 53:4 deposit 21:20 22:8, 13 23:10 27:11,18 37:14 48:6 52:5 deposited 22:17 35:9 58:13 60:6 depositing 53:6,16</pre>	
68:22 CSA 8:3 10:2,3, 4,6,7,8,15 11:24 12:1,7 14:11 19:23 22:13,20 23:3,19,22 24:8,18 25:3,9,17, 19,24 26:24 27:25 28:15, 20 32:7 48:1,3,5 61:17 CSA's 11:9 CSAS 7:15,16 9:17 10:20,21 12:17,19 13:2,4 17:15 18:1 20:10 21:25 22:5 24:2 28:1 30:2,14,23	D dam 10:9,13 30:13 53:23 dams 31:11 37:15 darker 22:23 dashed 22:15 23:1 data 43:2,3,6,9 date 3:3 12:17,18 31:21 44:19 45:10 59:25 60:16 69:16 dated 3:16 44:14 64:20 dates 44:21,24,25 45:2,3,11,	60:1 definitely 36:14 41:12 deforms 21:13,14 degenerate 14:7 deleted 57:25 58:17, 20 59:5 deliver 38:9,10 69:17 delve 36:10 demand 18:16 denied 4:7 dense 41:15 density 13:6,14,15 22:2	deposition 3:11 47:3 depressions 39:6 depth 28:2 described 39:21 describes 7:7 describing 7:2 design 3:18 17:17 30:7,10,11, 17 31:17 32:6 39:5 47:6 48:4,5 49:14,16,23 50:14,21,22 52:12,24 53:11 62:17, 22	

Transcript of Proceedings September 13, 2023				
designed	differences	44:13 47:20,	7:9 10:19	
26:21 27:1,2	58:4	24	11:4,13	
30:6,14	different	disposed	16:12,15	
37:1,4 49:12	9:13 10:8,20	47:21,25	47:11,17	
61:24	28:3,13,25	distinctly	50:22 53:4	
designer	33:8 37:6	40:1	63:16 64:13	
67:9	44:22 48:11	distributed	drive	
designing	50:23 52:9	36:23	8:21 20:16	
39:20	60:25 61:20	ditches	36:17	
desirable	64:1	32:14	driven	
36:17	differential	diversity	10:6,7 28:12	
desire	11:10 38:14	53.9	driver	
5:22	40:23	division	28:18	
detail	difficult	46.17 55.13	drives	
15:10 46:11	14:17	17,24	13:2 39:25	
53:1 56:22	dilute	document	dropping	
64:13	9:22 20:6	4:1.7 5:5	21:7	
details	diminishing	7:22	dry	
56:25 57:6,7	24:7	documentation	14:18,19	
58:4	directed	5:13 46:6	21:17 28:20	
determine	37:4	documents	41:4,22,24	
41:14 61:21	directing	5:11.16.21	drying	
determined	37:2	doing	28:8,10,16	
3:12 47:4	direction	12.13 19.18	due	
53:7,17	31:13	25:15 34:2	59:18,25	
determines	director	70:9	dumped	
23:22	8:2,4,19	doubled	24:13	
developed	20:15	23:19	dynamics	
39:2	discharge	draft	28:13	
development	54:7,10	7:11 45:12.		
3:9,23 4:2,8	discharging	13 48:22		
5:24 7:9	56:8	50:10 61:9	E	
47:18,22	discreet	dragline	earthen	
53:10 54:17	38:7	9:2 15:25	25:5,6	
55:12 59:1,	discrepancies	16:3	easier	
21 60:5	52:20	drain	34:3	
61:20 62:15	discrepancy	33:5	East	
63:13 66:12	65:3	drainage	6:22	
diagram	discuss	37:2,4,23	ecology	
9:19,21	6:14 11:8	38:16 40:3	54:22	
diagrams	62:10	53:12 56:7	economic	
37:10,21	discussing	drape	53:10	
dictate	18:1	37:16	ecosystem	
32:11	discussion	drawing	36:4	
difference	12:12	61:23	Edition	
52:23,24	disposal	DRI	63:16	
63:20	19:14 37:15	3:7,9 4:1,2		

edits 48:13 effect 34:14,25 35:4 58:1 effective 28:1 40:15 55:11 effort 12:12 either 43:8 Ekblad 7:7 Element 54:16 55:5,8 elevation 37:19 39:18 40:3,14 65:7 67:11 elevations 36:16 elimination 54:6 embankment 31:12 EMEC 38:24 emergency 44:20 employees 17:11 43:13, 14 enable 53:13 enables 36:16 encapsulated 18:14 encourage 12:16,22 end 9:13 11:4,23 14:18 21:4 37:22 51:18 60:18 63:10

ends 3:16 11:24 14:4 engineer 31:17,21 33:14,16 36:6,7 engineering 8:8 29:23 31:14 engineers 30:7,22,25 31:15 41:11 67:9 enhances 54:21 ensure 11:14 43:19 54:7 55:8 ensuring 54:22 enters 9:21 entire 9:14 12:9 64:11 envelope 69:15 environment 14:3 38:10 environmental 30:6 31:24 32:2 36:6,25 46:16,17 50:4 54:6,16 55:4,7 EPC 34:24 42:22 equals 27:15 erosion 25:10 31:5 32:12 error 7:13 essence 66:9

essential 38:12 essentially 10:22 14:1,3 establish 67:9 established 53:18 establishing 32:8 estimated 47:13 49:14, 16 et 23:6,24 33:5 evac 55:9 evaluating 39:19 evaporation 28:11,12 evening 3:2 8:18 20:14 29:22 35:25 36:1 46:15,21 eventually 20:9 21:17 22:16 23:9 everyone 69:19 70:7 everything's 59:20 evidence 4:17 5:6 46:6 54:14 evolved 8:25 evolving 44:22 ex 45:2 exact 26:1 66:6 exactly 69:7

excavation 55:9 exceedances 31:6 exceeded 54:10 executive 45:9 exist 33:4 existed 11:25 existing 7:9 11:11 42:18 exists 13:1 expanding 12:21 expands 20:23,24 expected 39:5 expense 18:12 70:2 experience 31:17 experienced 30:21 expert 7:6 46:10 expertise 41:8 experts 7:24 8:14 expiration 12:17 65:11 expire 48:7 expires 47:9 explain 10:21 52:23 56:4 explanation 10:25 64:22

Transcript of Proceedings September 13, 2023				
<pre>explicitly 48:20 expressly 48:8 extend 24:1 45:10 extended 24:1,2,24 48:8 extending 21:25 23:19 extension</pre>	<pre>facility 9:6 39:24 factor 28:17 factors 10:8,15 failure 18:4 failures 30:8,12,13, 17 familiar</pre>	<pre>figure 59:22 file 5:9 59:24 filed 7:14 69:11 fill 10:23 11:24 12:5 13:2 19:20 20:5,7 22:24 23:1, 11,14,20</pre>	16 65:25 68:24 69:3,9 finalized 44:24 finally 8:9 38:10 43:12 find 38:23 56:18 finding 15:6 findings	
<pre>extension 3:11,16 45:1,4 extensions 45:9 extent 55:2 extra 6:23 18:19 56:2 extracted 3:12 53:17 extreme 31:6 extremely 15:1 18:3</pre>	<pre>imiliar 30:3 39:7,23 far 15:1 18:23 43:5 56:17 58:5 68:23 fast 21:18 favor 6:6,7 68:18 FDEP 30:10 67:5 FDP 33:20 feature 41:2 features</pre>	24:9,18 27:23 28:2,5 36:21 37:12 38:7 39:1 41:5 47:14 49:15 52:17 53:11 65:15 67:15 filled 11:23 12:23 28:22,23 39:6 48:14 62:21 filling 8:6,11 10:20,22 12:16 15:0	<pre>4:4 6:4 32:1 56:1 69:11 fine 61:3,10 firm 36:3 38:23 first 3:19 4:25 5:5,24 7:10 8:1,17 22:9, 18 23:16 24:5 47:8 48:18 59:6,7 62:12 Fish 16:23,24</pre>	
F F4 3:13 47:10 48:1 49:8 F5 3:14 47:10 48:1 49:8 F7 3:14 47:11 48:1 49:8 F8 48:10 facilitate 32:4,10 facilities 15:18 16:5 25:1 30:24 34:7	25:12 feet 22:12,17,18, 25 23:5,10 28:2 50:7,8, 23 52:23 62:18 66:16 67:3,10 fell 60:16 felt 60:19 fenced 26:6,8,12 fertilizer 3:5,8 16:6 fertilizer's 15:18 46:18	20:18 21:23, 24 22:10 32:7,9 34:19 36:11,15 37:3,23 38:12 39:5, 18,22 40:9, 22 52:6 53:10 67:14 fills 31:12 filtering 38:11 final 3:11 5:17 6:16 23:3,17 24:8 37:19, 24 41:3 46:25 47:3,	<pre>five 6:3,15,16 19:25 24:21 42:25 47:8 62:6 fixed 28:4 fixes 7:15 flat 14:12,15 flatten 24:5 Flexibility 55:14 flexible 6:8 55:13 Florida 8:21 11:20</pre>	

13:8,12,20, 22 17:4 18:24 19:12 20:17 30:1, 2,5,9 31:23 32:2 36:5 49:13 50:3 54:5,9 55:18 flows 10:3 fluid 67:9,13 fluvial 36:8 focused 13:5 folks 8:13 17:20 follow 23:1 35:14 follow-up 6:14 following 5:18 follows 47:23 foot 29:11 49:22 66:11,15,19 67:8,13,16, 17,22 footprint 10:8 11:6, 11,15 12:11, 20,21,24 forage 13:6,14 forever 65:8 form 9:10 16:8 forth 4:8 5:23 50:4 69:24 forward 7:3 42:23 65:11 68:16,

19 four 3:7 4:2 15:24 16:13, 14 24:21 34:8 fraction 47:4 frame 55:13 framework 30:2 free 12:4 freeboard 50:5,9 66:1, 17 67:3,21 Freshwaters 54:8 front 7:15 10:17, 18 21:4 43:11 46:11 full 3:18 11:9 19:22 22:14 39:6 47:6 48:3,5 49:15,17,24 50:14 51:14, 18 56:11,12 62:2 fully 30:6 53:13 56:12 function 36:21 40:2 functions 36:25 37:24 54:23 55:3 furnished 69:17 future 43:10 54:24 64:1

G game 24:6 general 8:23 generally 7:18 18:10 26:8,16 53:25 67:10 generate 36:22 40:12 geography 36:17 geomorphologi st 36:8 geotechnical 8:5,8 20:15 29:23 30:21 41:11 getting 40:21 45:21 65:14 69:1 Ginster 3:2 4:12,21 6:20,25 15:11,14,19, 23 16:10,14, 21,24 17:2, 5,15,21,24 18:5,23 19:5,11,16, 24 20:3,12 24:12 25:2, 6,17 26:2,4, 6,10,14,23 27:4,8,14, 17,20,22 28:7,15,19 29:1,4,14,18 32:17,22 33:2,6,10, 15,19,23 34:1,6,10, 13,18,23

35:3,8,11, 16,18,21,23 36:1 38:21, 25 39:4,9, 13,16 40:4, 7,16 41:4,9, 21 42:8,13, 16,19 43:22, 24 44:3,6, 11,16,20 45:6,11,15, 17,20,23 46:1,4,14,21 48:15,21 49:2,4,18,21 50:2,6,9,12, 18,20 51:4, 9,20 52:11, 15,20 53:2 55:25 56:15, 17 57:5,12, 19,22,24 58:8,20,24 59:2,9,12,15 60:11,21,25 61:3,7,12 62:2,8,14,25 63:7,14,22 64:3,7,13, 16,18,21 65:2,18,21, 24 66:2,11, 14,18,22,24 67:1,5,7,14, 17,19,21,25 68:2,4,9,11, 23 69:3,8 give 4:18 5:1,5,6 6:8 9:1 10:25 11:17 12:3 14:8 21:19 56:24 57:6,7 61:17 64:5 70:5 qiven

42:4 61:19

	Transcript of September	Proceedings 13, 2023	
giving	gradients	half	hearing
5:15 12:4	26:21	16:14,15	3:3,4,21,22
27:10 62:13	granted	23:9	4:14 5:12,
qoal	46:21	hand	19,23 6:20
46:12 54:15,	graph	4:15,22 15:8	7:12 8:18
19,25	20:23 21:5	23:15 29:10	10:18 35:5
goals	22:9,11,14,	31:1	42:13 46:15
46:8	23 24:5	handle	48:9 62:4
Godelia	grazing	50:25 52:16	69:10 70:1
6:20,21 7:1	13:8	hands	heat
42:11,12,17,	great	8:14	14:1,2
20 43:23,25	64:13	happen	height
44:5,10,15,	greater	28:25	10:9 22:8
18,25 45:7,	15:10 20:24	happening	held
13,16,19,22,	56:13	11:5	12:20
25 46:3,5	greatest	happy	help
62:1,3,9,24	55:2	6:1 38:19	32:4,10,11
63:6,11,15,	areen	hard	70:1
23 64:4	53:5	23:18	helps
65:25 66:3	ground	Hardee	59:16 69:25
68:25 69:7	18:11,22	3:12 7:17,19	hemp
goes	20:21 25:25	17:13 45:8	13:20
9:5,8,11,25	34:3,4 36:20	47:5 48:2,6,	high
16:3 69:22	37:14,17	16,17,20,22,	8:22 14:2
going	groundwater	25 49:7	36:20 38:11
5:14 7:2	54:23 55:3	51:23 53:6,	40:11
10:13 11:5,	group	7,17	high-density
15 20:17	31:14	harvest	26:17
good	grow	14:20 15:3	higher
3:2 8:18	13:15 14:19,	Hawk	13:7 22:1,2
19:11 20:14	22	16:23,24	26:20 38:3
25:4 29:22	arowing	HCTV	highly
35:25 36:1	13:23	5:14	21:12
45:1/ 46:15, 01	grows	HDP	hill
∠⊥ Qotabo	13:7 15:1	26:17	14:13
Gotcha	growth	he'll	Hills
46:4	18:14	8:11	60:6
	quess	headquarters	Hillsborough
25:15	18:5 34:8	17:1	3:12,14,20
government	49:22 56:17	health	9:7 12:13
/0:8	62:22	31:24 70:5	15:16 16:22
governor		healthv	17:5,8,9,11,
45:1		14:7	12,13 31:25
grade	н	hear	32:2 34:15
10:9 22:13	hahitat	6:2 8:1.4.7	39:1 43:13,
4U:14	53.9 55.0	heard	14,16 46:16,
	56:9	46:6	25 47:5,10,

13 48:1,7 49:9 51:23, 25 53:17 54:3,17 56:20 57:14 58:15,25 60:6,7,8 62:20 63:9, 15 hire 33:15 historically 13:4 24:16 history 10:17 39:19 hit 22:12 hold 3:22 13:9 21:11 64:9 holding 38:15 holds 20:6 home 43:14 Horse 37:8 hours 34:11 house 25:13 huqe 13:13 Hurricane 31:2,4 hydraulic 21:10,17 hvdro 36:17 Hydroecology 39:1 hydrologist 8:10 35:6, 12,14 58:15, 18,21 59:11

September 13, 2023 hydrology 12:24 19:21 36:9,18 57:24 hydrolyzed 43:2 hypothetical 22:8,12,20 hypotheticall У 23:13,14 Ι Ian 31:2,4 idea 11:17 14:11 identical 33:20 46:24 identified 3:13 43:18 identify 32:12 illustrate 65:16 image 31:1 images 37:11 38:1, 2,6 imagine 63:10 immediate 54:2 immediately 20:24 implement 46:8 important 31:2 40:3 impressed 69:20 impressive 70:9

improved 53:9 56:13 improvements 55:2 improves 38:17 54:21 56:9 inches 49:22 66:1, 8,9 include 5:11 43:15 45:15 47:10 48:25 53:9 58:14 66:9, 19 includes 3:25 6:12 45:13 56:25 including 30:5 inconsistent 50:24 incorporate 55:22 incorporated 57:16 increase 11:15 incredible 70:3 incur 18:17 independent 37:18 index 34:20 indicated 40:16 53:24 56:23 57:5, 10 indicates 49:14 indicators 64:4 industry 12:10 22:10

Transcript of Proceedings

24:16 39:20 40:8 54:1 55:18 information 5:22 35:6 51:17 52:25 58:14 60:8 61:15,16,18, 22,24 63:2, 18 69:22 infrastructur e 53:16 initial 23:20 input 15:2 30:23 inspect 31:10 inspected 34:5 inspection 30:18,20 31:16,18,22 32:14,21 33:7 inspections 25:12 31:13, 23 32:10,17 33:4,9,11,12 34:2 53:23 54:4 inspector 31:19 inspectors 30:21 instance 3:25 instituted 30:18 intended 40:2 65:9 66:10 67:22 intent 46:22 55:23 inter 9:25

September 13, 2023			
<pre>interest 55:16 interfluve 37:25 interfluves 36:19,22 37:7 39:25 40:2 interim 32:7,9 interior 37:14 intermediary 9:25 interrupt 49:18 interview 32:16 introduce 7:23 invite 6:17</pre>	September 17:7 job 70:9 jobs 17:2,4,14 43:12 Joe 4:25 John 8:10 32:16 36:2 joint 25:22,23 jump 14:9 K keep 23:7 25:8 31:21 60:19	<pre>13, 2023 know 5:16,19,20 9:19 11:17 12:16 20:11 21:1,23 22:5 23:7,9 24:16,18 25:9,10,14, 15,21,22,25 26:13,14 28:1,2,5,13 29:11 35:11 37:6 39:17, 23 40:10,12, 20 41:4,11, 12,16,19,21, 22,25 42:1, 2,6,7 44:3 50:3,13,25 51:13,22,25 52:16,18 57:24 58:7 59:7 60:12</pre>	48:10 L6 48:10 Lakeland 18:9,14 lakes 11:22 land 3:22 4:8 5:24 8:2,20 9:15 10:11 13:3 14:13, 15 38:17 54:17,20 55:9,12 59:21 66:12 landform 37:24 lands 13:8 landscape 9:14,15
<pre>invite 6:17 involved 32:17,20 34:15 69:23 70:7 isolated 26:18 40:20 issue 4:4 41:25 50:12 issues 9:16 45:23 63:3 69:25 items 32:25 iteration 42:24 63:13 Jackson 6:22 jar</pre>	31:21 60:19 keeper 5:9 Keith 8:7 25:7 29:20,22 kept 44:21 Kiefer 8:10 19:23 32:16 35:13, 25 36:2 38:24 39:3, 8,11,14,17 40:6,9,19 41:7,10 42:10,12 Kim 43:8 46:16 kind 20:25 23:6 24:5,6,7,22 26:14 37:4, 11,12 40:10	57:24 58:7 59:7 60:13 62:14,18 63:3,9,18 64:8 65:4 knowing 56:11 knowledge 56:11 known 31:12 L1 3:13 47:10 48:1 49:8 L2 3:13 47:10 48:1 49:8 L3 3:13 47:10 48:1 49:8 L4	9:14,15 12:25 13:3 14:14 language 7:18 47:22 48:11 58:11, 17 60:1 66:7 69:6 large 17:10 38:8 largely 23:21 largest 17:14 latest 15:6 law 18:25 19:10 lay 66:5 layer 9:13 lead
21:16 jeez	knob 40:13	48:10 L5	36:4 leave 15:11 21:16

Transcript of Proceedings

	Transcript of September	E Proceedings 13, 2023	
69:4 left 20:23 22:7 23:15 29:9 37:12,17 52:1 63:8	37:7 41:8 42:14 45:21 62:25 63:20 64:5 live 17:10,11	69:25 70:6 love 19:9 low 21:10 37:18 lower	56:3 66:21 manager 8:8 29:23 Manatee 16:15 37:7 manner
21:25 level 8:23 41:23 53:11 67:9,	17:9,10 LLC 3:5,8 located	22:3 31:1 	54:20 55:11 manufacture 13:25 manufacturing 9:6 15:17,
10,13 level's 10:23 levels 31:11 32:5	16:21 47:11 location 3:3 26:19 locks	15:25 Madam 8:18 46:15 made	19,22 16:5 map 36:19 mark
7,9 licensed 36:6 life	Lonesome 3:7 4:3 long 20:6 21:2,16	15:18 26:15, 17 42:24 48:19 61:17 mail 5:17	5:6 marketable 16:7 mass 3:11
23:20,25 24:1,17,23 25:1,3 44:13 light 22:8,22	25:2 39:19 longer 21:20 27:24 look 5:7 11:21	<pre>main 16:21 37:9 maintain 32:13 66:7</pre>	<pre>master 3:21 6:20 7:12 8:18 10:18 42:13 48:9 62:4</pre>
limit 23:25 24:4 limited 55:9	18:9 20:23 22:14,22 23:12 29:8,9 36:18 37:21	<pre>maintained 25:22,23 26:1 54:24 maintenance 25:8,13,15</pre>	70:1 match 7:19 50:24 material
line 16:16,20 22:15 23:1, 15,25 24:5 line's	58:10,24 59:23 looked 12:10 58:16 62:6	31:5 32:10, 13,14 33:1 54:2 make	10:10,12,14 14:2 20:20 26:14 materials 12:15 26:22
29:8 lines 26:16,20 liquid	looking 14:18 15:4 22:21 23:14 64:7	4:4 6:14 9:14 27:14 42:11 57:9 59:20 62:12 63:3 65:5	40:10 46:6 matrix 9:2 16:1 matter
9:10 Lithia 8:21 20:17 29:24	looks 14:11,13,14, 22 25:9 38:1 lot 11:19,21,22	66:18 70:4 making 56:10 manage	35:5 maximize 55:1 maximum
7:24 8:22 10:22 15:2 20:19 28:3 29:8 36:5	12:1,19 16:7 17:8 26:11 38:11 40:19 51:11 58:4	Managed 54:20 management 8:3,20 55:1	67:9,10,13 mean 26:11 51:25 52:20 64:7

	1	-	
means	mine	model	moved
13:14 21:11	3:6,7 4:2,3	42:6 65:12	42:23
52:16 64:9,	9:1,8 11:25	modeling	moves
10	12:2 15:20,	34:21	10:3
meant	21,22,24	models	mow
12:20	16:6 19:3	42:2.3	14:23
measure	20:21,22	moisture	mowed
61:18	23:25 24:17	13.6	25.11
meagureg	31:24 39:3	13.0	
18.20	44:13		22.10 22.E
mooguring	mined		32:10 33:5
E2.17	10:11 11:24	monitor	multiagency
52:17	21:2 37:13	34:19	30:4
mealum	55:6	monitored	multilevel
14:9	mines	54:5	30:4
meet	3:9 11:20	monitoring	mystery
54:8,15	47:11 53:4	8:9 25:8	14:12
meeting	63:16	29:25 31:8	
57:18	mining	32:4,18	N
meets	3.5 21 24	monitors	
7:8	11.3 40.15	54:11	name
Memorandum	43.19 46.9	months	5:1 8:18
38:25	10 47.10	60:17	20:14 36:2
mention		Mosaic	46:16 69:14
29:7 38:22	J4.14 JJ.J,0	3:5,8 6:21	national
mentioned	mining-	8:20 12:9	36.3 54.6
22.6 62.19		17:14 20:16	
mot	3:24 46:23	30:12 31:9,	
56.24 57.8	minute	10,20 40:7	
mothodologica	11:8 58:9	43:20 44:4	50:24 50:10
	minutes	46:18 47:19	navigate
	5:25 6:1,3,	48:2,10	14:1/
methodology	8,10,15,16,	50:1,17	necessarily
55:17	23,24 8:1	52:4.22	19:19 28:21
methods	46:20	53:6,15,19,	39:11
30:8 55:15	mix	21,24 54:7,	necessary
middle	17:12 29:15	11 56:2	18:13 59:5,9
10:10,14	mixed	57:2,9,14	60:19
14:25	16:2 20:22	59:19 60:4,	need
Miller	21:6	17 61:8,12	5:1,19 6:2,
6:21	mixing	Mosaic's	5,8 8:17
million	27:10	8.2 4 7	10:21 32:12,
22:20 23:2,	mixture	43.14 56.5	25 33:5
3,10,11,16,	9:2	20	36:16 51:14
18	Mmhmm	MOSE	53:15
minded	27.13 19	17.02	needed
7:17 10:12	34.18 50.11	4/:23	34:21
48:2	63.6 67.1	move	needs
	05.0 07.4	/:3	43:9
1			

	Transcript of September	f Proceedings 13, 2023	
<pre>network 38:16 neutrality 13:12 never 18:4 67:22 normal 18:11 North 36:5 note 31:3 32:25 33:4 43:17 noted 7:12 31:3 34:13 58:3 59:17 notice 5:16 noticed 3:4 67:2 noting 30:7 November 3:16,17 47:7 48:7 60:14, 15,16,18 NPDES 30:5 NPDS 50:4 number 5:7 10:7,19 11:12 13:21 17:8 18:9 22:5 23:18 42:6 51:13 52:15 64:1 numbered 44:9 numbers 21:3 43:5 50:24 51:1, 21 52:2 61:13 63:4,</pre>	Transcript of September numerical 64:4 nutrient 13:9 nutrients 13:6 0 0 0 0 0 0 0 0 0 0 0 0 0	<pre>f Proceedings 13, 2023 13,16 40:16 41:9 42:8 43:25 44:5, 10,16,20 45:6,20 49:4 50:2,18 52:19 53:2 56:5,15 57:12 59:12, 13,16 60:3, 12,21 61:1, 3,4,10 62:3, 9 63:22 64:3 65:2,18,21 66:14,22,24 67:19 68:2, 4,9,11 once 31:8,9 34:5 one 9:7,21 10:2 15:15 16:5, 8,10,12 17:23 24:14, 19,20 25:14 28:3,9 33:23 34:13 42:21 43:24 44:7, 13,16 45:24 48:23 54:15, 19,25 55:10 56:2 59:25 60:25 63:25 64:18 65:7, 25 68:16 69:3 ones 33:24 37:9 ongoing 31:19 open 3:2 operate 12:12 34:6 operated 49:12 54:1</pre>	<pre>11:20 15:25 32:7 47:18 67:10 operation 3:24 9:7 30:11 32:4, 13 49:10,12 55:5 operational 30:23 67:12 operationally 67:11 operations 13:12 15:21 24:1 60:23 operator 31:19 operators 31:9 opponent 68:17 opponents 6:9,11,13 opposition 68:14 options 53:10 order 4:2 7:9 44:20 45:9 47:18,22 50:22 55:15 61:20 62:15 63:13 ordinances 35:19 original 20:25 23:4 25:24 61:22 63:12 64:15, 16 69:4 originated 47:4</pre>
24 64:20	35:3,10,16, 21,24 39:4,	<pre>operating 3:10 4:6</pre>	outcome 38:13

	'l'ranscript of September	13, 2023
outcomes	parties	50:4 55:14
39:21	6:12	permits
outfalls	party	10:20 54:7
54:11	32:24 53:24	55:21
outlined	pass	permitted
57:14	21:12	11:3,12
outperforming	passed	permitting
15:6	10:19 32:19	30:4
output	past	person
27:3	42:25	- 17:18
outside	pasture	perspective
41:8 45:8	14:15	13:4
60:6	pattern	pertaining
oversight	37:13 38:17	41:18
30:22 31:14	PE	phase
oxygen-poor	51:1 58:19,	21:8 37:12
14:3	21 63:2	phases
	peak	55:8
П	29:9	phonetic
P	pending	38:24
m a	43:11 45:5	phos
70.11	people	55:18
	41:10	phosphate
42·20 58·7	people's	3:4.6.21.24
59.2 65.6	11:15	9:3 16:2,4
naragraph	percentage	29:4 43:19
44.21	27:10 61:18	46:9 47:4
narameterg	percentages	48:9 55:18
	62·20 63·5	phosphatic
rj.r	performed	55:19
1.13 20.1	31.23	physics
26.13 20.4	period	39:18
20.13 29.3	34.24 47.8	pick
43:10 50:14	52.6 65.17	27:11,17
60:9 64:15	periodic	pictures
67:1	31.23	13:18 14:10
partial	periodically	piece
39:22	32.24 34.21	14:12.15
participant	42.4	36:17
6:11	nerioda	piezometers
participation	34.19	31:12
69:19	nermiggion	pilings
particular	11.11	18:20
37:3 39.15	nermit	Pinellag
$24 \ 40 \cdot 12 \ 13$	3.10 21 1.6	17:10
14 42:20	6.5 12.17	nine
44:8,17 59:4	17:16 47:18	25:22 26:19
,		

pipeline 25:24 27:2 28:4 pipelines 25:20 pipes 25:19 26:2, 15,25 53:16 piping 25:17 34:3,4 place 26:1 59:6,8 places 18:10 plan 4:15 7:9 37:5 38:2 43:20 44:14 46:9 54:17 56:1,18,19 67:14 planned 64:23 planning 7:6 13:24 46:10 plant 9:5,23 10:1 14:18,22 15:2,20 16:1,4,11, 13,20 19:17 24:23 25:18 27:3 28:4 29:6,13 planted 13:21 14:24 plants 15:15 16:8 plastic 21:12 26:18 plasticity 21:18 play 13:13 Play-doh 21:13,14

September 13, 2023 please post-4:12,15,24 reclamation 5:2,5 56:6 pleasure posted 42:10 26:7 potable Pledge 4:9,10,11 54:23 pockets potential 37:18 38:3 38:17 40:20 41:22 pour podium 31:11 6:18 Powerpoint point 7:5 7:21 20:9 practical 23:2 69:9 24:4 points practically 54:10 55:2 policies practice 12:15 56:21, 30:15,16 24 57:6,8 31:22 36:4 policy 40:5,15 12:22 18:23 predecessor Polk 30:16 9:7 11:21 predecessors 15:15 17:12, 16:17 13 prepared pollution 7:7 8:15 54:6 present polyethylene 5:25 6:4,18 26:17 46:18 ponds presentation 3:25 55:10, 6:24 7:5 19 24:10 38:19 pooling presented 39:5 32:8 43:10, portion 21 18:18 22:22, Presently 23,24 49:11 posed pressure 42:14,21 26:21 position's pressures 59:10,11 26:20 positions presume 36:18 40:1 28:10 positive pretty 37:4,23 40:3 15:2 17:9 53:12 56:7 40:3

prevent 39:5 previous 30:16 60:7 previously 3:14 primarily 28:12 30:8 36:15 primary 28:18 prior 7:20 11:19, 25 30:9 32:18 34:13 probably 22:19 43:9 61:8 64:23 65:3 problems 32:22 35:19 procedures 5:23 55:16 proceedings 5:8 70:11 process 8:12 14:22 20:24 21:4 22:3 27:8,20 28:8,24 29:1,17 30:5 processed 24:23 processing 29:10 produce 17:2 produced 24:14 27:15 47:20,24 48:15 63:9 produces 15:4 producing 42:6 product 9:4

Transcript of Proceedings

production 27:3 professional 30:25 31:15, 17,21 33:14, 16 36:7 programs 25:8 progressed 23:17 project 56:4 65:16 projects 55:1 prong 37:8 properties 20:19 28:18 42:2 property 18:16 26:8 34:20 proponents 6:6 68:18,20 proposed 43:7 46:8 47:3,9,17,22 54:14 56:3 57:1,16 58:16 62:7 protect 70:4 Protection 30:6 31:24 32:2 50:4 54:6 protects 54:21 provide 7:25 18:22 33:19,20 37:1 40:17 42:14 53:1, 11,14 56:13 70:4 provided 5:18 32:23

[
47:25 48:4,		8,19 67:1	rec
12 53:19		RAIS	12:24
55:15 57:4	Q	69:1	recall
61:15	qualifies	raise	66:6
provides	59.22	4.10.15 8.13	recent
46:11 54:13	auglity	65:6	45:4
55:13	20.11 10	raised	recently
providing	40.17 52.14	4.22 20.18	13.11
53:21 69:22	$54 \cdot 4 \ 8 \ 12$	raiging	recharge
provision	55.3 56.10	13.5	55.3
45:7	14		regited
prudent	guestion		1.11
55.5	41.10 42.1	49:15	4;⊥⊥
nublia	41.1042.1,	rarely	
	$\begin{array}{c} 2 1 + 3 \cdot 1 2, 2 + \\ 4 4 \cdot 1 7 \end{array}$	40:21	12:25 19:3
J.J, ±, 22 A.1A 5.23	49.19 25	rate	reclaimed
4.14 J.23 6.10 55.17	50.16 55.25	28:25	
69.10 70.4 5	63.12 69.3	rates	36:23 38:7
09.10 70.1,5	guestions	9:13	41:1
26.19	8.15 15.12	reach	reclaiming
zo.io	20.18 20	20:9	12:19
	20.10,20 24.11 32.15	reached	reclamation
20:25	38.20 42.14	3:18 20:10	8:11 9:9
purely	50.20 57.19	read	11:9 12:14
29:12	61:6.7.12	17:16 18:6,	13:5 14:6,8
purple	$62 \cdot 20 63 \cdot 18$	24 31:10	18:24 19:2,
53:/	mick	49:21 50:6	13,20 36:14,
purpose	21.4 28.23	56:3 64:10	21 37:5,19,
35:11 65:16	quickly	66:12	24 38:10 20.20 41.2
66:10 69:15	21.19 28.14	reading	39:20 41:3
purposed		23:18 70:6	4/:1,10 55.6 10 56.6
46:19 48:22		reads	55:0,10 50:0
53:22 57:25	R	23:15	recognized
purposes		ready	12:15
60:19	R1	8:15	recommendatio
pursuing	58:11	real	n 4 F F 17
9:4	R18-129	14:12 51:22	4:5 5:17
push	53:20 54:18	reality	40:7, 12
42:5	R18129	42:7	54:13 50:23
put	46:24	reason	09:11,10,10
7:3 11:15	race	9:11 19:24	recommendatio
18:20 23:11,	15:1	52:1 63:25	(0.17
14 27:11	RAI	reasonable	
38:15 41:19,	62:5,6 63:17	5:20	
23,25 52:1	rainfall	reasoning	HS
	31:2 36:22	56:20 57:2,3	
	37:2 49:22	rebuttal	recommended
	50:12 66:1,	6:16	43:18
1			

recommends 57:13 record 4:21 5:1	regarding 19:13 48:15 57:2 58:12, 13 62:20	<pre>repairs 31:5 33:5 repetitively 39:21</pre>	requested 3:16 4:6 6:1 42:24 51:18 52:25
6:12 7:4 48:12 68:16,	63:1 region	replace 25:22	requesting 3:8
recording 5:14	regularly 25:11	7:6 33:20 35:8,12	54:2 require
records 5:10 recover	regulated 54:5 regulations	38:22 39:7, 15,22 44:9, 12,17,19	19:19 51:9 68:21 required
10:24 recreate	43:19 46:9 regulatory	46:10 51:9, 10 56:25	3:22 18:25 19:17 31:6
14:8 recycle 29:1	18:3 30:1 reiterating 23:21	57:4,15 58:13 59:22, 25 60:4,9,23	54:7 55:6,11 66:17
recycled 29:13	relate 36:9	61:15 63:23 67:2 report's	requirement 35:6,17 66:1
reduce 10:21 12:10, 23 22:5	<pre>relationship 56:1 release</pre>	59:18 reported	17:17 37:5 50:4 59:19
refer 39:12	21:14 released	54:2 60:8 68:8 reporter	requires 15:5 49:21 60:22
3:6 referenced	23:12 releases 22:2	5:12 reporting	reserve 66:11 67:2
7:18 46:10 60:10 referred	relevance 5:8 reliability	31:8 32:4 reports	66:10 reserves
9:17 referring	63:4 relinquished	32:1,18,23 33:19,22 38:22 43:10	11:3 24:1, 21,23 25:1
62:11 refers 58:12	11:14 remarks 42:11	51:7 52:9 53:19,22	66:15 resolution
refinement 43:8 reflect 4:21,68:16	remember 63:20 removed	67:5 represent 22:9	3:15 7:12, 13,20 32:19 34:13 35:4 42:18,24
20 reflected 42:7	45:11 render	e 58:25	43:7,11 44:23 45:3 46:23,24
reflecting 43:6	renewed 45:1	request 3:7 6:23 8:6 10:19 46:12,	47:9,17 48:18,21 49:5,16
8:22	32:12,25	20 51:16 52:25	50:10,15 53:20,22

U.S. Legal Support | www.uslegalsupport.com

September 13, 2023			
57:16 58:1, 10,16 59:3, 24 60:1,4, 13,14 61:9, 19 64:15 69:4 resolution's 34:24 resolutions 58:10 resolve 63:3 69:25 Resort 18:18 resource 8:3,20 54:20,23 respect 36:10 respectfully 46:19 respond 8:15 response 62:5,6 63:17 64:5 resting 20:11 52:6 restoration 19:13 restores 54:21 result 12:1 30:8, 11,17 31:4 resulted 30:9 31:7	September returns 21:1 24:7 reusing 21:24 reutilized 29:17 revegetation 32:12 revenue 16:19 review 7:21 30:4,5 44:13 46:18 57:15,25 58:14 59:4, 13 revised 7:22 12:15 62:16 rich 13:6 right 4:15,22,25 6:16 15:22 16:16 17:1, 24 20:7,12 21:17 23:1, 15 24:22 26:2,19,25 27:12 28:11 29:6 31:1 35:3,23 36:19 37:13, 22 38:5 39:19 42:8 46:2 50:20 51:21 58:1 59:12,13 60:21 61:3 62:14 64:21	13, 2023 37:8 Riverview 15:22 17:11 roadways 32:13 rock 9:3,4,5 16:2,5 role 13:13 routine 30:20,24 31:5 32:6,20 54:3 rule 19:13 30:2 33:18 54:8 66:6,10 rules 19:17 run 24:7,21 40:25 running 40:21 runoff 36:22 37:2 40:24 Russ 8:16 20:17 22:5 24:15 Russell 8:2,19 Safe 32:9 67:10	16:2 29:4 save 12:6 saying 5:4 52:5 60:12 62:4 says 23:18 51:18 59:24 60:3, 22 66:7 schedule 60:20 scheduled 3:4 school 41:13 Schweiss 8:2,17,19 15:13,17,20, 24 16:12,16, 23,25 17:4, 7,20,22,25 18:8 19:2,9, 15,19 20:1, 4,13 scientist 36:7 scope 45:9 Scott 8:4 15:9 20:15 32:8 62:9 63:11, 19 64:4,6 Scott's 20:1 Scotty 41:16 scrivener's
<pre>restriction 67:12 result 12:1 30:8, 11,17 31:4 resulted 30:9 31:7 results 38:16 resumes 7:5 reticulated 37:18 returned 29:13</pre>	22 38:5 39:19 42:8 46:2 50:20 51:21 58:1 59:12,13 60:21 61:3 63:14 64:21 65:7,21 68:4,9 69:7 rights 11:14 risks 31:1 River	8:2,19 S safe 32:9 67:10 safely 53:25 safety 31:24 32:14 70:5 samples 34:16 42:22 sand 9:3,5,8,12	62:9 63:11, 19 64:4,6 Scott's 20:1 Scotty 41:16 scrivener's 7:13 season 13:23 14:19, 20 seasonal 30:25 seated 4:12

Transcript of Proceedings

second 4:4 11:9 22:21 section 22:9 47:19 48:25 55:12 58:11,12 60:22 sections 26:18 see 9:20 11:21 14:25 15:21 19:6 21:5 22:11,22,23 23:6 38:2,23 43:5 44:6,12 45:23 51:1 52:8 58:6,8 59:3 70:6 seek 55:1 seeking 3:10,23 36:15 selfaddressed 69:15 send 9:11 29:5 senior 8:2,7,10,19 29:22 separate 15:21 separated 9:4,8 separately 9:16 separates 16:4 separation 55:20 sequence 32:8 series 36:23 37:17

38:3 serve 36:3 serves 14:6 services 8:5 20:15 46:17 59:1 60:5 set 4:8 5:23 38:2,6 sets 50:4 63:24 setting 8:23 25:2 settle 9:12 10:24 52:7 settlement 38:9 settles 10:4 settling 3:13,17,25 9:11,17,20, 21 11:10,12, 18,22 12:11, 23 13:13 18:10,11,16, 19 21:8 31:18 36:11, 18 37:1,11 38:6,18 39:1,24 40:1,25 41:2 46:25 47:2, 5,6,9,14,15, 16 49:8,10, 11,12 51:7 52:2,5 53:5, 9,10,18,20, 22,25 54:4, 10 55:10,19 56:7,10,12, 13 58:14 60:7 62:17

seven 23:9 27:9, 22,23 several 7:3 8:13 13:19 37:6 shallow 40:23 shape 11:25 share 12:2 68:24 sheet 10:3 shelf 25:3 shift 31:9 33:12 34:5 shifts 34:6,7,8 shipped 16:5 show 13:18 37:10 38:1 64:2 65:9,13 showing 22:24 shows 9:19 21:1 22:15 shrink 65:14 shrinks 21:21 side 9:21 10:2 29:10 sign 4:24 8:17 29:21 significant 14:5 significantly 13:7

simple 21:11,23 single 22:10 23:4 37:12 sink 41:13 sit 36:19 sits 16:16 21:20 sitting 38:4 size 10:8 17:18 28:1,6,12, 13,14,15 sketching 41:8 slide 20:19 22:21 29:8 30:23 31:1 slides 36:12 slopes 25:10 32:11 slower 28:20 small-scale 38:14 software 34:22 soil 14:4,7,9 32:5,12 soil's 13:5 soliciting 69:23 solid 9:10 21:7,9 solids 9:24 42:3 soluble 16:7,9

k				
	solutions	Stacked	start	stormwater
	36:4	65:19	4:9 6:17	55:1 56:3,8
	sorghum	staff	14:9 25:15	66:21 67:23
	13:20	5:10 6:3,14	started	story
	sorahums	7:20 31:20,	24:16 46:19	25:16,20
	14:25	21,25 $43:17,$	starting	straddling
	sort	21,25 44:12	21:7	16:20
	22.15 37.16	46:18 48:11	state	straight
	18 38:3.4	52:25 54:13	4:25 12:15.	9:23
	sounds	56:23,25	22 18:23	strategy
	30:3	57:4,13,15	20:21 28:25	8:3.24
	south	59:10,11,13	31:22 47:23	stream
	15.25 18.9	68:21 69:21	stated	36.20
	$14 \ 37 \cdot 8$	staff's	48:19	streams
	SDACA	68:25	states	36.24 53.12
	10·24 11·6	stage	47:19.23	15
	12:4.5 20.8	8:6,11	54:20,25	Streamgong
	11 21:24	10:20,21	55:5,8,12	18.18
	22:4 31:11	12:16 15:9	stating	Street
	52:1,7 63:8	20:18 21:23	66:16	6.22
	speak	22:9,10,18,	status	atriatly
	8:22 19:23	21 23:4,6,	37:19	66.21 67.23
	30:22 35:2,	11,16,17,20	stav	atringont
	15 68:19	36:10,15,21	65:7	30.10 17
	speaking	37:3,22	Stearns	string
	29:25	38:/, 12	6:21	11.22
	specific	39:1,5,17,22	steel	atrong
	37:2 46:8,25	40:9,22	26:18	14.6
	specifically		steep	structural
	7:17 45:2	23.14	21:5	25.12
	50:1 54:19	atagnant	step	structurally
	58:2	40.20	9:25	18.7
	specifics	stakeholder	storage	structure
	51:11	69.23	3:18 10:6,7	10.4 32.5
	speed	stamped	12:4 24:24	structures
	28:22	69.14	40:12 47:7	25.5 32.11
	spillways	stand	48:4,5	study
	25:11	8.13	49:23,24	36.8
	spirt	atandard	51:13 52:24	stuff
	55:23		67:23	28.14
	splitting	30.15 40.8	store	gub-baging
	29:2	15	10:15 13:16	37.2
	squeeze	standards	stored	subject
	21:15	19:5.14	9:16	16.12 18.1
	stability	30:11.16	storms	35:5 47.14
	9:16 18:13,	54:1,8	44:22	submission
	17,21,22			D GOULD D TOIL
y		•	•	•

31:25 submit 60:17 submittal 43:2 submitted 3:5 33:25 43:6 48:12 63:17 64:24 Subsection 42:21 substance 14:1 substantial 54:14 subtract 68:7 subtracts 67:16 successful 18:3 40:4 sudden 24:19sufficient 38:9 47:14 suggestions 32:25 summarv 6:4 48:24 62:17 summation 6:16 sunflowers 13:20 sunn 13:20 Super 18:15 supervisor 46:16 supplies 54:23 supply 69:14 support 40:24 41:13

September 13, 2023 46:7 supposed 64:9sure 15:13 27:14 35:1,13 45:22,25 48:19 56:10 57:9 59:20 62:12,24 63:3,11 65:5 70:4 surface 28:12 54:22 surrounding 53:12,14 56:8 suspended 9:10 Sustainabilit У 54:16 55:5,8 swear 4:13,16,17 swell 29:10 sworn 8:19 29:23 46:17 systems 27:6 37:6 54:22 т tab 7:10,12,22 table 21:16 51:18 62:16 63:16 64:14 66:5 take 5:7 16:8 18:12,19 27:24 28:20 40:11 51:24

Transcript of Proceedings

taken 49:23 50:13 67:25 takes 21:2 27:8 67:17,21 taking 5:13 11:24 16:1 34:16 42:21 63:9 talk 11:1,8 15:9 20:1,17 25:7 43:9 44:1 talked 13:1 42:2,17 talking 15:14 24:15 51:6,8 57:3 63:12 65:12, 15 talks 20:19 39:4 60:22 Tampa 6:22 17:1 36:5 Target 18:15 tax 16:19 team 30:21 31:14 technicians 31:10 technology 55:16 teed 20:17 tell 42:3 58:2 temperature 14:2 tender 7:23 term 21:23

terms 21:11 terrain 36:8 terrestrial 54:22 test 34:15 testify 4:15,24 5:2 17:18 19:7 68:15 testifying 4:14 testing 34:17,20 thank 4:12 6:20 7:1 20:12,13 29:18,19 35:23 42:8, 9,12,16 46:13,14 53:2 56:15 57:12 59:16 61:10 65:18, 21,23,24 68:11 69:2, 8,19 70:9 Thanks 59:16 68:12 that'll 40:23 theory 39:10,12 thereto 55:21 thicken 10:1 thing 63:25 think 6:17 7:1 8:15 16:17 21:13 23:18 28:21 39:14 42:10 44:22

Transcript of Proceedings September 13, 2023 trained 45:4 51:20 Tina 59:9,23 60:2 7:7 30:21 31:9 U 61:7,8,10 title training 62:3,22 64:5 59:10,11,15 31:19 ultimately 70:1,9 today transcript 12:16 13:24 third 4:14 7:25 5:12,13 14:15 21:1 6:6 23:6,8, 8:6,14 11:19 24:4,6 38:16 trapped 11 32:24 18:2 25:9 38:5 undergo 43:14 53:24 29:24 45:18 30:4 trapping third-party 46:7 48:12, 38:14 underground 30:7,22 14 65:12 travel 26:2 31:16,20 68:15 25:18 underlying 33:13,15 toe 37:13 treatment thought 32:14 56:14 understand 63:1 tonight trial 11:1 62:3,14 three 43:7 69:12 15:6 69:12 9:6 24:20 tons trials understands 33:8 34:7 22:20 23:2, 70:4 13:17,19 69:16 3,10,11,16, 14:11 underway threshold 18 63:19 true 13:17 41:12 top 23:25 undulating tied 10:23 11:11 truth 37:13,17 45:2 13:7 14:14 4:18,19 unfragmented til 18:15,19 try 38:17 27:24 37:14 10:23 19:6 Unincorporate 38:2,4 67:25 time trying d 68:4,6 3:3 6:5,7, 14:8 24:12 56:19 topic 10,24 8:25 37:20 50:25 University 36:10 11:18 17:17 59:21 61:21 13:22 20:6 21:3, topography turn update 16,19,25 13:1 8:16 24:11 34:21 63:17 22:4 23:18, total turned uplands 21,22 24:7, 6:7,10 23:10 16:6 38:8 14 25:19 28:1 52:12 twiddle upstream 28:5 41:5,23 61:17 62:22 40:13 31:5 42:4 48:3, totally two uptake 13,19 55:10 60:25 9:7 15:15,21 13:23 59:17 60:16 totals 22:12 23:24 68:21,25 usable 31:2 30:13 34:7,8 69:6 70:2,7 9:15 tracking 37:21 58:3,9 timeframe utility 32:5 type 22:15 24:2 13:3 traditional 61:24 62:19 timely utilization 13:8 55:17 types 55:6 46:24 47:1, traditionally 14:16 43:3 15 53:8 times 22:10,14 typical 20:24 29:10 utilize train 37:11 30:24 31:20 31:21

	Transcript of September	E Proceedings 13, 2023	
utilized	visual	waste	well-
47:6,10	41:5 54:3	19:6,14	maintained
48:3,5	volume	44:13 47:4	53:25
,	10:14 20:25	51:23	wells
	22:2,3 26:23	water	31:13
V	27:4,7 28:5	9:22,24	went
vallevg	40:12 41:25	10:3,23	56:22 58:3
36.20 24	47:14 49:15	13:10 16:6,9	Westshore
	51:12 52:17	20:6,22	36:5
16.7	61:25 62:23	21:6,9,11,	wet
variable	64:8,25	12,14,15,19	14:17,19,20
28.5	65:10,13,14	22:3 29:1,5,	39:6
variables	68:5,6,10	12,13 31:11	wetland
28.8	volumes	32:5,7,9	40:24 53:13
20.0	64:23,25	36:24 37:3,	55:2 56:9
52.8 11	65:20 66:9	18 38:4,9,	wetlands
JZ.0, II	voluntarily	11,15,18	36:23 38:8,
varies 27.25	34:14	40:11,17,20,	11 53:12,14
27.25		21 41:22	56:13
	W	43:3 53:14	whichever
13.20		$54:4, /, \perp \perp,$	3:18 47:7
variety	wait	15, 19, 20, 25, 25, 55, 2, 20	white
50:25	43:25	56.9 14	23:15
varying	walk	66.8 23	wide
52:8	10:24 15:3	67.23	36:25
veatch	20:7 41:13	way	windrow
8:10 36:3	walked	5.21 12.17	14:23
39:2	22:19	23.17 25.24	winner
regetated	walls	27:23 30:24	15:1
53:13 50:12	10:9,13	38:12 63:20	witnesses
vegetation	want	67:15	4:13,20,22
40:17,24	5:15 12:3,8	wavs	wondered
vendors	14:16 19:21	12:10	56:25 58:17
43:15	38:5 40:11	wear	59:4
verified	41:16 42:14	25:21,22	words
03:2	43:17,25	weather	9:18
veriiy	44:1 51:11	30:25	work
42:5	59:23 62:12	Weaver	36:2 69:21
version	69:19	6:21	worked
/:13,14	wanted	week	43:3 58:5
03:1/	7:21 8:21	31:9	70:8
versus	11:1 16:19	weeklv	working
39:22 66:⊥	43:5 44:3	33:4.13	13:22 65:4
view	5/:9 59:17	welfare	68:25 69:12,
30:4	60:2	70:5	16
vinette	washouts	well-defined	worth
6:21 42:11	33:4	55:19	30:7
	-	-	-

wouldive	59.25 60.7	
	14	
22:12	14	
wrap	years	
42:15	11:19 19:25	
written	20:8 21:3	
	22.11 12 16	
5:5 69:10,17	22.11,12,10	
Wuitschick	23:9,13,20,	
8:4 15:9	24 24:17,20,	
20:14,15	21 25:4,14,	
24:15 25:5.	25 26:1	
7 20 26.3 5	27:9,23	
8 11 16	42:25 47:8	
27.2 (12)	49.10 52.4	
27:2,6,13,	62.6 70.9	
16,19,21,25	02.0 70.9	
28:10,17,21		
29:3,7,16,19		
41:18,24		
62:9 64:12,		
14.17.19.22		
65.3 19 23		
$65.5, \pm 5, \pm 5$		
00:5,13,15,		
20,23,25		
67:4,6,8,16,		
10 00 00		
18,20,22		
18,20,22 68:1,3,7,10,		
18,20,22 68:1,3,7,10, 12		
18,20,22 68:1,3,7,10, 12		
18,20,22 68:1,3,7,10, 12		
18,20,22 68:1,3,7,10, 12 Y		
18,20,22 68:1,3,7,10, 12 Y		
18,20,22 68:1,3,7,10, 12 Y yeah		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9,		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20		
18,20,22 68:1,3,7,10, 12 Y Yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7 22		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 69:1 7		
18,20,22 68:1,3,7,10, 12 Y yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 68:1,7		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 68:1,7 year		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 68:1,7 year 21:5 23:23		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 68:1,7 year 21:5 23:23 24:18 25:14		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 68:1,7 year 21:5 23:23 24:18 25:14 27:22 34:12		
18,20,22 68:1,3,7,10, 12 yeah 16:16,25 19:11 26:9, 11 27:3,21 33:25 34:9 39:4,11 40:19 41:21 42:19 44:10 45:13 48:24 50:6 51:20 58:8 60:3 64:12,17 66:2,13 67:7,22 68:1,7 year 21:5 23:23 24:18 25:14 27:22 34:12		

STAFF REVIEW REPORT ATTACHMENT 1 CONSOLIDATED MINES DRI 263


September 1, 2010

JOHN MEYER DRI COORDINATOR TAMPA BAY REGIONAL PLANNING COUNCIL 4000 GATEWAY CENTER BLVD SUITE 100 PINELLAS PARK FL 33782

Re: Resolution No. R10-113 – Development Order Amendment and Related Operating Permit Amendments for Hillsborough County Consolidated Mines / Mosaic Fertilizer, LLC (DRI #263)

Dear Mr. Meyer:

Attached is a certified original of referenced resolution, which was adopted by the Hillsborough County Board of County Commissioners on August 10, 2010.

We are providing this original for your files.

Sincerely,

Dai Julia Poupart, Director

BOCC Records/VAB

bam
Certified Mail Receipt # 7003 3110 0004 4684 3561
Attachment
cc: Board files (orig.)
Charles Gauthier, Chief, DCA Bureau of State Planning (orig. ltr.)
D. Kent Safriet, Hopping Green & Sams (orig. ltr.)
Jane Rose, Senior Assistant County Attorney
John Healey, Senior Planner, Planning and Growth Management
John Michael Stevenson, Planning and Growth Management
Jacqueline Gasper, County Attorney's Office
Sharon Sweet, BOCC Records
Christopher Weiss, Property Appraiser's Office
Mary Mahoney, Management and Budget

RESOLUTION R10-113

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by Commissioner <u>Sharpe</u>, seconded by Commissioner <u>Higginbotham</u>, the following Resolution was adopted by a vote of 7 to with Commissioner(s) voting "No."

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974 and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975, and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Corners, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer, Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and

WHEREAS, on September 26, 2000, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and WHEREAS, on January 25, 2005, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 05-021, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening Station; and

WHEREAS, on March 11, 2008, Hillsborough County Board of County Commissioners approved Resolution 08-047, which added approximately 1,540 acres to form the Hillsborough County Mines Addition Area – DRI #263 (hereinafter "DRI #263 Addition Area Phase"); removed approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; added a mine infrastructure corridor, revised mining plans and incorporated clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, revised reclamation plans reflecting these changes as well as the reclamation already completed in the DRI #213 area; updated DRI #213 Development Order conditions already satisfied or no longer applicable; updated the approved methods for transporting product between the mines and plants; and updated product shipment destination points and deletion of certain destination points and route segments; and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed a Notice of Proposed Change ("NOPC") for the Hillsborough County Mines Development of Regional Impact DRI #263 proposing to add approximately 75 acres of land, previously owned by Kathy Surface (hereinafter referred to as the "Surface Parcel"), to DRI #263; and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed an application to amend the Operating Permit/Master Mine and Reclamation Plan; and

WHEREAS, on August 14, 2009, the Hillsborough County Board of County Commissioners approved the rezoning of the approximately 75 acre Surface Parcel to AM zoning; and

WHEREAS, it is the intent of the Hillsborough County Board of County Commissioners that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners, as the governing body of the local government having jurisdiction pursuant to Section 380.06, Florida Statutes, is authorized and empowered to consider proposed changes to approved Developments of Regional Impact; and

WHEREAS, the public notice requirements of Section 380.06, Florida Statutes, have been satisfied; and

WHEREAS, the Department of Community Affairs has reviewed the NOPC application; and

WHEREAS, the Hillsborough County Board of County Commissioners has received and considered the recommendations of the Tampa Bay Regional Planning Council; and

WHEREAS, on May 17, 2010, the Phosphate Mining Hearing Master reviewed the request for amendment to the Operating Permit and Master Mine and Reclamation Plan, pursuant to the Hillsborough County Land Development Code, and has filed a recommendation on said application with the Hillsborough County Board of County Commissioners; and

WHEREAS, the proposed changes meet the requirements of Section 380.06(19)(e)(3) and whereas Mosaic has rebutted the presumption of substantial deviation by clear and convincing evidence such that this change is not a substantial deviation; and

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and local agencies, and the Phosphate Mining Hearing Master; and

WHEREAS, the Hillsborough County Board of County Commissioners on August 10, 2010, held a duly noticed public hearing on said applications, as required by Hillsborough County Land Development Code Section 8.02.07.F.2., and has heard and considered testimony and reviewed documents received thereon.

NOW, THEREFORE, BE IT RESOLVED THIS <u>10</u> TH DAY OF <u>AUGUST</u>, 2010 BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, THAT THE PROPOSED CHANGES DO NOT CONSTITUE A SUBSTANTIAL DEVIATION AS DEFINED BY SECTION 380.06(19)(e)(3) FLORIDA STATUTES, WHERE MOSAIC HAS REBUTTED THE PRESUMPTION OF SUBSTANTIAL DEVIATION BY CLEAR AND CONVINCING EVIDENCE AND THE DEVELOPMENT ORDER FOR THE HILLSBOROUGH COUNTY MINES DRI AND OPERATING PERMIT AND MASTER MINE AND RECLAMATION PLAN IS HEREBY AMENDED BY ADDING THE FOLLOWING FINDINGS OF FACT AND CONDITIONS, WITH THE BALANCE OF THE ADOPTED DEVELOPMENT ORDER REMAINING IN EFFECT IN ITS ENTIRETY.

SECTION 1. FINDINGS OF FACT

- A. The addition of the Surface Parcel and mining of an additional 75 acres will not have any significant change in the impacts of the mine operation.
- B. All applicable requirements set forth in Section II, Condition F of approved Resolution 05-021 have been satisfied; therefore, no additional noise monitoring for the operation of the Four Corners Central Screening Station is required.

- C. The real property which is the subject of this Application is described as set forth in the attached legal description.
- D. This proposed development is not in an Area of Critical State Concern, as designated pursuant to Section 380.05, Florida Statutes, and does not unreasonably interfere with the achievement of the objectives of the State Land Development Plan.
- E. The authorized agent for MOSF is Ms. Diana M. Jagiella, Director of Mine Regulatory Affairs and Senior Environmental Counsel, Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, Florida 33547.
- F. The property is owned or controlled by MOSF.
- G. This Amendment does not constitute a Substantial Deviation under Section 380.06(19)(e)(3), Florida Statutes.
- H. Any presumption of a Substantial Deviation has been rebutted.

SECTION 2. CONDITIONS:

- A. All conditions of the existing Development Order and Operating Permit (Resolution #08-047) that apply to DRI #263 Additional Area Phase, also equally apply to this 76.5 acre addition.
- B. Mosaic is hereby released from Section II, Condition F of approved Resolution 05-021, related to noise monitoring.

SECTION 3. ADMINISTRATION:

- A. The Ex Officio Clerk of the Board of County Commissioners shall send copies of this Resolution, by certified mail, within thirty (30) days following the effective date hereof, to MOSF, the Department of Community Affairs and the Tampa Bay Regional Planning Council.
- B. This Resolution shall be deemed rendered upon transmittal of copies hereof to the Department of Community Affairs and the Tampa Bay Regional Planning Council.
 - C. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida, as provided in Section 380.06(15)(f), Florida Statutes.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

WITNESS my hand and official seal this 1st day of September 2010

PAT FRANK CLERK OF THE CIRCUIT COURT

By Benerly anne Mille

Deputy Clerk

COUNTY COMBINERS

APPROVED BY COUNTY ATTORNEY As To Form and Legal Sufficiency

BY: Sr. Assistant County Attorney

Surface Parcel

IN TOWNSHIP 32 SOUTH RANGE 22 EAST HILLSBOROUGH COUNTY, FLORIDA

That part of the S 1/2 of the SW 1/4 of the SW 1/4 of Section 6, Township 32 South, Range 22 East, Hillsborough County, Florida, lying West of Highway 39 running from Ft. Lonesome to Picnic, Florida.



April 9, 2008

JOHN MEYER DRI COORDINATOR TAMPA BAY REGIONAL PLANNING COUNCIL 4000 GATEWAY CENTER BLVD SUITE 100 PINELLAS PARK FL 33782

Re: Resolution No. R08-047 – Amending the Development Order for Mosaic Fertilizer, LLC (DRI #263 / Deviation of DRI #213)

Dear Mr. Meyer:

Attached is a certified original of referenced resolution, which was adopted by the Hillsborough County Board of County Commissioners on March 11, 2008.

We are providing this original for your files.

Sincerely,

Gail M. Letzring,

Manager, BOCC Records

bam
Certified Mail Receipt # 7003 3110 0004 4684 6531
Attachment
cc: Board files (orig.)
Hugh H. Marthinsen, Esq., Saxon Gilmore (orig. ltr.)
Charles Gauthier, Chief, DCA Bureau of State Planning (orig. ltr.)
Jane Rose, Senior Assistant County Attorney
John Healey, Senior Planner, Planning and Growth Management
John M. Stevenson, Planning and Growth Management (orig. resolution)
Sandra Davidson, County Attorney's Office
Christopher Weiss, Property Appraiser's Office

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved March 11, 2008

RESOLUTION R08-047

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by Commissioner <u>Higginbotham</u>, seconded by Commissioner <u>Norman</u>, the following Resolution was adopted by a vote of <u>6</u> to <u>1</u> with Commissioner(s) <u>Ferlita</u> voting "No."

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974 and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975, and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved March 11, 2008

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Corners, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and

WHEREAS, on September 26, 2000, Hillsborough County approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and

WHEREAS, on January 25, 2005, Hillsborough County approved the NOPC and adopted Resolution 05- 021, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening Station; and

WHEREAS, on March 28, 2005, the DRI Pre-application Conference Report was reviewed and adopted by TBRPC's Clearinghouse Review Committee; and

WHEREAS, on March 28, 2006, consistent with TBRPC's Pre-Application Conference Report adopted March 28, 2005, Mosaic Fertilizer, LLC filed an application, DRI #263, for development approval for a substantial deviation to the approved Hillsborough County Mines DRI #213 Development Order, Operating Permit and Master Mine Plan (hereinafter referred to as "DRI #263 ADA" or "DRI #263 Substantial Deviation") with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, on August 1, 2006, Mosaic Fertilizer, LLC filed six applications requesting the rezoning of seven parcels to the AM zoning category, which parcels are included in the DRI #263 ADA; one of the six applications requesting rezoning to AM was properly and timely withdrawn by Mosaic Fertilizer, LLC, prior to consideration by the Zoning Hearing Master but which parcel remains in DRI #263 ADA; Mosaic may seek approval for phosphate mining and mining-related activities on this parcel pursuant to Part 8.02.00, Phosphate Mining Regulations, Hillsborough Land Development Code (LDC), once the proper zoning is obtained on this parcel; two parcels which are part of the DRI #263 ADA are currently designated AM zoning; all parcels which are part of the DRI #263 ADA have designations under the Hillsborough County Comprehensive Plan which permit phosphate mining as an approved land use; and

WHEREAS, on September 14, 2006, Mosaic Fertilizer, LLC filed the companion 2006 Revisions to the Operating Permit and Master Mine Plan; and

WHEREAS, on August 20, 2007, the five applications were heard by the Zoning Hearing Master whose Orders dated September 10, 2007 all recommended approval of the AM zoning request; and

WHEREAS, on October 9, 2007, the rezonings on the five applications were approved by the Board of County Commissioners; and

WHEREAS, said DRI #263 Substantial Deviation proposed, among other things, the addition of seven parcels containing approximately 1,540 acres to form the Hillsborough County Mines Addition Area - DRI #263 (hereinafter "DRI #263 Addition Area Phase"); the removal of approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; the addition of a mine infrastructure corridor, including expanded use of approved Stream Crossing "O", together with the deletion of Stream Crossings D, M, Q, R, S, and T that will now remain undisturbed; the revision of mining plans and incorporation of the clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, as part of the Life of Mine application for wetland impacts and mitigation approval as depicted on Map 38H-4, Revised Clay Settling Area Locations, 2006 Revisions to MMRP – Revised 5/31/07 (OPA/MMRP, June 2007, MOSF Response to RFAI), attached hereto and incorporated herein as part of Composite Attachment A; the revision of reclamation plans that reflect these changes as well as the reclamation already completed in the DRI #213 area; the updating of DRI #213 Development Order conditions that have been satisfied or are no longer applicable; the updating of the approved methods for transporting product from the plants; the transfer of approved product shipments from Lonesome to Four Corners; and the updating of product shipment destination points and deletion of certain destination points and route segments; and

WHEREAS, it is the intent of the Board that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners as the governing body of the local government having jurisdiction pursuant to Section 380.06, Florida Statutes, is authorized and empowered to consider proposed changes to Previously Approved Developments of Regional Impact; and

WHEREAS, the public notice requirements of Section 380.06, Florida Statutes, have been satisfied; and

WHEREAS, the Department of Community Affairs has reviewed the DRI #263 ADA application; and

WHEREAS, the Hillsborough County Board of County Commissioners has received and considered a report and the recommendations of the Tampa Bay Regional Planning Council dated May 14, 2007; and

WHEREAS, a duly noticed joint public hearing of the zoning hearing master and the phosphate mining hearing master was held on November 5, 2007 on said DRI #263 ADA and the 2006 Revisions to the Operating Permit, and Master Mine Plan (2006 Rev. – OPA/MMRP) and the respective hearing masters have heard and considered testimony and documents received thereon; and

WHEREAS, the Phosphate Mining Hearing Master's Order was issued on November 20, 2007 reserving issuing the final recommendation to the Board of County Commissioners until certain procedural and substantive questions were addressed by Hillsborough County and MOSF; and

WHEREAS, the Zoning Hearing Master's Order was issued on November 27, 2007 recommending a remand in order to address certain substantive and procedural questions; and

WHEREAS, at the December 11, 2007 BOCC Land Use Meeting, DRI #263 ADA and the 2006 Revisions to the Operating Permit, and Master Mine Plan (2006 Rev. – OPA/MMRP) were remanded to the Zoning Hearing Master Hearing on January 14, 2008, and the Phosphate Mining Hearing Master Hearing on February 11, 2008; and to the BOCC Land Use Meeting on March 11, 2008; and

WHEREAS, the Hillsborough County Board of County Commissioners on March 11, 2008, held a duly noticed public hearing on said DRI #263 ADA and the 2006 Revisions to the Operating Permit, and Master Mine Plan (2006 Rev. – OPA/MMRP) and has heard and considered testimony and documents received thereon.

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved March 11, 2008

local agencies, the phosphate mining hearing master and the zoning hearing master for DRI #263 and the 2006 Revisions to the Operating Permit, and Master Mine Plan (2006 Rev. - OPA/MMRP); and

WHEREAS, the Hillsborough County Board of County Commissioners has reviewed the application for a substantial deviation to the development approvals for the DRI #263 ADA and the 2006 Revisions to the Operating Permit, and Master Mine Plan (2006 Rev. – OPA/MMRP) and has found the proposed development to be consistent with local land development regulations; and

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, IN REGULAR MEETING ASSEMBLED THIS 11th DAY OF MARCH, 2008, AS FOLLOWS:

SECTION 1. AMENDMENT OF PREVIOUS DEVELOPMENT ORDERS

This Resolution constitutes an amendment to the Extension Phase Development Order, DRI SD No. 213, as approved by the Hillsborough County Board of County Commissioners on March 23, 1995, and all amendments thereto as shown in Composite Attachment B, attached hereto and incorporated herein by reference. The redline document and the companion mark-up document reflecting revisions to DRI SD No. 213, as shown in Composite Attachment C, is attached hereto and incorporated herein by reference.

SECTION 2. FINDINGS OF FACT

The Hillsborough County Board of County Commissioners (Board), having received all related comments, testimony and evidence submitted by each party and members of the general public, finds that there is substantial competent evidence to support the following findings of fact:

- A. The Board has received and considered the reports of the Zoning Hearing Master and the Phosphate Mining Hearing Master concerning the DRI #263 Substantial Deviation and related 2006 Revisions to the Operating Permit, and Master Mine Plan.
- B. The Board held a public hearing on, March 11, 2008, regarding the DRI #263 Substantial Deviation and related 2006 Revisions to the Operating Permit and Master Mine Plan in accordance with the requirements of the Hillsborough County Land Development Code, the Hillsborough County Comprehensive Plan, and has further considered the information received at said public hearing.
- C. Subject to the conditions hereinafter set forth, the proposed DRI #263 Substantial Deviation and related 2006 Revisions to the Operating Permit, and Master Mine Plan are consistent with the Hillsborough County Comprehensive Plan, the Hillsborough County Land Development Code and are consistent with the May 14, 2007 report and recommendations of the Tampa Bay Regional Planning Council.

- D.1. MOSF (Developer) submitted to Hillsborough County, Florida, the DRI #263 Application for Development Approval (ADA), and two Sufficiency Responses, which are incorporated herein by reference.
- D.2. MOSF (Developer) submitted to Hillsborough County, Florida, the 2006 Revisions to the Operating Permit, and Master Mine Plan, and the Supplemental Submittal on June 11, 2007, which are incorporated herein by reference.
- E. The real property, which is the subject of this DRI #263 ADA, is legally described as set forth in Section IV, Amended Legal Description, Composite Development Order and Operating Permit for Hillsborough County Mines, Consolidation and Extension Phases, All Amendments Thereto, and Addition Area Phase, which is attached hereto and incorporated herein as Composite Attachment A.
- F. This proposed development is not in an Area of Critical State Concern, as designated pursuant to Section 380.05, F.S., and does not unreasonably interfere with the achievement of the objectives of the State Land Development Plan.
- G. The authorized agent for MOSF is Mr. Thomas E. Myers, III, Assistant Vice President - Mining, Mosaic Fertilizer, LLC, P.O. Box 2000, Mulberry, Florida 33860.
- H. The property is owned or controlled by MOSF.
- A review of the impacts generated by the proposed development described herein has been conducted by the following reviewing agencies: Hillsborough County Planning and Growth Management Department, the Environmental Protection Commission of Hillsborough County, the Hillsborough County City-County Planning Commission, the Florida Department of Environmental Protection, the Tampa Bay Regional Planning Council, and the Department of Community Affairs; and by the following commenting agencies: Tampa Bay Water, Florida Department of Transportation, Florida Department of State - Division of Historical Resources, Florida Fish and Wildlife Conservation Commission, Southwest Florida Water Management District, U.S. Fish & Wildlife Service, Enterprise Florida, Manatee County, Central Florida Regional Planning Council, and U.S. Army Corps of Engineers.
- J. The DRI #263 Preapplication Review resulted in the elimination of the following questions from the ADA:

Question 10: Part 1, D Question 17: ALL Question 18: Parts C.1., C.2., and E. Question 20: ALL Question 22: Parts B., C., D., and E. Question 23: ALL Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved March 11, 2008

> Question 24: ALL Question 25: ALL Question 26: Parts A., B., C., and D. Question 27: ALL Question 28: ALL Question 29: Parts A., B., and C. Question 31: ALL Question 32: ALL Question 33: ALL Question 34: ALL Question 36: ALL Question 37: ALL Question 38: ALL

- K. The total areas included in the DRI #213 Consolidation and Extension Phases are those shown on Table 38A-10, Mining Area by Section, and subsequent amendments thereto, and Section V of Attachment A, attached hereto and incorporated herein. The total acreage to be mined in the DRI #213 Consolidation and Extension Phases are shown on Table 38A-10, Mining Area by Section, and subsequent amendments thereto.¹ A certified true and correct copy of the approved DRI #213 is attached hereto and incorporated herein as part of Composite Attachment B.
- L. The total areas to be included in the DRI #263 Addition Area Phase shall be as shown on Map 1, General Location – Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI), and Section IV, Amended Legal Description, Composite Attachment A, attached hereto and incorporated herein. The total acreage to be mined in the DRI #263 Addition Area Phase shall be that as shown on Table 38A-2, 2006 Revision Conceptual Mining and Reclamation Schedule – Revised 05/31/07, (OPA/MMRP, June 2007, MOSF Response to RFAI), attached hereto and incorporated herein as part of Composite Attachment A.
- M. This Development Order incorporates by reference the representations, terms, and conditions as set forth in the DRI #263 ADA and all Sufficiency Responses, and related documents described in amended Section V, Amended List of Exhibits, Composite Attachment A, attached hereto and incorporated herein.
- N. All statutory procedures have been adhered to.
- O. That the Mine is currently in operation, such that the Chapter 380.06, F.S. requirement for the commencing of development has been met.
- P. Phosphate Mining, as defined in Part 12.01.00, LDC, which occurs within a Wellhead Resource Protection Area Zone 2 (WRPA Zone 2) and/or a Surface Water Resource Protection Area (SWRPA), requires that the applicant comply with the criteria for approval set forth in Part 8.02.00, Phosphate Mining Regulations, LDC.

- Q. The Florida Department of State, Division of Historical Resources, has determined that the proposed development will have no effect on cultural resources listed or eligible for listing in the National Register of Historic Places, or otherwise of historical, architectural, or archeological value.
- R. The following list of items shall not change as part of this DRI #263 Development Order:
 - Currently-approved mine water use.
 - Areas currently approved for mining in the Consolidation and Extension Phases, and all amendments thereto, of the Hillsborough County Mines.
 - Mine & reclamation plans for the Kingsford Mine.
 - Methods of mining and equipment used.
 - Materials handled and disposal methods, including hazardous wastes.
 - Location of hazardous waste storage facilities.
 - Wastewater management.
 - Currently-approved plant operations at Four Corners and Kingsford.
 - Source and level of police, fire and emergency medical services.
 - Existing NPDES outfall discharge amounts.
 - Plant processing capacities consolidated at Four Corners.

Changes proposed in any of these areas shall require a substantial deviation determination, except for changes required by FDEP, SWFWMD or a federal regulatory agency, pursuant to subsection 380.06(19)(d), F.S.

- S.1. The BOCC, as recommended by the Zoning Hearing Master and the Phosphate Mining Hearing Master, has determined that the approved Development is consistent with the following plans and regulations:
 - the Hillsborough County Comprehensive Plan adopted July, 1989, and all amendments thereto (including applicable Land Development Code regulations, the Conservation and Aquifer Recharge Element (particularly policies under Objectives 1, 8, 9 and 14), Management Plans for the Alafia and Little Manatee Rivers and the Cockroach Bay Aquatic Preserve Management Plan, and other applicable amendments adopted prior to this report), pursuant to the Local Government Comprehensive Planning Act, Chapter 163, F.S.;
 - the Hillsborough County Phosphate Mining Regulations Part 8.02.00 of the LDC and all amendments thereto; and
 - the State Comprehensive Plan and the Strategic Regional Policy Plan.
- S. 2. The BOCC, as recommended by the Zoning Hearing Master and the Phosphate Mining Hearing Master, has determined that MOSF must comply with all other applicable Federal, State and local regulations, including the following:

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved March 11, 2008

- Chapters 10D-91(Control of Radiation Hazards), 62C-16 (Mandatory Phosphate Mine Reclamation) and 62-672 (Minimum Requirements for Earthen Dams, Phosphate Mining and Processing Operations), FAC;
- all applicable rules and regulations of FDEP;
- all applicable rules and regulations of SWFWMD;
- all applicable rules and regulations of the Florida Department of State, Division of Historic Resources; and
- the Metropolitan Planning Organization Long Range Transportation Plan.

SECTION 3. CONCLUSIONS OF LAW

The Board, having made the above findings of fact, reaches the following conclusions of law:

- A. That the addition of DRI # 263 Addition Area Phase to the Hillsborough County Consolidated Mines DRI #213 and other activities as described herein are consistent with the State Comprehensive Plan, the Tampa Bay Regional Planning Council's Comprehensive Regional Policy Plan, and the Hillsborough County Comprehensive Plan, and the Hillsborough County Land Development Code; and all amendments thereto.
- B. That the Substantial Deviation components of the DRI #263 Addition Area Phase are consistent with the intent of the report and recommendation of the Tampa Bay Regional Planning Council issued on May 14, 2007.
- C. The Florida Department of State, Division of Historical Resources, issued its letter dated October 2, 2007, stating that the proposed development will have no effect on cultural resources listed or eligible for listing in the National Register of Historic Places, or otherwise of historical, architectural, or archeological value.
- D. That these proceedings have been duly conducted pursuant to applicable law and regulations, and, based upon the record in these proceedings, MOSF is authorized to conduct development as described herein, subject to the conditions, restrictions and limitations set forth below.
- E. That the review by Hillsborough County, the Environmental Protection Commission of Hillsborough County, the Tampa Bay Regional Planning Council, and other reviewing and commenting agencies including Tampa Bay-Water, and interested citizens indicates that impacts of the DRI #263 Substantial Deviation components to the Hillsborough County Mines (DRI #213) are adequately addressed pursuant to the requirements of Section 380.06, F.S., within the terms and conditions of this Development Order. To the extent that the DRI #263 ADA is inconsistent with the terms and conditions of this Order, the terms and conditions of this Order shall prevail.

- F. The Hillsborough County Comprehensive Plan Land Use Plan Map for Hillsborough County designates the area within the DRI #263 Addition Area Phase lies as AGRICULTURAL/MINING, AGRICULTURAL/RURAL, and AGRICULTURAL which permits mining activities.
- G. The DRI #263 Addition Area Phase, with the exception of one parcel, are all properly zoned AM to permit mining and mining-related activities. Mosaic may seek approval for phosphate mining and mining-related activities on that one parcel pursuant to Part 8.02.00, Phosphate Mining Regulations, LDC, once the proper zoning is obtained on this parcel.
- H. That except as amended in this DRI #263 Resolution, the approvals and conditions set forth in the development orders and operating permits constituting the Hillsborough County Mines, DRI #213 Consolidation and Extension Phases, previously adopted shall continue in full force and effect as previously approved.
- I. The Development does not unreasonably interfere with the achievement of the objectives of the State Comprehensive Plan.

SECTION 4. ORDER

Having made the above findings of fact and drawn the above conclusions of law, it is hereby ordered that the Development Order and Operating Permit and Master Mine Plan be amended as follows:

- A. The Development Order and Operating Permit and Master Mine Plan are hereby amended as set forth in Composite Attachment A, attached hereto and incorporate herein.
- B. The development orders and operating permits as previously amended and as amended herein, are hereby consolidated into a single composite document, hereinafter known as Composite Development Order and Operating Permit for Hillsborough County Mines, Consolidation and Extension Phases, All Amendments Thereto, and Addition Area Phase, and renumbered as DRI #263, and the provisions thereof renumbered as set forth in Composite Attachment A, attached hereto and incorporated herein.
- C. Pursuant to Section 163.3167(8), Florida Statutes, nothing herein is intended to modify or limit specific rights previously approved by the development orders, except to the extent that such rights or obligations previously approved by the development orders, including DRI #213, are specifically limited or modified by the amendments approved by this resolution.
- D. The Ex Officio Clerk of the Board of County Commissioners shall send copies of this Resolution, by certified mail, within thirty (30) days following the effective date

hereof, to MOSF, Department of Community Affairs and the Tampa Bay Regional Planning Council.

- E. This Resolution shall be deemed rendered upon transmittal of copies hereof to the Department of Community Affairs and the Tampa Bay Regional Planning Council.
- F. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida, as provided in Section 380.06, Florida Statutes.

SECTION 5. RESTRICTION ON DOWNZONING

The development shall not be subject to down-zoning or intensity reduction until December 31, 2027, unless the local government can demonstrate that substantial changes in the conditions underlying the approval of the Development Order have occurred, or the Development Order was based on substantially inaccurate information provided by MOSF, or that the change is clearly established by local government to be essential to the public health, safety, or welfare.

SECTION 6. COMPLIANCE WITH CODES AND ORDINANCES

Except as previously stated herein in Section 4.C, the provisions of this Development Order shall not be construed as a waiver of, or exception to, any rule, regulation, or ordinance of Hillsborough County, its agencies or commissions and to the extent that further review is provided for in this Development Order, said review shall be subject to applicable rules, regulations and ordinances.

SECTION 7. SEVERABILITY, AMENDMENT AND ADMINISTRATION

- A. In the event that any portion or section of this Development Order is determined to be invalid, illegal or unconstitutional by a court of competent jurisdiction, such decision shall in no manner affect the remaining portions or sections of this Development Order which shall remain in full force and effect.
- B. Whenever this Development Order provides for or otherwise necessitates reviews or determinations of any kind subsequent to its issuance, the right to review shall include all government agencies and departments as are or may be designated by the Board of County Commissioners of Hillsborough County to review developments of regional impact applications as well as all governmental agencies and departments set forth under applicable laws and rules governing developments of regional impact.
- C. Development activity constituting a substantial deviation from the terms or conditions of this development order or other changes to the approved development plans which create a reasonable likelihood of additional adverse regional impact, or any other regional impacts not previously reviewed by the Tampa Bay Regional

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved March 11, 2008

Planning Council may result in Hillsborough County making a substantial deviation determination pursuant to the provisions of Section 380.06(19), Florida Statutes.

D. The Planning and Growth Management Department of Hillsborough County shall be responsible for monitoring all terms and conditions of this Development Order. For purposes of this condition, the Planning and Growth Management Department may rely upon or utilize information supplied by any Hillsborough County department or agency having particular responsibility over the area or subject involved. The Planning and Growth Management Department shall report to the Board of County Commissioners any findings or deviation from the terms and conditions of this Development Order.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

I, Pat Frank, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of a Resolution adopted by the Board at its regular meeting of ________, 2008, as the same appears of march 11 _______, 2008, as the same appears of record in Minute Book 382 ______ of the Public Records of Hillsborough County, Florida.

WITNESS my hand and official seal this <u>8th</u> day of, <u>April</u> 2008.

PAT FRANK CLERK OF THE CIRCUIT COURT

By Deputy Clerk



AFPROVED BY COUNTY ATTORNEY ASTO And Logal Sufficience County Attoms

¹ The following amendments have been made to DRI #213; Res. 96-120, Res. 98-012, Res. 00-223, Res.03-026, and Res. 05-021, resulting in the addition of 549 acres.

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Page 1

COMPOSITE ATTACHMENT A

COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT FOR HILLSBOROUGH COUNTY MINES, CONSOLIDATION AND EXTENSION PHASES ALL AMENDMENTS THERETO, AND ADDITION AREA PHASE

TABLE OF CONTENTS

SECTIO	ON I. AMENDED DEFINITIONS.	2
SECTIO	ON II. AMENDED DEVELOPMENT COMPONENTS	4
SECTIO	ON III. AMENDED DEVELOPMENT CONDITIONS	6
Α.	LIFE AND TIMING OF DEVELOPMENT.	8
В.	AIR QUALITY	8
C.	WATER MANAGEMENT AND SUPPLY - GROUND WATER	9
D.	WATER MANAGEMENT - SURFACE WATER	10
E.	SOILS	11
F.	WETLANDS	11
G.	FLOODPLAINS	14
H.	STREAM AND RIVER CROSSINGS	14
I.	VEGETATION AND WILDLIFE	16
J.	ARCHAEOLOGICAL AND HISTORIC RESOURCES	19
K.	EMERGENCY RESPONSE & FIRE PROTECTION	20
L.	SOLID WASTE AND HAZARDOUS WASTE	20
M	. ENERGY CONSERVATION	21
N.	EQUAL OPPORTUNITY	21
Ο.	DRAINAGE	22
Ρ.	TRANSPORTATION	23
Q.	MINING OPERATION	24
R.	RECLAMATION	28
S.	GENERAL CONDITIONS	30
Τ.	WATER QUALITY/WATER SUPPLY/STORMWATER MANAGEMENT	33
SECTIO	ON IV. – AMENDED LEGAL DESCRIPTION	34
SECTIO	DN V. – AMENDED LIST OF EXHIBITS	40
SECTIO	ON VI. – AMENDED DEVELOPER COMMITMENTS FROM TBRPC DRI	10
FINAL	<u>KEFUK15</u>	

COMPOSITE ATTACHMENT A

COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT FOR HILLSBOROUGH COUNTY MINES CONSOLIDATION AND EXTENSION PHASES ALL AMENDMENTS THERETO, AND ADDITION AREA PHASE

SECTION I. AMENDED DEFINITIONS

- A. That the definitions found in Chapter 380, Florida Statutes (1972), shall control the construction of any so-defined terms appearing in this Development Order, for the Consolidation and Extension Phases and all amendments thereto. That the definitions found in Chapter 380, Florida Statutes (2006), shall control the construction of any so-defined terms appearing in this Development Order.
- B. The term "mining" when used in this development order shall mean "phosphate mining" as defined in Part 12.01.00, Hillsborough County Land Development Code (LDC).
- C. "Acceptable Level of Service" shall be Level of Service D, peak hour on urban roads, and Level of Service C, peak hour on rural roads, or as shown in the Hillsborough County Comprehensive Plan, whichever is more restrictive. Acceptable Level of Service for links and intersections in Polk County, Florida, shall mean Level of Service as set for the affected roadways in the Polk County Comprehensive Plan.
- D. "Application", "Application for Development Approval" and "ADA" shall mean MOSF'S Hillsborough County Mine's Substantial Deviation Application for Development Approval of a Development of Regional Impact for the Four Corners, Lonesome, and Kingsford Mines (June 29, 1990), and all six sufficiency responses submitted (as Additional Information Submittals as listed in the development order exhibits in Section V – Amended List of Exhibits) by MOSF in response to the sufficiency reviews of state, regional, and local agencies (TBRPC DRI #213).
- E. "DRI #263 Application", "DRI #263 Application for Development Approval" and "DRI #263 ADA" shall mean MOSF's Hillsborough County Mines Addition Area Substantial Deviation Application for Development Approval of a Development of Regional Impact for the Four Corners and Lonesome Mines (March 28, 2006), and all sufficiency responses submitted (as Additional Information Submittals as listed in the development order exhibits in Section V – Amended List of Exhibits) by MOSF in response to the sufficiency reviews of state, regional, and local agencies (TBRPC DRI #263).
- F. "Best Management Practices" shall mean practices that are technologically and economically practicable and most beneficial in preventing or reducing adverse impacts from mining activities.
 - G. "Developer" shall mean Mosaic Fertilizer, LLC. (MOSF), its assigns, agents, and successors in interest.
- H. "Development Approval" shall mean approvals for this development granted through the DRI ADA/Substantial Deviation process.
 - I. "Consolidation Phase" shall mean the first approval requested as part of DRI #213 Hillsborough County Mines project to consolidate the existing mines into one mine with one development order, which was approved on July 21, 1993.

Page 2

- J. "Hillsborough County Mines" shall mean all portions of the Four Corners, Lonesome, and Kingsford Mines which are located in Hillsborough County as described in Section IV and excludes those portions of the mines located in Manatee and Polk Counties.
- K. "Master Mining and Reclamation Plan" shall mean a description of proposed mining activities over the life of the mine, so as to allow overall review of MOSF's mining activities.
- L. "25-Year Floodplain" shall mean the area that is so labeled in the maps in the original Four Corners Mine DRI/ADA, in the original Lonesome Operation Permit Application and the Kingsford Extension DRI/ADA #120 and DRI #213. The exact location of the 25-Year Floodplain was determined by a process of calculation of the elevation of the highest water level following a calculated 25 year storm event, and determination of the location of that water level in the field by elevation survey, using standard hydrological analysis and field surveying practices, and is defined in the approved DRI #213 Greiner Study dated March 1992, and may be modified, upon review and approval of the County Engineer, using standard hydrological analysis and field surveying practices. The 25-Year and 100-Year Floodplains are distinguished from the "100-Year Flood Prone Areas" or "100-Year Flood Zone" or "100-Year Floodway" as shown on maps published by FEMA and other government agencies.
- The following acronyms are defined as follow: M. TBRPC - Tampa Bay Regional Planning Council SWFWMD - SouthWest Florida Water Management District FDEP - Florida Department of Environmental Protection ACOE - U.S. Army Corp of Engineers EPCHC - Environmental Protection Commission of Hillsborough County MOSF - Mosaic Fertilizer, LLC FAC - Florida Administrative Code SRPP Strategic Regional Policy Plan EPA - U.S. Environmental Protection Agency NPDES - National Pollution Discharge Elimination System FDOT - Florida Department of Transportation DCA - Florida Department of Community Affairs PGMD - Hillsborough County Planning and Growth Management Department FFWCC - Florida Fish and Wildlife Conservation Commission DHR - Florida Division of Historical Resources F.S. - Florida Statutes ADA - Application for Development Approval SR - Sufficiency Response (followed by number - See list of Exhibits – Section V) AI - Additional Information (preceded by number - See list of Exhibits - Section V) OFW - Outstanding Florida Water FEMA - Federal Emergency Management Agency TBW - Tampa Bay Water
- N. "Extension Phase" shall mean the second approval requested as part of the DRI #213 Hillsborough County Mines project ADA, adding the 17,915 acre area to the Consolidation Phase, and authorizing those activities necessary to mine the indicated area (14,705 acres), including the changes to the Consolidation Phase area, approved on March 23, 1995 (Resolution 95-062), and the following subsequent amendments resulting in the addition of 549 acres: 1) Resolution 96-120 dated April 25, 1996, 2) Resolution 98-012 dated January 13, 1998, Resolution 00-223 dated October 5, 2000, Resolution 03-026 dated February 11, 2003, and Resolution 05-021 dated January 25, 2005.

- O. "Wildlife Corridor" shall mean contiguous stands of significant wildlife habitat which facilitate the natural migratory patterns, as well as other habitat requirements (e.g., breeding, feeding) of wildlife.
- P. "Fragmentation", as the term is used in this Development Order, shall mean the breaking up, or apart, of a wildlife corridor into fragments. Fragmentation is not deemed to include, or be caused by, the construction, operation, or maintenance of a utility corridor (Map H-1), Mine Access Corridor Crossings (DRI #213), and Map H-1, Mine Access Corridors, 2006 Revisions to MMRP - Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) provided such activities are designed and conducted in a manner to minimize their adverse impacts to the wildlife corridor.
 - Q. Phase "1" shall mean the Consolidation Phase as defined in Section I.I. of this Development Order.
 - R. "Phase 2" shall mean the Extension Phase as defined in Section I.N. of this Development Order.
 - S. "Reclamation Manual" shall mean the Hillsborough County Phosphate Mining Reclamation Manual adopted by Hillsborough County Board of County Commissioners on April 20, 2006.
 - "DRI #263 Addition Area Phase" shall mean the addition of seven parcels containing Τ. approximately 1,540 acres to form the "DRI #263 Addition Area Phase", as shown on the map entitled "Hillsborough County Additions Location Sketch", attached hereto and incorporated herein as part of Composite Attachment A; the removal of approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries, as shown on the map entitled "DRI 263 Deletion Parcels", attached hereto and incorporated herein as part of Composite Attachment A; the addition of a mine infrastructure corridor, including expanded use of approved Stream Crossing "O", together with the deletion of Stream Crossings D, M, Q, R, S, and T that will now remain undisturbed; the revision of mining plans and incorporation of the clay settling area siting plans depicted on Map 38H-4, Revised Clay Settling Area Locations, 2006 Revisions to MMRP - Revised 5/31/07 (OPA/MMRP, June 2007, MOSF Response to RFAI),² attached hereto and incorporated herein as part of Composite Attachment A; the revision of reclamation plans that reflect these changes as well as the reclamation already completed in the DRI #213 area; and the updating of DRI #213 Development Order conditions that have been satisfied or are no longer applicable; the updating of the approved methods for transporting product from the plants; the transfer of approved product shipments from Lonesome to Four Corners; and the updating of product shipment destination points; and deletion of certain destination points and route segments.
 - U. "Best Available Information" shall mean the published research that has been subjected to peer review, or in its absence, the recommendation of the recognized expert or regulatory authority of the listed species in question at the time of application approval.

SECTION II. AMENDED DEVELOPMENT COMPONENTS

The Consolidation Phase approved on July 21, 1993 included the following development components:

A. Remove approximately 850 acres located in Sections 13 and 24, Twn. 31 S., Rng. 21 E., and Sections 18, 30, and 31, Twn. 31 S., Rng. 22 E, from within the Lonesome mine

boundary as fully described in Section V. There are no outstanding development order conditions affecting these properties.

- B. Combine the three approved mines (Kingsford, Lonesome and Four Corners) into one consolidated mine named "Hillsborough County Mines". This will remove internal boundaries.
- C. Revise the mining areas at the Lonesome and Four Corners Mines, to increase the area approved for mining excavation at these approved mine sites to a total of 28,421 acres, according to Table 38A-7, Estimated Maximum Mining and Reclamation Schedule Consolidation Phase (DRI #213, 3rd SR).
- D. Revise the clay and tailing sand storage and disposal methods and locations at the Lonesome and Four Corners Mines to conventional above ground clay settling areas, thus eliminating the use of the sand clay mix methods. This includes the addition of L-2 and L-3 clay settling areas, as shown on Map 38H-10, Consolidation Phase Clay Settling Areas (DRI #213, 3rd SR).
- E. Revise the mining and reclamation rates and schedules, and all aspects of the mine operation related to the timing of the mining and reclamation within the approved mine areas as described in the ADA on Table 38A-7, Estimated Maximum Mining and Reclamation Schedule Consolidation Phase (DRI #213, 3rd SR).
- F. Revise the traffic analysis to reflect haulage by truck of product from the Four Corners and Lonesome Plants to market, the increase in the number of employees at Lonesome and Four Corners, and approve the rail connection among the Four Corners and Lonesome plants including the crossing of Taylor Road and SR 674.
- G. To repair and upgrade the existing Lonesome plant to current process technology. This involves the elimination of the field pre-washer, and location of all washer function at the plant site, and other improvements in the sizing and flotation process.
- H. To install facilities at Lonesome for the loading of wet rock into rail cars for shipment, in addition to the existing dry rock loading facilities.
- I. Change the number of draglines used and the nature of the pumping systems required to carry out the proposed mining plans, including the required access corridors with the necessary road, wetland and floodplain crossings as shown on Map H-5, Consolidation Phase Mine Access Corridor Crossings (DRI #213, 4th SR).
- J. Addition of two new stream floodplain crossings at sites I & O, and recognize the existing stream floodplain crossings at site H, J & C (Map H-5, Consolidation Phase Mine Access Corridor Crossings (DRI #213, 4th SR), and Table 38A-5, Mine Access Corridor Crossings (DRI #213, 4th SR).

The Extension Phase, approved on March 23, 1995, included the following development components:

- K. Increase the mine area by 17,915 acres, to a total of 53,388 acres, and extend the mine life to December 31, 2027.
- L. Increase the mining area by 14,706 acres to a total of 43,127 acres, as shown on table 38A-2, Estimated Maximum Mining and Reclamation Schedule (DRI #213), and Map H, Mining Plan (DRI #213).

- M. Revision of the mining and reclamation rates and schedules, and all aspects of the mine operation related to the timing of the mining and reclamation within the approved mine areas as described in the ADA on Table 38A-2, Estimated Maximum Mining and Reclamation Schedule (DRI #213).
- N. Addition of nine new tributary floodplain crossings at sites K, L, M, N, P, Q, R, S & T and wetland crossings at sites 13, 14, 15, 16, 17, 18, 19, 20 & 21, Map H-1, Mine Access Corridor Crossings (DRI #213), and Table 38A-5, Mine Access Corridor Crossings (DRI #213, 4th SR).
- O. The tailings and clay disposal plans, including the size, capacity and general locations of clay settling areas L-4 or L-4A, L-5, L-6, F-4, F-5, F-6, F-7, and F-8.

The DRI #263 Addition Area Phase includes the following development components:

- P. The addition of seven parcels containing approximately1,540 acres;
- Q. The removal of approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries;
- R. The addition of a mine infrastructure corridor, including expanded use of approved Stream Crossing "O";
- S. The deletion of Stream Crossings D, M, Q, R, S, and T that will now remain undisturbed;
- T. The revision of mining plans Map H, Conceptual Mine Plan, 2006 Revisions to OPA/MMRP Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI);
- U. The incorporation of clay settling area siting plans depicted on Map 38H-4, Revised Clay Settling Area Locations, 2006 Revisions to MMRP - Revised 5/30/07 (OPA/MMRP – June 2007, MOSF Response to RFAI)³, attached hereto and incorporated herein as part of Composite Attachment A;
- V. The revision of reclamation plans that reflect these changes as well as the reclamation already completed in the DRI #213 area;
- W. The updating of DRI #213 Development Order conditions that have been satisfied or are no longer applicable;
- X. The updating of the approved methods for transporting product from the plants and the transfer of approved product shipments from Lonesome to Four Corners; and
- Y. The updating of product shipment destination points and delete certain destination points and route segments.

SECTION III. AMENDED DEVELOPMENT CONDITIONS

Previous conditions of approval that are not being changed by this amendment, apply only to that area for which that approval was originally granted, as indicated by the paragraph code and Figure 12A-2, DRI Development Order Areas, attached.

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

<u>MINE</u> Kingsford	<u>D.O. DATE</u> 1-15-75 3-29-88	DRI # 31 120	<u>CODE</u> [K-31] [K-120]
Lonesome	3-21-74 2-21-84 1-09-90 9-25-90 5-7-91	1 85 Amend. Amend. Amend.	[L-1] [L-85] [L-A2] [L-A3] [L-A4]
Four Corners	1-04-78 4-22-81 5-13-86 1-09-90 9-25-90	52 Amend. Amend. Amend. Amend.	[FC-1] [FC-A1] [FC-A2] [FC-A3] [FC-A4]
Consolidation Phase	6-21-93	213	[CONSOL]
Conditions Applying to the Extension Area Only	3-23-95	213	[EXT]
Conditions Applying Extension and Consol	[ALL]		
Conditions Applying Acreage within the Co (as defined below)	[ADD]		
Conditions Applying Addition Area Phase	[DRI #263]		

The symbol [ADD] indicates conditions specific to the 3,936 acres, previously identified as areas "not to be disturbed", which were approved to be mined in the Consolidation Phase. These conditions apply to the following areas of the Consolidated Mine:

Quarter(s)	Section	Township	Range	Acres
Western 440 ac.	1	32	21	440
All	2	32	21	651
All	3	32	21	548
All	10	32	21	504
All	11	32	21	565
Western 440 ac.	12	32	21	440
South 1/2 of SE	22	32	22	80
SE of NE	23	32	22	40
NW of NE	16	32	22	40
S1/2 of NW	16	32	22	80
North 448 Acres	15	32	22	448

Page 7

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

Mining Unit approval applications for these areas will be subject to the submittal and mitigation requirements of the current Land Development Code. Their review and approval shall be based on consistency with the plans presented in the ADA as shown on maps H, Mining Plan (DRI #213), H-7, Preservation Areas (DRI #213), and 38H-4, Clay Settling Areas (DRI #213). Following this approach will preserve all 25 year floodplain, and wetland and upland habitat impacts will be mitigated.

This document is a combination of the DRI Development Order and the Phosphate Mining Operating Permit. As part of the DRI 263 review, certain of the conditions in this section were found to be applicable only as DRI Development Order conditions, which is indicated by "(DO)" at the end of the first section of the condition, certain ones were found to be applicable as both DRI Development Order and the Phosphate Mining Operating Permit conditions, which is indicated by "(DO/OP)", and all others were found to be applicable only as Phosphate Mining Operating Permit conditions, which is indicated by "(OP)". Only those conditions materially changed as part of the DRI 263 review are so indicated. Conditions added or amended based on the recommendation of TBRPC are all indicated as (DO) or (DO/OP).

A. LIFE AND TIMING OF DEVELOPMENT

 [ALL][DRI #263]This Development Order shall remain in effect for a period up to and including December 31, 2027. Mining activity shall commence in the Extension area by December 31, 1998. Mining activity will be considered started if by December 31, 1998, all permit applications required to start mining have been filed at least 6 months prior, but not yet approved. Mining activity shall commence in the DRI #263 Addition Area Phase by December 31, 2008. Mining shall be considered started by December 31, 2008 if all applications to permit the start of mining have been filed but not yet approved. Mining shall be completed by December 31, 2018, and Reclamation completed by December 31, 2026. Any development activity for which plans have been submitted to the County and approved prior to the expiration date of this Development Order may be completed in accordance with the requirements of the Development Order. This Development Order may be extended by the Board of County Commissioners of Hillsborough County. (DO/OP)

B. AIR QUALITY

- [CONSOL][DRI #263] If any proposed change to this Development is determined by Federal, State or Local regulatory agencies to have negative air quality impacts then MOSF shall perform diagnostic air quality analysis as required and then shall institute remedial measures as necessary, to assure compliance with all applicable laws. (DO/OP)
- [CONSOL][DRI #263] That the number or location of air and surface water monitoring stations and parameters may be changed at any time by petition of MOSF or EPCHC based upon reasonable grounds. (DO/OP)
- 3. [EXT] The measures to reduce erosion and fugitive dust referenced on pages 13-3 and 14-9 of the ADA and page 13-2 of the SR, at minimum, shall be implemented.
- 4. [EXT] If any proposed change to this project is determined to be a substantial deviation, Hillsborough County shall determine if such proposed change includes uses which are

Page 8

determined to be point sources of air pollution and whether or not the nature of the proposed change is such that it would require a re-analysis of the project's air quality impacts. If a re-analysis is warranted, as determined by Hillsborough County, MOSF shall perform point source air quality analysis for those facilities in the Extension Phase that are being changed and MOSF shall take remedial measures at the subject facilities as required by the County, in accordance with applicable law.

5. [DRI #263] Best Management Practices, including those identified in the DRI #263 ADA, shall be employed during site preparation, mining and reclamation to minimize air quality impacts. (DO/OP)

C. WATER MANAGEMENT and SUPPLY - GROUND WATER

- 1. [ALL][DRI #263] MOSF's water use shall not exceed the amounts permitted by SWFWMD. MOSF shall copy PGMD with any requested modifications. (OP)
- 2. [L-85] MOSF shall implement the mitigative water quality measures referenced in the Application on pages 15-56 through 15-58 for parcels A, B, and C. (OP)
- 3. [ALL][DRI #263]All on-site wells shall be maintained and operated, or plugged and abandoned by MOSF in accordance with SWFWMD regulations. (OP)
- 4. [EXT][ADD][DRI #263] In order to protect the Floridan aquifer, a groundwater quality monitoring program shall be instituted prior to mining and shall be continued periodically through reclamation, if required by Hillsborough County PGMD, FDEP, and/or SWFWMD. The requirement must be based on just cause and be directly related to mine operation impacts. Modification of any monitoring program may be proposed by either the listed agencies or MOSF at any time for just cause, with approval for implementation by Hillsborough County PGMD. However, requests by MOSF to reduce monitoring programs or reduce or eliminate the parameters included in the program must be reviewed for consistency by the listed agencies and approved by Hillsborough County EPC. Currently established programs may be expanded with the approval of Hillsborough County, FDEP and/or SWFWMD. Any violation of Chapter 62-520, FAC, determined to be caused by mining or related activities, shall require corrective measures as set forth by FDEP. (DO/OP)
- 5. [FC-1] For production wells, water quality analysis will be performed monthly and reported to the County quarterly for the following constituents:
 - 1) Calcium
 - 2) Magnesium
 - 3) Sodium
 - 4) Potassium
 - 5) Bicarbonate
 - 6) Sulfate
 - 7) Chloride
 - 8) Nitrate

- 9) Total Dissolved Solids
- 10) Specific Conductance
- 11) Gross Alpha Radiation
- 12) Total Phosphate
- 13) Radium 226 (only if gross Alpha exceeds 15 pci/l)
- 6. [FC-1] Pumpage records shall be kept for each production well on a monthly basis and forwarded to the County quarterly.
- [FC-1] Water level monitoring will be provided by SWFWMD ROMP #40 wells located near the S.E. corner of Hillsborough County.
- [DRI #263] Only as applied to Parcel One, MOSF's mining activities shall not breach the clay confining unit, and in no event shall contact with the limestone aquifer be allowed. (DO/OP)

D. WATER MANAGEMENT - SURFACE WATER

- [FC-1] That the applicant guarantees the correct operation and maintenance of all manmade control structures and the maintenance of proper surface water flows as determined by existing and future regulatory programs.
- 2. [K-31] A further condition of this approval is the fulfillment of the applicant's voluntary commitment to donate three hundred acres of land on the development site for development and utilization as a water reservoir suited for water supply, flood control, and recreation purposes, the exact location of said three hundred acres to be determined by the county.
- [EXT][DRI #263]Erosion control measures such as siltation screens and hay bales shall be used to prevent surface water quality degradation. Best Management Practices shall be employed throughout preparation, mining and reclamation to minimize surface and groundwater quality impacts. (DO/OP)
- 4. [EXT][ADD][DRI #263]In order to protect water quality in the watersheds of the Alafia River and the Little Manatee River, an Outstanding Florida Water, there shall be no degradation of water quality standards by surface water exiting the site. MOSF shall provide for a surface water quality monitoring program, to continue through reclamation, as required by Hillsborough County, FDEP and/or SWFWMD. The requirement must be based on just cause and be directly related to mine operation impacts. Modification of any monitoring program may be proposed by either the listed agencies or MOSF at any time for just cause, with approval for implementation by Hillsborough County PGMD. However, requests by MOSF to reduce monitoring programs or reduce or eliminate the parameters included in the program must be reviewed for consistency by the listed agencies and approved by Hillsborough County EPC. Currently established programs may be expanded to cover the Extension Area with the approval of Hillsborough County

PGMD. Any violation of Chapter 62-302, FAC, determined to be caused by mining or related activities, shall require corrective measures as set forth by the FDEP. The monitoring results shall be submitted to Hillsborough County, FDEP and SWFWMD in the annual report. (DO/OP)

- 5. [ALL][DRI #263] Base flows to the Alafia and Little Manatee Rivers and their tributaries shall be those as documented in USGS water discharge records for stations 02301300 and 02300100. The base flows to these rivers and their tributaries shall not be adversely altered or reduced by mining activity or post reclamation conditions. (OP)
- 6. [ALL][DRI #263] Stormwater runoff from the active mine area, and any other discharges, shall only be released through approved NPDES discharge points. (OP)

E. SOILS

- 1. [ALL] Organic deposits and natural topsoils capable of supporting indigenous vegetation should be stockpiled during mining activities and utilized in reclamation to the maximum reasonable extent.
- 2. [EXT] The soil conservation measures referenced on page 14-9 of the ADA and the methods discussed on page 14-7 of the ADA to overcome problems associated with the particular on-site soil types shall be implemented.
- [DRI #263] Best Management Practices, including those identified in the DRI #263 ADA, shall be employed during site preparation and construction to prevent soil erosion. (DO/OP)

F. WETLANDS

- 1.A. [ALL] Those areas which meet the definition of preservation and conservation areas, as defined in policies 10.1.2 and 10.3.1, FRCRPP (1987), unless otherwise determined to be vested during review of mining and mining related activities pursuant to the Hillsborough County Phosphate Mining Regulations, shall be so designated on all of the Mining and Reclamation Plans submitted to Hillsborough County and FDEP. These areas shall include the wildlife corridor identified in the Hillsborough County Comprehensive Plan, specific areas of which shall be designated as preservation or conservation, according to agreement between MOSF, Hillsborough County and the affected regulatory agencies. Such designation shall occur during application for approval of "Mining and Mining Regulations. (OP)
- 1.B. [DRI #263] Those areas which meet the definition of preservation and conservation areas, as defined in Policy 4.6.1 of the Strategic Regional Policy Plan (SRPP 2005), unless otherwise determined to be vested during review of mining and mining related activities pursuant to the Hillsborough County Phosphate Mining Regulations, shall be so designated on all of the Mining and Reclamation Plans submitted to Hillsborough County and FDEP. These areas shall include the wildlife corridor identified in the Hillsborough

County Comprehensive Plan, specific areas of which shall be designated as preservation or conservation, according to agreement between MOSF, Hillsborough County and the affected regulatory agencies. Such designation shall occur during application for approval of "Mining and Mining Related Activities", according to the Hillsborough County Phosphate Mining Regulations. (OP)

- 2. [ALL] As a condition precedent to the construction, operation and maintenance of the mine access corridors and corridor crossing of wetlands identified on Map H-1, Mine Access Corridor Crossings (DRI #213), and Map H-1, Mine Access Corridors, 2006 Revisions to MMRP- Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as Part of Composite Attachment A, the construction, operation and maintenance of the clay settling ponds as shown on Map 38H-4 Clay Settling Areas (DRI #213) and Map 38H-4 Revised Clay Settling Area Locations, 2006 Revisions to MMRP - Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI), attached hereto and incorporated herein as part of Composite Attachment A, and to the mining plans of the area identified on Map H, Mining Plan (DRI #213) and Map H, Conceptual Mine Plan, 2006 Revisions to OPA/MMRP -Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A, and Map H-7, Preservation Areas (DRI #213), and Map H-7, Undisturbed Areas, 2006 Revisions to MMRP -Revised 05/30/07.(OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A, MOSF must satisfy the following conditions, as applicable.² (OP)
 - A. Impacts to EPCHC/FDEP jurisdictional wetlands caused by such activity must be mitigated on an acre-for-acre basis, within the same drainage basin as the impacted wetlands;²
 - B. A wetland delineation and mitigation plan must be submitted as part of each mining unit plan and will be reviewed to verify that proposed mitigation is in accordance with Chapter 1-11, Rules of the EPC;²
 - C. EPCHC shall assist MOSF in selection of the specific location of crossing sites to provide for the least overall wetland impact in the general vicinity of the crossings as shown on Map H-1 Mine Access Corridor Crossings (DRI #213), and Map H-1, Mine Access Corridors, 2006 Revisions to MIMRP - Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A;
 - D. EPCHC has approved the shapes and configurations of L-2, L-3, L-4 F-5, F-7, and F-8 clay settling areas.⁴
 - E. A minimum of 9,096 acres are approved for construction of settling ponds within the Hillsborough County Mines, as shown on Table 10-4, (Revised 02/16/07) Comparison of CSA Requirements, (DRI #263 2nd SR).^{4,5}

- F. FDEP and/or the Army Corps of Engineers permits must be obtained as required by statute prior to committing any wetland disturbances.
- [DRI #263] Impacts to EPCHC/FDEP jurisdictional wetlands for parcels 4 8 must be mitigated pursuant to Chapters 62C-16, 62-343 and 62-345, F.A.C., and Chapter 1-11, Rules of the EPC. (OP)
- 4. [EXT] Pursuant to Council Policy 10.3.1 (FRCRPP, 1987), in the Mining Unit applications, there shall be no mining in preservation areas . . . except in cases of overriding public interest. Included as preservation areas are ... larger freshwater swamps and marshes. Any allowed wetland losses shall be mitigated, at minimum, by 1:1 in-kind or more productive wetland replacement. Existing wetlands which are permitted to be impacted should be used as donor material for revegetation of mitigation areas, where feasible. All mitigation areas shall be designed, implemented and monitored in accordance with the Environmental Protection Commission of Hillsborough County (EPCHC) and FDEP requirements, as appropriate.²
- 5. [EXT] For the portion of the Little Manatee River that is currently an OFW, the associated adjoining natural forested communities shall be preserved in their entirety due to the river's special status pursuant to Chapter 62-302.700, FAC.
- 6. [EXT][ADD] Mining in the Additional Acreage and the Extension Area shall not adversely impact TBRPC defined preservation areas. Mining shall proceed according to the conditions established by Hillsborough County and by this Development Order.
- 7. [EXT][ADD][DRI #263] No adverse hydroperiod alteration shall be permitted in any preservation areas within the Additional Acreage, Extension Area and DRI #263 Addition Area Phase as identified in the Development Order for this project and on the Mining and Reclamation Plans submitted to Hillsborough County and the Florida Department of Environmental Protection (FDEP). Historic annual hydroperiods, normal pool elevations and normal seasonal high water elevations shall be substantially maintained. Hydroperiod monitoring shall be implemented as required by the County, SWFWMD and/or FDEP. Should preservation areas be stressed due to mining or related activities within the additional acreage, such activity shall cease until remedial measures have been taken to correct the hydroperiod imbalance. Such measures could include limitations on mine activities, enlargement of natural buffer areas, increased upland retention of stormwater and/or augmentation of the water supply to the wetland. (OP)
- 8. [EXT][ADD][DRI #263] MOSF shall provide a natural buffer zone according to the requirement of the County LDC, around all preservation areas within the Additional Acreage, Extension Area and DRI #263 Addition Area Phase to provide an upland transition into the wetland areas and to protect the natural systems from mining impacts. The definition for preservation areas in the FRCRPP applicable to the Additional Acreage, Extension Area and DRI #263 Addition Area Phase includes larger freshwater swamps and marshes and consideration of ecologically-sensitive flora and fauna. In accordance with TBRPC policy there shall be no mining of the 25-year floodplain. (OP)

- A. All allowable wetland losses must be permitted by the appropriate regulatory agencies and shall require, at minimum, 1:1 in-kind or more productive wetland replacement.
- B. Existing wetlands which are permitted to be altered or eliminated shall be used as donor material for revegetation of mitigation areas, where feasible.
- C. All mitigation areas and littoral shelves shall be designed, implemented and monitored in accordance with the Environmental Protection Commission of Hillsborough County (EPCHC), and FDEP requirements, as appropriate.

G. FLOODPLAINS

- 1. [ALL][DRI #263] There shall be no mining within the 25-year floodplain. Mining within the 100-year floodplain is not prohibited, subject to appropriate state and local review and approvals. (OP)
- 2. [DRI #263] There shall be no net loss of 100-year floodplain storage capacity. (DO/OP)

H. STREAM AND RIVER CROSSINGS

1. [ALL][DRI #263] For all other crossings:

Site-specific plans and schedules for each 25-year floodplain and wetland crossing shall be included in the mining unit applications and shall meet the following standards, subject to Part 8.02.00 (Phosphate Mining Regulations) of the Hillsborough County Land Development Code and approval by Hillsborough County. The location of crossings shall be as depicted on Map H-1, Mine Access Corridor Crossings(DRI #213), and by Map H-1, Mine Access Corridors, 2006 Revisions to MMRP - Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as Composite Attachment A, and the disturbance to each crossing area as described in Table 38A-5, Mine Access Corridor Crossings (DRI #213, 4th SR). Any changes to the crossings locations or amounts of disturbance other than eliminations of crossings or reductions in amounts of disturbance, shall require a substantial deviation determination. (DO/OP)

- a. Crossings shall be scheduled for base or low water-flow periods and shall be conducted in accordance with Best Management Practices. Any violation of applicable state water quality standards shall result in cessation of crossing activities at that location, until such violation is corrected.
- b. Crossings and culverts shall be designed to handle the 100-year flood event.
- c. The removal of vegetation shall be minimized. Clearing width for dragline crossings shall be limited to 175 to 250 feet and the length and width of each crossing shall be specified.
- d. Fill material used in the wetlands for the crossings shall be clean sand.
- e. Any fill material required for the crossing shall be placed no sooner than three days before the crossing, and removed within two days after the crossing, unless the permitting agencies determine it would cause less disturbance at the crossing site to leave the fill in place until after its final use. MOSF shall remove all structures, restore the area in question to the original grade elevations and re-grass the area without delay; and permanently re-vegetate and replace trees after the final crossing at the appropriate seasonal time.
- f. Siltation control devices shall be used in the streams/wetlands as needed.
- g. Pipelines shall be jacketed, placed above the 100-year floodplain pursuant to and as mapped by the approved DRI #213 and isolated from tributaries by berms.
- h. All utility crossings shall be elevated above the 25-year floodplain pursuant to and as mapped by the approved DRI #213, and shall consist of piers without any approach embankment. Verification that the proposed piers can sustain high water flow conditions shall be certified by a professional engineer, under seal, prior to any construction.
- i. Each crossing shall require a FDEP permit, with the SWFWMD, EPCHC and TBRPC receiving a copy of the application when it is submitted to the FDEP. A time schedule for construction, operation, and reclamation, as well as surface water quality monitoring, shall be required for each crossing. The water quality monitoring program shall be as determined by Hillsborough County, SWFWMD and FDEP.
- [ALL][DRI #263] Additional stream crossings or crossings of tributaries at locations other than those described in the Application on Map H-1, Mine Access Corridor Crossings (DRI #213), and by Map H-1, Mine Access Corridors, 2006 Revisions to MMRP - Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI), or Table 38A-5, Mine Access Corridor Crossings (DRI #213, 4th SR) shall be sufficient cause for a substantial deviation determination. (DO/OP)
- 3. [CONSOL][DRI #263] The applicant shall not use floodplain crossings A, B, and I, or wetland crossings 5, 6, 10, and 12 for mine operations. Continuation of all existing agricultural uses of wetland crossings are not restricted by this condition, nor are continued vehicular uses of the existing bridges at floodplain crossings B, C, and I. Floodplain crossings C and H shall not be used for slurry pipeline crossings, but may be used for transfer of water. Floodplain crossing O may be used for access, movement of draglines and for slurry pipeline crossing. (OP)
- [ALL] As committed by MOSF, no clay transfer pipelines crossings of the 25-year floodplain or wetlands in route to clay settling areas shall be allowed within the Consolidation Phase, except for 25-year floodplain crossings I (Hurrah Creek/Sec.31) and J (Alderman) and at wetland crossing 12 (HurrahCreek/Sec.1) or 4. (OP)

- 5. [EXT][DRI #263] MOSF shall document to Hillsborough County, in Mining Unit applications, that 25-year floodplain and wetland crossings are necessary.² Approved floodplain crossing L, and wetland crossings 15, 16, 17, 18, 19 and 20, shall incorporate design features sufficient to protect the Little Manatee River. Continuation of all existing agricultural use and maintenance of wetland crossings are not restricted by this condition. For crossing points K, L, M, N, O, and P, use for roads and power lines is approved. Their use for pipelines crossings shall be restricted so as to use them for the most direct route. Their use for dragline crossings shall be restricted to those which are needed for access which will cause the least impact. (OP)
- 6. [EXT][DRI #263] MOSF shall be provided access to all areas approved for mining by this Development Order. (DO/OP)
- [EXT] All 25-year floodplain and wetland crossings in Sections 33 and 34, Twn. 32 S., Rng. 21 E., must be submitted for approval in the same application.
- [EXT][ADD] If any 25-year floodplain or wetland crossings occur in the Additional Acreage or Extension Area, recommended Mining Operations condition III.Q.13.D. shall apply.

I. VEGETATION AND WILDLIFE

- 1. [FC-1] That best management practices and techniques including revegetation, reforestation, erosion control, etc. shall be utilized by the applicant in the reclamation of all land designed to support forested and unforested wetland vegetation associations.
- 2. [FC-1] That best management practices shall be utilized by the applicant to accelerate the natural development of those areas that are intended to support native forested and unforested wetland vegetation associations.
- 3. [FC-1] That reclamation shall not be considered complete until all areas intended to develop native forested and unforested wetland vegetation associations are firmly established and it is assured that these areas will develop the vegetation associations that they are designed to support.
- [L-85][DRI #263] A program to protect rare, endangered or threatened species such as capture-relocation programs and/or recreation of appropriate habitat shall be implemented by MOSF. (OP)
- 5. [ALL][DRI #263] In the event that any species listed in Sections 39-27.003-.005, FAC, are observed frequenting the site for nesting, feeding, or breeding, proper protection/mitigation measures shall be employed immediately in cooperation with the Florida Fish and Wildlife Conservation and Wildlife Conservation Commission (FFWCC), in accordance with the Best Available Information at the time of the application approval for the species observed. If applicable, previously approved management plans and conditions retained from the existing Development Orders shall be utilized as part of the protection/mitigation measures. (DO/OP)

- [EXT][K-120][DRI #263] Relocation of the gopher tortoises observed on-site to a suitable location may be considered as an alternative to preservation of the tortoise communities, if deemed acceptable by the FFWCC. (OP)
- 7.A. [CONSOL][DRI #263] By 1997, MOSF shall participate, in conjunction with the FFWCC, the U.S. Fish and Wildlife Service and Hillsborough County, in a wildlife corridor protection program. Wildlife corridors identified in this program shall be in addition to the preservation areas, as defined in the FRCRPP and TBRPC policies. The wildlife corridor protection program shall utilize the Hillsborough County Comprehensive Plan, "Wildlife Preserves and Corridor Linkages Map (Greenways Program)", and MOSF's Map 38H-12 of the Third Sufficiency Response to the ADA (DRI #213), Consolidation Phase Wildlife Corridors. (OP)
- 7.B. [EXT][DRI #263] MOSF shall participate, in conjunction with the FFWCC, the U.S. Fish and Wildlife Service, and Hillsborough County, in a wildlife habitat protection program. Post-mining wildlife corridors and xeric habitats identified in this program shall be in addition to the preservation areas, as defined in the FRCRPP policies. (OP)
- [EXT][DRI #263] Within the Extension Area and the DRI #263 Addition Area Phase, MOSF shall utilize and abide by the U.S. Fish and Wildlife Service and FFWCC listed species guidelines and regulations as specifically defined for the Extension area by the Habitat and Wildlife Management Plan (Appendix D, 3AI), unless specific changes are recommended by FFWCC. (OP)
- 9. [EXT][DRI #263] MOSF shall utilize the best management practices to establish the land forms, land uses, and natural vegetation associations in accordance with the approved reclamation plan. (OP)
- [EXT][DRI #263] Approval of Mining Unit applications within the Extension Area and the DRI #263 Addition Area Phase shall include conditions which ensure the maintenance, and where environmentally and economically feasible, increase the abundance and distribution of populations of endangered, threatened or special concern species. (OP)
- 11. [EXT][DRI #263] MOSF shall perform premining wildlife surveys for the purpose of locating all individuals of listed species using the site so that they may be mitigated through relocation, avoidance, or directional clearing according to the Habitat and Wildlife Management Plan (Appendix D, 3AI). The pre-clearing wildlife survey shall be conducted a minimum of six (6) months prior to land clearing activities within that Mining Unit, unless otherwise approved by FFWCC. This survey shall be conducted according to the approved Habitat and Wildlife Management Plan. The results of the survey shall be reported to FFWCC office of Environmental Services, and Hillsborough County PGMD. Any listed species shall be protected/relocated according to the procedures contained in the approved Habitat and Wildlife Management Plan and/or FFWCC capture/relocation permits. Planning for the clearing of areas to be mined shall consider the listed species of concern. Contact with the Florida Fish and Wildlife Conservation Commission and/or the US Fish and Wildlife Service shall be performed

before each area is prepared by clearing. Each annual report shall include a discussion of mining plans for the subsequent year. (DO/OP)

A. The Wildlife Surveys will incorporate the following elements:

- 1. Gopher Tortoises will be surveyed in all appropriate habitats as documented in ADA. If a relocation permit is required and obtained, the Gopher tortoises and commensals may be relocated in accordance with the gopher tortoise permit concurrently.
- 2. Surveys for Florida Mice and Gopher frogs will be conducted in the appropriate habitats as documented in the ADA.
- 3. Surveys for listed wading bird nests will be done if clearing is scheduled in the nesting season, such that the clearing of those sites can be done at a time outside the nesting season.
- 4. Survey for Scrub Jays will be done at least one year ahead of clearing in appropriate habitat. Relocation to reclaimed habitat shall be by FFWCC permit, using technique developed by Archbold Biological Station.
- 5. Surveys for Bald Eagles and their nests will follow USFWS & FFWCC guidelines.
- 6. Survey for other species is not necessary, due to their mobility, and the mitigation methods in the management plan.
- 7. Reporting of Survey results and actions will be on an as needed basis, with status summary included in Annual Report.
- [EXT][DRI #263] Habitat and Wildlife Management will contain the following elements: (OP)
 - A. Continue existing range management practices and controlled burning on a 2 to 4 year cycle in the palmetto prairie and xeric areas.
 - B. Clearing shall be done in a directional method to herd remaining wildlife to ______ adjacent refuge areas.
 - C. Reclamation of replacement habitat shall be done in a staged or incremental manner so as to maintain a minimum of 50% of habitat on the total mine site.
 - D. Bald Eagles and their nests will be protected according to USFWS & FFWCC rules.
- 13. [EXT][DRI #263] To assure that mined tributaries and watersheds are reclaimed as functionally equivalent systems, all proposed reclamation plans shall be reviewed in a complete ecosystem context. Accordingly, when mining unit approvals are requested, MOSF shall include plans for any post-reclamation basin or sub-basin that may be affected by the proposed activities within the mining unit. (OP)
- [EXT][DRI #263] Mining and disturbance of significant and essential wildlife habitat shall be conducted according to LDC §8.02.08 A.18 of the Hillsborough County Land Development Code. The overall status of habitat re-establishment shall be included in the Annual Report. (OP)

- 15. [EXT][DRI #263] Significant and Essential Wildlife habitat shall be field verified at the time of future mining unit approvals. (OP)
- 16. [EXT][DRI #263] As part of the mining unit applications, MOSF shall submit evidence that activities as shown on Map H-1, Mine Access Corridor Crossings (DRI #213) are conducted such that fragmentation of wildlife corridors will not occur. In the instance that fragmentation of a wildlife corridor is unavoidable, design features for the safe passage of wildlife species expected to utilize the crossings shall be included in accordance with FFWCC guidelines. (OP)
- [EXT][DRI #263] All habitat restoration and reclamation of natural plant communities shall be done so in accordance with the guidelines, success criteria -and reporting requirements contained in the Hillsborough County Phosphate Mining Reclamation Manual as set forth in LDC Section 8.02.08 C.1 for future mining unit reclamation plans. (OP)
- 18. [EXT][ADD] [DRI #263] To the extent it is reasonably possible, the population and size of each relocated wildlife species shall be at least as large after relocation as it was before relocation, as well as viable. For viable populations of listed species associated with areas that qualify as essential wildlife habitat, an attempt to retain those populations within Hillsborough County through onsite or offsite preservation shall be made where possible. (OP)
- [DRI #263] Existing wetlands which are permitted to be altered or eliminated shall be used as donor material for revegetation or mitigation to the greatest extent practicable. (OP)
- 20. [DRI #263] Existing agricultural activities on the site may continue until the area is prepared for mining, but at no greater density or intensity than at present. (DO/OP)
- 21. [DRI #263] Mining Unit Applications will include a survey of the current status of threatened and endangered plants and animals in those areas indicated to be of possible concern in the ADA. This includes the Florida Golden Aster (See Table 18B-3, Flowering Seasons for Potentially Occurring Listed Plants (SR, 12-16), and Table 12-3, Listed Plant Species Potentially Present, (DRI #263 ADA); and b) Table 14-5, Listed Plant Species Observed on the DRI #263 Addition Area Phase, (2006 OPA/MMRP). (OP)
- 22. [DRI #263] The areas of regionally-significant habitat within the DRI #263 Addition Area Phase, as shows on Map 4 of the TBRPC Final Report dated May 14, 2007, and subject to ground truthing, shall be protected in perpetuity. (DO/OP)

J. ARCHAEOLOGICAL AND HISTORIC RESOURCES

1. [ALL] Any historical or archaeological resources discovered shall be immediately reported to the Florida Division of Historical Resources (DHR) and treatment of such resources shall be determined in cooperation with Hillsborough County, the DHR and the

TBRPC. Disposition of the resources shall be determined in cooperation with DHR. Treatment of the resources shall be completed before resource-disturbing activities are allowed to continue. If the resources are not scheduled to be impacted, the site shall be designated as a preservation area.

- 2. [ALL] Pursuant to Table 19B-2, and as shown on Map D-1 (SR3), Potentially Significant Archaeological and Historical Sites (SR3, 19-12), the following 10 sites are potentially significant and shall be totally preserved and protected or excavated and approved for release by the Division of Historical Resources (DHR): 8Hi3791 (Strawberry Fields), 8Hi3792 (Points O' Plenty), 8Hi3794 (Stanland Farmstead), 8Hi3795 (Kicklighter Farmstead - barn, may be moved), 8Hi3797 (Reflecting Man), 8Hi3801 (Little Manatee), 8Hi3804 (Howard Prairie Mound), 8Hi3817 (Arrow), 8Hi3824 (Indian Trail) and 8Hi3868 (Pippin Field). If the above National Register-eligible archaeological or historical Sites identified are to be impacted by project activities, additional survey/excavation shall be conducted at the site prior to the commencement of sitedisturbing project activities. Documentation of release of the sites for mining impact shall be included in annual report as appropriate.
- [DRI #263] If historical or archeological sites are discovered within the DRI #263 Addition Area Phase, the Florida Division of Historical Resources shall evaluate the significance of such findings and assess the measures which will be taken to avoid, minimize, or mitigate any adverse impacts prior to continuation of mining activities. (DO/OP)

K. EMERGENCY RESPONSE & FIRE PROTECTION

- 1. [ALL][DRI #263] MOSF shall continue to meet or exceed federal, state and local fire codes and regulations. (DO)
- 2. [EXT][DRI #263] MOSF shall continue to maintain effective communication with the Hillsborough County Fire Rescue Department to assure immediate paramedic assistance, including Medevac response if necessary. (DO)

L. SOLID WASTE AND HAZARDOUS WASTE

- 1. [ALL][DRI #263] Managers of all Hillsborough County Mines facilities that generate hazardous waste are encouraged to utilize waste exchanges. MOSF is also encouraged to develop permittable on-site hazardous waste treatment capabilities for waste, which is not suitable for recycle, exchange or reuse, to ensure public safety prior to transport. (DO)
- [ALL][DRI #263] Consistent with Hillsborough County policies, MOSF shall provide to all its employees information that: (DO)

-indicates the types of wastes and materials that are considered to be hazardous and are to be stored or disposed of only in the specially-designated containers/areas; and

-describes construction requirements for hazardous waste holding areas; and

-advises of applicable statutes and regulations regarding hazardous wastes and materials.

- [ALL][DRI #263] Underground storage of hazardous or toxic materials shall be prohibited. (DO)
- 4. [ALL][DRI #263] MOSF shall comply with all applicable federal, state and local solid waste and hazardous materials regulations. (DO)
- [K-120] The collection, transportation and disposal of solid waste is controlled by Hillsborough County ordinance and shall take place in accordance with the terms of said ordinance.
- 6. [DRI #263] There shall be no increased wastewater generation in excess of the currently permitted volume as it pertains to the mining of the DRI #263 Addition Area Phase. (DO)

M. ENERGY CONSERVATION

1. [CONSOL][DRI #263] The following energy conservation measures shall be encouraged at the mine: (DO)

-Energy policies, an energy audit by Tampa Electric Company, energy-use monitoring, and energy conservation for the mines using a qualified energy use analyst.

-Information regarding programs to promote energy conservation by employees.

-Programs to reduce levels of operation of all air conditioning, heating, and lighting systems during non-business hours.

-Recycling programs.

-Innovative energy alternatives such as solar energy, resource recovery, waste heat recovery and cogeneration.

N. EQUAL OPPORTUNITY

 [K-120][DRI #263] MOSF shall seek, urge and encourage all contractors and subcontracotors to involve minority groups in the development of the project. All office and commercial establishment areas shall be available to all, on a fair and impartial basis. (DO) Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

O. DRAINAGE

- 1. [FC-1] That after reclamation is complete in each affected drainage basin, the applicant shall conduct a detailed study to define final flood frequency elevations, delineate the aerial extent of each basin and determine the duration and quantity of surface water leaving the site during high rainfall events. This information shall be transmitted to all appropriate local, regional, state and federal agencies involved in floodplain management and floodplain delineation so that downstream flood elevations and management mechanisms can be appropriately modified.
- 2. [FC-1] That if hydrologic studies indicate that the peak discharge characteristics of any affected drainage basin have been increased over premining conditions, the applicant shall increase the retention capacity of the reclaimed land, such that the peak discharge characteristics of the affected drainage basin is equal to or less than that which existed before mining. Increases in retention capacity shall be accomplished with a minimum use of control structures.
- 3. [FC-1] Upon completion of mining and reclamation, all recreated wetlands and floodplain/flood prone areas shall be subject to all the rules, regulations and policies of local, state and federal agencies governing wetland and floodplain/flood prone areas at the time mining and reclamation is complete.
- [L-85] Parcels B and C shall be restored after mining to provide for the same drainage basin areas as existed prior to mining to maintain approximately the same surface and groundwater runoff for each drainage basin.
- [K-120] Drainage, stormwater management, water recirculation and pipeline installations shall meet the following specifications:
 - a. [EXT][K-120] Stormwater runoff and stream discharges from active mining areas shall not cause violation of Class III water quality standards in the receiving stream. Stormwater runoff from areas disturbed by mining activities shall be retained within the mine water recirculation system. Discharge from the mine water system shall occur only through NPDES permitted points.
 - b. [EXT][K-120] MOSF shall be responsible for maintaining the drainage system including channels, culvert and erosion protection facilities. Any transfer of this responsibility from MOSF to subsequent owners shall require the approval of Hillsborough County and/or SWFWMD.
 - c. [CONSOL] Best Management Practices for reducing adverse water quality impacts, as recommended by Hillsborough County and SWFWMD shall be implemented.
- 6. [ALL][DRI #263] The post-reclamation flood flow peaks shall be in accordance with current SWFWMD and Hillsborough County requirements. (OP)

P. TRANSPORTATION

- [K-120] No private access to public roads shall be interrupted unless adequate alternative access exists to that parcel.
- 2. [K-120] MOSF shall be held responsible for any damage caused by MOSF to public streets or roads used for mining activities as reasonably determined by the Hillsborough County Public Works Department, Engineering Division. The Hillsborough County Public Works Department, Engineering Division shall monitor structural conditions of public roads throughout the mining of the site. The results of this monitoring shall be provided to MOSF by the county for inclusion in the Annual Report. The Hillsborough County Public Works Department, Engineering Division shall assess the amount of structural degradation which has occurred based on MOSF mining related traffic and a determination of appropriate remedial action to be taken by MOSF shall be made. MOSF shall be required to undertake the remedial action as determined by the County.
- 3. [ALL] MOSF shall ensure that results of the Florida Department of Transportation (FDOT), Hillsborough and Polk Counties monitoring of S.R. 37, C.R. 39, S.R. 674, C.R. 630, S.R. 60, C.R. 640 and U.S. Highway 41 (including all bridges) within the Hillsborough County Mines Substantial Deviation transportation impact study area for the structural condition of these facilities over the life of the mine's trucking activity are provided to TBRPC, Hillsborough and Polk Counties. In order to continue trucking once FDOT or the counties (for their respective maintained roads) determine that these roads (including bridges) are structurally degraded or are degrading at an accelerated rate such that the structural condition will fall below acceptable standards within two years, MOSF shall enter into an agreement with the responsible entity for improvements to these facilities. Hillsborough County shall determine, in concert with the responsible entity, MOSF's financial responsibility for its proportionate share of the improvements to these facilities, unless the improvements are budgeted in the current year of the work program of the appropriate agency. The agreement shall be entered into within 90 days of notification of the determination, and the improvements shall be completed within two years of the determination, unless programmed for construction in the current-year work program of the appropriate agency.
- 4. [ALL][DRI #263] MOSF shall not use SR 674 between U.S. 301 and I-75 to transport product by truck. The approved alternate haul route, subject to weight restrictions, is SR 674 to Balm Wimauma Road to SR 672 to I-75 to SR 674 in lieu of the proposed haul route through Sun City Center, as shown on the map "Approved Truck Haul Routes" July 21, 1993, as amended. (DO)
- [ALL][DRI #263] Any proposed change to the haul routes or destinations as approved by Hillsborough County in this Development Order, shall require a substantial deviation determination. (DO)
- 6. [CONSOL] When the mine and the plants are operating at maximum capacity, MOSF shall provide peak-hour and daily traffic counts at the project entrances, including a description of the types of vehicles making each trip, to verify that the projected number

of external trips for the project are not exceeded. This information shall be supplied in the required annual report. If the annual report indicates that the total trips exceed projected counts, Hillsborough County shall conduct a substantial deviation determination pursuant to Subsection 380.06(19), F.S., and may amend the Development Order to change the requirements or to require additional roadway improvements. The results of the study may also serve as a basis for MOSF or reviewing agencies to request Development Order amendments. If the variance is determined to be a substantial deviation, the revised transportation analysis required shall be based upon results of the traffic counts and agreements reached at another transportation methodology meeting to be held prior to the preparation of the new analysis.

 [ALL][DRI #263] All project access ways onto County or State roads shall be acquired, constructed and maintained by MOSF without cost or obligation to Hillsborough County or FDOT. (DO)

Q. MINING OPERATION

- [ALL][DRI #263] That the total disturbed and unreclaimed lands in Hillsborough County not exceed 14,622 acres at any one time. The total disturbed and unreclaimed lands shall include but not be limited to clay settling ponds, dams, and perimeter ditches, but does not include access corridors.⁵ (OP)
- [ALL][DRI #263] The Board approves the amended Mining and Reclamation Plan as shown on Table 38A-2, 2006 Revision Conceptual Mining and Reclamation Schedule – Revised 05/31/07, (OPA/MMRP, June 2007, MOSF Response to RFAI), attached hereto and incorporated herein as part of Composite Attachment A, subject to the requirement that all mining be completed by 2018 and all reclamation (including initial revegetation) be completed by December 31, 2026. (DO)
- [CONSOL][FC-A2] The Board approves Settling Pond "F-2" in Sections 25-27 and 34-36; Township 32S; Range 22E as shown on Map No. 2, Location of Proposed and Permanent Structures dated 5/23/84 subject to the following conditions: (OP)
 - a. [FC-A2] The maximum effective area including all embankment areas and perimeter ditches shall not exceed 2750 acres as shown on Table 38H-1, Waste Clay Disposal Areas – Design Summary, (4th SR, DRI #213)
 - Example 10 [FC-A2] Reclamation shall be started in 1998 and allow for stage filling, per the schedule shown on Table 38A-2, 2006 Revision Conceptual Mining and Reclamation Schedule Revised 05/31/07, (OPA/MMRP, June 2007 MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A. Progress on reclamation shall be considered when reviewing requests for mining units during this period.

- 4. [ALL][DRI #263] There shall be no disturbance of any preservation areas as shown on Map H-7 Preservation Areas (DRI #213), and by Map H-7, Undisturbed Areas, 2006 Revisions to MMRP - Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A. There shall be no disturbance of other wetland areas under the jurisdiction of the EPCHC or the FDEP until agency review and mitigation plan approval has been secured.² (OP)
- 5. [L-85] No mining shall occur in the stream that occurs in the northern half of parcel B.
- [L-85] MOSF shall meet the setback requirements of Section 14(7) of the Hillsborough County Phosphate Mining Ordinance (1974) and any special setback requirements imposed by Southwest Florida Water Management District under consumptive use permit #200203, or subsequent permits, which was approved August 4, 1982. (OP)
- 7. [ALL][DRI #263] The cumulative rate of mining shall not exceed by more than 10% or 11 acres, whichever is greater, the proposed Mining and Reclamation schedule shown on Table 38A-2, 2006 Revision Conceptual Mining and Reclamation Schedule - Revised 05/31/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A, without prior approval of the County pursuant to 380.06 (19), F.S. procedures. (OP)
- 8. [K-120][DRI #263] If MOSF elects to amend the approved Mining and Reclamation Schedule as shown on Table 38A-2, 2006 Revision Conceptual Mining and Reclamation Schedule - Revised 05/31/07, (OPA/MMRP, June 2007, MOSF Response to RFAI), MOSF shall submit said amendments to the Hillsborough County Planning and Growth Management Department for review and approval as required by law, which approval shall not be withheld for mere acceleration or deceleration of the rate or sequence of mining if the terms of this Order are otherwise fully complied with. (OP)
- 9. [K-120] Mining and Reclamation Plans shall include the following:
 - a. [K-120] Preservation of the 25-year floodplain wetlands, and restoration of all forest (wooded wetland) areas, within or along the edge of the 100-year floodplain which are disturbed due to mining or associated activities at a density equal to that previous to the disturbance.
 - b. [K-120] Use of the toe spoiling mining technique for all overburden containing matrix or leach zone material.
- [K-120] MOSF shall comply with all conditions of the amended Mining and Reclamation Plan. All mining operations shall be carried out pursuant to Hillsborough County Ordinance 87-27 and all other applicable agency rules and regulations.
- 11. [ALL][DRI #263] This Development Order is intended to control future mining and mining related activities in the Consolidation and Extension Phases and all amendments thereto, and the DRI #263 Addition Area Phase. All aspects of the Consolidation and Extension Phases and all amendments thereto, and the DRI #263 Addition Area Phase

shall be consistent with the current Land Development Code unless determined to be vested during review of mining and mining related activities pursuant to Part 8.02.00 of the Phosphate Mining Regulations. Specific determinations of vested rights, if any, shall be made by the Board at the time of individual mining unit approval. MOSF shall also comply with the federal Mine Safety and Health Regulations and training requirements. (OP)

- 12. [ALL][DRI #263] MOSF shall continue to implement all monitoring requirements from the existing Development Orders, permits and approvals. Proposed changes in the monitoring programs shall require the approval of the County PGMD, and the affected regulatory agencies if appropriate. (See Condition B.2.) (OP)
- 13. [ALL][DRI #263] All Mining Unit applications shall include the following: (DO/OP)
 - A. Preservation of the pre-mining 25-year floodplain, as determined by Hillsborough County, shall be required. Wetland mitigation required by regulatory agencies would satisfy the restoration requirements for systems that are disturbed due to mining or associated activities.² No mining, dredging or filling of the 25-year floodplain shall be allowed, except for minimal permitted, and mitigated intrusions for necessary mine access corridor crossings. No impervious surfaces shall be constructed within the 25-year floodplain, except for minimal, properly-permitted and mitigated intrusions for necessary mine access corridor crossings. Any 25-year floodplain or wetland crossing, beyond those approved for DRI #213 (as shown on Map H-1, Mine Access Corridor Crossings (DRI #213), and by Map H-1, Mine Access Corridors, 2006 Revisions to MMRP - Revised 05/30/07 (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A, subject to County approval), shall be subject to a substantial deviation determination.
 - B. All allowable wetland losses must be permitted by the appropriate regulatory agencies and shall require, at minimum, 1:1 in-kind or more productive wetland replacement. Existing wetlands which are permitted to be altered or eliminated shall be used as donor material for revegetation of mitigation areas, where feasible. All mitigation areas and littoral shelves shall be designed, implemented and monitored in accordance with EPCHC, FDEP requirements, as appropriate.
 - C. Maintenance of the same watershed sizes and locations.
 - D. MOSF shall provide positive protection, such as alarms and spill containment systems against any significant discharge, leak or other release of materials from pipelines that are external to the rainfall catchment area of the water recirculation system. In addition, pipelines shall be routinely inspected by operating personnel and the system shall be shut down as soon as possible if a spill occurs, until the source of the spill is corrected. Spills occurring in environmentally sensitive areas (such as crossing areas or areas in proximity to preservation areas) shall have the highest priority for remedial actions.

- 14. [ALL][DRI #263] The adoption or incorporation of tables, figures and/or maps from the application or the application documents, themselves, as part of this Development Order shall not constitute approval of MOSF's underlying assumption utilized in developing this information, that all requested setback variances will be approved. All setback variances, implied or stated, shall require approval by the Hillsborough County Board of County Commissioners. Appropriate setbacks shall be placed between mining activities and adjacent existing land uses to ensure public health and safety. (OP)
- 15. [ALL] All dams (to impound or channel waste clays, spoils, tailings, clear water, process water, wastewater or sand/clay mixtures) shall be designed, constructed, inspected and maintained in compliance with the Rules of FDEP, Chapter 62-672, FAC Minimum Requirements for Earthen Dams, Phosphate Mining and Processing Operations; with all other applicable local, state and federal requirements; and in accordance with generally accepted, sound engineering practices. MOSF shall continue its inspection and maintenance practices for all dams as described on page 38E-15 of the ADA.
- 16. [CONSOL] Phase 1 of the Hillsborough County Mines Substantial Deviation shall include the temporary movement of waste clays from settling area F-1 (Manatee County) into settling area F-2 (Hillsborough County) until F-1 is mined and then rebuilt. This condition does not imply a recommendation of approval for size or height enlargement of the F-2 clay settling area.
- [CONSOL][DRI #263] The proposed L-2 and L-3 clay settling areas are to be located atop areas which will be mined and which are currently TBRPC defined preservation or conservation areas. Appropriate wetland mitigation construction shall be consistent with regulatory agency requirements. (DO)
- 18. [ALL][DRI #263] Any proposed waste clay settling area, other than those approved in this Development Order (as shown on Map 38H-4 Clay Settling Areas (DRI #213), and by Map 38H-4, Revised Clay Settling Area Locations, 2006 Revisions to MMRP -Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI) attached hereto and incorporated herein as part of Composite Attachment A, subject to County and FDEP approval), shall be subject to a substantial deviation determination. (DO/OP)
- 19. [EXT] In the Extension Phase, clay settling areas shall not be built on unmined ground.
- 20. [EXT] MOSF shall develop a contingency plan for each waste clay settling pond in the Extension Area in the vicinity of the Little Manatee River and its tributaries (including Howard Prairie Branch) which specifies actions to be taken in the event of a dam failure. This plan shall accompany the Hillsborough County Dam Construction permit application for each area.
- 21. [EXT] In order to protect the natural values of preserved/conserved wetland areas², MOSF will submit sufficient copies of each Mining Unit application for the County to forward to TBRPC, SWFWMD, and to other appropriate county and state agencies for review and comments to the County. The application shall address, in addition to Hillsborough County's requirements, wetlands to be preserved, proposed wetland

alterations, control of exotic species, mitigation of lost wetlands (including scheduling of the timing of mitigation and the disturbance of wetlands to minimize adverse impacts to wildlife), control of on-site water quality, and methods for wetlands restoration/enhancement and lake creation. The application shall include the classification of each wetland and individual and cumulative acreage figures for wetlands to be preserved, altered or lost, and recreated via mitigation areas.

- 22. [EXT] This Development Order specifically recognizes that MOSF will continue to conduct agricultural operations on the land according to all applicable regulations until such time as each area is converted for mining (at the time of Mining Unit Approval).
- 23. [DRI #263] Per Mosaic's revised standard operating procedures, as recognized during the course of S/D DRI review, the applicant shall ensure that all critical locations are provided alternative energy sources for the pumps during the hurricane season to assure the appropriate control of the water within the recirculation/containment systems. (DO/OP)

R. RECLAMATION

- 1. [L-85] Reclamation of mined areas located within the newly acquired acreage shall be completed within three (3) years after the cessation of mining on the identified parcels respectively.
- 2. [L-85] Reclamation plans for parcels B and C must be submitted to the Environmental Protection Commission of Hillsborough County for staff approval.
- 3. [L-85] MOSF must determine the acreage of the existing sand pine scrub community in parcel B and restore the area acre for acre.
- 4. [L-85] The littoral zone of the proposed man-made lakes shall be vegetated using mulching techniques, with mulch acquired from the small isolated marshes prepared for mining.
- 5. [K-120] Reclamation Plans shall include the following:
 - a. [K-120] Replacement of at least equal acres and natural density of hardwood forest as existed before mining, including xeric forest.
 - b. [K-120] Maintenance of the existing watershed boundaries.
 - c. [K-120] Provision of at least 10 percent forest in pasture land area for wildlife habitat.
 - d. [K-120] Commitment by MOSF to maintain all reclamation areas per Department of Environmental Protection (FDEP) and County regulations.

- e. [K-120] Implementation of the mining mitigation measures identified on page 22-10 of the Application, at minimum.
- 6. [ALL][DRI #263] MOSF shall reclaim all mined or disturbed land in accordance with Rules of the FDEP, Chapter 62C-16, FAC, Mandatory Phosphate Mine Reclamation and Hillsborough County standards. Reclamation and revegetation shall proceed according to Part 8.02.00 of the Land Development Code, as soon as possible after mining activities cease in each Mining Unit consistent with the reclamation design and objectives. Reclamation of the DRI #263 Addition Area Phase, and the Extension Phase Areas where applicable, shall be in accordance with the Hillsborough County Phosphate Mining Reclamation Manual pursuant to LDC Part 8.02.08 C.1. (OP)
- [ALL][DRI #263] MOSF shall abide by all FDEP and Hillsborough County reclamation regulations regarding site cleanup and shall dismantle and remove any building structures existing at the cessation of the mining operation that cannot be put to an allowable use under the zoning district classification of the property.⁶ (OP)
- 8. [ALL][DRI #263] Future FDEP rule changes may alter the reclamation requirements of Chapter 62C-16, FAC, and plans that are made a part of the DRI Development Order. Therefore, pursuant to Subsection 380.06(19)(d), F.S., future amendments to the FDEP and County Reclamation Plans that are required solely to stay in compliance with state rules shall be presumed not to constitute a substantial deviation of the DRI. MOSF shall amend the DRI, if changes in the FDEP Conceptual Reclamation Plan affect Development Order requirements or developer commitments, to assure consistency with the FDEP Conceptual Reclamation Plan and appropriate compliance with the Development Order. (DO/OP)
- 9. [ALL][DRI #263] Deeds for land within this project shall disclose that the parcel is within a mined area and that the resulting soils may be affected by the mining. (OP)
- [ALL][DRI #263] New mining and reclamation procedures resulting from on-going research projects of the U.S. Bureau of Mines, the Florida Institute of Phosphate Research and other agencies, designed to lessen adverse environmental impacts shall be incorporated by MOSF into their mining and reclamation plans, when technically and economically feasible. If the Mine/Reclamation Plans are amended through the Paragraph 380.06(19) (f), F.S., process, such changes shall be presumed not to create a substantial deviation. (DO/OP)
- 11. [EXT][DRI #263] MOSF shall continue to comply with State rules and procedures established by the Department of Health for radioactivity content and shall preferentially utilize low activity fill materials for capping applications. (OP)
- [EXT][DRI #263] Until any given reclamation or mitigation area is released, MOSF shall control exotic species as required by the Hillsborough County Land Development Code, FDEP rules 62C-16 FAC, EPCHC Rules, and specific dredge and fill permit conditions. (OP)

13. [EXT][DRI #263] All surface waters in areas reclaimed as lakes or wetlands shall exhibit water quality conditions comparable to equivalent natural systems. (OP)

S. GENERAL CONDITIONS

1. [ALL][DRI #263] ANNUAL REPORTS

MOSF shall file an annual report in accordance with Section 380.06(18), Florida Statutes, as amended, and appropriate rules and regulations. The report shall be submitted on Florida Department of Community Affairs Form RPM-BSP-Annual Report, as amended. MOSF must file an annual report by July 31 for each reporting year (July 1 through June 30) until and including such time as all terms and conditions of this Development Order are satisfied. Such report shall be submitted to TBRPC, FDCA and the Hillsborough County Planning and Growth Management Department which shall, after appropriate review, submit it for review by the Board of County Commissioners. The Board of County Commissioners shall review the report for compliance with the terms and conditions of this Development Order. MOSF shall be notified of any Board of County Commissioners' hearing wherein such report is to be reviewed. The receipt and review by the Board of County Commissioners shall not be considered a substitute or a waiver of any terms or conditions of this Development Order. This report shall contain: (DO/OP)

- a. The information required by the State Land Planning Agency to be included in the Annual Report, which information is described in the Rules and Regulations promulgated by the State Land Planning Agency pursuant to Section 380.06, Florida Statutes; and
- b. A description of all development activities proposed to be conducted under the terms of this Development Order for the year immediately following the submittal of the annual report; and
- c. A statement listing all Applications for Incremental Review required pursuant to this Development Order or other applicable local regulations which MOSF proposes to submit during the year immediately following submittal of the annual report; and
- d. A statement setting forth the name(s) and address of any heir, assignee or successor in interest to this Development Order; and
- e. A statement describing how MOSF has complied with each term and condition of this Development Order applicable when the Annual Report was prepared; and
- f. [K-120] The Annual Report shall include reports on the status of MOSF's purchase of extension area agreement lands, water quality monitoring and soils study results, historical and archaeological site activities, reclamation progress, and tributary crossings in addition to mining activities; and

- 1. cumulative results of the setback variance requests;
- summaries of environmental monitoring results, including any violations of standards, for each area of monitoring (including monitoring conducted in association with the Extension Phase, and the additional acreage to be mined in the Lonesome and Four Corners Mines) and the DRI #263 Addition Area Phase;
- corrective actions taken for any violations of water quality standards per Chapter 62-302, FAC, Surface Water Quality Standards and Chapter 62-520, FAC, Groundwater Standards and the results of the corrective actions;
- success or problems with implementation of listed species management plans required by the Consolidation or Extension Phase approvals and the DRI #263 Addition Area Phase;
- 5. mining and reclamation progress (including cumulative totals of acres mined, in reclamation and released by FDEP); and
- assessments of compliance with the approved Consolidation and Extension Phase and the DRI #263 Addition Area Phase mining and reclamation schedules;
- 7. the results of the regional roadway and bridge structural integrity monitoring conducted by FDOT, Hillsborough and Polk Counties; and
- 8. reports on any MOSF agreements with FDOT, Hillsborough and/or Polk County for improvements needed to provide 12-foot lanes and appropriate structural integrity on the regional roadways and bridges in the transportation impact study area.
- MOSF shall continue to provide proof of long-term financial responsibility for the reclamation of mined lands in accordance with Hillsborough County and FDEP requirements.
- 10. Additionally, the first annual report following mining in the Extension Area shall contain descriptions of each of the monitoring programs for the Extension Area and the DRI #263 Addition Area Phase, including the following elements: sampling locations, parameters and standards; sampling schedule and analysis methods; quality assurance and data reporting.

- [ALL][DRI #263] MOSF shall provide TBRPC and DCA with copies of annual progress reports provided to Hillsborough County along with copies of all monitoring data. (DO/OP)
- [ALL][DRI #263] MOSF shall encourage the utilization of entrepreneurship and small and minority-owned businesses and provide non-discriminatory employment opportunities. (DO/OP)
- 4. [ALL][DRI #263] No capital improvement costs shall accrue to the County due to the development of this project. (DO/OP)
- 5. [ALL] Any change to the project which departs from the parameters set forth in the latest revised information, tables, figures and maps as identified in the Addenda (Sixth Sufficiency Response to the ADA) for Phase 1 and 2 of the Hillsborough County Mines Substantial Deviation shall require a substantial deviation determination, pursuant to Subsection 380.06(19), F.S.
- 6. [EXT] All Mining Units within the Extension Area shall be numbered in a separate numbering sequence so as to distinguish them from those in the Consolidation Area.
- 7. [DRI #263] Any approval of Hillsborough County Mine Consolidation S/D shall, at minimum, satisfy the provisions of Subsection 380.06(15), F.S., and the following provisions of the Florida Administrative Code (F.A.C.): Rule 9J-2.041 (Listed Plant and Wildlife Resources Uniform Standard Rule); Rule 9J-2.043 (Archaeological and Historical Resources Uniform Standard Rule); Rule 9J-2.044 (Hazardous Material Usage, Potable Water, Wastewater, and Solid Waste Facilities Uniform Standard Rule); and Rule 9J-2.045 (Transportation Uniform Standard Rule). (DO/OP)
- 8. [DRI #263] Payment for any future activities of the TBRPC with regard to this development including, but not limited to monitoring or enforcement actions, shall be paid to the TBRPC by the applicant/developer in accordance with the Rule 9J-2.0252, FAC. (DO/OP)
- 9. [DRI #263] All provisions contained within the Application shall be considered conditions of this Development Order unless inconsistent with the terms and conditions of this Development Order, in which case the terms and conditions of this Development Order shall control. (DO/OP)
- 10. [DRI #263] This Development Order shall be binding upon MOSF and its heirs, assignees or successors in interest including any entity which may assume any of the responsibilities imposed on MOSF by this Development Order. It is understood that any reference herein to any governmental agency shall be construed to mean any future instrumentality which may be created or designated as successors in interest to, or which otherwise possesses any of the powers and duties of any branch of government or governmental agency. (DO/OP)

- Page 33
- 11. [DRI #263] Should the changes to pre-mining, mining or post-mining scenarios depart significantly from the schedules and methods described in the ADA or meet the criteria set forth in Subsection 380.06(19), F.S., the project will be subject to a Substantial Deviation determination. (DO/OP)

T. WATER QUALITY, WATER SUPPLY AND STORMWATER MANAGEMENT

- [DRI #263] Crossing O is also designated as a pipeline crossing point for water pipes and slurry pipes. (DO/OP)
- 2. [DRI #263] Mine use of these existing crossings (N, K, L, P, 13, 14, and 21) was approved by DRI #213. As described in the Conceptual Approval Letter dated April 26, 2005, the exact wetland impact justification for any remaining tributary crossings will be done at the time of the future mining unit approvals, as well as during any FDEP review, including dredge and fill permitting, for the expanded use of these crossings. (DO/OP)
- 3. [DRI #263] All existing wells which have no future use or attempted wells or test foundation holes shall be cement plugged by the firm of a licensed water well contractor (under SWFWMD Well Abandonment Permit(s)), or by test or foundation hole contractor in accordance with Rule 40D-3.041(1), F.A.C. Test foundation holes that penetrate only sand or gravel, and no clayey layers, may be filled with drill cuttings. Existing wells will be retained if proposed for use, properly fitted and permitted by SWFWMD. (DO/OP)
- 4. [DRI #263] There shall be no net increase in the public water demand in excess of the currently permitted volume as of 2006 as it pertains to the mining of the DRI #263 Addition Area Phase. (DO/OP)
- 5. [DRI #263] As committed, Mosaic shall implement the following measures to avoid potential adverse impacts upon ground and surface water hydrology and water quality on, beneath, and downgradient of the DRI #263 Addition Area Phase: Maintenance of Water Table Elevations (Ditch and Berm System, System Performance Monitoring, Design Variables and Installation Schedule); Stream Flows; and Water Quality (Mine Recirculation System, Tailings Backfill and Wetlands). (DO/OP)
- 6. [DRI #263] In order to ensure the protection of water resources, water table measurements shall continue to be taken on a weekly basis or as required by the Southwest Florida Water Management District. (DO/OP)

SECTION IV. – AMENDED LEGAL DESCRIPTION

REVISED LEGAL DESCRIPTION

LEGAL DESCRIPTION DRI #213

CONSOLIDATION PHASE AREA

In Township 31 South, Range 21 East, Hillsborough County, Florida: Section 36: The E ½ of the SW ¼; and the W ½ of the SE ¼; and the S ¾ of the E ½ of the SE ¼;

In Township 32 South, Range 21 East, Hillsborough County, Florida: Section 1: All Section 2: All Section 3: All Section 10: The N ½, and the E ½ of SW ¼, and, The N ½ of SE ¼, and, The W ½ of SW ¼ of SE ¼. Section 11: All, LESS the E ½ of SW ¼. Section 12: All;

In Township 30 South, Range 22 East, Hillsborough County, Florida: Section 24: The SE ¼, LESS the CSX Railroad right of way, and, the S ¼ of W ¾ of NE ¼, LESS the CSX Railroad right of way; and the E ½ of SE ¼ of SW ¼, subject to a road right of way over the south 15 feet of the NE ¼ of SE ¼ of SE ¼ of NW ¼; and the E ½ of NE ¼ of SW ¼, LESS the following described parcel: The south 162 feet of the N ¼ of said E ½ of NE ¼ of SW ¼, LESS the west 326.5 feet thereof; and the N ¾ of SE ¼ of SW ¼. Section 25: All. Section 26: The SW ¼; and the E ½ of NW ¼; and the S ¾ of the W ½ of the SE ¼; and the SE ¼ of SW ¼ of NW ¼; and the S ¾ of W ½ of SE ¼ of NW ¼; and the E ½ of SE ¼ of NW ¼; and the E ½ of NE ¼ of NW ¼, LESS the west 330 feet of the north 660 feet thereof; and the S½ of the SE ¼ of NE ¼, LESS the north 420 feet of the west 474.37 feet thereof; and the east 30 feet of the west 45 feet of the SW ¼ of NE ¼, LESS the south 774 feet thereof; and the east 810 feet of the west 825 feet of the north 529 feet of the south 774 feet of the SE ¼. Section 35: All, LESS: West 395 feet of the NW ¼ of the NW ¼ of the SW ¼; and, LESS: The East 25 feet of the West 420 feet of the North 105 feet of the NW ¼ of the NW ¼ of the NW ¼ of the SW ¼; and, LESS: The S ½ of the NW ¼ of the NW ¼ of the SW ¼. Section 36: All;

In Township 31 South, Range 22 East, Hillsborough County, Florida: Section 1: All Section 2: All, LESS: The SE 1/4 of the NW 1/4, Also LESS: That part of the N 1/2 of the NW 1/4, lying within the following metes and bounds description: Beginning at the SE corner of the NE ¼ of the NW ¼ of said Section 2, run thence West along the South boundary thereof 1428.22 feet, thence North 0°57' East 50 feet, thence East 247.5 feet, thence North 26.5 feet, thence South 86°18'40" East 1183.2 feet to the point of beginning. Also LESS: That part of the SW ¼ of the NE ¼ and NW ¼ of SE ¼ of said Section 2 described as follows: Beginning at the Northwest corner of said SW ¼ of NE ¼ run South 86°18'40" East 13.0 feet, thence South 1°43' West 85 feet, thence South 88°17' East 289 Feet, thence South 7°20'50" West 1273.8 feet, thence South 88°27'30" West 177 feet, thence North 1°43' East for 3.0 feet to the center of said Section 2, thence continue North 1°43' East 1349.7 feet to the point of beginning. Also LESS: That part of the N ½ of SW ¼ of said Section 2 described as follows: Beginning at the center of said Section 2, run South 1º43' West 3.0 feet, thence South 88°27'30" West 1403.4 feet, thence North 1º48'40" East 62.0 feet to the North boundary of said SW ¼ thence South 89°08' East along said North boundary 1402.2 feet to the point of beginning. Also LESS: That part of SW ¼ of NW ¼ of said Section 2 described as follows: Beginning at SE corner of said SW ¼ of NW ¼, run North 89°08' West 81.7 feet, thence North 1°48'40" East 665 feet, thence South 88°11'20" West 19.6 feet, thence North 0°57' East 664.8 feet, thence East 102.5 feet to NE corner of said SW ¼ of NW ¼, thence South 1º26' West 1329.6 feet to the point of beginning. Section 3: The NW ¼ of the SW ¼; and, the E ½ of SE ¼ of SE ¼. Section 4: The SW ¼ of SE ¼. Section 9: All that part lying north of Jameson Road, LESS N ½ of NE ¼ of NE ¼ and LESS 1 acre square in the SW corner of the NW ¼ of NE ¼. Section 10: All Section 11: All. Section 12: All Section 13: All Section 14: All Section 15: The N ¼ LESS: the west 1,080 feet thereof. Section 16: That part lying north of Jameson Road. Section 23: The N ¼; and the W ½ of SW ¼ of NW ¼. Section 24: The N ¼; and the S ¾ of E ¼. Section 25: The N ½ of NE ¼. Section 31: The S-3/4 of W-1/2 of SE-1/4 and the E-1/2 of SE-1/4, and that part of the E-1/2 of NE-1/4 lying south of a proposed conservation easement being more particularly described as: BEGIN at the southeast corner of said E-1/2 of NE-1/4; thence proceed south 89°23'33" west, along the south line of the E-1/2 of NE-1/4, 1,340.56 feet to the southwest corner of the E-1/2 of NE-1/4; thence north 00°27'05" west, along the west line of the E-1/2 of NE-1/4, 707.5 feet; thence north 09°55'44" east 594.98 feet; thence north 37°12'07" east 1,044.31 feet to a point on the southerly line of said proposed conservation easement; thence south 53°53'17" east, along said conservation easement line, 753.55 feet to a point on the east line of the E-1/2 of NE-1/4; thence south 00°06'46" east, along the east line of the E-1/2 of NE-1/4, 1,664.78 feet to the POINT OF BEGINNING. Section 32: The S-1/2 and that part of the N-1/2 of the section (lying south of the south boundary line of a proposed conservation easement for the South Prong of the Alafia River), being described as: commence at the southeast corner of said Section 32, thence proceed north 00°24'37" west along the east line of the section 3,046.29 feet for a POINT OF BEGINNING, thence north 78°33'46" west 163.70 feet, thence south 83°49'34" west 1.708.40 feet, thence north 77°18'47" west 1,610.30 feet, thence south 83°06'54" west 392.14 feet, thence north 53°53'18" west 1,917.60

Page 34

feet to a point on the west line of the N-1/2 of the section, thence south 00°06'46" east along the west line of said N-1/2 1,667.17 feet to the southwest corner of the N-1/2, thence south 89°56'41' east along the south line of the N-1/2 5,367.90 feet to a point on the east line of the section, thence north 00°24'37" west 386.83 feet to the POINT OF BEGINNING.

Section 33: That part of the section (lying south of the south boundary line of a proposed conservation easement for the South Prong of the Alafia River), being described as: commence at the northeast corner of the section, thence proceed south 00°23'52" east, along the east line of the section, 3,662.02 feet for a POINT OF BEGINNING, thence continue south 00°23'52" east, along the section line, 1,600.86 feet to the southeast corner of the section, thence north 89°55'50" west, along the south line of the section, 5,338.84 feet to the southwest corner of the section, thence north 00°24'37" west, along the west line of the section, 3,046.29 feet, thence south 78°33'46" east 3,020.09 feet, thence south 50°51'25" east 605.45 feet, thence south 76°13'17" east 1,976.73 feet to the POINT OF BEGINNING. Section 34: that part of the W-1/2 lying south of a proposed conservation easement for the South Prong of the Alafia River in the SW-1/4 of the section, the excepted portion being described as: commence at the southwest corner of said Section 34, thence proceed north 00°23'52" west, along the west line of the section, 1,600.85 feet for a POINT OF BEGINNING, thence south 76°13'17" east 437.95 feet, thence south 46°02'27" east 1,720.83 feet, thence south 66°23'36" east 781.99 feet to a point on the south line of the W-1/2 of the section, thence south 89°43'49 east 255.81 feet to the southeast corner of the W-1/2 of the section, thence north 00°17'02" east, along the east line of the W-1/2 of the section, 1,050.03 feet, thence north 56°02'10" west 2,320.56 feet, thence north 70°14'53" west 758.03 feet to a point on the west line of the section, thence south 00°23'52" east, along the west line of the section, 989.48 feet to the POINT OF BEGINNING.

In Township 31 South, Range 21 East, Hillsborough County, Florida: Section 13: The E ½ Section 24: The N ½ of the NE ¼, and the SW ¼ of he NE ¼, and the E ½ of the NW ¼;

In Township 32 South, Range 22 East: Section 3: All, LESS the E 1/2 of NE 1/4; and LESS that part of the NE-1/4 of NW-1/4 and the NW-1/4 of NE-1/4 described as: commence at the northwest corner of said Section 3, thence proceed south 89°43'49" east, along the north line of the section, 2,369.52 feet for a POINT OF BEGINNING, thence south 66°23'36" east 975.91 feet, thence south 53°28'22" east 850.39 feet to a point on the east line of the NW-1/4 of NE-1/4 of Section 3, thence north 00°35'20" west 889.63 feet to the northeast corner of the NW-1/4 of NE-1/4 of Section 3, thence north 89°43'49" west, along the north line of the section, 1,568.47 feet to the POINT OF BEGINNING. Section 4: All. Section 5: All. Section 6: The N ½ of SW ¼, and all that part lying East of State Road 39 (the Plant City Picnic Road). Section 7: All, LESS the South 650 feet of the East 350 feet of the SE ¼ of the SW ¼, and LESS the W ¼ of the SW ¼ of the SW ¼. Section 8: All. Section 9: All. Section 10: a.) The W ½, and the NE ¼, and the E ½ of SE ¼, and the N ½ of NW ¼ of SE ¼. b.) (Phosphate and phosphate rock only). The S 1/2 of NW 1/4 of SE 1/4. Section 13: All. Section 14: The W 3/4; and the NE 1/4 of NE 1/4; and the north 104.35 feet of the east 208.71 feet of the NE ¼ of SE ¼ of NE ¼. Section 15: All. Section 16: The S ½; and the NW ¼ of NE ¼; and the S ½ of the NW ¼. Section 17: The W ½ of the NW ¼ of the NE ¼ of the NE ¼, and the SW ¼ of the NE ¼ of the NE ¼, and the N ½ and SE ¼ of the NW ¼ of the NE ¼, and the SE ¼ of the NE ¼, and the E ¼ of the SE ¼ Section 21: All. Section 22: ALL, LESS the SW ¼ of the NE ¼. Section 23: All, LESS the NE ¼ of the NE ¼. Section 24: All. Section 25: All. Section 26: All. Section 27: All. Section 28: E 1/2 of SE 1/4. Section 33: All, LESS the NE 1/4 of NW 1/4 and the NW1/4 of NE1/4. Section 34: All. Section 35: All. Section 36: All.

All containing 26,917 acres more or less.

EXTENSION PHASE AREA

In Township 30 South, Range 22 East, Hillsborough County, Florida;

Section 26: The N $\frac{1}{2}$ of the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ and the South $\frac{1}{4}$ of the NE $\frac{1}{4}$; The N $\frac{1}{2}$ of the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$; The South 245 feet of the West 825 feet of the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$, and the West 15 feet of the West 825 feet of the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$ LESS the South 245 feet.

In Township 31 South, Range 21 East, Hillsborough County, Florida

Section 25: That part of the SW ¼ of SW ¼ described as begin at the northwest corner thereof, run thence east 200 feet, thence southeasterly to a point 200 feet west of the southeast corner thereof, thence west to the southwest corner thereof, thence north to the point of beginning. Section 26: the S ½ of SW ¼ of NW ¼; and the S ½ of SE ¼ of NW ¼; and the W ½ of SW ¼ of SW ¼ of NE ¼; and the S ½ LESS the part of the N ½ of SE ¼ described as begin 495 feet north of the southeast corner of the N ½ of SE ¼, run thence west 990 feet, thence North 165 feet, thence West 165 feet, thence North 165 feet, thence west 495 feet, thence North 165 feet, thence west 330 feet, thence North 330 feet, more or less, to the North boundary of the N ½ of SE ¼, thence east to the Northeast corner thereof, thence South to the point of beginning. Section 27: The SW ¼ of NW ¼; and the E ½ of NW ¼; and the W ½ of SW

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

Page 36

14 of NE ¼; and the S ½. Section 28: The E ¼ of the SE ¼ of the SW ¼ LESS the south 30 feet; and the S ¾ of the W ½ of the SE ¼ LESS the South 30 feet; and the SE ¼ of the SE ¼; and the North 50 feet of the S ½ of the NE ¼ of the SW ¼; and the SE ¼ of the NE ¼ of the SE ¼. Section 33: The SE ¼ of NW ¼ LESS that part thereof lying north of a dirt road (the easterly extension of Sweat Loop Road); and the E ¾ of N ½ of NE ¼; and the S ½ of the NE ½ of SW ¼ of NE ¼ lying north of a dirt road (the easterly extension of Sweat Loop Road); and the S ½; and, the N ½ of the NE ¼ of the NW ¼; and The SW ¼ of the NW ¼, LESS that part lying north of Sweat Loop Road and the S ½; and, the N ½ of the NE ¼ of the NW ¼; and The SW ¼ of NW ¼, LESS that part lying north of Sweat Loop Road. Section 34: All. Section 35: All. Section 36: The NW ¼ of NW ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NE ¼; and the S ½ of NW ¼; and the N ¼ of NE ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NE ¼; and the S ½ of NW ¼; and the N ¼ of NE ¼; and the S ½ of NE ¼ of NW ¼; and the S ½ of NE ¼ of NE ¼; and the S ½ of NW ¼; and the NE ¼ of NE ¼; and the S ½ of NE ¼; and the S ½ of NW ¼; and the N ½ of NE ¼; and the S ½ of NE ¼.

In Township 31 South, Range 22 East:

Section 19: The north 150 feet of the West 290 feet of the NW ¼ of the NW ¼ of the NE ¼; and The E ½ of the NE ¼ of the NW ¼ of the SE ¼.

In Township 32 South, Range 21 East, Hillsborough County, Florid:

Section 4: All. Section 9: The W ½; and the W ½ of NE ¼; and the W ½ of NE ¼ of NE ¼; and the W 3/8 of SE ¼ of NE ¼; and the NW ¼ of SE ¼. Section 13: The E ½ of W ½ of NW ¼; and The SW ¼; and The S ¼ of the SE ¼. Section 14: The W ½ of NE ¼ and the West 501.88 feet of the E ½ of NE ¼; and The SE ¼; and The W ½, LESS the following described lands: the South 210 feet of the North 260 feet of the West 210 feet of the NW ¼; the North 260 feet of the East 210 feet of the NE ¼ of NW ¼; the North 260 feet of the South 210 feet of the NW ¼ of SW ¼; the North 260 feet of the East 210 feet of the NE ¼ of NW ¼; the North 260 feet of the South 210 feet of the NE ¼ of NW ¼; the North 260 feet of the NE ¼ of NW ¼; the North 260 feet of the NE ¼ of the NW ¼ of the NE ¼ of the NW ¼ of the NE ¼ of the N

In Township 32 South, Range 22 East, Hillsborough County, Florida

Section 7: the W ¼ of the SW ¼ of the SW ¼. Section 16: The SW ¼ of the NE ¼ and the SE ¼ of the NE ¼ and, The NE ¼ of the NE ¼, LESS the North 550 feet of the West 792 feet, and, The N ½ of the NW ¼. Section 17; All Section 18: The W ½ of NE ¼ of SW ¼, the SE ¼ of NE ¼ of SW ¼, the W ½ of SW ¼, and the SE ¼ of SW ¼, and the NE ¼ of the NE ¼, and the S ½ of the NE ¼ and the SE ¼. Section 19: The E ½, The SE ¼ of SW ¼, The W ¾ of N ½ of NW ¼, The E ¼ of SW ¼ of SW ¼. Section 20; All Section 22: The SW ¼ of the NE ¼. Section 29; All. Section 30; All, LESS the SE ¼ of the NW ¼. Section 31; All. Section 32; All.

Said parcels containing 17,883 acres more or less.

1998 AMENDMENT AREA, SPIVEY, CHASTAIN, AND COLDING PARCELS:

In Township 32 South, Range 22 East, Hillsborough County Florida:

Section 14, The south ¾ of the east ¼, LESS the north 104.35 feet of the east 208.71 feet of the NE ¼ of SE ¼ of NE ¼, Section 23, The NE ¼ of the NE ¼; All, containing approximately 157 acres.

1999/2000 AMENDMENT AREA: REYNOLDS PROPERTY:

In Township 31 South, Range 22 East, Hillsborough County, Florida:

Section 3: The SE 1/4 of the NE !/4; the N ½ of the SW 1/4 of the NE 1/4; and the West 648.55 feet of the S ½ of the SW 1/4 of the NE 1/4.

Section 4: The E ½ of the NE 1/4 of the NW 1/4: the NE 1/4 of the SE 1/4 of the NW 1/4; the NE 1/4; the N ½ of the SE 1/4; and the SE 1/4 of the SE 1/4. Less the following parcel: Begin at the Northeast Corner of said Section 4; thence S00°40'15"E, along the East Line of said Section 4 a distance of 595.13 feet; thence N73°26'01"W, 133.18 feet along the twenty five year flood plain line; thence N62°05'09"W, 159.23 feet; thence N82°19'48"W, 145.43 feet; thence S84°56'20"W, 60.77 feet; thence N82° 03'11"W, 197.74 feet; thence N85° 13'52"W, 201.38 feet; thence S84° 11'03"W, 199.12 feet; thence S88° 47'03"W 203.64 feet; thence N81° 02'02"W, 182.40 feet; thence N62° 49'06"W, 203.69 feet; thence N52° 21'44"W, 200.00 feet; thence N26° 29'56"W, 98.84 feet; thence N58° 45'19"W to a point on the North Boundary of said Section 4 a distance of 222.75 feet; thence N89° 59'27"E along said North boundary of

Page 37

Section 4 a distance of 701.18 feet; thence N89° 56'44"E, 1267.46 feet to the Point of Beginning, subject to existing road rights of way.

All containing 357 acres, more or less.

KC-BOG 5 Description

IN TOWNSHIP 31 SOUTH, RANGE 22 EAST, HILLSBOROUGH COUNTY, FLORIDA.

Section 21:

That part described as follows: **BEGIN** at the southeast corner of said Section 21, thence N 89°08'14"W along the south boundary thereof 3300.00 feet; thence N 00°00'13"W 1320.00 feet; thence N 63°25'51"E 368.95 feet; thence N 00°00'13"W 264.00 feet; thence N 47°38'37"W 1028.52 feet; thence N 00°00'13"W 790.00 feet; thence S 89°08'14"E 2675.00 feet; thence N 62°18'34"E 1191.34 feet to a point on the east boundary of said section; thence S 00°00'13"E along said east boundary thereof 1076.54 feet to the SE corner of the NE ¼ of said section; thence S 00°00'13"E 2718.46 feet to the **POINT OF BEGINNING**.

Section 22:

All; LESS That part described as follows: **BEGIN** at the southeast corner of said Section 22, thence proceed west, along the south line of said section, to the southwest corner of the SE-1/4, thence north, perpendicular to said south line, 1,000 feet, thence northeasterly to a point lying 2,000 feet north and 500 feet west of the southeast corner of said Section 22, thence north parallel with the east line of the section, to a point on the north line of said Section 22, said point lying 500 feet west of the northeast corner of Section 22, thence east along said north line, 500 feet to the northeast corner, thence south along the east line of the section to the **POINT OF BEGINNING**.

AND LESS that part described as follows: **BEGIN** at the Northwest corner of said section, thence east along the north boundary thereof to a point 500 feet west of the northeast corner thereof; thence south parallel with the east boundary thereof to a point 500 feet west and 1460.17 feet south of the northeast corner of said section; thence S 89°57'34"W 3031.76 feet; thence S 01°11'52"W 165.00 feet; thence N 89°59'37"W 1815.00 feet to a point on the west boundary of said section; thence north along the west boundary thereof 1635.14 feet to the **POINT OF BEGINNING**.

Section 27:

That part of the NW ¼ described as follows: **BEGIN** at the northwest corner of said Section 27, thence S 89°59'37"E along the north boundary of said section 2345.00 feet; thence S 31°45'14'W 940.76 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1701.15 feet; thence S 00°05'20"W and parallel with the east boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; thence N 89°59'37"W and parallel with the north boundary thereof 1280.00 feet; to a point on the west boundary of said section; thence N 00°05'20"E along the west boundary thereof 2080.00 feet to the **POINT OF BEGINNING**.

Section 28:

That part described as follows: **BEGIN** at the northeast corner of said Section 28, thence S 00°05'20"W along the east boundary thereof 2080.00 feet; thence N 89°08'14"W 1980.00 feet; thence N 00°05'20"E and parallel with the east boundary of said section 1255.00 feet; thence N 89°08'14"W 1320.00 feet; thence N 00°05'20"E and parallel with the east boundary of said section 1255.00 feet; thence S 89°08'14"W 1320.00 feet; thence N 00°05'20"E and parallel with the east boundary thereof 825.00 feet to a point on the north boundary of said section; thence S 89°08'14"E along the north boundary thereof 3300.00 feet to the **POINT OF BEGINNING**.

Said Parcel Contains 775.7 acres, more or less.

BF-L-SP(8) Description

IN TOWNSHIP 31 SOUTH RANGE 22 EAST, HILLSBOROUGH COUNTY, FLORIDA.

Section 29:

Commence at the Northeast corner of said section; thence S 00°08'59"W along the east boundary thereof 1210.56 feet to the POINT OF BEGINNING; thence S 00° 08' 59" W along said east boundary 2014.45 feet; thence S 11° 17' 39" W 25.52 feet; thence S 11° 16' 20" W 32.27 feet; thence S 11° 18' 50" W 17.43 feet; thence S 11° 16' 59" W 42.61 feet; thence S 11° 17' 17" W 134.14 feet; thence S 11° 17' 07" W 150.99 feet; thence S 11° 17' 18" W 837.09 feet; thence S 11° 17' 12" W 442.06 feet; thence S 11° 16' 53" W 51.89 feet; thence S 11° 17' 19" W 400.07 feet to a point on the south boundary of said section; thence N 89° 47' 54" W along the south boundary thereof 2674.61 feet; thence N 56° 10' 27" W 112.96 feet; thence N 56° 10' 27" W 677.00 feet; thence N 56° 10' 22" W 176.47 feet; thence N 34° 39' 32" W 86.97 feet; thence N 34° 39' 34" W 17.85 feet; thence N 34° 39' 32" W 658.14 feet; thence N 34° 40' 44" W 25.23 feet; thence N 17° 47' 36" W 12.96 feet; thence N 17° 47' 45" W 744.04 feet; thence N 17° 47' 46" W 166.71 feet; thence N 17° 46' 52" W 24.98 feet; thence N 17° 48' 11" W 47.85 feet; thence N 17° 47' 48" W 305.00 feet; thence N 05° 36' 00" W 700.79 feet; thence N 05° 35' 34" W 83.23 feet; thence N 36° 40' 53" E 298.18 feet; thence N 36° 40' 18" E 25.39 feet; thence N 36° 40' 57" E 341.49 feet; thence N 36° 41' 04" E 37.90 feet; thence N 36° 41' 06" E 14.43 feet; thence N 41° 58' 25" E 172.71 feet; thence N 41° 58' 21" E 77.30 feet; thence N 41° 53' 08" E 2.90 feet; thence N 41° 59' 14" E 35.95 feet; thence N 34° 07' 21" E 169.37 feet; thence N 34° 08' 42" E 10.99 feet; thence N 34° 07' 06" E 28.22 feet; thence N 34° 07' 47" E 149.87 feet; thence N 34° 07' 16" E 63.24 feet; thence N 34° 07' 37" E 226.95 feet; thence N 34° 07' 47" E 266.07 feet; thence N 34° 07' 15" E 181.67 feet; thence N 34° 07' 29" E 190.77 feet; thence N 34° 09' 10" E 31.75 feet; thence S 78° 42' 54" E 45.54 feet; thence S 78° 42' 51" E 233.71 feet; thence S 78° 42' 47" E 99.97 feet; thence S 78° 42' 54" E 472.28 feet; thence S 78° 42' 30" E 66.38 feet; thence S 78° 42' 53" E 345.43 feet; thence S 78° 42' 55" E 265.20 feet; thence S 78° 41' 55" E 34.82 feet; thence S 78° 42' 45" E 35.86 feet; thence S 78° 42' 43" E 53.67 feet; thence S 78° 46' 45" E 4.13 feet; thence S 78° 42' 53" E 144.66 feet; thence S 78° 42' 11" E 31.30 feet; thence S 78° 43' 02" E 80.14 feet; thence S 68° 44' 02" E 5.79 feet; thence S 68° 46' 39" E 74.06 feet; thence S 68° 46' 47" E 491.90 feet; thence S 68° 46' 50" E 513.17 feet; thence S 68° 46' 37" E 71.85 feet; thence S 68° 46' 26" E 30.68 feet; thence S 68° 46' 43" E 241.54 feet; thence S 68° 46' 54" E 271,49 feet to the POINT OF BEGINNING.

Section 28:

Commence at the Northwest corner of said section; thence S 00°08'59"W along the west boundary thereof 1210.56 feet to the **POINT OF BEGINNING**; thence S 68° 46' 55" E 12.57 feet; thence S 54° 55' 19" E 28.61 feet; thence S 55° 46' 23" E 0.58 feet; thence S 54° 57' 22" E 60.43 feet; thence S 54° 57' 48" E 98.33 feet; thence S 54° 57' 49" E 107.09 feet; thence S 54° 35' 02" E 2.87 feet; thence S 07° 59' 14" W 191.67 feet; thence S 07° 59' 16" W 289.47 feet; thence S 07° 59' 41" W 27.49 feet; thence S 07° 59' 21" W 469.82 feet; thence S 07° 59' 19" W 638.92 feet; thence S 07° 59' 08" W 191.33 feet; thence S 11° 17' 38" W 48.63 feet to a point on the west boundary thereof; thence N 00° 08' 58" E along said west boundary 2014.45 feet to the **POINT OF BEGINNING**.

Section 32:

Commence at the Northeast corner of said section; thence N 89°47'54"W along the north boundary thereof 412.24 feet to the **POINT OF BEGINNING**; thence S 11° 17' 19" W 58.43 feet; thence S 11° 17' 11" W 185.13 feet; thence S 11° 17' 19" W 386.48 feet; thence S 11° 16' 43" W 83.95 feet; thence S 11° 17' 59" W 21.39 feet; thence N 75° 46' 17" W 18.72 feet; thence N 75° 44' 51" W 98.83 feet; thence N 75° 44' 50" W 129.44 feet; thence N 75° 44' 53" W 34.85 feet; thence N 75° 44' 52" W 1302.12 feet; thence N 75° 45' 09" W 49.36 feet; thence N 75° 44' 49" W 147.23 feet; thence N 75° 44' 49" W 433.17 feet; thence N 75° 44' 49" W 179.71 feet; thence N 56° 10' 50" W 97.00 feet; thence N 56° 09' 41" W 34.73 feet; thence N 56° 10' 27" W 122.13 feet to a point on the north boundary thereof; thence S 89° 47' 54" E along said north boundary 2674.61 feet to the **POINT OF BEGINNING**.

Said Parcel Containing 485.3 acres, more or less.

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

Page 39

DRI #263 ADDITION AREA PHASE

LEGAL DESCRIPTION

In Township 32 South, Range 21 East, Hillsborough County, Florida:

Parcel -2

Section 10: The W 1/2 of the SW 1/4 LESS the W 466 feet of the N 1,122 feet.

Parcel-8

Section 20: The E 7/8 of SE 1/4.

Section 21: The W 1/2.

Section 28: The NW 1/4.

Section 29: The N 1/2 of the NE 1/4; the SE 1/4 of NE 1/4.

Parcel - 7

Section 21: The E 1/2.

Section 22: The NW 1/4 of the NW 1/4.

Section 28: The N 1/2 of the NE 1/4, LESS road right of way, and the SW 1/4 of NE 1/4

In Township 32 South, Range 22 East, Hillsborough County, Florida:

Parcel - 1

Section 6: Beginning at the NW corner of the NW1/4 of section 6 and proceed S89°47'54"E (Florida SPC 83-90 TMW Grid) along the north boundary of said NW1/4 a distance of 544.55 feet; thence S29°25'48"E 3063.82 feet to the south boundary of said NW1/4 of section 6; thence N89°38'37"W 2066.22 feet to the SW corner of said NW1/4 of section 6; thence N00°20'57"E 2657.57 feet to the Point of Beginning.

Parcel-4

Section 16: The north 550 feet of the West 792 feet of the NE1/4 of NE1/4.

Parcel-6

Section 19: The S 1/2 of the West 1/2, Less the SE 1/4 of SW 1/4 and LESS the East 1/4 of the SW 1/4 of the SW 1/4, Public Records of Hillsborough County, Florida.

Parcel - 5

Section 30: The SE 1/4 of NW 1/4.

Said parcels containing 1,540 acres, more or less.

SECTION V. – AMENDED LIST OF EXHIBITS

The following exhibits, on file with the Hillsborough County Planning and Growth Management. Department are hereby incorporated by reference:

DEVELOPMENT ORDER EXHIBITS: REFERENCE

1. HILLSBOROUGH COUNTY MINES - CONSOLIDATION AND EXTENSION PHASES

- A. Substantial Deviation DRI No. 213, Application for Development Approval (ADA), June 29, 1990.
- B. Addition Information (AI, SR), Substantial Deviation DRI No. 213, Application for Development Approval, November 21, 1990.
- C. Second Addition Information (2AI, SR2), Substantial Deviation DRI No. 213, Application for Development Approval, August 16, 1991.
- D. Third Addition Information (3AI, SR3), Substantial Deviation DRI No. 213, Application for Development Approval, March 25, 1992, (including Appendix D).
- E. Executive Summary, Hillsborough County Mines Substantial Deviation DRI No. 213, April, 1992.
- F. Fourth Addition Information (4AI, SR4), Substantial Deviation DRI No. 213, Application for Development Approval, September 16, 1992.
- G. Revised Executive Summary, Hillsborough County Mines substantial Deviation DRI No. 213, September, 1992.
- H. TBRPC, DRI Final Report, as adopted January 11, 1993.
- I. Fifth Addition Information (5AI, SR5), Substantial Deviation DRI No. 213, Application for Development Approval, July 21, 1993.
- J. Sixth Addition Information (6AI, SR6), Substantial Deviation DRI No. 213, Application for Development Approval, December 17, 1993.
- K. TBRPC, DRI Final Report, as adopted May 9, 1994
- L. Pre-Mining Floodplain Study for Hillsborough County Mines Extension Area, by Greiner, Inc., March, 1992.

2. FOUR CORNERS MINE

- A. Four Corners Mine, Application for Development Approval of a Development of Regional Impact, with Appendices A, B, C, D, E, & F.
- B. Four Corners Mine Development Order, dated January 4, 1978.
- C. Four Corners Mine Development Order Amendment, dated April 22, 1981.
- D. Four Corners Mine Development Order Amendment, dated May 13, 1986.
- E. Four Corners Mine Development Order Amendment, dated January 9, 1990.
- F. Four Corners Mine Development Order Amendment, dated September 25, 1990.

3. LONESOME MINE

- A. Application for Development Approval (Supplement to Development of Regional Impact Application for Lonesome Mine).
- B. Development Order issued in 1974 (Development Order 73-1).
- C. Mining Permit issued in 1974 (Mining Permit 74-MINE-2).
- D. The document constituting the proposed amendments to the Mining and Reclamation Plan for Lonesome Mine dated March 22, 1983.
- E. A series of Resolutions adopted by the Board of County Commissioners in 1980 and 1982.

4. KINGSFORD MINE, HILLSBOROUGH TRACT

- A. Development of Regional Impact, Application for Development Approval for Kingsford Mine, Hillsborough Tract, with Appendices books I & II.
- B. The Resolutions and Staff Report of the Hillsborough County Planning Commission dated July 22, 1974.
- C. The Revised Recommendations of the Hillsborough County Water Resources Director dated August 28, 1974, attached hereto as Exhibit C.
- D. Kingsford Mine Development Order, dated January 15, 1975.
- E. Kingsford Mine Extension, Substantial Deviation DRI No. 120, Application for Development Approval, dated June 25, 1986.
- F. Addition Information, Substantial Deviation DRI No. 120, Application for Development Approval, November 20, 1986.
- G. Second Addition Information, Substantial Deviation DRI No. 120, Application for Development Approval, April 15, 1987.
- H. Kingsford Mine Extension Development Order Amendment, dated March 29, 1988.

5. DRI #263 ADDITION AREA PHASE

- A. Application for Development Approval dated March 28, 2006.
- B. First Sufficiency Response dated October 12, 2006.
- C. Second Sufficiency Response dated February 16, 2007.
- D. 2006 Revisions: Master Mining and Reclamation Plan.
- E. OPA/MMRP, June 2007 MOSF Response to RFAI.
- F. EPCHC Life of Mine Conceptual Approvals dated April 26, 2005 and July 7, 2005.
- G. Certified copy of DRI #213, Resolution 95-062, approved March 23, 1995.
- H. Amendments to DRI # 213: Res. 96-120, Res. 98-012, Res. 00-223, Res. 03-026, and Res. 05-021.
- I. TBRPC Final Report dated May 14, 2007.
- J. June 13, 2007 Response to Agency Comments from TBRPC Final Report.

<u>SECTION VI. – AMENDED DEVELOPER COMMITMENTS FROM TBRPC DRI</u> <u>FINAL REPORTS</u>

- 1. [ALL] All provisions contained within the Application shall be considered conditions of this Development Order unless inconsistent with the terms and conditions of this Development Order, in which case the terms and conditions of this Development Order shall control.
- 2. [ALL] This Development Order shall be binding upon MOSF and its heirs, assignees or successors in interest including any entity which may assume any of the responsibilities imposed on MOSF by this Development Order. It is understood that any reference herein to any governmental agency shall be construed to mean any future instrumentality which may be created or designated as successors in interest to, or which otherwise possesses any of the powers and duties of any branch of government or governmental agency.
- 3. [ALL][DRI #263] Any approval of this development shall require that all of the developer commitments set forth in the ADA and subsequent Sufficiency Responses, and summarized in Section III of this Report, be honored, except as they may be superseded by specific terms of the Development Order.
- 4. [CONSOL][EXT][DRI #263] The following list of commitments cover only those that are above and beyond all existing federal, state, and local rules and regulations. MOSF commits to the following in accordance with the Developer Commitments shown on pages 36 through 40 of the TBRPC DRI #213 Phase I Final Report (January 11, 1993), Pages 31-36 of the DRI #213 Phase II Final Report (May 9, 1994) and pages 21-29 of the DRI #263 Final Report (May 14, 2007), unless specifically modified by the County or agency action:

GENERAL PROJECT DESCRIPTION

Existing streams and watershed boundaries will not change as a result of the proposed development. (SR, 12-16)

MOSF will maintain watershed boundaries in the approximate pre-mining locations and will not cause any significant increase in the stormwater runoff peak flows. (SR, 12-16)

MOSF will plug all wells prior to mining. They will be plugged according to Southwest Florida Water Management District standards and rules. (SR, 12-16)

The MOSF mine schedule calls for mining only one side of the stream at a time, whenever possible. An augmentation (rim) ditch will also be installed along the wetland border during mining. This ditch will be supplied with water which will help maintain groundwater levels and base flow to the adjacent stream. (SR, 12-17)

MOSF will have floodplains and jurisdictional boundaries of all wetland areas determined, surveyed and mapped. These surveys will be included as part of the mining unit plan before any mining activity is conducted along or in wetland areas. (SR, 12-17)

The mine plan includes crossings of the stream and tributaries with draglines, pipelines and roads. These activities will be done in such a manner so as to not affect the stream flow capacity, and the crossing area will be reclaimed following the completion of use. (SR, 12-17)

Stream crossings for access to mining areas will be permitted with the Florida Department of Environmental Protection (FDEP), the U.S. Army Corps of Engineers and the Environmental Protection Commission of Hillsborough County, as necessary, and done in a manner which will prevent unacceptable disturbance to the stream or water quality. MOSF will attempt to obtain permission to use a neighbor's property to go around the stream and eliminate the need for crossings. (SR, 12-17)

The expansion of the Hillsborough County Mines will not change the existing annual rate of water use, but will extend the period of the requirements. (SR, 12-17)

All process water is discharged through existing National Pollutant Discharge Elimination System (NPDES) permitted discharge points. This expansion will not require any new discharge points, however, existing discharge points may be relocated (during Phase 2), if permitted. (SR, 12-17 & SR2, 9-2 & 9-3)

No PCB equipment is proposed for use in this project. (SR2, 9-1)

MOSF has indicated that the following reclamation programs at the Lonesome Mine are the responsibility of Brewster Phosphates: BP-L-SP(2) through BP-L-SP(5), BP-L-SP(6A), BP-L-SP(7), BP-L-SP(8), BP-L-SP(11) through BP-L-SP(13), BP-L-84(4), BP-L-85(3) through BP-L-85(6) and BP-L-SPA(1). (SR3, 12-15)

MOSF commits that the reclamation schedules are consistent with FDEP and Hillsborough County's Mining Ordinance and/or Part 8.02.00 Phosphate Mining Regulations, LDC as applicable. (SR3, 12-25)

Certain wetland impacts and mitigation in the Consolidation Phase and the Extension Phase are already conceptually approved as part of the Life of Mine application.² The siting of the clay settling areas L-2 and L-3 will not change the wetland impacts. (SR3, 12-26)

ENVIRONMENT AND NATURAL RESOURCES

Land

MOSF commits that there are no soil limitations, in terms of soil composition or strength that affect the ability of earthen embankments to meet FDEP Chapter 62-672, FAC standards. Soils are tested for strength prior to construction, and this information is incorporated into the design of the dam. Compaction testing is ongoing throughout construction to ensure design criteria is met. (SR2, 14-1).

Water Quality and Stormwater Management

MOSF does not propose to change the current Development Order conditions regarding stream monitoring requirements at Four Corners and Lonesome for periods of stream crossings, or the groundwater monitoring requirements for Four Corners, when mining in the vicinity of the property line. (SR3, 15-7)

Crossing O is also designated as a pipeline crossing point for water pipes and slurry pipes.

Mine use of these existing crossings (N, K, L, P,13, 14, and 21) was approved by DRI #213. As described in the Conceptual Approval Letter dated April 26, 2005, the exact wetland impact justification for any remaining tributary crossings will be done at the time of the future mining unit approvals, as well as during any FDEP review, including dredge and fill permitting, for the expanded use of these crossings.

Vegetation and Wildlife

MOSF is not depending solely on migration of species or adjacent undisturbed acreage as the "seed source" for recovery of animal and plant populations. Replanting, topsoiling and relocation will be the primary recovery techniques. For less mobile animals, live trapping will be conducted, to relocate them to the new reclaimed habitats as necessary. (SR2, 16-6)

Map 38H-6, Wildlife Corridors, depicts the wildlife corridor that will eventually exist upon completion of reclamation. To this end, MOSF commits to the following reclamation standards:

Design

- Contiguity is a primary design objective. Avoid isolation of restoration areas from existing natural or created systems.

- Diversity of habitat types within corridors shall be maximized to the extent allowed by physical constraints (elevation, soil types) and by the Conceptual Plan.

- Design shall provide for breeding/feeding areas suitable for species known to inhabit the corridor area. Cover crop and permanent plantings shall be selected to provide or supplement food sources for those species.

Execution

- Mining shall occur on only one side of an existing corridor at a time, to allow unimpeded migration from disturbed areas.

- Brush stacks shall be left at intervals in cleared areas adjacent to existing corridors to provide temporary cover.

- Corridor creation and /or enhancement areas shall receive priority in reclamation earthmoving and revegetation.

- Tree planting density shall be increased in the core areas of created corridors, using larger trees to speed development of the canopy.

- Control bushy understory within created corridors to maintain trails until canopy develops. Encourage thick brush growth at edges of corridors to isolate corridors from adjacent rangeland or pasture and to provide escape cover for small animals. (SR2, 18-14)

MOSF commits to mitigate any impact according to the procedures of Section 10 by appropriate mitigation banking and habitat conservation. (SR4, 18-2)

The ADA indicates that 1,218 acres of suitable feeding habitat has been incorporated into the reclamation plan and that, where suitable, MOSF will plant a portion of these marsh reclamation areas with sandhill crane preferred nesting vegetation. (ADA, 18D-19)

Mining Unit Applications will include a survey of the current status of threatened and endangered plants and animals in those areas indicated to be of possible concern in the ADA. This includes the Florida Golden Aster (See Table 18B-3, Flowering Seasons for Potentially Occurring Listed Plants (SR, 12-16).

MOSF will make a reasonable effort to find and relocate any eastern indigo snakes, Florida mouse, scrub jays, or gopher tortoises prior to clearing of land for mining. (SR, 1217)

For threatened or endangered upland species which are less mobile, MOSF will make a reasonable effort to trap and restock or recolonize the species to suitable habitat on reclaimed land. (SR2, 8-8).

Page 46

PUBLIC FACILITIES

Solid and Hazardous Waste

The reagents and materials which are currently used and will be used in the future at the Four Corners flotation plants are the same materials that were reviewed in the original DRI for each facility, except that the use of Ammonia has been discontinued and replaced by Soda Ash. MOSF is not making a change to this aspect of the operations and therefore will not provide material safety data sheets. These materials are received, stored and used in accordance with all applicable federal, state and local regulations. (SR2, 24-2)

Activities related to wastes (both hazardous and non-hazardous) will not change from those permitted under the existing DRIs, except as required by changes in regulations. (SR2, 24-5)

No hazardous wastes will ever be disposed of on-site. All hazardous wastes are shipped via licensed hazardous waste transporters to properly permitted, recycled, disposal, or treatment facilities. (SR3, 24-5)

Energy

MOSF commits that while the percentage of electrical energy used in Hillsborough County will increase, there will not be a corresponding increase in electricity generated in Hillsborough County due to MOSF's operation because many of the Polk County operations, which are currently supplied from Hillsborough County power stations operated by Tampa Electric Company, are scheduled to shut down in the coming years. (SR, 25-1)

Fire

There are no changes to the Four Corners proposed (including the handling of hazardous wastes - laboratory chemicals, paint solvent and spent dragline lubricants) in this substantial deviation. Neither are there any hazards to the area residents. (SR2, 30-1)

MINING

MOSF commits to balance the clay disposal so that the amount of clay that is produced in each county is disposed in that county. (ADA, 38A-11)

Due to minor revisions in the mine plan, the FDEP Conceptual Reclamation Plan will be amended to match the DRI when it is approved. (SR2, 38-1)

MOSF commits to build all of its dams to the following additional design standards, which are more stringent than FDEP's requirements; to withstand a 90 mph wind, have a side slope grade of 2.5 horizontal/1 vertical and withstand a 39-

Page 47

inch rainfall in 24 hours, which is greater than a 500-year storm event. (SR2, Appendices)

MOSF does not propose to make any changes to the "footprint" sizes of approved clay settling areas (K-1, K-2, K-6, K-8, K-10, L-1 and F-2). (SR3, 38-5)

MOSF commits to follow the reclamation schedule given on revised page 38H-3 of the ADA, and the following clay settling area use schedule guidelines:

- For efficient plant operation, it is desired to have at least two clay ponds active at any time for each plant.

- The clay ponds and water system need to maintain 5,000 acre feet of water storage for the plant operation.

- The clay ponds will be built and put in service as needed to maintain the plant operation.

- The clay ponds will be filled as efficiently as possible, so as not to build them any larger than necessary.

- As soon as the pond is no longer needed for clay disposal, it will be taken out of service and abandonment procedures will begin. The abandonment and reclamation will be carried out as rapidly as practical, consistent with the reclamation design requirement. (SR4, 38-7 & 38-8)

- Clay ponds will be used as water reservoirs to store surface water in order to allow minimum ground water usage.

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

Endnotes

² Conceptual approval for certain wetland impacts and mitigation as part of the Life of Mine Application was provided by the Executive Director of the EPCHC on April 26, 2005 and July 7, 2005.

³ EPC Approval of the Life of Mine Application included approval of the proposed CSA footprints and are reflected in Revised Table 38H-4, CSA Design Summary – (2006 Revisions to Operating Permit, and Master Mine Plan (2006 Rev. – OPA/MMRP); See also, Table 10-4, (Revised 02/16/07) Comparison of CSA Requirements. (DRI #263 2nd SR).

⁴Revisions to shapes and configurations, size and capacity of clay settling areas may be required in the future and shall not constitute a substantial deviation.

⁵ The total disturbed and unreclaimed land acreage in Hillsborough County is being increased to include the DRI #263 Addition Area Phase. This number is also being increased, not to accelerate the rate of mining or the amount of acres mined at any one time, but to allow clay settling areas to remain in service for a longer period of time. This reduction in the total number of DRI #213 approved clay settling areas resulted from the agreement reached between MOSF and EPCHC through the Life of Mine Application.

⁶ In the dismantling and removal of any building structures, MOSF shall comply with all applicable Federal, State, and local solid waste and hazardous materials regulations.

Page 48

Mosaic Fertilizer, LLC Hillsborough County Mines DRI #263 Composite Development Order and Operating Permit Approved: March 11, 2008

Page 49

PLACE MAPS AND TABLES HERE

Index of Tables/Maps

- DRI #263 Map entitled Hillsborough County Additions Location Sketch, dated 8/21/2007.
- 2. DRI #263 Map entitled Deletion Parcels dated 9/13/2007.

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- Table 38A-2, 2006 Revision, Conceptual Mining and Reclamation Schedule Revised 05/31/07, (OPA/MMRP, June 2007, MOSF Response to RFAI)
- 4. Revised Table 38H-1, CSA Design Summary (2006 OPA/MMRP)
- 5. Table 10-4, (Revised 02/16/07) Comparison of CSA Requirements (DRI #263, 2nd SR)
- Table 18B-3, Flowering Seasons for Potentially Occurring Listed Plants (SR, 12-16) and DRI #263 Table 12.3, Listed Plant Species Potentially Present; and b) Table 14-5, Listed Plant Species Observed on the Additions Parcel, (2006 Revisions to OPA/MMRP)
- Map 1, General Location, Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI)
- Map H, Conceptual Mine Plan, 2006 Revisions to OPA/MMRP Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI)
- Map H-1, Mine Access Corridors, 2006 Revisions to MMRP Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI)
- Map H-7, Undisturbed Areas, 2006 Revisions to MMRP Revised 05/30/07, (OPA/MMRP, June 2007, (MOSF Response to RFAI)
- Map 38H-4, Revised Clay Settling Area Locations, 2006 Revisions to MMRP Revised 05/30/07, (OPA/MMRP, June 2007, MOSF Response to RFAI)




2006 Revisions: Master Mining and Reclamation Plan/Operating Permit Hillsborough County Mines

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TABLE 38A-2 (2006 REVISION) CONCEPTUAL MINING AND RECLAMATION SCHEDULE (Revised 05/31/07)

				Clay Set	Iling Areas		10.0	Unrech	almed
Year	Mineable Area	Annual Area Mined	Cumulative Area Mined	Acres	AC-FT	Annual Area Reclaimed	Cumulative Reclaimed	Total	Except CSAs
1. 1	30,926				a m.			· · · ·	
Pre-06			13,731	3,470	172,100	N/A	7,141	6,590	3,120
2006	17,195	649	14,380	4,056	200,100	. 397	,7,538	6,842	2,786
2007	16,546	1,319	15,699.	4,058	200,100	196	7,734	7,965	3,809
2008	15,227	2,239	17,938	5,402	263,700	221	7,955	. 9,983	4.581
2009	12,998	1,962	19,900	5,402.	263,700	207	: 8,162	11,738	6,338
2010	11,028	2,264	22;164	\$,402	263,700	230.	8,392	13,772	8.370
2011	8,762	1,831	23,995	8;423	257,300	1,198	9,590	14,405	8,982
2012	6,931	2,090	26,085	4,754	223,300	1,985	11,575	14,510 .	9,758
2013	4,841	1,823	27,908	6;198 -	284,600	1:779	13,354	14,554	8.358
2014.	3,018	. 1,596	29,504	7,229	325,900	1,628	14,882	14,622	7,393
2015	1,422	584	30,088	7,229	325,900	1,201	16,083	14,005	8,778
2016	838 .	382	30,470	7,229	325,900	.1;396	17,479	1 12,991	5,762
2017	· 458.	456	30,926 .	7;229	325,900	1,741	19,220	11,708	4,477
2018	. 0 .	0	30,928	7,229	325,900	2,378	21,598	9,328	2,099
2019	0	.0	30,928	7,229	325,900	1,458	23,056	. 7,870	· 841
2020	0	10	. 30,928	7,229	325,900	641	23,697	7,229	1 :. 0
2021	. 0	. 0 .	30,926	6,016	268,700	1,213	24,910	6,016	0
2022	0	-0	30,928	4,873	219,000	1,143	28,053	4,873	0
2023	0.	0	30,928	3,159	135,600	1.714	27,767	. 3,159	: 0
2024	0	0	30,926	. 2,471	104,400	688	28,455 .	2,471	0
2026	. 0	0	30,926	0	.0	830 .	29,285	1,641	0
2028	0	0	30,926	0	. 0.	1,641	30,926	1.0.	0 .
Total	30,928	N/A	30.926	N/A	N/A	N/A	30,926	0	. 0

Best current estimate. Actual mining rate-and therefore total acres mined and/or reclaimed in any given year-will be influenced by market demand, economics, regulatory constraints, and site-specific geologic conditions. Actual schedule and sequence will be presented in annual reports.

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Mosaic Fertilizer, L.L.C. Hillsborough County Mines 2005 Revisions: Master Mining and Reclamation Plan/Operating Permit

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Revised Table 38H-1 Clay Settling Area Design Summary

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Settling Area (1)	Capacity (acre-feet)	Dam Height (feet above grade, average)
F-2B	3,000(2)	. 50
F-2C	1,100 ⁽²⁾	50
F-4	12,700(2)	50
F-5	.32,400	50.
F-7	26,000	50
F-8	41,300	40
L-1	28,000	45
L-2	31,200	45
L-3	27,800	. 45.
L-4	35,300	40

Notes:

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Approved settling areas F-2A and F-2D are full. Settling area in use as of February 2005; capacity listed is remaining available as of that date. (1) (2)

Mosaic Fertilizer, L.L.C. Hillsborough County Mines Addition DRI 263 Second Sufficiency Response

	Table 10-4	5
Hills	borough County Consolidated Mines Addition DRI No.	263
	Comparison of Clay Settling Area Requirements ⁽¹⁾	
	(Revised 02/16/07)	

Settling An	за '	Table 3	38H-1 (1992)	Appendix 35-1 (2006 ADA)					
		Total Acres	AC-Ft Capacity*(2)	Total Acres	. AC-Ft Capacity*(2)				
L-1	71	730	27,500	.613	28,000				
L-2		770	33,500	705	31,200				
L-3		600	26,000	630	27,800				
· L-4		520	23,750	830	35,300				
L-4A		520	23,750	N/R ⁽³⁾	N/R				
1-5		660.	31,500	N/R	N/R				
L-6		600 ·	26,500	N/R	N/R				
F-2A		700	4,100*(2)	.700	4,100 ⁽²⁾				
F-2B		730	· 34,200* ⁽²⁾	730	34,200 ⁽²⁾				
F-2C		700	40,000	770	34,000				
E-2D		620	33,800	620	33,800				
F-4		1,100	44,000	1,116	51,000				
F-5		810	45,600	658	32,400				
F-6		600	33,600	N/R	N/R				
F-7 .		620	34,800	1,050	41,300				
F-8		945	53,400	674	26,000				
Total		11,225	516,000	9,096	369,100				

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Notes (1) Excludes Kingsford Mine area. *(2) Available as of January 1992. (3) N/R = not required.

T:\COMMON\Mosaic\DRI-263\Second Sufficiency Response\Table 10-4-Clay Settling.doc 2/16/2007

IMur Hillsborough County Wines Additional Information DRI/SD-No.213, Questions 18 November 1990 Page 18-7

TABLE 188-3

FLOWERING SEASONS FOR POTENTIALLY OCCURRING LISTED PLANTS ' INCF Hillsborough County Mines Substantial Deviation DRI'No. 213 Hillsborough County, Florida

				HABITAT CLASSIFICATION	*	FLOWERING S	EASON4		
SPECIES	DESIGNAT FDA	ED STATUS ¹ USFWS	HABITAT PREFERENCE	ON-SITE2	WINTER	SPRING	SUMMER	FALLS	
Acrostichum danaeifolium (giant leather ferņ)	т.		Brackish and freshwater marshes	621,6211,631,641, 6411,6412,6413, 6414,6415	х	x	x	x	
Agalinis purpures var. carteri (Carter's large purple false foxglove)		. UR2	Noist, open pinelands and meadows	213,2131,310,6411			х	x	
Agalînîs setacea (= stenophylla) (narrow-leaved foxglove)	7.	UR2	Dry pinelands	3210,3211,411			Χ	x	
Asclepias curtissii (Curtiss milkweed)	E		Sandiiiil and scrub	3210,411,413,421, 4221		х	x	x	
Asplenium auritum (auricled spleenwort)	E		Epiphytic in swamps and wammocks	4222,621,6211,631	x	x	х	x	
Asplenium platyneuron (ebony spleenwort)	т	UR2	Raamocks and woods	4222,621,6211,631	x	х	х	х	
Botrychium biternatum (southern grape fern)	т	-	Terrestrial in subacid soils in pinelands, swamps, old fields and woods	213,2131,310,3211 3212,3213,411,414, 4222,431,621,6211, 631		x	x		
Calamintha ashei (Ashe's savory)	т	UR1	Dry pinelands and sand pine scrub	3210,411,413,421 4221		×	x	, Х	
Centrosema arenicola (sand butterfly pea)		UR5	Pinelands and sandhill	3210,3211,411,413, - 421,4221		1	x	х	
				14 M					

1Mur Hillsborough County Mines Additional Information DRI/SD No.213, Questions 18 November 1990

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TABLE 188-3 (continued)

SDEFIER		DESTOUAT	EN STATIS	NARTTAT DEFERENCE	HABITAT CLASSIFICATION ON-SITE ²	VINTER	FLOWERING S	eason ⁴ Summer	FALL ⁵	
<u>orevies</u>		FDA	USFWS	INDITAL TREFERENCE						
Chionanthus pygmaea (pigmy fringe tree)		E	E	Sand pine scrub	3210,413,421		x	x		
Chrysopsis floridana (Florida golden aster)		E	, E	Sand pine scrub	3210,413,421	1			x	
Drosera intermedia (water sundew).		Τ.	7 3	Clear streams, ponds and bogs	511,513,521,561,621		x			
Dryopteris Ludovicians (shield-ferm)		T		Wet hanmocks and rocky woods	414,4221,4222,431 621,6221,631		Х	x	x	
Eulophia alta (wild coco)		τ	÷ .	Terrestrial in cypress and hardwood swamps, marshes and wet pine flatwoods	3213,411,414,4222, 621,6211,631,641, 6411			x	x	
Encyclia tampensis (butterfly orchid)		T		Mangrove, cypress swamps, kerdwood swemps and hammocks	4222,621,6211,631	+		х		
Epidendrum canopseum (greenfly orchid)	7	T		Epiphytic in cypress and hardwood swamps, and moist woods	4222,621,6211,631			x		
Sarberia heterophylls (garberia)		T	-	Sand pine and oak scrub	3210,413,421		. ×	х	x	
Glandularia (=Verbena) tampensis (Tampa vervain)		Ē	_ UR1	Moist pinelands	3211,3212,411,414		x	x	x	
Habeneria odontopetala (rein orchid)		T		Cypress swamps, hardwood swamps, wet hawwocks and wet pine flatwoods	3212,3213,411,414, 4222,621,6211,631, 641,6411	x			X	
Habenaria quinquesta (long-horned orchid)		T -		Harshes, wet hammocks and wet pine flatwoods	3213,414,4222,621 6211,631,641,6411	х			x	
Harbenaria repens (water spider orchid)		T		Cypress swamps, hardwood swamps, marshes and bogs	621,6211,631,641, 6411			x	x	
llex opaca var. arenicola (scrub holly)		c	UR5	Sand pine scrub	3210,413,421		x	*		

IMLr Hillsborough County Mines Additional Information DRI/SD No.213, Questions 18 November 1990 Page 18-9

(continued)

			-	1. Sec. 1. Sec. 1.	HABITAT CLASSIFICATION		FLOMERING S	EASON ⁴	CA115
SPECIES		DESIGNAT	ED STATUS	HABITAT PREFERENCE	ON-SITE-	WINTER	SPRING	SUMMER	FALLS
9	1	IDA	001110		and services				
Lechea cernua (nodding pinweed)		E	urz .	Sand pine scrub	3210,413,421			x	x
Lilium catesbaei (Catesby lily)		T	-4	Hoist pine flatwoods and savannes	213,2131,310,641	+		X	x
Lobelia cardinalis (cardinal flower)		T		Banks of steams and springs and wet meadows	2131,3212,3213,511, 513,621,641,6411			x	x
Lycopodium alopecuroides (foxtail club moss)		т	·	Wet pinelands and edges of swamps	3212,3213,411,414, 4222,621,6211,631, 6414,6415	x	ж	X	х
Lycopodium cernuum (slender club moss)		Ŧ	-44	Wet pinelands, edge of bogs and wet disturbed sites	3212,3213,411,414, 4222,621,6211,631, 6414,6415	×	x	x	x
Ophioglossum sp. (Adder's tongue fern)		т	-	Open woods, disturbed sites, wet woods, open grassy areas, epiphytic on <u>Sabal</u> <u>palmetto</u> (cabbage palm)	213,2131,310,3212, 3213,414,4222,431, 621,6211,631		x	x	
Osmunda cinnanomea (cinnanon fern)		C		Wet woods and swamps	4222,621,6211,631		x		
Osmunda regalîs (royal ferm)		C		Wet woods and swamps	4222,621,6211,631	х	х	X	x
Phlebodius sureum (golden polypody)		Т		Hammocks, epiphytic on <u>Sabel palmetto</u> (cabbage palm)	4221,4222,431			x	x
Physostegia Leptophylla. (slender-leaved false dragonwa	eed)	••	URZ	River banks and swamps	511,513,521,561, 621,6211,631		x	Х	
Pinguicula caerulea (blue butterwort)		Ţ		Wet, acid pinelands	213,2131,310,3211, 3212,3213,411,414		x		
Pinguicula lutes (yellow butterwort)	<i>w</i>	т		Wet, acid pinelands	213,2131,310,3211, 3212		x		
Polygala rugelii (big yellow milkwort)		T		Hoist pinelands	213,2131,310,3211, 3212		х	x	

INCF Hillsborough County Mines Additional Information DRI/SD No.213, Questions 18 November 1990

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TABLE 188-3 (continued)

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			, .	RABITAT		FLOWERING S	EASON4	
SPECIES	DESIGNAT FDA	ED STATUS ¹ .USFWS	HABITAT PREFERENCE	ON-SITE2	WINTER	SPRING	SUMMER	FALLS
Polygonella myriophylla (woody wireweed)	**	UR5	Sand pine scrub	3210,413,421			х	×
Pteris tripartita (glant brake fern)	T		Terrestrial in swamps and woods	4221,4222,431,621 6217,631,641 ·	.х	×	x	x
Pteroglossaspis ecristata (wild coco)	т	LIR2	Sand pine scrub end sendhill	3210,413,421,4221				x
Rhapidophyllum hystrix (needle palm)	с	UR5	Wet to mesic woods and hammocks	4221,4222,431,621, 6211,631,641		x	x	
Rhodendron viscosum (sump honeysuckle)	т		Wet woods and swamps	.4221,4222,431,621, 6211,631,641		x	. X	
Sabal etonia (scrub pelmetto)	т	17	Dry pinelands and sand pine scrub	3210,411,413,421, 4221		x :	x	
Sebal minor (dwarf palmetto)	T	~ '	Moist to wet woods	4221,4222,431,621, 6211,631		x	x	X
Schizachyrium niveum (riperium autumgrass)		URZ	Sand pine scrub	3210,413,421				x
Selaginella arenicola (send spike-moss)	т		Dry pinelands, scrub and coastal dures	3210,411,413,421	x	x	x	x
Spiranthes praecox (giant ladies' tresses)	т 		Cypress swamps, herdwood swamps, sendhill, wet pine flatwoods and marshes	213,2131,310,3210, 3211,3212,3213,411 414,4221,4222,431, 621,6211,631,641, 6411		x	x	
Spiranthes vernalis (spring ladies' tresses)	1		Cypress and hardwood swamps, harmocks, pine flatwoods, sandhills and marshes	213,2131,310,3210, 3211,3212,3213,411, 414,4221,4222,431, 621,6211,631,641, 6411	3	x	x	
Thelypteris dentata (dow shield fern)	т		Moist hanmocks	414,4221,4222,431, 621,6211,631		x	ĸ	x
							-	/

IMur Hillsborough County Mines Additional Information DRI/SD No.213, Questions 18 November 1990 Page 18-11 .

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* 9	1.1		5		$\sim \gamma$	4 - 44 - 4	HABITAT		-	arrach	
SPECIES		e-		DESIGNATE	USFUS	NABITAT PREFERENCE	ON-SITE2	WINTER	SPRING	SUPPER	FALL ⁵
Thelypteris kunthii (shield fern)			,	Ţ		Rocky woods and cypress swamps	414,4221,4222,431, 621,6211,631	x	x	х -	х
Thelypteris palustris (mmrsh fern)				Ť	•	Wet open woods and marshes	4221,4222,431,621, 6211,631,641,6411, 6414,6415	• •		x	x
Tillandsia bartramii (wild pine)			•	т		Epiphytic in hammocks and pinelands	411,414,4221,4222, 431,621,6211,631		x	x	
Tillandsia fasciculata (common wild pine)	£			C		Epiphytic in cypress swamps and hammocks	414,4221,4222,431, 621,6211,631				x
Tillandsia setacea (wild pine)	1	a. 1	•	T .		Epiphytic in hammocks, herdwood and cypress swamps	414,4221,4222,431, 621,6211,631			x	
Tillandsia utriculata (giant wild pine)				c : '		Epiphytic in hammocks and cypress swamps	414,4221,4222,431, 621,6211,631			x	x
Vittaria lineata (shoestring fern)			4	T		Epiphytic on <u>Sabal palmetto</u> (cabbage palm) in hammocks	414,4221,4222,431 621,6211,631	x	x	x	x
Woodwardia areolata (netted chain fern)				T		Swamps and wet woods	3212,3213,414,4221, 4222,431,621,6211, 631,6411,6414,6415		÷	x	х
Zamia integrifolia (Florida arrowroot)				C	UR5	Nammocks, pinelands and Indian middens	411,414,4221,4222, 431	×.	N.		x

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INc. Hillsborough County Nines Additional Information DRI/SD No.213, Questions 18 November 1990 Page 18-12

SPECIES

DESIGNATED STATUS¹ FDA USFVS

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Zephyranthes sp. (rain lilies) Moist pine flatwoods and mendows

HABITAT PREFERENCE

TABLE 188-3

(continued)

213,2131,310,3211, 3212,3213,411,414, 4221,4222,431,621, 6211,631,6411

HABITAT CLASSIFICATION

ON-SITE2

FLOWERING SEASON⁴

SUMMER

FALL?

SPRING

х

WINTER

¹ SOURCE: Florida Game and Fresh Water Fish Commission, <u>Official Lists of Endangered and Potentially Endangered Fauna and Flora</u> <u>in Florida</u>, 1 January 1990. (NOTE: USFMS Designated Status in 50 CFR 17.12 may differ).

FDA = Florida Department of Agriculture USFWS = United States Fish and Wildlife Service

E = Endangered

T = Threatened

C = Connercially exploited

UR1 = Under review for federal listing, with substantial evidence in existence indicating at least some degree of biological vulnerability end/or threat.

UR2 = Under review for listing, but substantial evidence of biological vulnerability and/or threat is lacking.

- UR5 = Still formally under review for listing, but no longer considered for listing because recent information indicates species is more widespread or abundant than previously believed.
- 2 Assigned by Greiner, Inc., using the <u>Florida Land Use and Cover Classification System: A Technical Report</u> (Florida Department of Administration 1976). Refer to Table 18A-1.

3 See text for further information.

⁴ Flowering season as noted in Wunderlin, Richard P. 1982. <u>Guide to the Vascular Plants of Central Florida</u>.

⁵ Winter: Nov-Jan; Spring: Feb-April; Summer: Hay-July; Fall: Aug-Oct (Months provided for calendar reference only, overlaps may occur)

NOTE: Botanical nomenclature follows Wunderlin, Richard P., 1982. Guide to the Vascular Plants of Central Florida.

Mosaic Fertilites, based Hilaborough County Mores Addition Substantial Deviation DRI Application for Development Approval

Table 12-3. Listed Plant Species Potentially Present

1.4

Scientific Name	Common Name	Der	immed 6	Instead	Habitat Preference	Potential Habitat Onsite	Occurrence Onelia ²
		DCA	HCDRP	USFWS			
Adiantum tenerumtus	Brittle maidenhair fem	R		-	Sink walls, grotios and limestone ledges	None	Very low
Asclepius curtissii	Curtiss' milkweed	R	E	-	Dry hammocks, scrab, flatwoods	Mixed upland forest-	Low
Asplenium erosum	Auricled spleenwort	İ	E		Sink walls, grottos and limestone ledges & mesic hammock	Truncks of large trees-usually live oak.	Low
Bonamia grandifiora	Florida bonamia	R	E	T	Sandy soil, scrub	Mixed upland forest	Very low
Chionanthus pygmaeus	Pygmy friagetree	R	-	E	Scrub: sandhill, zerie hammock	Mixed upland forest	Very low
Chrysopsis floridana	Florida golden aster	D	E	E	Scrubby flatwoods; sand pine scrub; zeric hammock	Mixed upland forest	Very low
Drosera intermedia	Spoon-leaved sundew	R	-	-	Seepage slope, wet fistwoods, manah, sinkhole lake edges	Open wetlands	Modecate
Eriogonum floridanum	Scrub buckwheat	R	T	-	Scrubby flatwoods; sand pine scrub; sandhill	Mixed upland forest	Very low
Glandularia tampensis	Tampa mock vervain	CI	E	÷ 1	Fiatwoods, himmocks, disturbed sites	Mixed upland forest	Moderate
Lechea cernua	Nodding pinweed	R	Т	-	Scrubby flatwoods; sand pine scrub	Mixed upland forest	Very low
Lechea divaricata	Spreading pinweed	1	E	-	Dry sandy soil, scrabby flatwoods	Mixed upland forest	Low
Lilium catesbaei	Southern red lily	R	T	-	Mesic flatwoods, wet prairie, wet flatwoods, seepage slope	Open wetlands, floodplain focests	Moderate
Ophioglossum palmation	Hand fem	I	-		Cabbase palm boots in hydric hammocks.	Floodplains	Low
Polygala lewtonii	'Lewton's polygala	T	E	E	Xeric hammock: sandhill: scrub	Mixed upland forest	Very low
Pteroglassaspis ecristata	Giant orchid	I	Т		Sand pine scrub; upland hardwood forest, mesic flatwoods	Mixed upland forest	Moderate
Schwalbea americana	Chaff-seed	CI	E	E	Scrubby flatwoods; sand pine scrub; xeric hammock	Mixed upland forests.	Very low
Tephrosia angustissima	Curtiss' hoarypea	CI	-	-	Beach dunes & coastal strands	None	Very low
Zephyranthes simpsonii	Simpson's Zephyr fily	R	E	-	Done swamp, wet flatwoods, wet pastures	Mixed upland forests & wet pasture	Present .

Notes:

1. State designation for HCDRP status determined by FDACS.

2. Probability of accurrence within Hillsborough County derived from: FNAI - Tracking List (Sept. 2004); FDACS - Notes on Threatened & Endangered Plant Species (4th Edition, 2003); HCDRP Manual (Sec. 4.1.6.1.7); Institute for Systematic Botsuy (IBS) 2004 Atlas of Florida Vascular Plants; and Listed Status by the Department of Community Affairs (DCA) 9J-2.041, Florida Administrative Code (May 1994) and U.S. Fish & Wildlife Service (USFWS) Listed Plants of Florida (21/7/05),

HCDRP = Hillsborough County Development Review Procedores

FNAI = Florida Natural Areas Inventory

FDACS - Florida Department of Agriculture and Consumer Services

E = Endangered

T=Threatened

R = Rare

I = Imperiled

CI = Critically Imperiled

2. Very low: preferred habitat does not exist ousite.

Low: preferred habitat exists onaite but species is very rare in the region.

Moderate: preferred trabitat exists onsite and the plant is more frequently encountered in the region than the other species listed.

Present: the plant has been observed on the mine site.



Likelihood of Species Mosaic Fertilizer, L.L.G. Hillsborough County Mines 2006 Revisions: Master Making and Reclamation Plan/Operating Pechli



Likelihood of

Table 14-5. Listed Plant Species Potentially Present

Scientific Name	Common Name	¹ Designated Status ¹			Habitat Preference	Potential Habitat Onelte	Occurrence Onette ²	
		DCA	HCORP	USFWS				
Adjointness severamentas	Brittle maidenhair fem	R	-		Sink walls, grottos and limestone ledges	None -	Very low	
Asclepius curtissii	Curtiss' milkweed	R	E	-	Dry hansmocks, scrub, flatwoods	Mixed upland forest	Low	
Asplenium erosum	Auricled spleenwort	I	E	-	Sink walls, grottos and limestone ledges & mesic hammock	Truncks of large trees-usually live oak.	Low	
Bonamia grandiflora	Florida bonamia	R	E	T	Sandy soil, scrub	Mixed upland fixest	Very low	
Chionanthus pygmaeus	Pygray fringetree	R		E	Scrub, sandhill, zeric hammock	Mixed upland forest	Very low	
Chrysopsis floridana	Florida golden aster	a	E	E	Scrubby flatwoods; sand pine scrub; xeric hasmnock	Mixed upland forest	Very low	
Drosera întermedia	Spoon-leaved sundew	R		-	Scepage slope, wet flatwoods, marsh, sinkhole lake edges	Open wetlands	Modecate	
Eriogonum floridanum	Scrub buckwheat	R	Т	-	Screbby flatwoods; sand pine screb; sandhill	Mixed upland forest	Very low	
Glandularia tampensis	Tampa mock vervain	C	E		Flatwoods, hammocks, disturbed sites	Mixed upland forest	Moderate	
Lechea cemua	Nodding pinweed	R	Т	-	Scrubby flatwoods; sand pine scrub	Mixed upland forest	Very low	
Lechea divaricata	Spreading pioweed	I	E	-	Dry sandy roil, scrubby flatwoods	Mixed upland forest	LOW	
Lilium catesbael	Southern red lily	R	т	-	Mesic flatwoods, wet prairie, wet flatwoods; seepage slope	Open wetlands, floodplain forests	Modecate	
Ophioglossum palmetum	Hand fern	1	-	÷.,	Cabbage palm boots in hydric hemmocks.	Floodplaine.	Low	
Polygola lewtonii	Lewton's polygala	I	E	E	Xeric hammock; sandhill; scrub	Mixed upland forest	Very low	
Pteroglossaspis ecristata	Giant orchid	I	т	-	Sand pine scrub; upland hardwood forest, mesic flatwoods	Mixed upland forest	Moderate	
Schwalbea americana	Chaff-seed	CI	B	Е	Scrubby flatwoods; sand pine scrub; xeric hazamock	Mixed upland forests.	Very low	
Tephrosia angustissina	Cortiss' hoarypea	CI	-	-	Beach doses & constal strands	None	Very low	
Zephyranthes simpsonii	Simpson's Zephyr lify	R	E		Done swamp, wet flatwoods, wet pastures	Mixed opland forests & wet pasture	Present	

Notes

1. State designation for HCDRP status determined by FDACS.

2. Probability of occurrence within Hilksborough County derived from: PNAI - Tracking List (Sept. 2004); FDACS - Notes on Threatened & Endangened Plant Species (4th Edition, 2003); FICDRP Manual (Sec. 4.1.6.1.7); Institute for Systematic Botany (IBS) 2004 Atlas of Florida Vascular Plants; and Listed Status by the Department of Community Affairs (DCA) 9J-2.041, Florida Administrative Code (May 1994) and U.S. Fish & Wildlife Service (USFWS) Listed Plants of Florida (2/17/05).

HCDRP = Hildsborough County Development Review Procedures

FNAI = Florida Natural Areas Investory

FDACS - Florids Department of Agriculture and Consumer Services

E = Badangered

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R=Rere

A

I = Imperiled

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2. Very low: preferred habitat does not exist ousite.

Low: preferred habitat exists onsite but species is very rare in the region.

Moderate: preferred habitat exists onsits and the plant is more frequently encountered in the region than the other species listed. Present: the plant has been observed on the mine site.



¹⁰ A

110.0

11.94









STAFF REVIEW REPORT **ATTACHMENT 2 CURRENT CLAY** SETTLING AREA RESOLUTION **R18-129**

R18-129

RESOLUTION

R18-129

23-0742

RESOLUTION R18-129

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by	Commissioner	Higginbotham	, seconded by C	ommiss	oner	
Crist	,the follo	wing Resolution was a	dopted by a vote of	4 to	2 14	vith
Commissioner(s)	Kemp & White	voting "No."		1.000		

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974 and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975 and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Comers, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer, Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and

WHEREAS, on September 26, 2000, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and

WHEREAS, on January 25, 2005, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 05-021, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening

Station; and

WHEREAS, on March 11, 2008, Hillsborough County Board of County Commissioners approved Resolution 08-047, which added approximately 1,540 acres to form the Hillsborough County Mines Addition Area - DRI #263 (hereinafter "DRI #263 Addition Area Phase"); removed approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; added a mine infrastructure corridor, revised mining plans and incorporated clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, revised reclamation plans reflecting these changes as well as the reclamation already completed in the DRI #213 area; updated DRI #213 Development Order conditions already satisfied or no longer applicable; updated the approved methods for transporting product between the mines and plants; and updated product shipment destination points and deletion of certain destination points and route segments (hereafter "DRI #263 Composite Development Order and Operating Permit"); and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed a Notice of Proposed Change ("NOPC") and an application to amend the Operating Permit/Master Mine and Reclamation Plan for the Hillsborough County Mines Development of Regional Impact DRI #263 proposing to add approximately 75 acres of land, previously owned by Kathy Surface (hereinafter referred to as the "Surface Parcel"), to DRI #263 Composite Development Order and Operating Permit"; and

WHEREAS, on August 10, 2010, the Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution R10-113, amending DRI #263 Composite Development Order and Operating Permit, and the Master Mine and Reclamation Plan to add the approximately 75 acre Surface Parcel; and

WHEREAS, per § 252.363, Florida Statutes, and by letter dated November 3, 2017, from counsel for Mosaic, as confirmed by letter from the County dated April 4, 2018, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows: the Section 5 Restriction on Downzoning was extended from December 31, 2027 to December 22, 2030; the Composite Attachment A – Section III.A. Life and Timing of Development-Effective period of Development Order was extended from December 31, 2027 to December 22, 2030; the Composite Attachment A – Section III.A. Life and Timing of Development-Effective period of Development Order was extended from December 31, 2027 to December 22, 2030; the Composite Attachment A – Section III.A. Life and Timing of Development-Mining Completion Date was extended from December 31, 2018 to December 22, 2021; and Composite Attachment A – Section III.A. Life and Timing of Development-Reclamation Completion Date was extended from December 31, 2026 to December 22, 2029; and

WHEREAS, on July 10, 2018, Mosaic submitted an application to amend the DRI #263 Composite Development Order and Operating Permit to amend a Developer Commitment (ADA, 38A-11) set forth in Composite Attachment A, Section VI. MINING that will enable waste clays originating from other counties to be disposed in existing Hillsborough County Clay Settling Areas; and

WHEREAS, on September 26, 2018, the Phosphate Mining Hearing Master reviewed the request for amendment to DRI #263 Composite Development Order and Operating Permit pursuant to the Hillsborough County Land Development Code, and filed a recommendation on said application with the Hillsborough County Board of County Commissioners; and

WHEREAS, it is the intent of the Hillsborough County Board of County Commissioners that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners, as the governing body of the local government having jurisdiction pursuant to Section 380.06(7), Florida Statutes, is authorized and empowered to consider proposed changes to approved Developments of Regional Impact pursuant to standards and procedures in the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code; and

WHEREAS, the public notice requirements of the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code, have been satisfied; and

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and local agencies, and the Phosphate Mining Hearing Master; and

WHEREAS, the Hillsborough County Board of County Commissioners on <u>November 14</u>, 2018, held a duly noticed public hearing on said application, as required by Hillsborough County Land Development Code Section 8.02.07, and has heard and considered testimony and reviewed documents and evidence received thereon.

NOW, THEREFORE, BE IT RESOLVED THIS <u>14</u> TH DAY OF <u>NOVEMBER</u>, 2018 BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, DRI #263 COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT IS HEREBY AMENDED BY ADDING THE FOLLOWING FINDINGS OF FACT AND CONDITIONS, WITH THE BALANCE OF THE ADOPTED DEVELOPMENT ORDER AND OPERATING PERMIT REMAINING IN EFFECT IN ITS ENTIRETY.

SECTION 1. FINDINGS OF FACT:

- A. MOSF is the Developer of DRI #263. The authorized agent for MOSF is Mr. Russell Schweiss, VP of Mine Permitting, Land Management and Public Affairs, Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, Florida 33547.
- B. The real property that is the subject of this application is as attached to Section IV to the DRI #263 Composite Development Order and Operating Permit, as amended by R10-113.
- C. Modification of the Developer Commitment in DRI # 263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING (ADA, 38A-11) enabling existing clay settling areas L-1, L-2, L-3, F-4, F-5 and F-7 within DRI #263 to accept clays from Hardee County until such time as each such clay settling area is utilized to its full design storage capacity will not change the existing approved

capacity of those existing affected clay settling areas and will allow such clay settling areas to be fully utilized.

SECTION 2. CONDITIONS:

- A. The Developer Commitment (ADA, 38A-11) by Mosaic in DRI #263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING which originally stated "MOSF commits to balance clay disposal so that the amount of clay that is produced in each county is disposed in that county" shall be amended to state as follows: "MOSF commits to balance the clay disposal so that the amount of clay that is produced in each county is disposed in that county, provided, however, that CSA L-1, L-2, L-3, F-4, F-5 and F-7 in Hillsborough County, are authorized to accept clays mined by MOSF from Hardee County only until such time as each CSA is utilized to its full design storage capacity or as provided herein. Regardless of whether each CSA is utilized to its full design storage capacity, this authorization to deposit clays from Hardee County in Hillsborough County shall expire on November 14, 2023 unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master. Additionally, MOSF will not construct CSAs L-4, L-5, L-6, and F-8."
- B. On each anniversary of this Resolution, Mosaic shall report to the County's Development Services Department the amount of clay from outside Hillsborough County deposited in Hillsborough County clay settling areas in the previous year. This information shall be reported to the Hillsborough County Board of County Commissioners annually as part of the report referenced in Section 2.E., below, and such report shall include review of the information by a hydrologist on behalf of Hillsborough County.
- C. Mosaic shall continue to fill CSAs L-1, L-2, L-3, F-4, F-5, and F-7 with clays originating from Hillsborough County, until such clay supply from mining operations in Hillsborough County is exhausted.
- D. No new pipelines or clay transport mechanisms shall be constructed in Hillsborough County to accommodate any clay derived from Hardee County.
- E. All aspects of the approved CSAs' design, construction and maintenance shall occur in accordance with the terms and conditions of such permits or authorizations given in connection with the design, construction or maintenance of the clay settling area(s), including but not limited to the Florida Department of Environmental Protection Phosphate Management Facility Permit (PMFP). Nothing herein shall be construed as to exceed or expand the terms or conditions of an approved PMFP. Mosaic shall provide to the appropriate representative of Hillsborough County's Development Services Department copies of any correspondence or any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the clay settling areas. Simultaneous with any submittal to FDEP of any data regarding the composition or content of clay, water or any other substance from a clay settling area within DRI #263, Mosaic shall provide the same data in the same format to the Hillsborough County Environmental Protection Commission (EPC) for review. This

data shall be summarized and reviewed by a hydrologist on behalf of Hillsborough County and provided in an annual report to the Hillsborough County Board of County Commissioners. Furthermore, Mosaic agrees to allow the EPC or an independent monitor selected by the EPC to take samples from the clay settling areas with reasonable notice, and shall pay all reasonable costs associated with such sampling, testing and monitoring.

- F. Mosaic shall obtain all required or necessary governmental approvals, authorizations, permits and documents prior to conducting any mining activity. Mosaic agrees to pay all of the County's reasonable costs and expenses related to monitoring the clay settling areas until such time as all clay settling areas within the DRI are reclaimed.
- G. Except as amended in this Resolution, the approvals and conditions set forth in the DRI #263 Composite Development Order and Operating Permit, as amended, shall continue in full force and effect as previously approved.
- H. The changes approved in this Resolution are consistent with the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County, the Hillsborough County Land Development Code, and Section 380.06(7) Florida Statutes.

SECTION 3. ADMINISTRATION:

- A. The Ex Officio Clerk of the Board of County Commissioners shall send copies of this Resolution, by certified mail, within thirty (30) days following the effective date hereof, to MOSF and the Tampa Bay Regional Planning Council.
- B. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

I, <u>Pat Frank</u>, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of a Resolution adopted by the Board at its regular meeting of <u>November 14</u>, 2018, as the same appears of record in Minute Book <u>510</u> of the

Public Records of Hillsborough County, Florida.

WITNESS my hand and official seal this 19th day of November 2018.

PAT FRANK CLERK OF THE CIRCUIT COURT

By: TV Judan O K Dit-



APPROVED BY COUNTY ATTORNEY As to Form and Legal Sufficiency BY: Sr. Assistant County Attorney

STAFF REVIEW REPORT ATTACHMENT 3 SITE MAPS



23-0742

Hillsborough County Clay Settling Area Status







STAFF REPORT ATTACHMENT 4 CLAY SETTLING AREAS NOTICE OF APPROVAL LETTERS



Office of the County Administrator Daniel A. Kleman Deputy County Administrator Patricia Bean

Assistant County Administratory Edwin Hunzeker Jimmle Keel Anthony Shoemaker

HILLSBOROUGH COUNTY NOTICE OF PHOSPHATE MINING APPROVAL

IMC PHOSPHATES COMPANY, FORMERLY IMC-AGRICO COMPANY P.O. BOX 2000 MULBERRY, FL 33860

MINE:

PERMITTEE:

BOARD OF COUNTY COMMISSIONERS

Pat Frank Chris Harr

lim Norman

Jon K. Place

Thomas Scott

Ronda Storms Ben Wacksman

CONSOLIDATED MINE (FOUR CORNERS AREA)

APPROVAL OF: F-4 CLAY SETTLING AREA

APPLICATION NO.: 1199.10P

EFFECTIVE DATE: AUGUST 22, 2000

Pursuant to Hillsborough County Ordinance 96-35, and the approval of the Board of County Commissioners on August 22, 2000, IMC Phosphates Company (IMC), formerly IMC-Agrico Company (IMCA), is authorized to construct the F-4 Clay Settling Area, of the Consolidated Mine (Four Corners Area). All activities shall be conducted in accordance with the approved plans on file with the Hillsborough County Planning and Growth Management Department (PGMD), and in accordance with the following conditions:

1. Construction of the Settling Pond shall occur in accordance with the recommendations and report issued by USR Greiner Woodward Clyde, dated November 12, 1999.

- 2. All aspects of the Settling Pond's design, construction and maintenance shall occur in accordance with the terms and conditions of any permit or authorization given in connection with the design, construction and maintenance of the Settling Pond, which shall include but not limited to the Florida Department of Environmental Protection's (FDEP) Phosphate Management Facility Permit (PMFP). The applicant shall provide to the appropriate representative of Hillsborough County's Planning and Growth Management Department copies of any correspondence or any data relating to compliance with the FDEP's PMFP and relating to any modification or change to any approvals granted relating to the Settling Pond.
- 3. In no event shall any approval granted herein exceed or expand any approval granted pursuant to the FDEP's PMFP.

AUTHORIZED BY:

David W. Ford, CBO, Manager Project Review & Processing Section Development Services Division Planning and Growth Management Department

2



Office of the County Administrator Patricia G. Bean Deputy County Administrator Wally Hill

Assistant County Administrators Bernardo Garcia Carl S. Harness Manus J. O' Donnell

HILLSBOROUGH COUNTY NOTICE OF PHOSPHATE MINING APPROVAL

MOSAIC FERTILIZER L.L.C. P.O. BOX 2000 MULBERRY, FL 33860

MINE:

PERMITTEE:

BOARD OF COUNTY COMMISSIONERS

Brian Blair Kathy Castor

Ken Hagan

Jim Norman

Thomas Scott

Mark Sharpe Ronda Storms

CONSOLIDATED MINE (FOUR CORNERS)

APPROVAL OF: CLAY SETTLING AREA F-5

APPLICATION NO.: 505.05P

EFFECTIVE DATE: January 24, 2006

Pursuant to Hillsborough County Ordinance 96-35, and the approval of the Board of County Commissioners (BOCC) on January 24, 2006, Mosaic Fertilizer L.L.C. (Mosaic) is authorized to construct F-5 Clay Settling at the Consolidated Mine (Four Corners). All activities shall be conducted in accordance with the approved plans on file with the Hillsborough County Planning and Growth Management Department (PGMD), and in accordance with the following conditions:

1. All aspects of the Clay Settling Area's design, construction and maintenance shall occur in accordance with the terms and conditions of all permits and authorizations issued by other agencies, in connection with the design, construction, maintenance, and operation of the Settling Ponds described, which shall include, but not limited to the Florida Department of Environmental Protection (FDEP) Phosphate Management Facility Permit (PMEP). The applicant shall provide to the appropriate representative

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1

of Hillsborough County's Planning and Growth Management Department copies of any correspondence of any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the Settling Pond area.

- In no event shall any approval granted herein exceed or expand any approval granted pursuant to the FDEP's PMFP.
- All construction shall be in accordance with the recommendations and reports of Ardaman & Associates, Inc. dated January 7, 2005, and the DEP Modification of the Mosaic Phosphates Company's Four Corners Mine Permit No. FL0036412-021-IW1S/RA, dated June 27, 2005. Any future and /or further changes in this FDEP Modification of Permit No. FL0036412 will be, by reference, required for compliance of this Hillsborough County permit approval.
- 4. Wetland impacts and mitigation shall comply with the Environmental Protection Commission of Hillsborough County Mitigation Agreement dated October 17, 2005.
- 5. A revised Post-Reclamation Amendment for Mining Unit 14E, reflecting the wetland impacts and mitigation agreed to in the Mitigation Agreement with EPC, dated October 17, 2005 in and for Four Corners Mining Units 14E, 11E, 13, 15E and 17E shall be submitted and must be administratively approved by Hillsborough County, prior to construction of this F-5 Clay Settling Area.

(The Revised Post-Reclamation Amendment was administratively approved by Hillsborough County staff on November 9, 2005.)

AUTHORIZED BY:

Robert L. Campbell, P.E. Division Director Transportation and Land Development Review Division Planning and Growth Management Department


Office of the County Administrator Patricia G. Bean ADMINISTRATORS Lucia E. Garsys Carl S. Harness Eric R. Johnson Michael S. Merrill Manus J. O' Donnell Edith M. Stewart

HILLSBOROUGH COUNTY NOTICE OF PHOSPHATE MINING APPROVAL

PERMITTEE:

MOSAIC FERTILIZER L.L.C. P.O. BOX 2000 MULBERRY, FL 33860

CLAY SETTLING AREA F-7

MINE:

BOARD OF COUNTY COMMISSIONERS

Kevin Beckner

Rose V. Ferlita

Al Higginbotham

Ken Hagan

Jim Norman

Mark Sharpe Kevin White

CONSOLIDATED MINE, FOUR CORNERS AREA

APPROVAL OF:

APPLICATION NO.: 608.06P

EFFECTIVE DATE: January 13, 2009

Pursuant to Hillsborough County Ordinance 96-35, and the approval of the Board of County Commissioners (BOCC) on January 13, 2009, Mosaic Fertilizer L.L.C. (Mosaic) is authorized to construct F-7 Clay Settling at the Consolidated Mine (Four Corners). All activities shall be conducted in accordance with the approved plans on file with the Hillsborough County Planning and Growth Management Department (PGMD), and in accordance with the following conditions:

1. All aspects of the Clay Settling Area's design, construction and maintenance shall occur in accordance with the terms and conditions of all permits and authorizations issued by other agencies, in connection with the design, construction, maintenance, and operation of the Settling Ponds described, which shall include, but not limited to the Florida Department of Environmental Protection (FDEP) Phosphate Management Facility Permit (PMP). The applicant shall provide to the appropriate representative of Hillsborough County's Planning and Growth Management Department copies of any correspondence of data relating to compliance with FDEP's PMP and

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Hillsborough County Notice of Phosphate Mining Approval Clay Settling Area F-7

correspondence of data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the Settling Pond area.

- 2. In no event shall any approval granted herein exceed or expand any approval granted pursuant to the FDEP's PMFP.
- 3. All construction shall be in accordance with the recommendations and reports of Ardaman & Associates, Inc., dated May 21, 2008, and the DEP Modification of the Mosaic Fertilizer, L.L.C.'s Four Corners Mine Permit No.FL003146, dated October 20, 2008. Any future and /or further changes in this FDEP Modification of Permit No. FL003146 will be, by reference, required for compliance of this Hillsborough County permit approval.
- 4. EPC and Mosaic staff have produced a monitoring plan (approved on March 16, 2009) to assess the hydrology of the wetlands associated with Howard's Prairie and the unnamed tributary to the west of the proposed clay settling area.

AUTHORIZED BY:

Robert L. Campbell, P.E. Division Director Transportation and Land Development Review Division Planning and Growth Management Department

HILLSBOROUGH COUNTY NOTICE OF PHOSPHATE MINING APPROVAL

PERMITTEE: IMC-AGRICO COMPANY P.O. BOX 2000 MULBERRY, FL 33860

MINE: CONSOLIDATED MINE (LONESOME)

APPROVAL OF: CONSTRUCTION OF SETTLING POND L-1

APPLICATION NO.: 497.05P

EFFECTIVE DATE: APRIL 21, 1998

Pursuant to Hillsborough County Ordinance 96-35, and the approval of the Board of County Commissioners of April 21, 1998, IMC-Agrico Company is authorized to construct Settling Pond L-1 in the Lonesome Mine area of the Consolidated Mine. All activities shall be conducted in accordance with the approved plans on file with the Hillsborough County Planning and Growth Management Department, and in accordance with the following conditions.

- 1.All mining that occurs adjacent to the eastern dam, and all mining operations and setbacks shall occur in accordance with the recommendations of the Golder and Associates, Inc., report dated December 5, 1997.
- 2.IMC-Agrico may not cause nor allow to be caused and shall take all reasonable efforts to prevent any erosion or turbid water from being discharged off site into the wetlands and/or waters of Hillsborough County. Turbid discharges that exceed 50 JTU's (Jackson Turbidity Units) or 29 NTU's (Nephelometric Turbidity Units) above background levels area a violation pursuant to Chapter 1-5, Water Quality Rule. Hay bales, silt screens or other EPC

approved methods of erosion/turbidity control are required.

Notice of Approval; 497.05P Lonesome Settling Pond L-1 April 21, 1998 Page Two of Two

3. The outer toes of the dam of the L-1 Settling Pond shall be at least 2,000 feet from the centerline of County Road 39, and at least 750 feet from State Road 674.

AUTHORIZED BY:

Gene Boles, Director Planning and Growth Management Department BOARD OF COUNTY COMMISSIONERS Kevin Beckner Victor D. Crist Ken Hagan Al Higginbotham Lesley "Les" Miller, Jr. Sandra L. Murman Mark Sharpe



Office of the County Administrator Michael S. Merrill CHIEF ADMINISTRATIVE OFFICER Helene Marks

CHIEF FINANCIAL ADMINISTRATOR Bonnie M. Wise

DEPUTY COUNTY ADMINISTRATORS Lucia E. Garsys Sharon D. Subadan

HILLSBOROUGH COUNTY NOTICE OF PHOSPHATE MINING APPROVAL

PERMITTEE:

MOSAIC FERTILIZER L.L.C. 13830 CIRCA CROSSING DRIVE LITHIA, FL 33547

MINE:

CONSOLIDATED MINE, FT. LONESOME AREA

APPROVAL OF: LONESOME L-2 CLAY SETTLING AREA

APPLICATION NO.: 1010.09P

EFFECTIVE DATE: March 22, 2011

Pursuant to Hillsborough County Ordinance 96-35, and the approval of the Board of County Commissioners (BOCC) on March 22, 2011, Mosaic Fertilizer L.L.C. (Mosaic) is authorized to construct the Lonesome L-2 Clay Settling Area at the Lonesome Area of the Consolidated Mines. All activities shall be conducted in accordance with the approved plans on file with the Hillsborough County Planning and Growth Management Department (PGMD), and in accordance with the following conditions:

- 1. This conditional approval applies to the Consolidated Mine (Lonesome Area), Application #1010.09P, only. Nothing herein shall be construed to be a waiver of any applicable federal, state or local law, ordinance or regulation.
- 2. All aspects of the Clay Settling Area's design, construction and maintenance shall occur in accordance with the terms and conditions of all permits and

Notice of Approval Lonesome L-2 Clay Settling Area Hillsborough Consolidated Mines Mosaic Fertilizer, L.L.C. March 22, 2011 Page 2 of 3

> authorizations given in connection with the design, construction, and maintenance of the Settling Area, which shall include but not limited to the Florida Department of Environmental Protection (FDEP) Phosphate Management Facility Permit (PMFP). The applicant shall provide to the appropriate representative of Hillsborough County's Planning and Growth Management Department copies of any correspondence of any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the Settling Area.

- 3. In no event shall any approval granted herein exceed or expand any approval granted pursuant to the FDEP's PMFP.
- 4. Hillsborough County staff recommends conditional approval of this requested Hillsborough County permit, conditioned that the Applicant will not present nor request approval by the Hillsborough County Board of County Commissioners until the FDEP has issued a Final Permit Modification designated as FDEP Permit FL033332-014.
- All construction shall be in accordance with the recommendations and reports of Ardaman & Associates, Inc., dated September 13, 2010, as modified by the DEP Final Permit Modification designated as FDEP Permit FL033332-014.
- 6. The applicant is responsible for maintaining appropriate hydrology to both the preserved wetlands and wetlands created as mitigation for wetlands impacts throughout the mining and reclamation process, including the construction and operational phases of the clay settling areas and postreclamation.
- 7. Proper erosion controls must be in place between the wetland mitigation areas and the construction area prior to initial of activity and shall remain in good condition until all loose soils have been stabilized.
- 8. The Applicant shall obtain all other governmental approvals as necessary.

Notice of Approval Lonesome L-2 Clay Settling Area Hillsborough Consolidated Mines Mosaic Fertilizer, L.L.C. March 22, 2011 Page 3 of 3

AUTHORIZED BY:

Robert L. Campbell, P.E. Division Director Transportation and Land Development Review Division Planning and Growth Management Department Board of County Commissioners Kevin Beckner Victor D. Crist Ken Hagan Al Higginbotham Lesley "Les" Miller Jr. Sandra L. Murman Mark Sharpe

County Administrator Michael S. Merrill

County Administrator Executive Team Lucia Garsys Carl S. Harness Gregory S. Horwedel Liana Lopez Bonnie Wise

County Internal Auditor Michelle Leonhardt

> County Attorney Chip Fletcher

Development Services PO Box 1110 Tampa, FL 33601-1110 HillsboroughCounty

Development Services

HILLSBOROUGH COUNTY NOTICE OF PHOSPHATE MINING APPROVAL

CONSOLIDATED MINE, LONESOME AREA

PERMITTEE:

THE MOSAIC COMPANY 13830 CIRCA CROSSING DRIVE LITHIA, FL 33547

MINE:

APPROVAL OF: L-3 CLAY SETTLING AREA

APPLICATION NO.: 314.02P

EFFECTIVE DATE: September 9, 2014

Pursuant to Hillsborough County Ordinance 96-35, and the approval of the Board of County Commissioners (BOCC) on September 9, 2014, the Mosaic Company (Mosaic) is authorized to conduct mining and mining related activities within L-3 Clay Settling Area at the Lonesome Area of the Consolidated Mines. All activities shall be conducted in accordance with the approved plans on file with the Hillsborough County Development Services Department (DSD) and in accordance with the following conditions:

1. This conditional approval applies only to the L-3 CSA at the Consolidated Mine (Lonesome Area), Application No. 314.02P. Nothing herein shall be construed to be a waiver of any applicable federal, state or local law, ordinance or regulation.

2. All aspects of the L-3 CSA's design, construction, and maintenance shall be in accordance with the terms and conditions of all permits, laws, regulations and ordinances pertaining to the design, construction, and maintenance of the L-3 CSA dam and related features, which shall include but not limited to the FDEP Phosphate Management Facility Permit ("PMFP").

3. Mosaic shall provide to the appropriate representative of Hillsborough County's Planning and Growth Management Department copies of any correspondence of any data relating to compliance with FDEP PMFP and relating to any modification or change to any approvals granted relating to the L-3 CSA.

4. In the event this Recommendation conflicts with the FDEP PMFP, then the FDEP PMFP shall control.

Notice of Approval L-3 Clay Settling Area Hillsborough Consolidated Mines The Mosaic Company September 9, 2014 Page 2 of 2

5. All design and construction shall be in accordance with the recommendations and testimony from the Ardaman Report dated February 21, 2014, as modified by the FDEP Final Permit FL03332-16.

6. If animal or plant species are present at or near the L-3 CSA which are listed as threatened, endangered or protected under any federal, state, or local law or regulation, then Mosaic shall obtain all necessary permits and approval from FDEP and federal agencies prior to proceeding with any work.

7. The Applicant shall obtain all required or necessary governmental approvals, authorizations, permits and documents prior to conducting any construction activity.

AUTHORIZED BY:

Roy Mazur, P.E. Development Review Manager Development Services Department

STAFF REVIEW REPORT **ATTACHMENT 5** CLAY **SETTLING AREAS ANNUAL** REPORTS



Board of County Commissioners

on

June 9, 2020

from

Public Utilities Administration Environmental Management Division

Regarding

Annual Report for Hillsborough County DRI#263 Clay Settling Area Utilization for Hardee County Waste Clay Disposal

Sign-Off Approvals Kai & Moran	05/27/2020
Division Director	Date
Nancy Takemori County Attorney – Approved as to Legal	05/28/2020 Date
Sufficiency	
Digitaly signed by George K. Causky. Dift con-George K. Causky, existilitationaly. County, our Public Utilisers Diguerment, email-causky gettilitationary county ang. c-US Dane: 202165, 28 (c-1)-142-0492	
Assistant County Administrator	Date

Consent Section – Informational purposes only. (*No discussion anticipated*) R Consent Section – Board requested report. (*No discussion anticipated*)

STAFF REPORT

ANNUAL REPORT FOR HILLSBOROUGH COUNTY DRI#263 CLAY SETTLING AREA UTILIZATION FOR HARDEE COUNTY WASTE CLAY DISPOSAL ANALYSIS

Background

On July 10, 2018 Mosaic Fertilizer, L.L.C. (Mosaic) proposed and submitted an application to amend Hillsborough County Mines Development of Regional Impact DRI #263 Composite Development Order and Operating Permit to amend a Developer Commitment (ADA, 38A-11) set forth in Composite Attachment A, Section VI. MINING that would enable waste clays originating from other counties to be disposed of in existing Hillsborough County Clay Settling Areas. On September 26, 2018, the Phosphate Mining Hearing Master reviewed the request for amendment and filed a recommendation with the Hillsborough Board of County Commissioners. On November 14, 2019 at the BOCC Land Use Meeting the BOCC approved amending the DRI #263 Composite Development Order and Operating Permit as resolved in Resolution R18-129, subject to the terms and conditions set forth therein. Resolution R18-129 provides that certain designated clay settling areas within Hillsborough County (CSAs L-1, L-2, L-3, F-4, F-5 and F-7) may accept clays mined by Mosaic within Hardee County only, until such time as the clay settling areas are utilized to their full design storage capacity, and before November 14, 2023 unless expressly extended. The Resolution contains annual reporting requirements to monitor compliance with this condition. Condition B. of Resolution R18-129 provides: Mosaic shall report to the County's Development Services Department the amount of clay from outside Hillsborough County deposited in Hillsborough County clay settling areas, and Condition E. of Resolution R18-129 provides: Mosaic shall provide to the appropriate representative of Hillsborough County's Development Services Department copies of any correspondence or any data relating to compliance with FDEP's PMFP (Phosphate Management Facility Permit). Condition E. continues: This data shall be summarized and reviewed by a hydrologist on behalf of Hillsborough County and provided in an annual report to the Hillsborough County Board of County Commissioners. This report is for 2019, the first annual reporting period.

<u>Analysis</u>

The Public Utilities Department reviewed the Clay Settling Pond Utilization Data provided by Mosaic staff and the Ardaman and Associates, Inc, 2018 Annual Inspection of Phosphatic Clay Settling Areas Dam, Four Corners/Lonesome Mine Sites prepared for Mosaic on July 22, 2019. Mosaic reported that for the period November 2018 through October 2019, approximately 3.677 million tons of clays were deposited in Hillsborough County Clay Settling Areas (CSAs) L-1, L-2, L-3, F-4, F-5 and F-7 covered by Resolution 18-129. Hillsborough County clays production for the same period was approximately 2.995 million tons. Accordingly, the net import of clays into Hillsborough County CSAs under Resolution R18-129 for the period November 2018 through October 2019 was approximately 0.733 million tons. All of the 732,695 tons of clay not produced in Hillsborough County. The Annual Inspection of Phosphatic Clay Settling Area Dams was performed consistent with the requirements of Chapter 62-672, F.A.C. Based on the findings of this inspection and available information, it was the opinion of Ardaman and Associates that the earthen dams around the CSAs operated by Mosaic at these facilities are generally well maintained and safely operated within industry standards for their intended use.

STAFF REPORT HILLSBOROUGH COUNTY CLAY SETTLING AREA UTILIZATION FOR HARDEE COUNTY WASTE CLAY DISPOSAL ANALYSIS June 9, 2020

Conclusion

Based on Mosaic's provided data and the Ardaman and Associates, Inc, 2018 Annual Inspection of Phosphatic Clay Settling Areas Dam, Four Corners/Lonesome Mine Sites prepared for Mosaic on July 22, 2019, Mosaic appears to be in compliance with Resolution R18-129 enabling existing clay settling areas L-1, L-2, L-3, F-4, F-5 and F-7 within DRI #263 to accept clays from Hardee County until such time as each clay settling area is utilized to the full design storage capacity. Regardless of whether each CSA is utilized to its full design capacity, this authorization to deposit clays from Hardee County in Hillsborough County shall expire on November 14, 2023 unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master. Additionally, MOSF will not construct CSAs L-4, L-5, L-6 and F-8.

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ATTACHMENT 5



December 4, 2020

Mr. Mike Stevenson, Senior Hydrogeologist Hillsborough County Planning & Growth Management 601 East Kennedy Blvd. Tampa, Florida 33602

Re: Hillsborough County DRI 263 Clay Report

Dear Mr. Stevenson;

I have reviewed production data, clay settling area data, and run all appropriate calculations to determine the clay stored in Mosaic's various clay settling areas in Hillsborough County. Based on my calculations, the following page summarizes the clay storage in Hillsborough County as of the end of October 2020. There is also supporting information for the amount of clay produced in Hardee County and stored in Hillsborough County clay settling areas.

If you have any questions or require additional information, I can be reached at (863) 486-3793.

Sincerely 2.3 2. 34 1.00 Brad E. De Neve, PE - Florida Registration 72325 Geotechnical Engineering 80 11 ERG

) The total volume of clay processed in Hillsborough County;	1,455,743	tons
) The volume of clay deposited in the above referenced CSAs;	see below	
The remaining available volume for clay disposal in the above referenced CSAs:;	see below	
) The volume of clays mined from Hillsborough County and deposited in the above refenced CSAs;	1,455,743	tons
The volume of clays mined from Hardee County and deposited in the above refenced CSAs	2,969,586	tons
) The volume of clays mined from Hardee County and returned to Hardee County;	5,835,922	tons
) Provide any correspondence and/or data related to compliance with FDEP's PMFP and relating to any modification or change related to the C	SAs; N/A	2

	Question 2	Question 3
	Clay Tons Deposited	
	11/1/19 tp	Remaining Clay
CSA	10/31/20	Ton Capacity
L-1	416,936	1,886,863
L-2	1,379,498	44,874
L-3	1,379,499	1,384,469
F-4	93,940	1,450,030
F-5	231,140	1,131,457
F-7	924,316	1,930,441

Total Hillsborough	4 425 220	
Deposited	4,425,329	tons
Total Hardee Clav	8,805,508	tons



Mosaic Fertilizer, L.L.C. 13830 Circa Crossing Drive Lithia, Florida 33547 Tel 813.500.6300 www.mosaicco.com

Via Electronic Delivery

November 15, 2021

Mr. Jeffry Greenwell Section Manager Public Utilities Department 332 N. Falkenburg Road Tampa, Florida 33619

RE: Hillsborough County DRI 263 Clay Summary Report Resolution R18-129, Section 2. Condition B Four Corners / Lonesome Mines

Dear Mr. Greenwell:

In accordance with the requirements of Hillsborough County Resolution R18-129, Section 2. Condition B for the Four Corners / Lonesome Mine in southeast Hillsborough County, please find attached a Clay Summary Report for the reporting period of 11/1/2020 through 10/31/2021. Based on my review of production data for the year and the latest available survey data for the applicable clay settling areas, the attached report summarizes the clay storage in Hillsborough County as of October 31, 2021.

If you have any additional questions or require additional information, please feel free to contact me at (813) 267-6343.

Sincerely,

James a. Mattern

James A. Matteson, P.E. Florida Registration 66601 Superintendent Geotechnical

Cc: Tony Alhomsi – Hillsborough County Ed Coppock – Hillsborough County Mike Carter – Hillsborough County Sam Elrabi – Hillsborough County Adam Gormly – Hillsborough County Kevin Moran – Hillsborough County Nancy Takemori – Hillsborough County Mike Thompson – Hillsborough County Bill Brammell – Mosaic Laura Morris – Mosaic Scott Wuitschick – Mosaic Angel Wynn – Mosaic



Hillsborough County Clay Summary for Reporting Period of 11/01/2020 - 10/31/2021

1)	The total volume of clay processed in Hillsborough County;	670,243	tons
2)	The volume of clay deposited in the Hillsborough County CSAs;	see below	
3)	The remaining available volume for clay disposal in the Hillsborough County CSAs;	see below	
4)	The volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs;	670,243	tons
5)	The volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs	5,335,786	tons
6)	The volume of clays mined from Hardee County and returned to Hardee County;	2,783,039	tons
7)	Provide any correspondence and/or data related to compliance with FDEP's PMFP and relating to any modification or change related to the CSAs;	N/A	

	Question 2	Question 2 Question 3		
CSA	Clay Tons Deposited 11/1/20	Remaining Available Volume (as of 10/31/2021)		
	to 10/31/21	Acre - Feet	Tons (Assumes 10% Solids)	
L-1	1,172,816	4,924	713,488	
L-2	164,722	1,664	241,114	
L-3	164,722	3,227	467,592	
F-2D	2,987,376	7,292	1,056,611	
F-4	257,423	7,457	1,080,519	
F-5	379,574	5,130	743,337	
F-7	879,395	7,015	1,016,474	
Totals	6,006,029	36,709	5,319,134	



Mosaic Fertilizer, L.L.C. 13830 Circa Crossing Drive Lithia, Florida 33547 Tel 813.500.6300 www.mosaicco.com

Via Electronic Delivery

November 22, 2022

Mr. Jeffry Greenwell Section Manager Public Utilities Department 332 N. Falkenburg Road Tampa, Florida 33619

RE: Hillsborough County DRI 263 Clay Summary Report Resolution R18-129, Section 2. Condition B Four Corners / Lonesome Mines

Dear Mr. Greenwell:

In accordance with the requirements of Hillsborough County Resolution R18-129, Section 2. Condition B for the Four Corners / Lonesome Mine in southeast Hillsborough County, please find attached a Clay Summary Report for the reporting period of 11/1/2021 through 10/31/2022. Based on my review of production data for the year and the latest available survey data for the applicable clay settling areas, the attached report summarizes the clay storage in Hillsborough County as of October 31, 2022.

If you have any additional questions or require additional information, please feel free to contact me at (813) 267-6343.

Sincerely,

James a. Matter

James A. Matteson, P.E. Florida Registration 66601 Superintendent Geotechnical

Cc: Tony Alhomsi – Hillsborough County Ed Coppock – Hillsborough County Mike Carter – Hillsborough County Sam Elrabi – Hillsborough County Adam Gormly – Hillsborough County Kevin Moran – Hillsborough County Nancy Takemori – Hillsborough County Mike Thompson – Hillsborough County Shelley Thorton – Mosaic Laura Morris – Mosaic Keith Beriswill – Mosaic Angel Wynn – Mosaic



Hillsborough County Clay Summary for Reporting Period of 11/01/2021 - 10/31/2022

1)	The total volume of clay processed in Hillsborough County;	483,053	tons
2)	The volume of clay deposited in the Hillsborough County CSAs;	see below	
3)	The remaining available volume for clay disposal in the Hillsborough County CSAs;	see below	
4)	The volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs;	483,053	tons
5)	The volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs;	5,295,014	tons
6)	The volume of clays mined from Hardee County and returned to Hardee County;	4,230,601	tons
7)	Provide any correspondence and/or data related to compliance with FDEP's PMFP and relating to any modification or change related to the CSAs;	N/A	

	Question 2	Question 3		
CSA	Clay Tons Deposited 11/1/21 to	Remaining Available Volume (as of 10/31/2022)		
	10/31/22	Acre - Feet	Tons (Assumes 10/31/23 Disposal End Date*)	
L-1	328,469	2,060	464,377	
L-2	71,818	2,813	653,825	
L-3	464,431	3,641	862,802	
F-2D	3,934,785	217	37,250	
F-4	0	6,550	1,370,473	
F-5	285,099	4,170	875,694	
F-7	693,465	3,714	801,583	
Totals	5,778,067	23,165	5,066,004	

* Per Condition Section 2.A. of R18-129, regardless of whether each CSA is utilized to its full design storage capacity, this authorization to deposit clays from Hardee County in Hillsoborough County shall expire on November 14, 2023

STAFF REVIEW REPORT ATTACHMENT 6 AGENCY COMMENTS

	Submittal Namo	Clay	Sottling Area Recolution Time Extension	2				
		Clay	Setting Area Resolution - Time Extension	1				
	Applicant Name.		With Cruz					
	HC Contact Name:		KIM Cruz					
	HC Contact Phone No.:		813-276-8370					
	HC Contact Email:		<u>CruzKi@hillsboroughcounty.org</u>					
	Submittal Date:	Submitted	on 06/29/2023, HC EVSD received on 7/1	8/2023				
	Submittal Due Date:							
				For Reviewers Use	Only			
								C
Comment No	Boviewer	Organization/Discipline	Document	Document Title	Page-Sheet No	Column1	Initial Comment(s)/Request for Info	Date
connicit No.	Reviewei	organization/ biscipline	Bocument	Document rule	ruge sheet no.	columnia	The applicant shall continue associated monitoring and	Dute
						No Objection with	recording to provide month of and third in D 10 120 (and comment 15 and 17	
	Mar Care	EL/CD	Charles Catallian Assoc Decale time			No Objection with	reporting requirements as counted in R-18-129 (see comment 15 and 17	0/0/2022
1	KIM Cruz	EVSD	Clay Settling Area Resolution			Conditions	for additional reporting requirements).	8/9/2023
						No Objection with	The applicant shall obtain and maintain all applicable Federal, State, or	
2	Kim Cruz	EVSD	Clay Settling Area Resolution	4.23-0742+Req+06-29-23	Page 7 of 8	Conditions	local permits.	8/9/2023
							Reclamation shall be completed in accordance with the Hillsborough	
						No Objection with	County Board of County Commissioners (HC BOCC) approved post-	
3	Kim Cruz	EVSD	Clay Settling Area Resolution	4.23-0742+Req+06-29-23	Page 8 of 8	Conditions	reclamation plans and timelines.	8/9/2023
				6 22 0742 Prior Post Of		Request for Additional	For the time outpacion regarding the Emergency Order, place provide	
4	King Court	EV(CD	Class Cattling Area Decelution	20.22	Daga 12 of 200	Information	Tor the time extension regarding the Emergency order, please provide	0/14/2022
4	Kim Cruz	EVSD	Clay Settling Area Resolution	29-23	Page 13 01 308	information	your calcuation.	8/14/2023
							As of 08/14/2023, the Executive Orders have added 354 days plus 6	
							months for each order (182 days x 2), which amounts to 718 days. The	
				6.23-0742+Prior+Rec+06-		Request for Additional	timelines shall be reclaulated prior to the PHM meeting and subsequently	
5	Kim Cruz	EVSD	Clay Settling Area Resolution	29-23	Page 13 of 308	Information	prior to the BOCC meeting, if applicable,	8/14/2023
			,				r · · · · · · · · · · · · · · · · · · ·	., ,
							Revise Section 1.C. of the proposed Resolution to add a statement that the	
				6.23-0742+Prior+Rec+06-		No Objection with	clays deposited will not exceed the freeboard elevations conditioned in the	
6	Kim Cruz	EVSD	Clay Settling Area Resolution	29-23	Page 15 of 308	Conditions	Florida Department of Environmental Protection (FDEP) permits.	8/9/2023
							To be consistent with Resolution R-18-129, the following language shall be	
				6.23-0742+Prior+Rec+06-		No Objection with	included in the proposed Resolution at the end of the Section 2.B.: 'as part	
7	Kim Cruz	EVSD	Clay Settling Area Resolution	29-23	Page 15 of 308	Conditions	of the report referenced in Section 2.E., below.'	8/9/2023
							To be consistent with Resolution R-18-129, the following language in the	
							proposed Resolution shall be included in Section 2.E. in front of	
							'furthermore': This data shall be summarized and reviewed by	
				6.23-0742+Prior+Rec+06-		No Objection with	Hillsborough County staff and provided in an annual report to the	
8	Kim Cruz	EVSD	Clay Settling Area Resolution	29-23	Page 16 of 308	Conditions	Hillsborough County Board of County Commissioners.	8/9/2023
0		2100	endy bettining rived resolution		1 450 10 01 000	Request for Additional	Submit a copy of the most undated version of the Clay Waste Disposal	0, 5, 2025
٥	Kim Cruz	EVSD	Clay Settling Area Resolution			Information	Plan to be included with the application	8/0/2022
5	Num er de	2430	city setting Area nesolution					0/ 5/ 2025
							The application indicates that F-2A, F-2C, and F-2D will continue to be used	
							for water management and clay thickening to support the transfer of clays	
							to other Clay Settling Areas (CSA). Provide a summary of this process and	
				6-23-0742 Resolution +		Request for Additional	how the process relates to Hillsborough County receiving clay from Hardee	
10	Kim Cruz	EVSD	Clay Settling Area Resolution	Prior Permits	Page 308 of 308	Information	County.	8/9/2023
11	Ed Coppock	EPC	Clay Settling Area Resolution			No Comment		8/9/2023
12	Mary James	EPC	Clay Settling Area Resolution			No Comment		8/11/2023
13	Carla Shelton	Dev Ser – Natural Resources	Clay Settling Area Resolution			No Objection		8/11/2023
							The application mentions a Regional Clay Plan. Does the Regional Clay	
							Plan include an agreement between Mosaic, Hillsborough County, and	
						Request for Additional	Hardee County? If applicable, provide a copy of the Regional Clay Plan to	
14	Kim Cruz	EVSD	Clay Settling Area Resolution	4.23-0742	Page 3 of 8	Information	be included with the application packet.	8/14/2023

15	Kim Cruz	EVSD	Clay Settling Area Resolution		No Objection with Conditions	At a minimum, the annual reports shall include the following a clay balance table signed and sealed by a P.E.: total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the remaining available volume for clay disposal in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined in Hardee County and returned to Hardee County, Clays deposited in each clay settling area in tons, the remaining available volume in acre-feet and tons, and provide any correspondence and/or data related to compliance with FDEP's Phospahte Management Facility Permit (PMFP) and relating to any modification or change related to the CSAs.	8/14/2023
16	Kim Cruz	EVSD	Clay Settling Area Resolution	Page 3 of 8	No Objection with Conditions	The County requests paragraph 2 be reworded similar to the following: Ultimately, the HC BOCC approved a temporary amendment for a duration of five years which allows for clays calculated to be from Hardee County be deposited in the Hillsborough County CSAs with associated monitoring and reporting requirements as codified in R-18-129.	8/14/2023
17	Kim Cruz	EVSD	Clay Settling Area Resolution		No Objection with Conditions	Reporting period for the CSA annual reports associated with the new resolution shall be from November 1st through October 31st and shall be submitted within 90 days from the end of the reporting period.	8/14/2014

STAFF REVIEW REPORT **ATTACHMENT 7 RESPONSES TO REQUEST FOR ADDITIONAL INFORMATION**

FIRST RESPONSE TO AGENCY COMMENTS AND REQUEST FOR ADDITIONAL INFORMATION



Mosaic Fertilizer, LLC 13830 Circa Crossing Drive Lithia, FL 33547 Tel 813.500.6300 www.mosaicco.com

August 24, 2023

Jeff Greenwell Section Manager Public Utilities Department Hillsborough County 332 N. Faulkenburg Road Tampa, FL 33619

Re: Response to Agency Comments and Request for Additional Information (RAI) received August 16, 2023 regarding Extension of R-18-129 concerning Clay Settling Areas in DRI-263

Dear Mr. Greenwell:

On August 16, 2023, Mosaic Fertilizer, LLC (Mosaic), received from Hillsborough County Environmental Services Division agency comments, proposed conditions, and requests for additional information regarding Mosaic's application to extend use of clay settling areas ("CSAs") within the footprint of DRI 263 as previously approved in R-18-129 ("CSA Resolution 2023"). Mosaic hereby responds to those comments, proposed conditions, and requests for additional information.

Comments, conditions, and RAIs received from Hillsborough County are restated below in **bond font**, followed by Mosaic responses.

1. <u>Environmental Services Division</u> – The applicant shall continue associated monitoring and reporting requirements as codified in R-18-129 (see comment 15 and 17 for additional reporting requirements).

Noted. Mosaic understands the original reporting requirements codified in R-18-129 with the added specificity contained in comments 15 and 17 will continue to apply to any extension of this approval.

2. <u>Environmental Services Division</u> – The applicant shall obtain and maintain all applicable Federal, State, or local permits.

Noted. All required permits have been obtained and will be maintained consistent with this condition of extension.

3. <u>Environmental Services Division</u> – Reclamation shall be completed in accordance with the Hillsborough County Board of County Commissioners (HCBOCC) approved post-reclamation plans and timelines.

Noted. Reclamation will be completed in accordance with reclamation plans approved by the HCBOCC and in accordance with the reclamation timelines.

4. <u>Environmental Services Division</u> – For the time extension regarding the Emergency Order, please provide your calculation.

Applied to DRI-263, emergency order extensions currently in effect will result in the following deadlines, provided there are no further extensions.

Section & Subject	Current Date	Extended Date
Section 5 Restriction on Downzoning	October 9, 2032	September 27, 2034
Composite Attachment A – Section III. A. Life and Timing of Development – Effective period of Development Order.	October 9, 2032	September 27, 2034
Composite Attachment A – Section III. A. Life and Timing of Development – Mining Completion Date.	October 9, 2023	September 26, 2025
Composite Attachment A – Section III. A. Life and Timing of Development – Reclamation Completion Date.	October 9, 2031	September 26, 2033

5. <u>Environmental Services Division</u> – As of 8/14/2023, the Executive Orders have added 354 days plus 6 months for each order (182 days x 2), which amounts to 718 days. The timelines shall be recalculated prior to the PHM meeting and subsequently prior to the BOCC meeting, if applicable.

Noted. Updated timelines for DRI 263 that account for the emergency orders currently in effect will be available at the PHM and BOCC hearings.

6. <u>Environmental Services Division</u> – Revise Section 1.C. of the proposed Resolution to add a statement that the clays deposited will not exceed the freeboard elevations conditioned in the Florida Department of Environmental Protection (FDEP) permits.

Noted. A revised proposed resolution is attached to this response.

7. <u>Environmental Services Division</u> – To be consistent with Resolution R-18-129, the following language shall be included in the proposed Resolution at the end of the Section 2.B.: 'as part of the report referenced in Section 2.E., below.'

Noted. A revised proposed resolution is attached to this response.

8. <u>Environmental Services Division</u> – To be consistent with Resolution R-18-129, the following language in the proposed Resolution shall be included in Section 2.E. in front of

'furthermore': This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners.

Noted. A revised proposed resolution is attached to this response.

9. <u>Environmental Services Division</u> – Submit a copy of the most updated version of the Clay Waste Disposal Plan to be included with the application.

The most updated Life of Mine Waste Disposal Plan for Four Corners Extension Mine dated August 4, 2020 and prepared by Ardaman & Associates is attached. This is the most current version of the Clay Waste Disposal Plan for the Four Corners Mine. Mosaic is in the process of producing an update to this disposal plan that will incorporate this application's request to continue to utilize the Hillsborough County CSAs to store clay produced from other counties. The updated plan is expected to be completed in late 2023. Once complete, a copy of the updated plan will be provided to Hillsborough County.

10. <u>Environmental Services Division</u> – The application indicates that F-2A, F-2C, and F-2D will continue to be used for water management and clay thickening to support the transfer of clays to other Clay Settling Areas (CSA). Provide a summary of this process and how the process relates to Hillsborough County receiving clay from Hardee County.

F-2A, F-2C and F-2D will be utilized to provide clear water to the Four Corner plant operations while also serving to thicken clays prior to pumping them to distant settling areas. Clay slurry coming from the plant is typically around 2% solids by weight. By depositing that slurry in a CSA adjacent to the plant, we can allow it to consolidate before picking it up again by dredge to pump to a more distant location. This results in a slurry being pumped over long distances that is roughly 10% solids by weight, thereby significantly reducing the volume of slurry required to move the clays to their final storage location and the associated energy required to power the pumping system. Furthermore, water utilized to pump the clay into nearby clay settling areas where thickening operations are occurring is then decanted off the CSA and provides a critical clear water source proximate to the mine's beneficiation plant.

This process is strictly a means of reducing energy consumption and maximizing recycling of water. There is no net change in the amount of clay planned to be stored in these CSAs in association with this process. In other words, the amount of clay transferred into these CSAs will equal the amount pumped out to distant CSAs.

11. <u>Environmental Protection Commission</u> – No comment.

Noted.

12. <u>Environmental Protection Commission</u> – No comment.

Noted.

13. <u>Development Services – Natural Resources</u> – No objection.

Noted.

14. <u>Environmental Services Division</u> – The application mentions a Regional Clay Plan. Does the Regional Clay Plan include an agreement between Mosaic, Hillsborough County, and Hardee County? If applicable, provide a copy of the Regional Clay Plan to be included with the application packet.

No interlocal agreement exists or is required. Regional Clay Plan refers to Mosaic's overall strategy for efficiently managing clay and minimizing CSA footprint across all jurisdictions in which the company operates. It is not a specific document. As an example, through efficient clay management such as that proposed by this application, Mosaic was able to eliminate four approved CSA footprints in Hillsborough County that the company committed not to construct in the 2018 amendment to DRI 263. The efficient regional management of clays and CSA footprints furthers Mosaic's commitment to maximize the value of reclaimed lands and to reduce greenhouse gas emissions.

15. <u>Environmental Services Division</u> – At a minimum, the annual reports shall include the following a clay balance table signed and sealed by a P.E.: total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the remaining available volume for clay disposal in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and returned to Hardee County, Clays deposited in each clay settling area in tons, the remaining available volume in acre-feet and tons, and provide any correspondence and/or data related to compliance with FDEP's Phospahte (sic) Management Facility Permit (PMFP) and relating to any modification or change related to the CSAs.

Noted. Annual reports shall contain the information requested above for the duration of the extension requested.

16. <u>Environmental Services Division</u> – The County requests paragraph 2 be reworded similar to the following: Ultimately, the HC BOCC approved a temporary amendment for a duration of five years which allows for clays calculated to be from Hardee County be deposited in the Hillsborough County CSAs with associated monitoring and reporting requirements as codified in R-18-129.

A revised narrative is attached. The sentence at issue has been revised to say, "Ultimately, the Board of County Commissioners ("BOCC") approved a temporary amendment that permitted Mosaic to deposit clay volume derived from mining in Hardee County in Hillsborough County CSAs for permanent storage, subject to monitoring and reporting requirements as codified in R-18-129. The amendment sunset in five years. The extension to continue existing operations approved by R-18-129 is the subject of this application."

17. <u>Environmental Services Division</u> – Reporting period for the CSA annual reports associated with the new resolution shall be from November 1st through October 31st and shall be submitted within 90 days from the end of the reporting period.

Noted. Mosaic has no objection to this schedule.

If you have any additional questions regarding this response, please contact me at (813) 500-6403 or at Jake.Dotson@mosaicco.com.

Sincerely,

Jake Dotson Permitting Engineer Mosaic Fertilizer, LLC

 cc: Kim Cruz, Environmental Supervisor – <u>cruzki@hillsboroughcounty.org</u> Kevin Moran, Division Director – <u>morank@hillsboroughcounty.org</u> Brian Grady, Director – <u>gradyb@hillsboroughcounty.org</u> Shelley Thornton, Mosaic Fertilizer, LLC – <u>shelley.thornton@mosaicco.com</u> Jon Faletto, Mosaic Fertilizer, LLC – <u>jon.faletto@mosaicco.com</u> Vinette Godelia, Stearns Weaver Miller, P.A. – <u>vgodelia@stearnsweaver.com</u> Felicia L. Kitzmiller, Stearns Weaver Miller, P.A. – <u>fkitzmiller@stearnsweaver.com</u>

ATTACHMENT 1

RESOLUTION R23-

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by Commissioner _____, seconded by Commissioner _____, the following Resolution was adopted by a vote of ____ to ____ with Commissioner(s) ______ voting "No."

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974 and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975 and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Comers, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer, Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and WHEREAS, on September 26, 2000, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and

WHEREAS, on January 25, 2005, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 05-021, amending the ORI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening Station; and

WHEREAS, on March 11, 2008, Hillsborough County Board of County Commissioners approved Resolution 08-047, which added approximately 1,540 acres to form the Hillsborough County Mines Addition Area - DRI #263 (hereinafter "ORI #263 Addition Area Phase"); removed approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; added a mine infrastructure corridor, revised mining plans and incorporated clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, revised reclamation plans reflecting these changes as well as the reclamation already completed in the DRI #213 area; updated DRI #213 Development Order conditions already satisfied or no longer applicable; updated the approved methods for transporting product between the mines and plants; and updated product shipment destination points and deletion of certain destination points and route segments (hereafter "DRI #263 Composite Development Order and Operating Permit"); and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed a Notice of Proposed Change ("NOPC") and an application to amend the Operating Permit/Master Mine and Reclamation Plan for the Hillsborough County Mines Development of Regional Impact DRI #263 proposing to add approximately 75 acres of land, previously owned by Kathy Surface (hereinafter referred to as the "Surface Parcel"), to DRI #263 Composite Development Order and Operating Permit"; and

WHEREAS, on August 10, 2010, the Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution R10-113, amending DRI #263 Composite Development Order and Operating Permit, and the Master Mine and Reclamation Plan to add the approximately 75 acre Surface Parcel; and WHEREAS, per § 252.363, Florida Statutes, and by letter dated November 3, 2017, from counsel for Mosaic, as confirmed by letter from the County dated April 4, 2018, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 31, 2027	December 22, 2030
Restriction on Downzoning		
Composite Attachment A-	December 31, 2027	December 22, 2030
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 31, 2018	December 22, 2021
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 31, 2026	December 22, 2029
Development-		
Reclamation Completion Date		

and

WHEREAS, on November 18, 2018, Hillsborough County Board of County Commissioners approved R18-129, amending DRI #263 Composite Development Order and Operating Permit to enable existing clay settling areas (CSAs) L-1, L-2, L-3, F-4, F-5, and F-7 within DRI #263 to accept clays from Hardee County, in addition to clays from Hillsborough County, until such time as each clay settling area is utilized to its existing, permitted full design storage capacity or until November 14, 2023, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master; and eliminating construction of CSAs L-4, L-5, L-6, and F-8; and

WHEREAS, per § 252.363, Florida Statutes, and by letter dated September 13, 2021, from counsel for Mosaic, as confirmed by letter from the County dated January 14, 2022, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 22, 2030	October 9, 2032
Restriction on Downzoning		
Composite Attachment A-	December 22, 2030	October 9, 2032

Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 22, 2021	October 9, 2023
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 22, 2029	October 9, 2031
Development-		
Reclamation Completion Date		

and

WHEREAS, per § 252.363, Florida Statutes, Mosaic has indicated via a letter from counsel dated January 5, 2023, that it intends to exercise its rights to extend the DRI #263 expiration dates upon expiration of hurricane related Emergency Orders 22-218 and 22-253 resulting in anticipated dates of <u>no earlier</u> than the following:

Section & Subject	Prior Date	Extended Date
Section 5	October 9, 2032	July 30, 2034
Restriction on Downzoning		
Composite Attachment A-	October 9, 2032	July 30, 2034
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	October 9, 2023	July 30, 2025
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	October 9, 2031	July 30, 2033
Development-		
Reclamation Completion Date		

and

WHEREAS, June 27, 2023, Mosaic submitted an application to amend the DRI #263 Composite Development Order and Operating Permit to extend the amendment approved in R18-129 to DRI #263 Developer Commitment (ADA, 38A-11) set forth in Composite Attachment A, Section VI. MINING to allow existing Hillsborough County Clay Settling
Areas to accept additional clay volume produced by phosphate extraction activities in Hardee County ("Application"); and

WHEREAS, the Application seeks to extend the date for operation of clay settling areas for 5 additional years to November 15, 2028

WHEREAS, on ______, 2023, the Phosphate Mining Hearing Master reviewed the request to extend the amendment to DRI #263 Composite Development Order and Operating Permit approved in R18-129, pursuant to the Hillsborough County Land Development Code, and filed a recommendation on said Application with the Hillsborough County Board of County Commissioners; and

WHEREAS, it is the intent of the Hillsborough County Board of County Commissioners that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners, as the governing body of the local government having jurisdiction pursuant to Section 380.06(7), Florida Statutes, is authorized and empowered to consider proposed changes to approved Developments of Regional Impact pursuant to standards and procedures in the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code; and

WHEREAS, the public notice requirements of the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code, have been satisfied; and

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and local agencies, and the Phosphate Mining Hearing Master; and

WHEREAS, the Hillsborough County Board of County Commissioners on , 2023, held a duly noticed public hearing on said Application, as required by Hillsborough County Land Development Code Section 8.02.07, and has heard and considered testimony and reviewed documents and evidence received thereon.

NOW, THEREFORE, BE IT RESOLVED THIS ______TH DAY OF ______, 2023 BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, DRI #263 COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT IS HEREBY AMENDED BY ADDING THE FOLLOWING FINDINGS OF FACT AND CONDITIONS, WITH THE BALANCE OF THE ADOPTED DEVELOPMENT ORDER AND OPERATING PERMIT REMAINING IN

EFFECT IN ITS ENTIRETY.

SECTION 1. FINDINGS OF FACT:

- A. MOSF is the Developer of DRI #263. The authorized agent for MOSF is Mr. Russell Schweiss, Senior Director – Land and Resource Strategies, Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, Florida 33547.
- B. The real property that is the subject of this Application is as attached to Section IV to the DRI #263 Composite Development Order and Operating Permit, as amended by Rl0-113.
- C. Modification of the Developer Commitment in DRI # 263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING (ADA, 38A-11) enabling existing clay settling areas L-1, L-2, L-3, F-4, F-5 and F-7 within DRI #263 to accept clays from Hardee County until such time as each such clay settling area is filled to its design storage capacity not to exceed the freeboard elevations conditioned in permits for the facilities issued by the Florida Department of Environmental Protection (FDEP) will not change the existing approved dimensions of those existing clay settling areas and will allow such clay settling areas to be fully utilized.

SECTION 2. CONDITIONS:

A. The Developer Commitment (ADA, 38A-11) by Mosaic in DRI #263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING which originally stated "MOSF commits to balance clay disposal so that the amount of clay produced in each county is disposed in that county" shall be amended to state as follows: "MOSF commits to balance the clay disposal so that the amount of clay produced in each county does not exceed the amount of clay permanently disposed of in that county, with the exception that CSA L-1, L-2, L-3, F-4, F-5 and F-7 in Hillsborough County, are authorized to accept clays mined by MOSF from outside of the County until such time as each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever occurs first, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master. Additionally, MOSF will not construct CSAs L-4, L-5, L-6, and F-8."

- B. On each anniversary of this Resolution, Mosaic shall report to the County's Development Services Department the amount of clay from outside Hillsborough County deposited in Hillsborough County clay settling areas in the previous year. This information shall be reported to the Hillsborough County Board of County Commissioners annually as part of the report referenced in Section 2.E. below.
- C. Mosaic shall continue to fill CSAs L-1, L-2, L-3, F-4, F-5, and F-7 with clays originating from Hillsborough County, until such clay supply from mining operations in Hillsborough County is exhausted.
- D. No new pipelines or clay transport mechanisms shall be constructed in Hillsborough County to accommodate any clay derived from outside of the County.
- E. All aspects of the approved CSAs' design, construction and maintenance shall occur in accordance with the terms and conditions of such permits or authorizations given in connection with the design, construction or maintenance of the clay settling area(s), including but not limited to the FDEP Phosphate Management Facility Permit (PMFP). Nothing herein shall be construed as to exceed or expand the terms or conditions of an approved PMFP. Mosaic shall provide to the appropriate representative of Hillsborough County's Development Services Department copies of any correspondence or any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the clay settling areas. Simultaneous with any submittal to FDEP of any data regarding the composition or content of clay, water or any other substance from a clay settling area within DRI #263, Mosaic shall provide the same data in the same format to the Hillsborough County Environmental Protection Commission (EPC) for review. This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners. Furthermore, Mosaic agrees to allow the EPC or an independent monitor selected by the EPC to take samples from the clay settling areas with reasonable notice, and shall pay all reasonable costs associated with such sampling, testing and monitoring.
- F. Mosaic shall obtain all required or necessary governmental approvals, authorizations, permits and documents prior to conducting any mining activity. Mosaic agrees to pay all of the County's reasonable costs and expenses related

to monitoring the clay settling areas until such time as all clay settling areas within the DRI are reclaimed.

- G. Except as amended in this Resolution, the approvals and conditions set forth in the DRI #263 Composite Development Order and Operating Permit, as amended, shall continue in full force and effect as previously approved.
- H. The changes approved in this Resolution are consistent with the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County, the Hillsborough County Land Development Code, and Section 380.06(7) Florida Statutes.

SECTION 3. ADMINISTRATION:

- A. The Ex Officio Clerk of the Board of County Commissioners shall send copies of this Resolution, by certified mail, within thirty (30) days following the effective date hereof, to MOSF and the Tampa Bay Regional Planning Council.
- B. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

I, _____, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of a Resolution adopted by the Board at its regular meeting of ______, 2023, as the same appears of record in Minute Book _____ of the Public Records of Hillsborough County, Florida.

WITNESS my hand and official sealthis _____ day of _____ 2023.

CLERK OF THE CIRCUIT COURT

APPROVED BY COUNTY ATTORNEY As to Form and Legal Sufficiency

By_____ Sr. Assistant County Attorney

ATTACHMENT 2

Updated Life of Mine Waste Disposal Plan Four Corners Extension Mine

> Mosaic Fertilizer, LLC Hillsborough, Manatee, and Hardee Counties, Florida



CORPORATE HEADQUARTERS

8008 S. Orange Avenue, Orlando, FL 32809 - Phone: (407) 855-3860 Fax: (407) 859-8121

Branch Office Locations

Florida: Bartow, Cocoa, Fort Myers, Miami, Orlando, Port St. Lucie, Sarasota, Tallahassee, Tampa, West Palm Beach Louisiana: Baton Rouge, Monroe, New Orleans, Shreveport

MEMBERS:

ASTM International American Concrete Institute Geoprofessional Business Association Society of American Military Engineers American Council of Engineering Companies



August 4, 2020 File Number 19-13-0087

Mosaic Fertilizer, LLC 13830 Circa Crossing Drive Lithia, Florida 33547

- Attention: Mr. Scott Wuitschick, P.E. Sr. Manager, Geotechnical Mr. Brad DeNeve, P.E. - Mine Services
- Subject: Updated Life of Mine Waste Disposal Plan for Four Corners Extension Mine, Mosaic Fertilizer LLC, Hillsborough, Manatee, and Hardee Counties, Florida

Gentlemen:

As requested and authorized by your Purchase Order No. F4623545, Ardaman & Associates, Inc. (Ardaman) has prepared the following report summarizing the results of computer modeling used to develop a 12-year waste clay disposal plan for the Four Corners Extension Mine located in Hardee, Hillsborough, and Manatee Counties, Florida. It is our understanding that Mosaic Fertilizer, LLC (Mosaic) combined their Four Corners/Lonesome Mines with the western portion of their Ona Mine in Hardee County (i.e., the phosphate ores from the western portion of the Ona Mine will now be processed at the Four Corners Beneficiation Plant). The combined mine is referred to as the Four Corners Extension Mine.

BACKGROUND

Four Corners/Lonesome Mines

In calendar year (CY) 2008, Ardaman updated the waste clay disposal plan for the Four Corners and Fort Lonesome Mines developed by Pickett and Associates, Inc. in CY 2004 to accommodate changes to many of the original assumptions using updated information and projected clay production rates available at that time. The updated 11-year disposal plan was presented in a report titled "Life of Mine Waste Disposal Plans for Four Corners and Fort Lonesome Mines", dated January 12, 2009 (Ardaman File Number 07-194). Ardaman further updated and presented a 7.5-year waste clay disposal plan for these mine sites in a previous report titled "Updated Life of Mine Waste Disposal Plans for Four Corners and Fort Lonesome Mines", dated July 24, 2014 (Ardaman File Number 13-13-0124).

Ona Mine

In CY 2006, Ardaman prepared a 20-year waste clay disposal plan titled "Life of Mine Waste Disposal Plan for the Fort Green-Ona Mine, Mosaic Fertilizer, LLC, Hardee and Manatee Counties, Florida," dated July 7, 2006, which updated a previous waste clay disposal plan prepared by others for this mine. Ardaman updated and presented yet another 21-year waste clay disposal plan for the subject mine in a previous report titled "Updated Life of Mine Waste Disposal Plan for the Fort Green-Ona Mine, Mosaic Fertilizer, LLC, Hardee and Manatee Counties, Florida," dated January 28, 2010 (Ardaman File No. 09-126). This plan incorporated newly estimated clay consolidation parameters based on settling and consolidation tests performed on composite samples of clays washed from the matrix samples obtained from the

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Ona extension of the Fort Green Mine, and included changes to many of the original assumptions used in the July 7, 2006 waste disposal plan.

Ardaman further revised and updated the January 28, 2010 life of mine waste clay disposal plan in CY 2013 to consider changes in clay production quantities resulting from revised overburden and matrix thicknesses and exclusion of Fort Green settling areas FM-1 and FM-2 from the disposal plan. This plan was presented in a report "Life of Mine Waste Disposal Plan Update for the Fort Green - Ona Mine, Mosaic Fertilizer, LLC, Hardee and Manatee Counties, Florida," dated August 1, 2013 (Ardaman File No. 13-13-0072).

Four Corners Extension Mine

In CY 2016, Ardaman prepared and presented a 16.5-year waste clay disposal plan for the recently combined mines in a report titled "Life of Mine Waste Disposal Plans, Four Corners Extension Mine", dated March 7, 2016 (Ardaman File Number 15-13-0113).

Several assumptions used in developing the March 7, 2016 Four Corners Extension Mine disposal plan have changed as a result of the following:

- Previously proposed Settling Area F-9 has now been constructed.
- The actual fill height and the tonnage of clays stored in Settling Areas F-3B, F-4, F-5, F-7, L-1, L-2, and L-3 have been updated through December 2017.
- Mosaic plans to dredge approximately 2.05 million tons of clays each from Settling Areas F-2D and F-3B in CY 2020 to create storage for water management purposes. The dredged clays will need to be deposited in other settling areas.
- Approximately 8.9 million tons of clays generated from the Manson-Jenkins Tract in Manatee County had previously been disposed of in Hardee County Settling Areas FGH-4 and PC-12. Mosaic plans to transfer this amount of clays from the western portion of Ona Mine in Hardee County back to the proposed Settling Area WE-1 in Manatee County during CY 2027 through CY 2029 to achieve clay balance between the two counties.
- Previous Ona Mine Settling Areas O-1B and O-1C will now be combined and will be designated as new Settling Area O-1B. Previous Settling Area O-1D will be renamed O-1C. The footprints of Settling Areas O-1B and O-1C have also changed somewhat. There is no settling area designated O-1D in the updated waste clay disposal plan.
- The old Fort Green Mine Settling Area FGH-3 and South Pasture Mine Settling Area WC-1 (Phase I) are now included as Four Corners Extension Mine disposal areas.

The continued field monitoring of active settling areas and laboratory testing of clays have provided measurements and data, enabling Ardaman to update the phosphatic clay consolidation parameters from the previous models. The purpose of this study was to develop a waste clay disposal plan for the Four Corners Extension Mine by: (i) recalibrating or validating the waste clay disposal model for the previous Four Corners and Fort Lonesome Mines, as needed, to generate new consolidation parameters, based on the results of our field monitoring, sampling and laboratory testing programs; (ii) using these new parameters to develop filling schedules for Four Corners Settling Areas F-1 to F-9 and Lonesome Settling Areas L-1 to L-3; and (iii) using

the laboratory-determined clay consolidation parameters (determined based on settling and consolidation tests performed on composite samples of clays washed from the matrix samples obtained from the previous Ona Mine) to develop the filling schedules for old Fort Green settling areas FGH-3 and FGH-4, West Ona settling areas O-1A to O-1C, and O-2, and South Pasture Settling Area WC-1 (Phase I).

The waste clay disposal projections presented in this report commence on January 1, 2020 and conclude on December 31, 2031. All previous clay disposal tonnages are treated as historical and recently measured settling area clay fill heights as existing conditions. For purposes of clarity and continuity with the 2004 disposal plan developed by Pickett and Associates, Inc. and the previous 2008, 2014, and 2016 disposal plans developed by Ardaman, historic material balances are also presented along with the projected clay quantities.

Approximately 2.10 million tons of waste clays were estimated to have been deposited in Settling Area F-2D from June 2004 through May 2012 based on the results from our sampling of F-2D conducted in May 2012. It is assumed that the 2.10 million tons of waste clays were deposited in F-2D uniformly over an 8-year period from June 2004 to May 2012. It is also assumed that all pre-existing, historical clay tonnages disposed of in various settling areas prior to June 1, 2007 satisfy the county clay distribution requirement, i.e., the clay produced in a county is stored within settling areas within that county.

The results of our field sampling and laboratory testing programs indicate that Manatee County settling areas received approximately 9.132 million tons less clays (relative to the clay production in the county) during the period from June 1, 2007 to December 31, 2019. In an attempt to satisfy the county clay distribution requirement, more clays will be diverted to the Manatee County settling areas after December 31, 2019 and during the life of mine to compensate the current clay imbalance. In addition, to achieve clay balance between Hardee and Manatee Counties, as advised by Mosaic, approximately 8.884 million tons of clays produced from the western portion of the Ona Mine in Hardee County will be diverted to the proposed Manatee County Settling Area WE-1 during calendar years 2027 through 2029.

PREVIOUS FIELD SAMPLING AND LABORATORY TESTING PROGRAMS

Ardaman has been conducting annual field sampling and laboratory testing programs since CY 2004 to evaluate the performance of Settling Areas F-3B, F-4, F-5, F-7, L-1, and L-2, and to refine clay consolidation parameters for use in the waste clay disposal model to project future filling of the Four Corners and Fort Lonesome settling areas. Ardaman also started sampling clays stored in Settling Area F-2D in 2012. The results of field sampling conducted in Settling Area F-2D, however, were not used to recalibrate the clay material consolidation parameters because F-2D had been inactive over an extended period of time and was recently used as a thickening pad for the clay slurry pumped from the plant. Ardaman recently performed field sampling in Settling Areas F-9 and L-3 in June 2019 and March 2019, respectively. The results of field sampling conducted in F-9 were not used to calibrate the clay consolidation parameters because of potential inaccuracies associated with low solids content.

Field Sampling

Representative samples of clays from settling areas were obtained annually using a handoperated aluminum, thin-walled fixed-piston sampler to determine the solids content of the waste clay deposits as a function of depth. Some of the sampling, however, was conducted using a hand-operated clamshell sampler wherever the clay was too thin or the solids content was too low to be sampled using a fixed-piston sampler. The average historical percent solids, measured fill heights and calculated stored dry clay tonnages are summarized in Tables 2, 3, 4, 5, 6, 7, and 8 for Settling Areas F-3B, F-4 (A&B), F-5, F-7, L-1, L-2, and L-3, respectively, and were used for calibrating the clay consolidation parameters for Four Corners and Fort Lonesome settling areas.

Laboratory Testing on Field Samples

The laboratory testing program consisted of the following tests performed on representative samples of waste clay retrieved from the settling areas:

- Moisture Content and Percent Finer than the U.S. No. 140 Sieve Size (Tyler 150 Mesh Size) determinations were performed to determine the ordinary and clay fraction percent solids of individual samples obtained during the field sampling program as a function of depth.
- Atterberg Limits determinations were made to estimate compressibility and permeability relationships for initial modeling purposes. The tests were performed on composite samples of clay prepared in the laboratory.
- Slurry settling and consolidation tests were conducted in CY 2006 on a sample of waste clay obtained from Settling Area F-4 during the annual sampling conducted in September and October 2005 to determine compressibility and permeability relationships for use in modeling the filling of Four Corners settling areas.
- Similarly, slurry settling and consolidation tests were conducted in CY 2009 on composite samples of clays washed from the matrix samples obtained from the Ona Mine in Hardee County to determine compressibility and permeability relationships for use in modeling the filling of Ona Mine settling areas.

Field sampling and laboratory testing results will continue to be used to observe the future performance of active settling areas and to refine the waste disposal plan, as needed.

SETTLING AREAS

As shown in a general site layout in Figure 1, the Four Corners Extension Mine clay disposal plan will mostly include the following disposal areas: Four Corners Settling Areas F-1, F-2D, F-3A, F-3B, F-4, F-5, F-7, and F-9; Lonesome Settling Areas L-1, L-2, and L-3; and West Ona Settling Areas FGH-3, FGH-4, O-1A, O-1B, O-1C, and O-2, and South Pasture Settling Area WC-1. Settling Areas F-2A through F-3A (see Figure 1) are currently being used intermittently when necessary. According to Mosaic, small amounts of clay were deposited in Settling Areas F-2B, F-2C and F-3A during CY 2004 and CY 2005, however, no substantial deposit of clay was made in the previously used Settling Areas F-1 and F-2A. Approximately 2.1 million tons of clays were estimated to have been deposited in Settling Area F-2D over an 8-year period from June 2004 to May 2012.

Settling Area F-1 will continue to be used for storage of high clay content waste materials. Settling Area F-2A has been predominantly reclaimed; however, the conveyance ditch located along the west wall remains in-service. Settling Area F-2B is currently under reclamation. Settling Areas F-2C, F-2D, and F-3A will remain in-service, and be used as storage for water management

purposes. Settling Area F-3B will also remain in-service for water management purposes and intermittent disposal of clays as required.

It is our understanding that Settling Areas FGH-3 and FGH-4 have not received any significant amount of clays since early 2006. These two settling areas will be the first ones to be used in Hardee County after the western portion of the Ona Mine starts producing waste clays beginning in CY 2020. Since FGH-3 has not been sampled or sounded in recent years, as advised by Mosaic, assumption has been made that this area can accommodate 2.5 million tons of clays needing disposal in CY 2020 through CY 2022. Mosaic has provided proposed footprints, and geometrical and material stratigraphic characteristics (i.e., matrix and overburden thicknesses determined from prospect boring data) for future Settling Areas O-1A through O-1C, O-2, and WC-1 (Phase I), as well as as-built topographic maps of Settling Areas F-3B, F-5, F-7, F-9, L-1, L-2, and L-3. Mosaic also provided geometrical characteristics, i.e., effective area and maximum effective depth, for Settling Area F-2D.

A typical cross section for the proposed settling area dams is shown in Figure 2. Table 1 lists the dam and settling area characteristics for all currently active and future settling areas.

SELECTION OF "BEST FIT" PARAMETERS

Ardaman used the filling history information for Settling Areas F-3B, F-4, F-5, F-7, L-1, L-2, and L-3 (through December 2017 as presented in Tables 2 through 8, respectively), in conjunction with laboratory-determined clay consolidation parameters to initially model the filling of these settling areas for calibration purposes. The clay consolidation parameters were adjusted, and the model runs repeated until the results reasonably matched the corresponding field observations. The calibrated best-fit results and model parameters were then used to develop the filling schedules for the Four Corners and Lonesome Mines settling areas.

Ardaman had conducted index characterization and settling/consolidation testing on composite samples of clay washed from the matrix samples obtained by Mosaic from the Ona Mine. The results of these tests were presented to Mosaic in our report titled "Characterization of Clayey Material Obtained from the Ona Extension of the Fort Green Mine, Mosaic Fertilizer, LLC, Hardee County, Florida," dated July 2, 2009. The consolidation parameters recommended in that report, based on these settling/consolidation tests (see Figures 3 and 4), are considered representative for clays that will be diverted to the West Ona Settling Areas FGH-3, FGH-4, O-1A to O-1C, O-2, and WC-1 (Phase I), and hence, will be used to model the filling of these areas.

The computer model "Program SLURRY"* was used to model the filling history of settling areas for calibration purposes and to develop general filling curves for use in estimating filling schedules of various settling areas. The following information was utilized to prepare the input files for the computer model:

• Mining predictions that provide the clay tons that are expected to be deposited in the settling areas as a function of time. Mosaic provided the projected settling area layout plans and clay tonnages with time.

^{*}Wissa, A.E.Z., Fuleihan, N.F., Ingra, T.S., and Alawi, M.M. (1992). "Evaluation of Phosphatic clay disposal and Reclamation Methods - Phase II, Volume 9: Program SLURRY - User's Manual," Florida Institute of Phosphate Research, Research Project FIPR-87-02-073.

- Historical percent solids, Atterberg Limits, filling height, and estimated dry clay mass data from the waste phosphatic clay sampling events in Settling Areas F-3B, F-4, F-5, F-7, L-1, L-2, and L-3.
- Results from the CY 2006 slurry settling/consolidation tests performed on a sample of waste clay obtained from the Four Corners Settling Area F-4.
- Results from the CY 2009 slurry settling/consolidation tests on samples of clay washed from the matrix samples obtained from the Ona Mine.
- Effective area and depth relationships for currently active and future settling areas as presented in Table 1.

Initial input parameter coefficients used in the model (for calibrating the filling history of Four Corners and Lonesome settling areas) were based on the results of the settling/consolidation tests performed on the Settling Area F-4 waste clay sample. An eta (ζ) factor of 2 was used in the modeling. As detailed in our FIPR research project, eta is a correlation factor that accounts for the fact that the *in situ* permeability is often greater than the permeability back-figured from laboratory tests on phosphatic clays. It should be determined at each site by calibrating the laboratory test data with field performance measurements if possible.

The consolidation test-derived input parameters were adjusted, and the computer model was iterated until the best fit to the field curve for Settling Area F-4 was obtained. These parameters were then used to check if the model-projected results reasonably matched the field curves for Settling Areas F-3B, F-5, F-7, and L-1 to L-3. The results from the filling history modeling of Settling Areas F-3B, F-4, F-5, F-7, L-1 to L-3 using the "Best-Fit" parameters are presented in Figures 5 through 11, respectively, along with respective field observed heights. The "Best-Fit" model parameters are also shown on these figures. As can be seen, the model results using the "Best-Fit" parameters for F-4 calibrated quite well with the field data for Four Corners Settling Areas F-3B, F-4, F-5, and F-7. However, as shown on Figures 9 to 11, the model using the "Best Fit" parameters for F-4 substantially underpredicted the fill heights in the Lonesome Settling Areas L-1 and L-2, and slightly overpredicted the fill heights in Settling Area L-3. Note that the results of our field sampling programs have revealed that the clays stored in Lonesome Mine Settling Areas L-1 and L-2 are relatively thinner (i.e., with lower solids contents) than the clays stored in the Four Corners Mine settling areas.

Because the calibrated model for the Four Corners Settling Areas F-3B, F-4, F-5, and F-7 was not appropriate for the Fort Lonesome Settling Areas L-1 to L-3, the model input parameters were readjusted and the computer model reiterated until a set of "Best-Fit" parameters for Settling Area L-1 was obtained. The results of the model calibration are shown on Figure 12 along with the field-observed heights and cumulative dry clay tons added. The "Best-Fit" model parameters developed for Settling Area L-1 are also shown in this figure. As shown, the model results calibrated well with the measured fill heights, except that the model somewhat underpredicted the CY 2011 fill height measured in L-1. (The results of our sampling program had revealed that the clays stored in L-1 were uncharacteristically thinner during the 2011 sampling event.) The L-1 calibrated model overpredicted the fill heights in both L-2 and L-3. The L-1 calibrated parameters for Settling Area L-2 was obtained. The results of the model reiterated until a set of "Best-Fit" parameters for Settling Area L-2 was obtained. The results of the model calibration are shown on Figure 13 along with the field-observed heights and cumulative dry clay tons added. As can be seen in Figure 14, the L-2 calibrated model somewhat overpredicted the fill heights in L-3, which was

activated only a few years ago. It is our experience that due to low solids contents during the initial stages of deposition, it is often difficult to accurately determine the surface of the clay during field sampling, resulting in inaccurate clay thickness measurements.

The L-2 calibrated clay consolidation parameters shown in Figure 13 were used for modeling future waste clay disposal in Fort Lonesome Mine Settling Areas L-2 and L-3, while the F-4 calibrated parameters shown in Figures 5 through 8 were used for modeling future waste clay disposal in the Four Corners Mine settling areas. Settling Area L-1 has its own calibrated model shown on Figure 12.

Using the "Best-Fit" parameters discussed above, "Program SLURRY" was used to generate suites of general filling curves for use in estimating the capacity of each settling area and establish the filling schedule for the Four Corners Extension Mine. The general filling curves are presented in Figures 15 to 18. The curves in Figure 15 were used for future filling of Four Corners Settling Areas F-1, F-2D, F-3B, F-4, F-5, F-7, and F-9; the curves in Figure 16 were used for future filling of Lonesome Settling Areas L-2 and L-3; and the curves in Figure 18 were used for future filling of West Ona Settling Areas FGH-3, FGH-4, O-1A through O-1C, O-2, and WC-1 (Phase I). The methodology used in "Program SLURRY" for the generation of filling curves and their use in waste clay modeling is described in Appendix A.

WASTE DISPOSAL PLAN

The projected waste phosphatic clay production rates in dry tons per year for the Four Corners Extension Mine were provided by Mosaic and are provided in Appendix B. The settling area characteristics, as used in the disposal plan, are listed in Table 1 and a layout of the settling areas is shown on Figure 1.

The waste clay disposal projections presented in this report commence on January 1, 2020 and conclude on December 31, 2031. All previous clay disposal tonnages are treated as historical and recently measured settling area clay fill heights as existing conditions. For purposes of clarity and continuity with the 2004 disposal plan developed by Pickett and Associates, Inc., and the previous 2008, 2014, and 2016 disposal plans developed by Ardaman, historic material balances are also presented along with the projected clay quantities.

As shown on Figure 1, the Four Corners Extension Mine settling areas are located in Hillsborough, Manatee and Hardee Counties. Manatee County requires that the final clay tonnage stored in the settling areas within this county match the quantity produced in this county. It is our understanding that there are no clay balance requirements in Hardee and Hillsborough counties. It is assumed that all pre-existing, historical clay tonnages prior to June 1, 2007 satisfy the county clay distribution requirement, i.e., the clay produced in a county is stored within settling areas located in that county.

The results of our field sampling and laboratory testing programs indicate that the Manatee County settling areas received approximately 9.132 million tons less clays (relative to the clay production in the county) during the period between June 2007 and December 2019. Note that the clay tonnages produced in each county from June 2007 to December 2019 were estimated as a percentage of Mosaic's 100 percent clay production projections for each county based on the results of our field sampling and laboratory testing programs. To satisfy the Manatee county clay distribution requirement, 9.132 million tons of waste clays produced in Hardee County were

diverted to the Manatee County settling areas after January 1, 2020 and during the life of the disposal plan, to compensate for the current imbalance in the county clay distribution. In addition, as advised by Mosaic, approximately 8.9 million tons of clay from the western portion of the Ona Mine in Hardee County were also diverted to a future Manatee County settling area WE-1 during calendar year 2027 through 2029 (to achieve clay balance between Hardee and Manatee counties).

The quantity of clays projected to be mined from Hillsborough County during the remaining life of mine (i.e., from January 2020 through December 2031) equals 3,550,520 tons. The corresponding quantity is 5,681,688 tons for Manatee County, and 102,474,686 tons for Hardee County. The approximate total quantity of clay projected to be mined during the life of mine, including clays currently contained within existing active and inactive settling areas, in Hillsborough County equals approximately 121,769,562 tons. The corresponding tonnage equals approximately 51,263,275 tons for Manatee County, 109,664,231 tons for Hardee County.

Annual waste clay production quantities were distributed among the various settling areas to develop a tentative filling schedule for each settling area using the applicable filling curves developed from "Program SLURRY" (see Figures 15 through 18). The tentative schedule was then checked and iterated for each individual settling area, and the schedule was modified as necessary until the disposal plan requirements were satisfied. Each settling area was modeled with an impervious base. Sample output results from "Program SLURRY" used to generate the filling curves are included in Appendix C.

Figure 19 presents the proposed filling schedule for the disposal of waste phosphatic clays at Mosaic's Four Corners Extension Mine through December 2031. The consolidated height of fill at the end of filling, the ultimate (final) height of fill, and the average percent solids at the end of filling for each settling area are also summarized in Figure 19. Note that the measured fill height in Settling Areas F-7 and L-2 in May 2015 was substantially greater than the predicted value, likely due to inaccuracies in defining the clay/water interface and due to difficulties in obtaining representative samples of very thin clays, which are typical occurrences during the initial stages of deposition. The future projected fill heights in these settling areas were proportionately increased to account for this initial discrepancy. As advised by Mosaic, all settling areas were filled to a minimum one foot below the respective design capacity to provide storage for water management and operational purposes.

As shown on Figure 19, to be able to store the projected clay tonnages while satisfying the clay balance requirements within Manatee County, all active settling areas are predicted to be needed for clay disposal. Settling Areas F-4, F-5, F-7, F-9, and L-1 to L-3 are filled typically to within 2 feet of the design maximum capacity, and these settling areas stop receiving clays by November 2023. After a 2-year resting period, approximately 1.378 million tons of clays are projected to be diverted to Manatee County Settling Area F-9 in CY 2030 to achieve clay balance within Manatee County. Similarly, approximately 1.587 million tons of clays are projected to F-3B in CY 2030 in order to maintain clay balance within Manatee County.

Once the mining draglines are moved to the south (i.e., to West Ona Mine in Hardee County), the waste clays will be diverted into the Hardee County settling areas, starting with the existing Settling Areas FGH-3 and FGH-4, followed by the West Ona settling areas in the following Mosaic-advised sequence: WC-1, O-1B, O-1C, O-2, and O-1A. As shown in Figure 19, Settling Areas FGH-3 and FGH-4 receive waste clays till CY 2023. As advised by Mosaic, South Pasture Settling Area WC-1 (Phase I) is assumed to start receiving clays in January 2021 and to continue through

Mosaic Fertilizer, LLC File Number 19-13-0087

CY 2025. While Settling Areas O-1B and O-1C are projected to be filled to near capacity, Settling Areas O-2 and O-1A are projected to have significant storage left at the end of the disposal period.

As can be seen on Figure 19, Four Corners Settling Areas F-2D, F-3B, F-4, F-5, F-7, and F-9 are projected to ultimately settle to about 22 to 34 feet above grade; Lonesome Settling Areas L-1, L-2, and L-3 are projected to settle to about 17 to 21 feet above grade; and West Ona settling areas are projected to settle to about 4 to 14 feet above grade.

As shown, the total projected quantities of clays produced in Hardee and Hillsborough counties equal 109.664 and 121.770 million tons, compared to 76.108 and 146.699 million tons of clays stored in settling areas in these counties, respectively. The total quantity of clays produced in Manatee County matches the total quantity stored in Manatee County settling areas (i.e., 51.263 million tons). In addition, Manatee County future Settling Area WE-1 in Wingate Mine is projected to receive approximately 8.884 million tons of clays produced in Hardee County to compensate for the equivalent amount of Manatee County clays (from the Manson-Jenkins tract) previously disposed of in Hardee County Settling Areas PC-12 and FGH-4.

In conclusion, the existing and proposed settling areas with the selected footprints and dam heights have adequate capacities to accommodate the projected waste clay production rates, while achieving the clay balance within Manatee County. All Hardee County settling areas may be required through the life of mine to accommodate the volume of clays produced.

We trust that this report satisfies your current needs. Please contact the undersigned or our Dr. John E. Garlanger, P.E., should you have any questions or require further assistance.

Very truly yours, ARDAMAN & ASSOCIATES, INC. *Cęrtificate of Authorization No. 5950*

l/Kaixia Liao Project Engineer III

Rajendra K. Shrestha, P.E. Principal Engineer Elorida License No. 52404

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Summary of Settling Area Characteristics Four Corners Extension Mine

Characteristics							Waste Clay	/ Disposal A	Areas						
Characteristics	FGH-4 (Existing)	F-2D (Existing)	F-3B (Existing)	F-4 (Existing)	F-5 (Existing)	F-7 (Existing)	F-9 (Existing)	L-1 (Existing)	L-2 (Existing)	L-3 (Existing)	0-1A	O-1B	0-1C	0-2	WC-1 (Phase I)
Settling Area Footprint (Acres) ¹	513	635 ⁶	680 ⁶	1040 ⁶	635 ⁶	870 ⁶	783 ⁶	595 ⁶	650 ⁶	534 ⁶	871	1211 ⁸	505 ⁸	546	486 ⁸
Average Mine Depth (Feet) ¹	7	7	7	7	36.9	45.0	46.6	7	43.6	45.3	41.4	63.4	56.2	56.6	49.6
Overburden Thickness (Feet) ¹	7	7	7	7	24.0	31.3	34.5	7	32.4	38.1	26.1	35.8	29.3	30.2	22.1
"Waste" Material Thickness (Feet) ¹	7	7	7	7	0.9	1.3	1.2	7	0.2	0.0			1		
Matrix Thickness (Feet) ¹	7	7	7	7	12.0	12.4	10.9	7	11.0	7.2	15.3	27.6 ⁹	26.9	26.4	27.4
Average Dam Height (Feet)	40	50	45	50	45	64	70	45	40	40	48	49	52	38	65
Approximate Dam Crest Elevation (Feet, NGVD)	160	190	190	175	150	154	154	160	145	145	165	165	165	155	177
Maximum Operating Water Level (Feet, NGVD)	155	185	185	170	145	149	149	155	140	140	160	160	160	150	172
Crest Width (Feet)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Outside Slope Below Grade ²	6:1	8	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1
Outside Slope Above Grade ²	2.5:1	8	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	3:1	3:1	3:1	3:1	3:1
Inside Slope Below Grade ²	2.5:1	8	3:1	3:1	3:1	3:1	3:1	3.5:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1
Inside Slope Above Grade ²	2.5:1	8	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1
Effective Area (Acres) ³	415 ⁴	520 ⁵	5744	8664	515 ⁴	683 ⁴	631 ⁴	462 ⁴	526 ⁴	4444	757	992	382	459	351
Effective Depth (Feet) ³	53.6 ⁴	70.05	61.0 ⁴	65.4 ⁴	56.2 ⁴	79.3 ⁴	86.44	63.0 ⁴	53.0 ⁴	47.5 ⁴	62.3	80.6	90.3	65.0	96.6
Effective Pit Bottom Depth Below Grade (Feet) ³	18.64	25.05	21.0 ⁴	20.44	16.2 ⁴	20.34	21.44	23.0 ⁴	18.0 ⁴	12.54	19.3	36.6	47.3	32.0	49.6
Effective Volume (Acre-Feet) ³	22,2444	36,4005	35,0064	56,648 ⁴	28,955 ⁴	54,178 ⁴	54,559 ⁴	29,1314	27,8974	21,0934	47,120	79,940	34,490	29,860	33,870

Notes: All settling areas are in Hillsborough County, except that F-3B and F-9 are in Manatee County and FGH-3, FGH-4, O-1A to O-1C, and O-2 are in Hardee County.

¹ Based on information provided by Mosaic Fertilizer, LLC. The 2013 overburden and matrix thickness isopachs were used for Settling Areas O-1B, O-1C, and O-2 as advised by Mosaic.

² Based on design information or as-built information.

³ Assumes that the "Waste" materials remain on-site. Allowance was made to construct a divider dike in each settling area.

⁴ Effective dimensions derived from stage-storage relationships or post-construction topographic map provided by Mosaic.
⁵ Effective dimensions provided by Mosaic and are based on data included in the March 2000 disposal plan prepared by FED.

⁶ Estimated based on a topographic map or an aerial photograph of the as-built settling area.

⁷ Data were not available for these existing settling areas (nor needed), when Ardaman started performing waste disposal planning for Mosaic.

⁸ Based on proposed design alignment.

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Summary of Field and Laboratory Results† Settling Area F-3B (using stage-storage relationship with an average bottom elevation of 124.0 ft (NGVD))

Ardaman	Sampling	Avg. Staff Gauge	Average Clay	Corresponding Effective	Volume of Clay ¹	Remaining Storage	Average Solids	G₅	Average Tons per	Dry Clay b Settling Ar	oy Average rea Results
Number	Dale	(ft, NGVD)	(ft, NGVD)	(ft)	(acre-ft)	(acre-ft) ³	(%)		Acre-foot	Total Mass ²	Mass Added
06-0055	April 2006	153.3	153.3	29.3	16,259	18,747	18.8	2.77	289	4,698,851	4,698,851
07-0066	May 2007	168.9	166.5	42.5	23,861	11,145	21.1	2.72	331	7,897,991	3,199,140
08-0049	April 2008	173.0	167.1	43.1	24,211	10,795	21.5	2.72	339	8,207,529	309,538
09-0067	April 2009	178.8	169.6	45.6	25,727	9,279	22.1	2.75	349	8,978,723	771,194
10-13-0059A	April 2010	182.8	169.3	45.3	25,559	9,447	23.3	2.78	371	9,482,389	503,666
11-13-0081	May 2011	184.2	167.6	43.6	24,516	10,490	24.7	2.74	398	9,763,661	281,272
12-13-0057	May 2012	181.8	174.5	50.5	28,620	6,386	26.4	2.78	432	12,375,286	2,611,625
13-13-0051	April 2013	184.4	176.8	52.8	30,010	4,996	26.0 ⁴	2.76	423 ⁴	12,694,230	318,944
14-13-0046	June 2014	183.5	177.3	53.3	30,285	4,721	26.8	2.70	439	13,295,115	600,885
15-13-0056	June 2015	183.5	178.5	54.5	31,046	3,960	27.1	2.79	447	13,877,562	582,447
16-13-0057	May 2016	183.7	180.2	56.2	32,038	2,968	29.1	2.77	486	15,570,468	1,692,906

Notes: 1 - Clay volume determined using average clay surface elevation and settling area stage-storage relationship.

2 - Clay mass determined using average settling area solids content from laboratory results and estimated clay volume.

3 - Using a maximum operating water level elevation of 185 feet (NGVD).

4 - For consistency, solids content data from the May 2012 sampling at TH-3, TH-4, TH-6, and TH-8 were used.

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† Reproduced from the September 7, 2016 Ardaman & Associates, Inc. report titled "May/June 2016 Phosphatic Clay sampling and Laboratory Testing, Settling Areas F-2D, F-3B, F-4 (A & B), F-5, F-7, L-1, and L-2, Mosaic Fertilizer, LLC., Manatee and Hillsborough Counties, Florida," File Number 16-13-0057.

Ardaman	Sampling	Avg. Staff Gauge	Average Clay	Corresponding Effective	Volume	Remaining Storage	Average	Average Solids	Specific	Average	Dry Clay b Settling Are	y Average ea Results
Number	Date	Reading (ft, NGVD)	Surface (ft, NGVD)	Depth (ft)	(acre-ft)	Volume (acre-ft) ³	Plasticity Index (%)	Content (%)	Gs	Acre-foot	Total Mass ²	Mass Added
04-0085	June 2004	156.8	154.3	48.5	24,541	7,945	-	21.7	2.75	343	8,417,563	-
05-0150	Sept 2005	162.6	155.3	49.5	25,039	7,447	132	23.3	2.82	373	9,339,547	921,984
07-0066	May 2007	164.6	161.9	56.1	28,387	4,099	137	25.2	2.62	405	11,496,735	2,157,188
08-0049	April 2008	164.6	161.7	55.9	28,282	4,204	144	26.1	2.70	425	12,019,850	523,115
11-13-0081	May 2011	168.5	167.2	61.4	31,069	1,416	144	26.8	2.75	440	13,663,216	1,643,366
12-13-0057	May 2012	166.1	165.0	59.2	29,955	2,530	133	27.0	2.77	444	13,286,8714	-
13-13-0051	April 2013	167.9	165.5	59.7	30,224	2,261	139	29.6	2.78	497	15,021,328	1,734,457
14-13-0046	June 2014	168.8	165.8	60.0	30,379	2,106	153	31.3	2.75	532	16,161,628	1,140,300
15-13-0056	June 2015	168.2	164.5	58.7	29,718	2,767	-	-	-	-	-	-
16-13-0057	May 2016	169.2	168.8	63.0	31,881	604	149	29.6	2.80	498	15,876,738	-

Summary of Field and Laboratory Results for Settling Area F-4A† (using 506-acre effective area with an average bottom elevation of 105.8 ft (NGVD))

Summary of Field and Laboratory Results for Settling Area F-4B⁺ (using 327-acre effective area with an average bottom elevation of 102.7 ft (NGVD))

Ardaman	Sampling	Avg. Staff Jing Gauge Reading	Average Clay	Corresponding Effective	Volume	Remaining Storage	Average	Average Solids	Specific	Average	Dry Clay b Settling Are	y Average ea Results
Number	Date	Reading (ft, NGVD)	Surface (ft, NGVD)	Depth (ft)	(acre-ft)	Volume (acre-ft) ³	Plasticity Index (%)	Content (%)	Gs	Acre-foot	Total Mass ²	Mass Added
04-0085	June 2004	157.0	155.3	52.6	17,200	4,807	-	18.8	2.75	291	5,005,200	-
05-0150	Sept 2005	162.9	147.9	45.2	14,783	7,224	132	21.8	2.82	345	5,100,135	94,935
07-0066	May 2007	164.2	156.8	54.1	17,691	4,316	137	21.9	2.62	345	6,103,395	1,003,260
08- 0049	April 2008	164.2	152.9	50.2	16,425	5,582	144	23.2	2.70	370	6,103,395	-
11-13-0081	May 2011	168.5	166.7	64.0	20,934	1,073	144	24.0	2.75	386	8,071,452	1,968,057
12-13-0057	May 2012	166.2	166.0	63.3	20,699	1,308	133	24.5	2.77	395	8,171,463	100,011
13-13-0051	April 2013	167.9	166.6	63.9	20,886	1,122	139	25.6	2.78	416	8,688,576	517,113
14-13-0046	June 2014	168.8	165.8	63.1	20,620	1,387	153	27.1	2.75	445	9,175,900	487,324
15-13-0056	June 2015	168.2	166.2	63.5	20,767	1,240	-	-	-	-	-	-
16-13-0057	May 2016	168.6	167.7	65.0	21,241	766	149	26.5	2.80	435	9,239,835	63,935

 Notes:
 1 - Clay volume determined using the effective area with average clay surface elevation and average bottom elevation.

 2 - Clay mass determined using average settling area solids content from laboratory results and estimated clay volume.

 3 - Using a maximum operating water level elevation of 170 feet (NGVD).

 4 - This is a calculated decrease from the last sampling event, which may be due to an overestimate of the total clay mass in May 2011.

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Summary of Field and Laboratory Results† Settling Area F-5 (using stage-storage relationship with an average bottom elevation of 88.8 ft (NGVD))

Ardaman File Number	Sampling	Avg. Staff Gauge	Average Clay	Corresponding Effective	Volume of Clay ¹	Remaining Storage	Average Plasticity	Average Solids	Specific Gravity	Average Tons per	Dry Clay by Settling Are (tor	y Average ∋a Results ℩s)
	Date	(ft, NGVD)	(ft, NGVD)	(ft)	(acre-ft)	(acre-ft)	Index (%)	(%)	Gs	Acre-foot	Total Mass²	Mass Added
08-0049	April 2008	130.7	105.2	16.4	7,269	21,686	151	14.2	2.70	213	1,548,297	
09-0067	April 2009	133.5	125.0	36.2	17,492	11,463	156	16.8	2.75	255	4,460,460	2,912,163
10-13-0059B	April 2010	141.6	140.8	52.0	26,504	2,451	142	22.8	2.75	362	9,594,448	5,133,988
11-13-0081	May 2011	140.0	134.9	46.1	23,074	5,881	143	24.2	2.74	388	8,952,712 ³	
13-13-0051	April/May 2013	141.5	136.3	47.5	23,872	5,084	144	23.4	2.79	374	8,928,128	-24,584
14-13-0046	June 2014	141.4	135.3	46.5	23,277	5,678	143	25.9	2.76	422	9,822,894	894,766
15-13-0056	June/July 2015	142.7	134.2	45.4	22,667	6,288	143	28.7	2.76	478	10,834,826	1,011,932
16-13-0057	May 2016	142.7	132.1	43.3	21,443	7,512	144	27.5	2.78	454	9,735,122 ⁵	-
17-13-0057	Nov/Dec 2017	143.3	136.6	47.8	24,072	4,884	158	28.4	2.75	471	11,337,912	1,602,790

Notes:

1- Clay volume determined using average clay surface elevation and settling area stage-storage relationship.

2- Clay mass determined using average settling area solids content from laboratory results and estimated clay volume.

3- This is a calculated decrease from the last sampling event, which may be due to an overestimate of the total clay mass in April 2010.

4- Using a maximum operating water level elevation of 145 feet (NGVD).

5- This is a calculated decrease from the last sampling event, which may be due to an overestimate of the total clay mass in May 2015.

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† Reproduced from the April 16, 2018 Ardaman & Associates, Inc. report titled "2017/2018 Phosphatic Clay sampling and Laboratory Testing, Settling Areas F-2D, F-5, F-7, and L-2, Mosaic Fertilizer, LLC., Manatee and Hillsborough Counties, Florida," File Number 17-13-0057.

Summary of Field and Laboratory Results† Settling Area F-7 (using stage-storage relationship with an average bottom elevation of 69.7 ft (NGVD))

Ardaman S File Number	Sampling	Avg. Staff Gauge	Average Clay	Corresponding Effective	Volume of Clay ¹	Remaining Storage	Average Plasticity	Average Solids	Specific Gravity	Average Tons per	Dry Clay by Settling Are (tor	/ Average ∋a Results ℩s)
Flie Number	Date	(ft, NGVD)	(ft, NGVD)	(ft)	(acre-ft)	(acre-ft) ²	(%)	(%)	Gs	Acre-foot	Total Mass ³	Mass Added
12-13-0057	May 2012	115.7	91.6	21.9*	7,590*	46,588	165	12.4	2.78	183	1,386,138	
13-13-0051	May 2013	133.7	105.2	35.5	22,833	31,345	182	11.8	2.73	173	3,950,109	2,563,971
14-13-0046	May 2014	135.6	132.9	63.2	42,284	11,894	139	16.3	2.82	248	10,486,432	6,536,323
15-13-0056	July 2015	142.8	139.2	69.5	46,835	7,343	160	19.6	2.75	304	14,237,840	3,751,408
16-13-0057	May 2016	146.0	139.1	69.4	46,805	7,373	154	22.0	2.79	348	16,288,140	2,050,300
17-13-0057	Aug-Nov 2017	146.1	140.5	70.8	47,767	6,411	158	23.6	2.70	377	18,008,159	1,720,019
Notes:												

1- Clay volume determined using average clay surface elevation and settling area stage-storage relationship.

2- Using a maximum operating water level elevation of 149 feet (NGVD).

3- Clay mass determined using average settling area solids content from laboratory results and estimated clay volume.

*- Applicable within the limits of clay coverage as determined during our field exploration performed in May 2012.

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† Reproduced from the April 16, 2018 Ardaman & Associates, Inc. report titled "2017/2018 Phosphatic Clay sampling and Laboratory Testing, Settling Areas F-2D, F-5, F-7, and L-2, Mosaic Fertilizer, LLC., Manatee and Hillsborough Counties, Florida," File Number 17-13-0057.

Summary of Field and Laboratory Results† Settling Area L-1 (using stage-storage relationship with an average bottom elevation of 92.0 ft (NGVD))

Ardaman File s Number	Sampling	Avg. Staff Gauge	Average Clay	Corresponding Effective	Volume of Clay ¹ (acre-	Remaining Storage	Average Plasticity	Average Solids	Specific Gravity	Average Tons per	Dry Clay b Settling Ar (to	y Average ea Results ns)
Number	Date	(ft, NGVD)	(ft, NGVD)	(ft)	ft)	Volume (acre-ft) ⁴	(%)	(%)	Gs	Acre-foot	Total Mass²	Mass Added
07-193	Nov 2007	121.3	107.7*	15.7*	3,033*	26,098	125	11.7	2.73	172	522,283	
08-049	April 2008	121.0	102.6	10.6	4,311	24,820	107	16.7	2.70	254	1,094,994	572,711
09-067	May 2009	125.0	109.2	17.2	7,133	21,999	148	18.4	2.75	283	2,018,639	923,645
10-13-0059C	April 2010	126.4	113.8	21.8	9,169** (8,445***)	19,963	160	18.5	2.77	284	2,398,380	379,741
11-13-0081	May/June 2011	137.4	136.2 ³	44.2	19,694** (18,686***)	9,437	156	13.3	2.69	198	3,689,126	1,290,746
12-13-0057	May/June 2012	148.7	147.7	55.7	25,421** (24,171***)	3,710	151	16.8 ⁵	2.71	256	6,187,776 ⁵	2,498,650 ⁵
13-13-0051	May 2013	154.9	152.8	60.8	27,979** (26,661***)	1,152	149	17.3	2.76	264	7,038,504	850,728
16-13-0057	May/June 2016	153.6	147.3	55.3	25,197** (23,879***)	3,934	172	21.1	2.76	331	7,903,949	865,445

Notes:

1- Clay volume determined from average clay surface elevation and settling area stage-storage relationship.

2- Clay mass determined using average settling area solids content from laboratory results and estimated clay volume.

3- This elevation represents the interface between the clear water and cloudy/muddy water, which extended to an average depth of about 33 feet prior to encountering a solid clay surface.

4- Using a maximum operating water level elevation of 155 feet (NGVD).

5- For consistency with the May 2013 data, extrapolation of the solids content data with depth was revised for TH-1 through TH-3, TH-5, TH-9, and TH-10, which resulted in the settling area average solids content of 16.8 percent.

*- Applicable for the west compartment

**- Volume of clay and mud ball

***- Volume of clay excluding mud ball delta.

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† Reproduced from the September 7, 2016 Ardaman & Associates, Inc. report titled "May/June 2016 Phosphatic Clay sampling and Laboratory Testing, Settling Areas F-2D, F-3B, F-4 (A & B), F-5, F-7, L-1, and L-2, Mosaic Fertilizer, LLC., Manatee and Hillsborough Counties, Florida," File Number 16-13-0057.

Summary of Field and Laboratory Results† Settling Area L-2 (using stage-storage relationship with an average bottom elevation of 87.0 ft (NGVD))

Ardaman File Number	Sampling	Avg. Staff Gauge	Average Clay	Corresponding Effective	Volume of Clay ¹	Remaining Storage	Average Plasticity	Average Solids	Specific Gravity	Average Tons per	Dry Clay b Settling Ar (to	oy Average rea Results ins)
File Number	Date	(ft, NGVD)	(ft, NGVD)	(ft)	(acre-ft)	Volume (acre-ft) ⁴	(%)	(%) G _s Acre-foot	Acre-foot	Total Mass²	Mass Added	
13-13-0051	-	-	-	-	-	-	-	-	-	-	518,000*	518,000*
14-13-0046	May 2014	122.8	112.4 ³	25.4	12,320	15,577	166	10.2	2.71	148	1,823,360	1,305,360
15-13-0056	June 2015	125.1	118.4 ³	31.4	15,490	12,407	157	14.9	2.78	224	3,469,760	1,646,400
16-13-0057	May 2016	133.3	122.6	35.6	17,835	10,062	153	15.7	2.78	238	4,244,730	774,970
17-13-0057	Nov/Dec 2017- Jan 2018	135.4	131.1	44.0	22,697	5,200	163	21.3	2.65	334	7,580,798	3,336,068

Notes:

* - A total clay mass of 518,000 million tons was estimated to have been deposited via siphoning from Settling Area L-1 prior to April 2013.

1 - Clay volume determined using average clay surface elevation and settling area stage-storage relationship.

2 - Clay mass determined using average settling area solids content from laboratory results and estimated clay volume.

3 - This elevation represents the interface between the clear water and cloudy/muddy water.

4 - Using a maximum operating water level elevation of 140 feet (NGVD).

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† Reproduced from the April 16, 2018 Ardaman & Associates, Inc. report titled "2017/2018 Phosphatic Clay sampling and Laboratory Testing, Settling Areas F-2D, F-5, F-7, and L-2, Mosaic Fertilizer, LLC., Manatee and Hillsborough Counties, Florida," File Number 17-13-0057.

Summary of Field and Laboratory Results Settling Area L-3 (using stage-storage relationship with an average bottom elevation of 92.5 ft (NGVD))¹

Ardaman File Number	Sampling Date	Avg. Staff Av Gauge (Reading St	f Average Clay Surface	Corresponding Effective Depth	Volume of Clay ²	Remaining Storage	Average Plasticity	Average Solids	Specific Gravity	Average Tons per	Dry Clay by Average Settling Area Results (tons)		
	Date	(ft, NGVD)	(ft, NGVD)	(ft)	(acre-ft)	Volume (acre-ft) ³	(%)	(%)	Gs	Acre-foot	Total Mass⁴	Mass Added	
18-13-0104	Mar 2019	130.7	117.6	14.5	10,4444	10,649	144	18.8	2.71	289	3,018,316	3,018,316	

Notes:

1 - Estimated effective area = 444 acres; average bottom elevation = 92.5 feet (NGVD).

2 - Clay volume determined using average clay surface elevation and settling area stage-storage relationship.

3 - Using a maximum operating water level elevation of 140 feet (NGVD).

4 - Clay mass determined using average settling area solids content from laboratory results on samples from 6 test holes and estimated clay volume.

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Historic Summary of Field and Laboratory Results† Settling Area FGH-4

Ardaman	Sampling	Avg. Staff Gauge	Average Clav	Volume	Average Clay	Measured	Average	Dry Clay Us Settling A	sing Average rea Results			
Number	Date	Reading (ft, NGVD)	Surface (ft, NGVD)	of Clay ⁺ (acre-ft)	Content (%)	Gravity, Gs	Acre-foot	Total Mass ²	Mass Added			
03-009B	04/07/03	137.4	121.5	8,179	11.1	2.71	162.8	1,331,514	1,331,514			
04-196	02/15/05	138.8	124.1	8,594	26.0	2.71	421.6	3,623,076	2,291,262			
06-004	02/06/06	141.5	135.5	10,759 ³	20.0	2.80	309.3	3,328,038 (3,952,738 ⁴)	-295,038 (329,662 ⁴)			
Notes: 1 Cla 2 Cla and 3 Cla	Notes: 1 Clay volume based on average clay surface elevation and Stage/Storage relationship for FGH-4. 2 Clay mass determined using average settling area clay solids content from laboratory results and clay volume from average clay surface elevation and settling area stage/storage relationship. 3 Clay volume excluding the phosphatic feed volume. For purposes of estimating the clay volume, it was assumed that the phosphatic feed volume.											
4 Dry	clay tonnage	includes an esti	mated 624,700	tons contained	within the p	hosphatic feed	volume.					

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† Reproduced from the May 5, 2006 Ardaman & Associates, Inc. report titled "Results of Phosphatic Clay Sampling and Laboratory Testing, Settling Areas PC-12 and FGH-4, Fort Green Mine," File Number 06-004.









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F-2D	520	70.0								59.8	64.4	64.6	57.9	62.8	66.8	65.3			4/20				TO E	BE USED FOR W	ATER MANAGE	MENT PURPO	SE				15.564	17.614	-2.050 46.f	21.6
			12.960 *	0.262 ++	0.262 ++	0.262 ++	0.262 ++	0.262 ++	0.262 ++	0.262 ft	0.262 ++	-0.707 1 +	-1.128 ³	0.557 † A PASS THROI	1.236 †	0.099 †	1.510 ^	0.988 ^	-2.050 °				TO BE USED	EOD WATER MA	INAGEMENT PL	PPOSE								
F-3A	390	60.0	8.222 *	0.899 *																											9.121	9.121	0.000 -	· ·
F-38	574	61.0		7.1	31.5	43.0	43.1	45.6	45.2	43.5	50.5	52.8	53.3	54.5	56.2	1.110.15	0.474.4	0.440 *7	4/20				TOE	SÉ USED FOR W	ATER MANAGER	MENT PURPO:	SE		4 507 8		14.051	14.514	-0.463 39.6	18.6
E.4	866	85.4	50.1	1.067 T 49.5	4.044 T 52.2	2.798 T 55.5	0.386 T 54.0	0.730 T	0.487 T	0.252 †	2.612 F 60.8	0.394 T 61.3	0.526 †	0.582 1	1.693 64.0	-1.112	0.474 **	-0.418	-2.050 61.0	61.8	62.6	63.4	30.2%						1.587		27 927	25 505	2 422 49.	28.8
			13.423 *	0.769 †	1.554 †	1.929 †	0.572 †	0.000 †	0.000 †	3.486 †	0.102 †	2.326 †	1.177 †	0.000 †	0.000 †	0.000 ^	0.102 ^	0.065 ^	0.622	0.600	0.600	0.600	30.2%								1			1
F-5	515	56.2					1.851 †	3.065 †	4.037 †	46.1	0.000	47.5	46.5	1.012 †	43.3	47.8	0.102 ^	0.065 ^	0.558	0.315	0.310	0.405	53.270								14.193	12.605	1.589 43.3	27.1
F-7	683	79.3									21.9	35.5	63.2	69.5	69.4	70.8			72.2	74.3	76.3	77.3	26.1%								22.458	18.718	3.740 50.1	29.8
											1.386 †	2.564 †	6.536 †	3.499 †	2.303 †	1.720 † 3/17	0.385 ^	0.325 ^	1.005	1.060	1.000 83.0	0.675	82.8	8 82.6	84.4	84.4	82.0	80.0	84.4 26	.9%				
F-9	631	86.4														2.103 *	2.524 *	0.631 * 3.053 ^	5.848	2.401	2.149	1.045	0.428	8 0.579	0.948	0.500			1.378		23.588	8.311	15.277 55.5	34.1
Tons of Dr	y Clay Stor	ed x 10 ⁶	76.361	3.930	6.097	4.989	3.071	4.057	4.786	4.000	4.362	5.623	5.123	4.911	5.231	4.895	5.279	4.839	3.933	4.376	4.060	2.725	0.428	B 0.579	0.948	0.500	0.000	0.000	2.965	0.000	168.070	147.556	20.514 -	
Fort Lonesome	Mine					5/07 1.8	11.2	17.8	23.7	44.2	55.7	80.8			55.3				55 S	58.0	60.03	61.0	22.8%	ļ							<u> </u>			
L-1	462	63.0				0.087 †	1.088 †	0.873 †	0.510 †	1.131 †	2.499 †	0.918 †	0.310	0.000 /	0.489 †	0.000 ^	0.000 ^	0.000 ^	1.002	0.487	0.420	0.300	11.070								10.113	7.904	2.209 40.1	17.1
L-2	526	53.0										10/12 4.0	25.4	31.4	35.6	44.0			51.0	50.8	50.7	51.0	26.2%								11.489	10.200	1.289 37.5	19.5
												0.518 ^	1.305 †	1.646 †	0.775 †	3.336 †	2.209 ^	0.410 ^	0.600 36.3	0.229	0.230 42.5	0.230 45.5	25.3%											
L-3	444	47.5													0.420 =	1.343 =	1.007 =	0.252 * 2.565 ^	0.774	0.706	0.610	0.613									8.291	5.588	2.703 33.0	20.5
Tons of Dr	y Clay Stor	ed x 10 ⁶				0.087	1.088	0.873	0.510	1.131	2.499	1.436	1.615	1.646	1.683	4.679	3.216	3.227	2.376	1.422	1.260	1.143									29.892	23.691	6.201 .	<u> </u>
EGH-3			1															1/20						1							2 502 10	0.000	2 502 10	Τ.
				through 02/06	34.1													24.3 b	1.093	0.706	0.704	27.4%												
FGH-4	415	53.6			3.954 †														1.702	1.241	1.286										8.183	3.954	4.229 32.5	13.9
WC-1	351	96.6																	1/21	14.1	26.0	32.2	40.1	1 47.8 0 1.350	27.0%						7.447	0.000	7.447 -	·
0-1B	992	80.6																			1/23	11.0	24.0	36.0	55.6	69.9	25.1%				28.167	0.000	28.167 42.7	6.1
0.10	202	00.2																				4.034	5.553 7/24 18.9	3 5.066 9 69.0	7.537 85.1	5.975 88.0	89.3	22.8%			12 280	0.000	12 390 474	
0.10	362	50.5																					2.046	6 5.000	2.814	1.446	1.074		22.29		12.360	0.000	12.300 47.5	3.7
0-2	459	65.0																							1/2/	0.600	5.094	4.724	22.3%		10.418	0.000	10.418 36.0	4.0
0-1A	757	62.3																								1/28	6.8	15.4	33.1	32.0 27.4%	10.965	0.000	10.965 25.9	6.6
																											1.605	3.065	0.000	0.465				
- T (D		1		0.000	0.054		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.705	0.745	0.040	5 400			10.051	0.004	0.004	7.040	5 500	0.400		0.054	70.400	
Tons of Dr	Hardee C	ounty	0.000	0.000	0.000 5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.795	3.745	3.810	5.162	8.945	9 11.416	10.351	8.021	8.024	7.813	5.533	0.488	76.108 5	3.954	76.108 -	+
Tops of Dry Clay	Hillsborou	igh County	60.039	1.964	2.053	2.278	3.773	4.200	4.809	4.879	4.249	6.665	9.070	6.714	5.222	8.583	5.497	4.801	2.511	3.397	3.170	2.823	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	146.699	134.798	11.901 -	·
Stored x 10 ⁶	Manatee	County	16.322	1.966	4.044	2.798	0.386	0.730	0.487	0.252	2.612	0.394	-2.332	-0.157	1.693	U.991	∠.998	3.266	3.798	2.401	2.149	1.045	0.428	0.579	0.948	2.961	2.961 4	2.961 4	2.900	0.000	8.884 4	30.450	8.884 4 -	1:
	Polk Cour	nty	70.004	9	0.000	6 070	4.000	4.000	6.000	6 101		7.000	0 700		0.015	0.51	0.007	0.000	0.101	0.540	0.100	0.000	0.077	7 44.007	11.000	44.000	10.007	10.774	9.400	0.499	0.000	0.000	0.000 -	<u> </u>
	Hardee C	ounty	/6.361	3.930	6.097	5.076	4.159	4.930	5.296	6.131	0.860	7.058	0.738	0.558	0.915	9.574	2.737 #	4.354 #	9.104	8.321	9.130	9.030	9.37	9 11.995	11.300	9.893	8.986	9.720	8.498	0.488	109.664	7.190	102.475	+
	Hillsborou Manatee	igh County County	60.039 16.322	1.964	2.053	2.278 2.708	3.174 #	3.080 #	3.003 #	3.384 # 1.748 #	5.229 #	5.948 # 1.111 #	5.698 #	6.257 #	4.186 # 2 729 #	5.595 # 3.623 #	3.401 # 2.358 #	2.930 #	1.327	0.744	0.572	0.538	0.248	B 0.000	0.000	0.057	0.065	0.000	0.000	0.000	121.770 51.263	118.219 45.582	3.551 -	
Tons of Dry Clay Produced x 10 ⁶	Polk Cour	nty	10.322	1.500		2.750	0.000 #	1.000 #			1.031 #				2.125 #	0.257 #	2.000 #	0.103 #	0.000	0.415	0.440	0.239	5.000	0.000	0.000				0.000		0.257	0.257	0.000	
GENERAL	Total		76.361	3.930	6.097	5.076	4.159	4.930	5.296	5.131	6.860	7.058	6.738	6.558	6.915	9.574	8.495	8.067	9.104 TES:	9.543	9.130	9.030	9.371	/ 11.995	11.300	11.482	10.985	10.774	8.498	0.488	282.954	171.247	11./07 -	<u> </u>
	Historic T	onnage as l	Reported by Picks	ett and Associate	es (2005)											1 0	.707 MT of C	lay Dredged from	Settling Area F-2D) and Deposited in S	ettling Area F-	2C and Other A	reas								WAS	STE CI	AY	
	Projected After Reci	Tonnage in onstruction	Pickett and Asso and Dredging of 3	ciates Report, A 3.597 MT of Clay	ssumed to Have I s	Been Deposited	Between June 20	004 and June 20	006							2 3 3 1	.597 MT of Cl .128MT of Cl	lay Dredged from ay Dredged from 3	Settling Area F-1 a Settling Area F-2D	and Deposited in Oth and Deposited in Ot	her Four Corne ther Four Corne	ers Settling Area ers Settling Are	is as								DISPOS	AL SC	IEDULE	
H H	Historic T Historic T	onnage Est onnage Est	imated by Ardam imated by Ardam	an Based on the an Based on the	Results of Field S Results of Field S	Sampling and La Sampling and La	aboratory Testing aboratory Testing	q g Distributed Unit	formly Over an 8	8-Year Period						4 H	lardee County Senerated from	Clays to be discl the Manson-Jer	harged into Manata kins Tract in Mana	aee County Settling a atee County and Pre	Area WE-1 to 0 wiously Dispose	Compensate for ed of in Hardee	the Clays County Settling	Areas FGH-4 and	d PC-12						Ardam	an & As	sociates, In	с.
	Produced Samplin	Ionnage E g and Labo	stimated by Arda ratory Testing	man as a Percer	tage of Mosaic's	100 Percent Cla	sy Production Pro	ojections Based o	on the Results of	t Field						5 E N	xoluding 3.95 fanatee Coun	AMT of pre-Feb 2 ity and Should not	006 Clays Stored i Be Included in Th	in FGH-4, Which Wa is Clay Balance. Se	as Part of the C ee Note 4.	Jays Generated	I from the Mansi	on-Jenkins Tract i	in						Geotech Materials	.ucal, Enviro 3 Consultar	nmental and ക	
1 1	Historic T Historic T	onnage bas onnage Est	ed on Mosaic's pr imated by Ardam ampling time	rojection an Based on the	Results of Field S	Sampling and La	aboratory Testing	g and uniformally	distributed							6 1	.112 MT of C 418 MT of C	ay Dredged from lay Dredged from	Settling Area F-38 Settling Area F-38 sing (2.05 MT	and Deposited in O and Deposited in O from E-2D and 5 2	other Areas Other Areas	star Storage Are	ea) and to be De	nonited in Other 4	Arane						UPDAT		OF MINE	
	nom Ad	wareh to S	and here a second second										Filling Period			90	Jay Deposited	d in F-3B to Maint	ain Clay Balance v	within Manatee Count	ity summing king f	Been Marie The	t This Area Com	Accommodate 2	5 MT of Claure in	CV 2020 #	ah CY 2022				WASTE	DISPO	SAL PLAN	
LEGEND:			Clay Thickness	(Feet)									Resting Perio	bd		10 8		nor nor deen San	nyndu or adunded i		sompoon mas t	Social made that	. This Area Can	Accommodate 2.1	o an or Clays In	G I 2020 throu	giri G 1 2022.			Mos	aic FO	IOSAIC F	ERTILIZER, RS EXTENSIO	LLC.
Date Filling Starts		1/25	110	25.1%	Averag	ge Percent Solids in							Refilling Peri	od a Period			D	redging Period													M	HARDEE, I	ULLSBOROU	iH & DRIDA
(Month/Year)		+	4.034	20.176	Settling End	Area at the of Filling						F-38	Manatee Cou	anty Settling Are	a															DRAWN	KL CHECKE	DBY: KL	DATE: 7	27/20
			1									0-1A	Hardee Cour	nty Settling Area																FILE NO.: 19-13-00	87 APPROVED E	" Ph	The FIG	. ^{RE:} 19

S/Projects/2019/19-13-0087 Four Corners Extension Mine Disposal Plan/DISPOSAL PLAN100%/Disposal Plan /Js Cenario 2_Four Corners Disposal /Js Cenario 2_Four Corners Disposal Plan /Js Cenario 2_Four Corn

Appendix A

"Program SLURRY" and General Filling Curve Methodology

APPENDIX A

"Program SLURRY" and General Filling Curve Methodology

The "Program SLURRY"

The "Program SLURRY" is a finite difference computer program which was developed by Dr. Roy E. Olson, Professor of Civil Engineering at the University of Texas at Austin, to predict the consolidation behavior of phosphatic clays and sand-clay mixes under self-weight stresses and large strains during sedimentation, and at arbitrary rates of filling and subsequent consolidation. The program uses a Crank-Nicholson finite difference scheme to obtain a solution to Terzaghi's differential equation of consolidation. The program was written in FORTRAN IV and implicitly accounts for the effects of non-uniform large strains by using an incremental small strain approach combining infinitesimal strain theory and numerical simulations at large strains. The compression is assumed to occur in the vertical direction, i.e., the program models one-dimensional flow conditions. Versions of "Program SLURRY" were developed at Ardaman and Associates, Inc., as part of a research effort under the Florida Institute of Phosphate Research (Wissa *et al.*, 1992).

Previous research on the consolidation and compressibility behavior of phosphatic waste clay slurries indicates that the relationship between void ratio, e, and effective stress, $\overline{\sigma}_{vc}$, can be approximately modeled by the simple power function:

e = $\alpha \,\overline{\sigma}_{vc}^{\beta}$ (where σ'_{vc} is in units of kg/cm²).

Similar studies have shown that the relationship between void ratio, e, and permeability, k, can also be approximately modeled by the simple power function:

 $k = \gamma e^{\delta}$ (where k is in units of cm/sec).

Parameters α , β , γ and δ are curve fitting coefficients which can be determined for a particular phosphatic waste clay either by laboratory slurry consolidation tests, or by using the following empirical relationships with plasticity index (PI), which offer a convenient approach for conceptual mine planning purposes since the Atterberg Limits are easily obtained.

 α = 0.752 + 0.0146 (PI) kg/cm² β = -0.354 + (12.868 / (PI)) (no units) γ = 2 (9 x (PI))⁻³ cm/sec δ = 3.8 to 4.2; generally assume 4.0

General Filling Curves

The storage capacity and fill heights in each waste clay settling area proposed in the mine plan for the Mosaic Four Corners Extension Mine were projected through 12 years of the mine life using three separate suites of general filling curves which were developed from computer analyses performed using "Program SLURRY." The general filling curves proposed for the Four Corners Extension Mine settling areas, which are presented in Figures 15 to 18, show the dry tons of clay per acre which can be deposited in an impoundment versus the projected fill height for different rates of filling. It will be apparent that for fast rates of filling (e.g., 1 or 2 years), the waste clay does not settle very quickly and the projected fill height is greater than if the same quantity of clay is deposited at a much slower rate (e.g., 5 years). However, at some time, t, the fill height, irrespective of the rate of filling, converges for a particular quantity of clay deposited. As consolidation of the clay proceeds with respect to time, the height of the fill decreases. After a very long time (t > 50 years), consolidation is complete and settlement ceases. The filling curves, therefore, provide the engineer and mine planner with a versatile design tool for rationalizing several different competing factors including: selecting dam heights; predicting the required area of land needed for waste clay disposal at different times throughout the mine life; balancing rates of filling with waste clay production; prediction of solids contents in settling areas for input to water balance analyses; and estimating final fill heights at the end of the mine plan, which is important for reclamation planning.

Reference

Wissa, A.E.Z., Fuleihan, N.F., Ingra, T.S. and Alawi, M.M. (1992) Evaluation of Phosphatic Clay Disposal and Reclamation Methods - Phase II, Volume 9, Program SLURRY - Users Manual. Prepared by Ardaman & Associates, Inc. for Florida Institute of Phosphate Research.

Appendix B

Waste Clay Production Summary (Provided by Mosaic Fertilizer, LLC)

FOUR CORNERS EXTENSION MINE PROJECTED CLAY PRODUCTION RATES SPLITS BY COUNTY PROVIDED BY MOSAIC FERTILIZER, LLC ON 09/11/2019

		Calendar Year*											
	CY2020	CY2021	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027	CY2028	CY2029	CY2030	CY2031	Totals
Clay Source:													
Hardee County	7,777,545	8,320,611	8,115,447	8,253,579	9,129,250	11,995,010	11,299,825	9,892,709	8,985,616	9,719,579	8,497,523	487,993	102,474,686
Hillsborough County	1,326,682	744,064	572,018	538,193	248,167	-	-	56,583	64,813	-	-	-	3,550,520
Manatee County	-	478,759	442,643	238,669	-	-	-	1,532,733	1,934,489	1,054,394	-	-	5,681,688
Total	9,104,227	9,543,434	9,130,108	9,030,440	9,377,417	11,995,010	11,299,825	11,482,025	10,984,918	10,773,973	8,497,523	487,993	

Grand Totals: 111,706,894

Notes:

* Calendar year is January 1 through December 31.

Appendix C

Sample "Program SLURRY" Input/Output Files Used For Generation of Filling Curve Suites 19-13-0087 MOSAIC FERTILIZER LLC. FOUR CORNERS SETTLING AREAS CONSOLIDATION MODEL, FILLING CURVE 22500T/AC DATE:11/13/15 SINGLE DRAINAGE BOUNDARY CONDITIONS, CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 10.5 % FINI 852.4 2.80 62.4 1.50 WCO,GS,GW,DZMIN Ι BOTB -200.0 20000.0 EWTF, TWTF INSPEC RATE 730.00 107142.86 TSTART, TFILL, FILL .00 -1.00 .00 .00 TSTART, TFILL, FILL 1000.0 ELEVMX .0 20000.0 SUR, TSUR Y IDEF F 730.00 TO, DETOP F 1095.00 TO, DETOP F TO, DETOP 1460.00 1825.00 F TO, DETOP F TO, DETOP 2190.00 2555.00 F TO, DETOP F 2920.00 TO, DETOP F 3285.00 TO, DETOP F 3650.00 TO, DETOP F TO, DETOP 4380.00 F TO, DETOP 5110.00 F TO, DETOP 5840.00 6570.00 F TO, DETOP F 7300.00 TO, DETOP 8030.00 F TO, DETOP F 8760.00 TO, DETOP F TO, DETOP 9490.00 F TO, DETOP 10950.00 -1.00 F TO, DETOP GEN D WFI LEVEL, QTDATA, PROP .298E+01 -.251E+00 .550E-09 .433E+01 AWFI, BWFI, EWFI, FWFI 19-13-0087 MOSAIC FERTILIZER LLC. FOUR CORNERS SETTLING AREAS CONSOLIDATION MODEL, FILLING CURVE 22500T/AC DATE:11/13/15 SINGLE DRAINAGE BOUNDARY CONDITIONS, CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 10.5 %

TABLE NO. 1 GENERAL DATA

WATER CONTENT OF SLURRY (PERCENT)=852.4SOLIDS CONTENT OF SLURRY (PERCENT)=10.5SPECIFIC GRAVITY OF SOLIDS=2.800UNIT WEIGHT OF WATER (PCF)=62.4DESIRED MINIMUM INITIAL NODE SPACING (FEET)=1.50BASE ISIMPERVIOUS

DURING FILLING, THE WATER TABLE WILL BE AT A DEPTH OF .008 FEET BELOW THE TOP OF THE CONSOLIDATING SLURRY. THE DEPTH OF THE WATER TABLE WILL BE RESET TO -200.0 FEET (BELOW GROUND SURFACE) AT 20000. DAYS.

TABLE NO. 2 PARAMETERS USED TO CONTROL ACCURACY

TA ALIM .0 .5 729.9 .5 20000.0 10.0

CHGMIN =	.1	CHGPLM =	.0	PPLIM = 5.0
CHGLIM =	.5	NPMAX =	50	NCTMX= 15000

TABLE NO. 3 PUMPING SCHEDULE

TIME PUMPING	PUMPING	PUMPING
STARTS	PERIOD	RATE
DAYS	DAYS	TONS/ACRE/YEAR

1

FILLING SCHEDULE USED IN ANALYSES

TIME STEP FILLING	TOTAL THICKNESS OF
IS APPLIED - DAYS	ADDED SLURRY - FEET

.000	.0
3.724	.0
3.724	1.5
11.173	1.5
11.173	3.0
18.622	3.0
18.622	4.5
26.071	4.5
26.071	6.0
33.520	6.0
33.520	7.5
40.969	7.5
40.969	9.0
48.418	9.0
48.418	10.5
55.867	10.5
55.867	12.0
63.316	12.0
63.316	13.5
70.765	13.5
70.765	15.0
78.214	15.0
78.214	16.5
85.663	16.5
85.663	18.0
93.112	18.0
93.112	19.5
100.561	19.5
100.561	21.0
108.010	21.0
108.010	22.5
115.459	22.5
115.459	24.0
122.908	24.0
122.908	25.5
130.357	25.5
130.357	27.0
137.806	27.0
137.806	28.5
145.255	28.5
145.255	30.0

152.704	30.0
152.704	31.5
160.153	31.5
160.153	33.0
167.602	33.0
167.602	34.5
175.051	34.5
175 051	36.0
182 500	36.0
182.500	37 5
190 0/0	27.5
109.949	20.0
107 200	39.0
197.398	39.0
197.398	40.5
204.847	40.5
204.84/	42.0
212.296	42.0
212.296	43.5
219.745	43.5
219.745	45.0
227.194	45.0
227.194	46.5
234.643	46.5
234.643	48.0
242.092	48.0
242.092	49.5
249.541	49.5
249.541	51.0
256.990	51.0
256.990	52.5
264.439	52.5
264.439	54.0
271.888	54.0
271.888	55.5
279 337	55 5
279 337	57 0
286 786	57.0
286 786	58 5
200.700	20.2
294.200	50.5
294.200	60.0
201.084	
301.684	61.5
309.133	61.5
309.133	63.0
316.582	63.0
316.582	64.5
324.030	64.5
324.030	66.0
331.479	66.0
331.479	67.5

67.5
69.0
69.0
70.5
70.5
72.0
72.0
73.5
73.5
75 0
75.0
76 5
76.5
70.5
70.0
70.0
79.5
/9.5 01 0
81.0 91 0
81.0 82.5
02.5 02.5
82.5
84.0
84.0
85.5
85.5
87.0
87.0
88.5
88.5
90.0
90.0
91.5
91.5
93.0
93.0
94.5
94.5
96.0
96.0
97.5
97.5
99.0
99.0
100.5
100.5
102.0
102.0
103.5
103.5
105.0

525.153	105.0
525.153	106.5
532.602	106.5
532.602	108.0
540.051	108.0
540.051	109.5
547.500	109.5
547.500	111.0
554,949	111.0
554,949	112.5
562 398	112.5
562.398	114 0
569 817	114.0
569 847	115 5
577 296	115 5
577.290	117 0
577.290	117.0
	117.0
584.745	110.5
592.194	110.5
592.194	120.0
599.643	120.0
599.643	121.5
607.092	121.5
607.092	123.0
614.541	123.0
614.541	124.5
621.990	124.5
621.990	126.0
629.438	126.0
629.438	127.5
636.887	127.5
636.88/	129.0
644.336	129.0
644.336	130.5
651.785	130.5
651.785	132.0
659.234	132.0
659.234	133.5
666.683	133.5
666.683	135.0
674.132	135.0
674.132	136.5
681.581	136.5
681.581	138.0
689.030	138.0
689.030	139.5
696.479	139.5
696.479	141.0
703.928	141.0
703.928	142.5

711.377	142.5
711.377	144.0
718.826	144.0
718.826	145.5
729.900	145.5
729.900	147.0
20000.000	147.0

LIMIT ON ELEVATION OF SLURRY (FEET) = 1000.0

SURCHARGE PRESSURE (I	PSF)=	0.
TIME OF APPLICATION	(DAYS)=	20000.

TABLE NO. 4 SUMMARY OF DESIRED OUTPUT TIMES

JO TO(JO) DETAIL

1 730.0 NO 2 1095.0 NO 3 1460.0 NO 4 1825.0 NO 5 2190.0 NO 6 2555.0 NO 7 2920.0 NO 8 3285.0 NO 9 3650.0 NO 10 4380.0 NO 11 5110.0 NO 12 5840.0 NO 13 6570.0 NO 14 7300.0 NO 15 8030.0 NO 16 8760.0 NO 17 9490.0 NO 18 10950.0 NO

TABLE NO. 5 WISSA/FULEIHAN/INGRA COEFFICIENTS A (KG/SQ.CM)= .298E+01 A (PSF)= .203E+02 B= -.251E+00 E (CM/SEC)= .550E-09

E (FT/DAY)=	.156E-05
F=	.433E+01

 TABLE NO. 8
 SUMMARY OF DATA FROM SUBPROGRAM INITIAL

INITIAL WA	TER CONTENT=	852.40
INITIAL SC	LIDS CONTENT=	10.50
INITIAL VC	DID RATIO=	23.867
INITIAL TO	TAL UNIT WEIGHT (PCF)=	66.92
INITIAL EF	FECTIVE STRESS (PSF)=	.521
INITIAL VA	LUE OF CV (SQ FT/DAY)=	.499E-01
INITIAL VA	LUE OF PK (FT/DAY)=	.144E+01
DEPTH TO W	IATER TABLE (FEET)=	.008
COEFF. OF	COMP. (SQFT/LB)=	.115E+02

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19-13-0087 MOSAIC FERTILIZER LLC. FOUR CORNERS SETTLING AREAS CONSOLIDATION MODEL, FILLING CURVE 22500T/AC DATE:11/13/15 SINGLE DRAINAGE BOUNDARY CONDITIONS, CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 10.5 %

TABLE OF VARIABLES FOR ALL PP(I)=0

TIME TC (DAYS)	INFINITY
TOTAL THICKNESS OF ADDED SLURRY (FEET)	147.027000
DEPTH OF WATER TABLE (FEET)	37.023240
ELEVATION OF TOP OF SEDIMENT (FEET)	37.031590
TOTAL OUTFLOW THROUGH THE TOP (FEET)	109.995400
TOTAL OUTFLOW THROUGH THE BOT. (FEET)	.000000

NODE	ELEV- ATION FT	SIGNS STRESS PSF	EXCESS PP PSF	STATIC PP PSF	EFFECTIVE STRESS PSF
		1 51	1 51	1.51	1.51
99	37.032	.00	.00	52	.52
98	36.103	64.72	.00	57.43	7.30
97	35.368	117.36	.00	103.28	14.07
96	34.711	165.11	.00	144.26	20.85
95	34.102	209.92	.00	182.30	27.63
94	33.525	252.68	.00	218.28	34.40
93	32.974	293.88	.00	252.70	41.18
92	32.442	333.83	.00	285.88	47.96

91	31.927	372.76	.00	318.03	54.73
90	31.425	410.82	.00	349.31	61.51
89	30.936	448.13	.00	379.84	68.29
88	30.457	484.78	.00	409.71	75.06
87	29.988	520.84	.00	439.00	81.84
86	29.527	556.38	.00	467.76	88.61
85	29.074	591.44	.00	496.05	95.39
84	28.627	626.07	.00	523.90	102.17
83	28.187	660.30	.00	551.35	108.94
82	27.753	694.16	.00	578.44	115.72
81	27.325	727.69	.00	605.19	122.50
80	26.901	760.89	.00	631.62	129.27
79	26.482	793.80	.00	657.75	136.05
78	26.068	826.43	.00	683.61	142.83
77	25.658	858.80	.00	709.20	149.60
76	25.252	890.93	.00	734.55	156.38
75	24.849	922.82	.00	759.66	163.16
74	24,450	954.49	.00	784.56	169.93
73	24.055	985.95	.00	809.24	176.71
72	23,662	1017.20	.00	833.72	183.48
71	23.273	1048.27	.00	858.01	190.26
70	22.887	1079.15	.00	882.12	197.04
69	22,503	1109.86	.00	906.05	203.81
68	22.122	1140.41	.00	929.81	210.59
67	21.744	1170.79	.00	953.42	217.37
66	21.368	1201.01	.00	976.87	224.14
65	20.995	1231.09	.00	1000.17	230.92
64	20.624	1261.02	.00	1023.33	237.70
63	20.255	1290.82	.00	1046.35	244.47
62	19.888	1320.48	.00	1069.23	251.25
61	19.523	1350.01	.00	1091.99	258.03
60	19.161	1379.42	.00	1114.62	264.80
59	18.800	1408.71	.00	1137.13	271.58
58	18.441	1437.88	.00	1159.52	278.35
57	18.084	1466.94	.00	1181.80	285.13
56	17.729	1495.88	.00	1203.98	291.91
55	17.375	1524.72	.00	1226.04	298.68
54	17.023	1553.46	.00	1248.00	305.46
53	16.673	1582.09	.00	1269.86	312.24
52	16.324	1610.63	.00	1291.62	319.01
51	15.977	1639.07	.00	1313.28	325.79
50	15.631	1667.42	.00	1334.85	332.57
49	15.287	1695.68	.00	1356.33	339.34
48	14.944	1723.84	.00	1377.72	346.12
47	14.603	1751.93	.00	1399.03	352.90
46	14,263	1779.92	.00	1420.25	359.67
45	13,924	1807.84	.00	1441.39	366.45
44	13.587	1835.67	.00	1462.45	373.22
43	13.250	1863.43	.00	1483.43	380.00
42	12.915	1891.11	.00	1504.33	386.78

41	12.582	1918.71	.00	1525	.16	393.55		
40	12.249	1946.24	.00	1545	.91	400.33		
39 :	11.918	1973.70	.00	1566	.59	407.11		
38 3	11.587	2001.09	.00	1587	.20	413.88		
37 :	11.258	2028.41	.00	1607	.75	420.66		
36 3	10.930	2055.66	.00	1628	.22	427.44		
35 3	10.603	2082.84	.00	1648	.63	434.21		
34	10.277	2109.96	.00	1668	.97	440.99		
33	9.952	2137.02	.00	1689	.25	447.77		
32	9.628	2164.01	.00	1709	.47	454.54		
31	9.305	2190.94	.00	1729	.62	461.32		
30	8.983	2217.81	.00	1749	.72	468.10		
29	8.662	2244.63	.00	1769	.76	474.87		
28	8.342	2271.38	.00	1789	.73	481.65		
27	8.022	2298.08	.00	1809	.65	488.42		
26	7.704	2324.72	.00	1829	.52	495.20		
25	7.387	2351.30	.00	1849	.33	501.98		
24	7.070	2377.83	.00	1869	.08	508.75		
23	6.754	2404.31	.00	1888	.78	515.53		
22	6.439	2430.74	.00	1908	.43	522.31		
21	6.125	2457.11	.00	1928	.03	529.08		
20	5.812	2483.43	.00	1947	.57	535.86		
19	5.500	2509.71	.00	1967	.07	542.64		
18	5.188	2535.93	.00	1986	.52	549.41		
17	4.877	2562.11	.00	2005	.92	556.19		
16	4.567	2588.23	.00	2025	.27	562.96		
15	4.258	2614.31	.00	2044	.57	569.74		
14	3.949	2640.35	.00	2063	.83	576.52		
13	3.641	2666.34	.00	2083	.04	583.29		
12	3.334	2692.28	.00	2102	.21	590.07		
11	3.028	2718.18	.00	2121	.33	596.85		
10	2.722	2744.03	.00	2140	.41	603.62		
9	2.417	2769.85	.00	2159	.45	610.40		
8	2.112	2795.62	.00	2178	.44	617.18		
7	1.809	2821.34	.00	2197	.39	623.95		
6	1.506	2847.03	.00	2216	.30	630.73		
5	1.203	2872.68	.00	2235	.17	637.51		
4	.901	2898.28	.00	2254	.00	644.28		
3	.600	2923.85	.00	2272	.79	651.06		
2	.300	2949.37	.00	2291	.54	657.83		
1	.000	2974.86	.00	2310	.25	664.61		
	EFF.		WATER	SOLIDS		THICK-		
LAYER	STRESS	VOID	CONTENT	CONTENT	TUW	NESS	CV	PK
NO.	PSF	RATIO	(PC)	(PC)	(PCF)	(FT)	(SQFT/DAY)	(FT/DAY)
98	3.91	14.391	514.0	16.29	69.70	.929	.431E-01	.165E+00
97	10.69	11.181	399.3	20.03	71.62	.735	.402E-01	.560E-01
96	17.46	9.885	353.0	22.07	72.72	.657	.390E-01	.333E-01

24.24 9.104 325.1 23.52 73.52

95

.610 .382E-01 .237E-01

94	31.02	8.557	305.6	24.65	74.15	.577	.377E-01	.184E-01
93	37.79	8.143	290.8	25.59	74.68	.552	.373E-01	.151E-01
92	44.57	7.813	279.0	26.38	75.14	.532	.369E-01	.128E-01
91	51.34	7.540	269.3	27.08	75.55	.515	.367E-01	.111E-01
90	58.12	7.309	261.0	27.70	75.92	.501	.364E-01	.982E-02
89	64.90	7.110	253.9	28.25	76.25	.489	.362E-01	.882E-02
88	71.67	6.935	247.7	28.76	76.56	.479	.360E-01	.802E-02
87	78.45	6.779	242.1	29.23	76.84	.469	.359E-01	.736E-02
86	85.23	6.640	237.1	29.66	77.10	461	357E-01	680F-02
85	92.00	6.513	232.6	30.06	77.35	453	356E-01	633E-02
84	98.78	6.398	228.5	30.44	77.58	446	355E-01	593E-02
83	105 56	6 293	220.5	30.79	77 80	440	354F-01	557E-02
82	112 33	6 195	224.7 221 2	30.75	78 01	434	353F-01	526E-02
81	119 11	6 105	221.5	31 11	78 21	429	352F-01	.920E 02
80	125 89	6 020	210.0	31.74	78 40	.425	351F-01	475E-02
79	132 66	5 942	213.0	32.03	78 58	.+2+ /19	350F_01	453E-02
78	139 11	5 868	200 6	32.05	78 75	, 41 <i>7</i>	350E_01	133E_02
70	1/6 21	5 708	209.0	32.50	70.75	,414 /10	3/0E-01	.435L-02
76	140.21	5 733	207.1	22.00	70.92	.410	349L-01	300E-02
75	150 77	5 671	204.7	32.01	79.00	.400	348E-01	-393E-02
75	166 54	5.071	202.5	22.20	79.24	200	2475 01	270E 02
74	172 22	5.012	100.4	22 51	79.59	206	24/6-01	2575 02
75 72	190 10	5.550	106 5	22.21	79.55	.590	2465 01	-337E-02
72	100.10		101 7	22.12	79.07	. 592	.340E-01	· 545E-02
71	100.07	5.452	194.7	22.22	79.01	.205	.3456-01	.334E-02
70	193.65	5.404	193.0	34.13	79.94	.380	.345E-01	.323E-02
69	200.43	5.35/	191.3	34.33	80.07	.384	.344E-01	.314E-02
68	207.20	5.313	189.7	34.51	80.19	.381	.344E-01	.305E-02
6/	213.98	5.270	188.2	34.70	80.31	.3/8	.343E-01	.296E-02
66	220.76	5.229	186.7	34.8/	80.43	.376	.343E-01	.288E-02
65	227.53	5.189	185.3	35.05	80.55	.3/3	.343E-01	.280E-02
64	234.31	5.151	184.0	35.21	80.66	.3/1	.342E-01	.2/3E-02
63	241.08	5.114	182.7	35.38	80.//	.369	.342E-01	.266E-02
62	247.86	5.0/9	181.4	35.54	80.88	.367	.341E-01	.260E-02
61	254.64	5.045	180.2	35.69	80.98	.365	.341E-01	.254E-02
60	261.41	5.012	179.0	35.84	81.08	.363	.341E-01	.248E-02
59	268.19	4.980	177.8	35.99	81.18	.361	.340E-01	.242E-02
58	274.97	4.948	176.7	36.14	81.28	.359	.340E-01	.236E-02
57	281.74	4.918	175.7	36.28	81.38	.357	.340E-01	.231E-02
56	288.52	4.889	174.6	36.42	81.47	.355	.339E-01	.226E-02
55	295.30	4.861	173.6	36.55	81.57	.354	.339E-01	.221E-02
54	302.07	4.833	172.6	36.68	81.66	.352	.339E-01	.217E-02
53	308.85	4.806	171.6	36.81	81.74	.350	.338E-01	.212E-02
52	315.63	4.780	170.7	36.94	81.83	.349	.338E-01	.208E-02
51	322.40	4.755	169.8	37.06	81.92	.347	.338E-01	.204E-02
50	329.18	4.730	168.9	37.19	82.00	.346	.337E-01	.200E-02
49	335.95	4.706	168.1	37.30	82.09	.344	.337E-01	.196E-02
48	342.73	4.682	167.2	37.42	82.17	.343	.337E-01	.192E-02
47	349.51	4.659	166.4	37.54	82.25	.341	.337E-01	.188E-02
46	356.28	4.637	165.6	37.65	82.33	.340	.336E-01	.185E-02
45	363.06	4.615	164.8	37.76	82.40	.339	.336E-01	.181E-02

44	369.84	4.594	164.1	37.87	82.48	.337	.336E-01	.178E-02
43	376.61	4.573	163.3	37.98	82.56	.336	.336E-01	.175E-02
42	383.39	4.552	162.6	38.08	82.63	.335	.335E-01	.172E-02
41	390.17	4.532	161.9	38.19	82.70	.334	.335E-01	.168E-02
40	396.94	4.513	161.2	38.29	82.77	.333	.335E-01	.165E-02
39	403.72	4.494	160.5	38.39	82.85	.331	.335E-01	.162E-02
38	410.50	4.475	159.8	38.49	82.92	.330	.334E-01	.160E-02
37	417.27	4.457	159.2	38.59	82.98	.329	.334E-01	.157E-02
36	424.05	4.439	158.5	38.68	83.05	.328	.334E-01	.154E-02
35	430.82	4.421	157.9	38.78	83.12	.327	.334E-01	.151E-02
34	437.60	4.404	157.3	38.87	83.19	.326	.333E-01	.149E-02
33	444.38	4.387	156.7	38.96	83.25	.325	.333E-01	.146E-02
32	451.15	4.370	156.1	39.05	83.32	.324	.333E-01	.144E-02
31	457.93	4.354	155.5	39.14	83.38	.323	.333E-01	.141E-02
30	464.71	4.338	154.9	39.23	83.44	.322	.332E-01	.139E-02
29	471.48	4.322	154.4	39.31	83.50	.321	.332E-01	.137E-02
28	478.26	4.307	153.8	39.40	83.57	.320	.332E-01	.134E-02
27	485.04	4.291	153.3	39.48	83.63	.319	.332E-01	.132E-02
26	491.81	4.276	152.7	39.57	83.69	.318	.332E-01	.130E-02
25	498.59	4.262	152.2	39.65	83.75	.317	.331E-01	.128E-02
24	505.37	4.247	151.7	39.73	83.80	.317	.331E-01	.126E-02
23	512.14	4.233	151.2	39.81	83.86	.316	.331E-01	.124E-02
22	518.92	4.219	150.7	39.89	83.92	.315	.331E-01	.122E-02
21	525.69	4.206	150.2	39.97	83.98	.314	.330E-01	.120E-02
20	532.47	4.192	149.7	40.05	84.03	.313	.330E-01	.118E-02
19	539.25	4.179	149.2	40.12	84.09	.312	.330E-01	.116E-02
18	546.02	4.166	148.8	40.20	84.14	.312	.330E-01	.114E-02
17	552.80	4.153	148.3	40.27	84.20	.311	.330E-01	.112E-02
16	559.58	4.140	147.9	40.35	84.25	.310	.329E-01	.110E-02
15	566.35	4.128	147.4	40.42	84.30	.309	.329E-01	.109E-02
14	573.13	4.115	147.0	40.49	84.36	.309	.329E-01	.107E-02
13	579.91	4.103	146.5	40.56	84.41	.308	.329E-01	.105E-02
12	586.68	4.091	146.1	40.63	84.46	.307	.329E-01	.104E-02
11	593.46	4.079	145.7	40.70	84.51	.306	.328E-01	.102E-02
10	600.24	4.068	145.3	40.77	84.56	.306	.328E-01	.100E-02
9	607.01	4.056	144.9	40.84	84.61	.305	.328E-01	.988E-03
8	613.79	4.045	144.5	40.90	84.66	.304	.328E-01	.972E-03
7	620.57	4.034	144.1	40.97	84.71	.304	.328E-01	.957E-03
6	627.34	4.023	143.7	41.04	84.76	.303	.327E-01	.942E-03
5	634.12	4.012	143.3	41.10	84.81	.302	.327E-01	.928E-03
4	640.89	4.002	142.9	41.17	84.86	.302	.327E-01	.913E-03
3	647.67	3.991	142.5	41.23	84.90	.301	.327E-01	.899E-03
2	654.45	3.981	142.2	41.29	84.95	.300	.327E-01	.886E-03
1	661.22	3.970	141.8	41.36	85.00	.300	.327E-01	.872E-03

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19-13-0087 MOSAIC FERTILIZER LLC. FOUR CORNERS SETTLING AREAS CONSOLIDATION MODEL, FILLING CURVE 22500T/AC DATE:11/13/15 SINGLE DRAINAGE BOUNDARY CONDITIONS,

CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 10.5 %

	THICK.		AVE.	AVE.	AVE.	FLOW	FLOW
CONSOL.	ADDED	CONSOL.	WATER	SOLIDS	DEG.OF	FROM	FROM
TIME	SLURRY	THICK.	CONTENT	CONTENT	CONSOL.	TOP	BOT.
DAYS	FEET	FEET	PERCENT	PERCENT	PERCENT	FEET	FEET
730.0	147.0	85.0	477.6	17.3	56.4	62.0	.0
1095.0	147.0	72.7	403.7	19.9	67.5	74.3	.0
1460.0	147.0	65.6	360.3	21.7	74.1	81.5	.0
1825.0	147.0	60.7	331.0	23.2	78.5	86.3	.0
2190.0	147.0	57.2	309.6	24.4	81.7	89.9	.0
2555.0	147.0	54.5	293.2	25.4	84.2	92.6	.0
2920.0	147.0	52.3	280.2	26.3	86.1	94.7	.0
3285.0	147.0	50.5	269.6	27.1	87.7	96.5	.0
3650.0	147.0	49.1	260.8	27.7	89.0	97.9	.0
4380.0	147.0	46.8	247.1	28.8	91.1	100.2	.0
5110.0	147.0	45.1	236.8	29.7	92.7	101.9	.0
5840.0	147.0	43.8	228.9	30.4	93.8	103.2	.0
6570.0	147.0	42.8	222.6	31.0	94.8	104.3	.0
7300.0	147.0	41.9	217.5	31.5	95.6	105.1	.0
8030.0	147.0	41.2	213.3	31.9	96.2	105.8	.0
8760.0	147.0	40.7	209.8	32.3	96.7	106.4	.0
9490.0	147.0	40.2	206.9	32.6	97.2	106.9	.0
10950.0	147.0	39.4	202.3	33.1	97.8	107.6	.0
INFINITY	147.0	37.0	188.0	34.7	100.0	110.0	.0

19-13-0087	MOSAIC FER	RTILIZER L	LC. FORT L	ONESOME L-1
PLAN CONSOL	IDATION MO	DEL, L-1	FILLING CU	RVE 22500T/AC
DATE:2/5/20	, SINGLE [DRAINAGE B	OUNDARY CO	NDITIONS
CLAY PLASTI	CTY INDEX	= -, INIT	IAL SOLIDS	CONTENT = 9.5 %
FINI				
952.6	2.75 62.4	1.50		WCO,GS,GW,DZMIN
I				вотв
-200.0	20000.0			EWTF,TWTF
RATE				INSPEC
.00	735.00	118421.05		TSTART, TFILL, FILL
-1.00	.00	.00		TSTART, TFILL, FILL
1000.0				ELEVMX
.0	20000.0			SUR, TSUR
Y				IDEF
730.00	F			TO,DETOP
1095.00	F			TO,DETOP
1460.00	F			TO,DETOP
1825.00	F			TO,DETOP
2190.00	F			TO,DETOP
2555.00	F			TO,DETOP
2920.00	F			TO,DETOP
3285.00	F			TO,DETOP
3650.00	F			TO,DETOP
4380.00	F			TO,DETOP
5110.00	F			TO,DETOP
5840.00	F			TO,DETOP
6570.00	F			TO,DETOP
7300.00	F			TO,DETOP
8030.00	F			TO,DETOP
8760.00	F			TO,DETOP
-1.00	F			TO,DETOP
GEN D	WFI			LEVEL,QTDATA,PROP
.310E+01 -	.273E+00	.400E-09	.400E+01	AWFI,BWFI,EWFI,FWFI

19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-1 PLAN CONSOLIDATION MODEL, L-1 FILLING CURVE 22500T/AC DATE:2/5/20, SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 %

TABLE NO. 1 GENERAL DATA

WATER CONTENT OF SLURRY (PERCENT)=952.6SOLIDS CONTENT OF SLURRY (PERCENT)=9.5SPECIFIC GRAVITY OF SOLIDS=2.750UNIT WEIGHT OF WATER (PCF)=62.4DESIRED MINIMUM INITIAL NODE SPACING (FEET)=1.50BASE ISIMPERVIOUS

DURING FILLING, THE WATER TABLE WILL BE AT A DEPTH OF .013 FEET BELOW THE TOP OF THE CONSOLIDATING SLURRY. THE DEPTH OF THE WATER TABLE WILL BE RESET TO -200.0 FEET (BELOW GROUND SURFACE) AT 20000. DAYS.

TABLE NO. 2 PARAMETERS USED TO CONTROL ACCURACY

TA ALIM .0 .5 734.9 .5 20000.0 10.0

CHGMIN =	.1	CHGPLM =	.0	PPLIM = 5.0
CHGLIM =	.5	NPMAX =	50	NCTMX= 15000

TABLE NO. 3 PUMPING SCHEDULE

TIME PUMPING	PUMPING	PUMPING
STARTS	PERIOD	RATE
DAYS	DAYS	TONS/ACRE/YEAR

1

FILLING SCHEDULE USED IN ANALYSES

TIME STEP FILLING	TOTAL THICKNESS OF
IS APPLIED - DAYS	ADDED SLURRY - FEET

.000	.0
3.341	.0
3.341	1.5
10.023	1.5
10.023	3.0
16.705	3.0
16.705	4.5
23.386	4.5
23.386	6.0
30.068	6.0
30.068	7.5
36.750	7.5
36.750	9.0
43.432	9.0
43.432	10.5
50.114	10.5
50.114	12.0
56.795	12.0
56.795	13.5
63.477	13.5
63.477	15.0
70.159	15.0
70.159	16.5
76.841	16.5
76.841	18.0
83.523	18.0
83.523	19.5
90.205	19.5
90.205	21.0
96.886	21.0
96.886	22.5
103.568	22.5
103.568	24.0
110.250	24.0
110.250	25.5
116.932	25.5
116.932	27.0
123.614	27.0
123.614	28.5
130.295	28.5
130.295	30.0

136.977	30.0
136.977	31.5
143.659	31.5
143.659	33.0
150.341	33.0
150.341	34.5
157.023	34.5
157.023	36.0
163.705	36.0
163.705	37.5
170.386	37.5
170 386	39.0
177 068	39.0
177 068	40 5
183 750	40.5
183 750	40.J 12 0
100 /32	42.0
190.432	42.0
190.432	43.5
197.114	45.5
197.114	45.0
203.795	45.0
203./95	46.5
210.477	46.5
210.477	48.0
217.159	48.0
217.159	49.5
223.841	49.5
223.841	51.0
230.523	51.0
230.523	52.5
237.205	52.5
237.205	54.0
243.886	54.0
243.886	55.5
250.568	55.5
250.568	56.9
257.250	56.9
257.250	58.4
263.932	58.4
263.932	59.9
270.614	59.9
270.614	61.4
277.296	61.4
277.296	62.9
283.977	62.9
283.977	64.4
290.659	64.4
290.659	65.9
297.341	65.9
297.341	67.4

304.023	67.4
304.023	68.9
310.705	68.9
310.705	70.4
317.386	70.4
317.386	71.9
324.068	71.9
324.068	73.4
330.750	73.4
330.750	74.9
337.432	74.9
337.432	76.4
344.114	76.4
344.114	77.9
350.796	77.9
350.796	79.4
357.477	79.4
357.477	80.9
364.159	80.9
364.159	82.4
370.841	82.4
370.841	83.9
377.523	83.9
377.523	85.4
384.205	85.4
384.205	86.9
390.887	86.9
390.887	88.4
397.568	88.4
397.568	89.9
404.250	89.9
404.250	91.4
410.932	91.4
410.932	92.9
417.614	92.9
417.614	94.4
424.296	94.4
424.296	95.9
430.977	95.9
430.977	97.4
437.659	97.4
437.659	98.9
444.341	98.9
444.341	100.4
451.023	100.4
451.023	101.9
457.705	101.9
457.705	103.4
464.387	103.4
464.387	104.9

471.068	104.9
471.068	106.4
477.750	106.4
477.750	107.9
484.432	107.9
484,432	109.4
491 114	109 4
491.114 101 11 <i>1</i>	110 0
491.114	110.9
497.790	112.9
497.790	112.4
504.478	112.4
504.478	113.9
511.159	113.9
511.159	115.4
517.841	115.4
517.841	116.9
524.523	116.9
524.523	118.4
531.205	118.4
531.205	119.9
537.887	119.9
537.887	121.4
544.568	121.4
544.568	122.9
551.250	122.9
551.250	124.4
557.932	124.4
557.932	125.9
564.614	125.9
564 614	127 4
571 296	127.4
571 296	127.4
571.250	120.9
577.578	120.9
	120.4
	120.4
584.659	131.9
591.341	131.9
591.341	133.4
598.023	133.4
598.023	134.9
604.705	134.9
604.705	136.4
611.387	136.4
611.387	137.9
618.069	137.9
618.069	139.4
624.750	139.4
624.750	140.9
631.432	140.9
631.432	142.4

638.114	142.4
638.114	143.9
644.796	143.9
644.796	145.4
651.478	145.4
651.478	146.9
658.159	146.9
658.159	148.4
664.841	148.4
664.841	149.9
671.523	149.9
671.523	151.4
678.205	151.4
678.205	152.9
684.887	152.9
684.887	154.4
691.569	154.4
691.569	155.9
698.250	155.9
698.250	157.4
704.932	157.4
704.932	158.9
711.614	158.9
711.614	160.4
718.296	160.4
718.296	161.9
724.978	161.9
724.978	163.4
734.900	163.4
734.900	164.9
20000.000	164.9

LIMIT ON ELEVATION OF SLURRY (FEET) = 1000.0

SURCHARGE PRESSURE (PSF)=	0.
TIME OF APPLICATION (DAYS)=	20000.

TABLE NO. 4 SUMMARY OF DESIRED OUTPUT TIMES

JO	TO(JO)	DETAIL
1	730.0	NO
2	1095.0	NO
3	1460.0	NO
4	1825.0	NO

5	2190.0	NO
6	2555.0	NO
7	2920.0	NO
8	3285.0	NO
9	3650.0	NO
10	4380.0	NO
11	5110.0	NO
12	5840.0	NO
13	6570.0	NO
14	7300.0	NO
15	8030.0	NO
16	8760.0	NO

TABLE NO. 5 WISSA/FULEIHAN/INGRA COEFFICIENTS

• •	
A (KG/SQ.CM)=	.310E+01
A (PSF)=	.249E+02
B=	273E+00
E (CM/SEC)=	.400E-09
E (FT/DAY)=	.113E-05
F=	.400E+01

TABLE NO. 8 SUMMARY OF DATA FROM SUBPROGRAM INITIAL

INITIAL WATER CONTENT=	952.60
INITIAL SOLIDS CONTENT=	9.50
INITIAL VOID RATIO=	26.196
INITIAL TOTAL UNIT WEIGHT (PCF)=	66.42
INITIAL EFFECTIVE STRESS (PSF)=	.835
INITIAL VALUE OF CV (SQ FT/DAY)=	.272E-01
INITIAL VALUE OF PK (FT/DAY)=	.534E+00
DEPTH TO WATER TABLE (FEET)=	.013
COEFF. OF COMP. (SQFT/LB)=	.857E+01

1

19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-1 PLAN CONSOLIDATION MODEL, L-1 FILLING CURVE 22500T/AC DATE:2/5/20, SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 %

TABLE OF VARIABLES FOR ALL PP(I)=0
TIME TC (DAYS)	INFINITY
TOTAL THICKNESS OF ADDED SLURRY (FEET)	164.852200
DEPTH OF WATER TABLE (FEET)	41.054360
ELEVATION OF TOP OF SEDIMENT (FEET)	41.067730
TOTAL OUTFLOW THROUGH THE TOP (FEET)	123.784500
TOTAL OUTFLOW THROUGH THE BOT. (FEET)	.000000

NODE NO.	ELEV- ATION FT	SIGNS STRESS PSF	EXCESS PP PSF	STATIC PP PSF	EFFECTIVE STRESS PSF
111	41.068	.00	.00	83	.83
110	40.061	68.82	.00	61.97	6.85
109	39.270	124.19	.00	111.32	12.87
108	38.569	173.95	.00	155.06	18.89
107	37.923	220.33	.00	195.43	24.90
106	37.314	264.34	.00	233.42	30.92
105	36.734	306.56	.00	269.62	36.94
104	36.176	347.35	.00	304.39	42.96
103	35.638	386.96	.00	337.99	48.97
102	35.115	425.58	.00	370.59	54.99
101	34.607	463.33	.00	402.32	61.01
100	34.110	500.34	.00	433.31	67.03
99	33.624	536.67	.00	463.63	73.04
98	33.148	572.41	.00	493.35	79.06
97	32.680	607.61	.00	522.53	85.08
96	32.221	642.32	.00	551.22	91.10
95	31.768	676.57	.00	579.46	97.11
94	31.322	710.41	.00	607.28	103.13
93	30.883	743.86	.00	634.71	109.15
92	30.449	776.96	.00	661.79	115.17
91	30.020	809.71	.00	688.53	121.18
90	29.597	842.16	.00	714.96	127.20
89	29.178	874.31	.00	741.09	133.22
88	28.764	906.18	.00	766.95	139.24
87	28.353	937.79	.00	792.54	145.25
86	27.947	969.15	.00	817.88	151.27
85	27.545	1000.28	.00	842.99	157.29
84	27.146	1031.17	.00	867.87	163.31
83	26.751	1061.86	.00	892.53	169.32
82	26.359	1092.34	.00	917.00	175.34
81	25.970	1122.62	.00	941.26	181.36
80	25.584	1152.71	.00	965.34	187.38
79	25.201	1182.63	.00	989.24	193.39
78	24.821	1212.37	.00	1012.96	199.41
77	24.444	1241.94	.00	1036.52	205.43
76	24.069	1271.36	.00	1059.91	211.44

75	23.696	1300.62	.00	1083.16	217.46
74	23.326	1329.73	.00	1106.25	223.48
73	22.958	1358.70	.00	1129.20	229.50
72	22.593	1387.53	.00	1152.01	235.51
71	22.229	1416.22	.00	1174.69	241.53
70	21.868	1444.78	.00	1197.23	247.55
69	21.509	1473.22	.00	1219.65	253.57
68	21.151	1501.53	.00	1241.95	259.58
67	20.796	1529.73	.00	1264.13	265.60
66	20.442	1557.81	.00	1286.19	271.62
65	20.091	1585.78	.00	1308.14	277.64
64	19.741	1613.63	.00	1329.98	283.65
63	19.392	1641.39	.00	1351.71	289.67
62	19.046	1669.03	.00	1373.34	295.69
61	18.701	1696.58	.00	1394.87	301.71
60	18.357	1724.03	.00	1416.31	307.72
59	18.015	1751.38	. 00	1437.64	313.74
58	17.675	1778.64	.00	1458.89	319.76
57	17.336	1805.81	.00	1480.04	325.78
56	16.998	1832.89	.00	1501.10	331.79
55	16.662	1859.89	.00	1522.07	337.81
54	16.327	1886.79	.00	1542.96	343,83
53	15.994	1913.62	.00	1563.77	349.85
52	15.662	1940.36	.00	1584.50	355.86
51	15,331	1967.02	.00	1605.14	361.88
50	15.001	1993.61	.00	1625.71	367.90
49	14.673	2020.12	.00	1646.20	373.92
48	14.346	2046.55	.00	1666.62	379.93
47	14,020	2072.91	.00	1686.96	385,95
46	13.695	2099.20	.00	1707.24	391.97
45	13.371	2125.42	.00	1727.44	397.99
44	13.048	2151.57	.00	1747.57	404.00
43	12,727	2177.65	.00	1767.63	410.02
42	12,406	2203.67	.00	1787.63	416.04
41	12,087	2229.62	.00	1807.57	422.06
40	11,769	2255.51	.00	1827.43	428.07
39	11.451	2281.33	.00	1847.24	434.09
38	11,135	2307.09	.00	1866.98	440,11
37	10 819	2332 79	.00	1886 67	446 13
36	10.015	2358 43	.00	1906 29	452 14
35	10.101	2390.43	.00	1925 86	458 16
34	9 879	2409 54	.00	1945 36	464 18
27	9 567	2405.54	.00	1964 81	470 19
32	9 256	2455.01	.00	1984 21	476 21
31	8 946	2400.42	.00	2003 55	482 23
30	8 637	2511 08	.00	2005.55	482.25
20	8 220	2536 33	.00	2022.03	400.23
29	8 077	2550.55	.00	2042.07	500 20
20 27	7 715	2586 67	.00	2001.25	500.20
26	7 100	2500.07	.00	2000.37	510.50
20	, . .	2011.//	.00	2000.40	776.72

25	7 104	2626 01	00	2110	40	F10 22		
25	7.104	2030.81	.00	2110	.40	518.33		
24	6.800	2661.81	.00	2137	.46	524.35		
23	6.497	2686.76	.00	2156	.39	530.37		
22	6.194	2711.66	.00	2175	.27	536.39		
21	5.892	2736.51	.00	2194	.10	542.40		
20	5.591	2761.31	.00	2212	.89	548.42		
19	5.291	2786.07	.00	2231	.63	554.44		
18	4.991	2810.79	.00	2250	.33	560.46		
17	4.692	2835.46	.00	2268	.98	566.47		
16	4.394	2860.08	.00	2287	.59	572.49		
15	4.097	2884.66	. 99	2306	.15	578.51		
1/	3 800	2001.00	.00	2200	68	58/ 53		
12	2 504	2002.20	.00	2324	15	504.55		
10	2.204	2955.70	.00	2040	.13	590.54		
12	3.208	2958.15	.00	2301	. 59	596.50		
11	2.914	2982.57	.00	23/9	.99	602.58		
10	2.619	3006.94	.00	2398	.34	608.60		
9	2.326	3031.27	.00	2416	.66	614.61		
8	2.033	3055.57	.00	2434	.93	620.63		
7	1.741	3079.82	.00	2453	.17	626.65		
6	1.449	3104.03	.00	2471	.37	632.67		
5	1.158	3128.21	.00	2489	.53	638.68		
4	.868	3152.35	.00	2507	.65	644.70		
3	.578	3176.45	.00	2525	.73	650.72		
2	.289	3200.52	.00	2543	.78	656.74		
1	000		00	2561	70	662 75		
1	.000	3224.54	.00	2561	./9	002./5		
T	.000	3224.54	.00	2561	.79	002.75		
T	EFF.	3224.54	WATER	SOLIDS	.79	THICK-		
LAYER	EFF.	VOID	WATER CONTENT	SOLIDS CONTENT	.79 TUW	THICK- NESS	CV	РК
LAYER	EFF. STRESS PSF	VOID RATIO	WATER CONTENT ((PC)	SOLIDS CONTENT (PC)	TUW	THICK- NESS (FT)	CV (SOFT/DAY)	PK (FT/DAY)
LAYER NO.	EFF. STRESS PSF	VOID RATIO	WATER CONTENT (PC)	SOLIDS CONTENT (PC)	TUW (PCF)	THICK- NESS (FT)	CV (SQFT/DAY)	PK (FT/DAY)
LAYER NO. 110	EFF. STRESS PSF 3.84	VOID RATIO 17.267	WATER CONTENT (PC) 627.9	SOLIDS CONTENT (PC) 13.74	TUW (PCF) 68.38	THICK- NESS (FT) 1.007	CV (SQFT/DAY) .243E-01	PK (FT/DAY) .120E+00
LAYER NO. 110 109	EFF. STRESS PSF 3.84 9.86	VOID RATIO 17.267 13.351	WATER CONTENT (PC) 627.9 485.5	2561 SOLIDS CONTENT (PC) 13.74 17.08	TUW (PCF) 68.38 70.01	THICK- NESS (FT) 1.007 .791	CV (SQFT/DAY) .243E-01 .228E-01	PK (FT/DAY) .120E+00 .477E-01
LAYER NO. 110 109 108	.000 EFF. STRESS PSF 3.84 9.86 15.88	VOID RATIO 17.267 13.351 11.723	WATER CONTENT ((PC) 627.9 485.5 426 3	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00	TUW (PCF) 68.38 70.01 70.98	THICK- NESS (FT) 1.007 .791 701	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01
LAYER NO. 110 109 108 107	.000 EFF. STRESS PSF 3.84 9.86 15.88 21.90	VOID RATIO 17.267 13.351 11.723 10 738	WATER CONTENT (PC) 627.9 485.5 426.3 390 5	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20 39	TUW (PCF) 68.38 70.01 70.98 71 70	THICK- NESS (FT) 1.007 .791 .701 647	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 219E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 251E-01
LAYER NO. 110 109 108 107 106	.000 EFF. STRESS PSF 3.84 9.86 15.88 21.90 27 91	VOID RATIO 17.267 13.351 11.723 10.738	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49	TUW (PCF) 68.38 70.01 70.98 71.70 72.28	THICK- NESS (FT) 1.007 .791 .701 .647	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 216E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 214E-01
LAYER NO. 110 109 108 107 106 105	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91	VOID RATIO 17.267 13.351 11.723 10.738 10.049	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77	THICK- NESS (FT) 1.007 .791 .701 .647 .609	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .215E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01
LAYER NO. 110 109 108 107 106 105 104	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 231.4	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 22.40	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .215E-01 .214E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01
LAYER NO. 110 109 108 107 106 105 104	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .215E-01 .214E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01
LAYER NO. 110 109 108 107 106 105 104 103	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .215E-01 .214E-01 .213E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01
LAYER NO. 110 109 108 107 106 105 104 103 102	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .215E-01 .214E-01 .213E-01 .212E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .162E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509	CV (SQFT/DAY) .243E-01 .228E-01 .219E-01 .216E-01 .215E-01 .214E-01 .213E-01 .212E-01 .211E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .162E-01 .153E-01 .146E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.23	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497	CV (SQFT/DAY) .243E-01 .228E-01 .219E-01 .216E-01 .215E-01 .214E-01 .213E-01 .212E-01 .211E-01 .211E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .153E-01 .146E-01 .140E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 291.3 284.3	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.23 74.52 74.78	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486	CV (SQFT/DAY) .243E-01 .228E-01 .219E-01 .216E-01 .215E-01 .214E-01 .213E-01 .212E-01 .211E-01 .211E-01 .210E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .153E-01 .146E-01 .140E-01 .136E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 284.3 277.9	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.52 74.78 75.03	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476	CV (SQFT/DAY) .243E-01 .228E-01 .219E-01 .216E-01 .215E-01 .213E-01 .212E-01 .211E-01 .211E-01 .210E-01 .210E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .174E-01 .174E-01 .153E-01 .146E-01 .146E-01 .136E-01 .131E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98 97	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05 82.07	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644 7.486	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 284.3 277.9 272.2	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46 26.87	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 71.70 73.20 73.58 73.92 74.23 74.23 74.52 74.78 75.03 75.27	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476 .468	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .214E-01 .213E-01 .212E-01 .211E-01 .211E-01 .210E-01 .210E-01 .209E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .190E-01 .174E-01 .162E-01 .162E-01 .146E-01 .146E-01 .136E-01 .131E-01 .127E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05 82.07 88.09	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644 7.486 7.343	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 291.3 284.3 277.9 272.2 267.0	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46 26.87 27.25	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.23 74.52 74.78 75.03 75.27 75.49	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476 .468 .468 .460	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .214E-01 .213E-01 .211E-01 .211E-01 .211E-01 .210E-01 .209E-01 .209E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .153E-01 .146E-01 .146E-01 .131E-01 .131E-01 .127E-01 .124E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05 82.07 88.09 94.10	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644 7.486 7.343 7.212	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 291.3 284.3 277.9 272.2 267.0 262.2	2561 SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46 26.87 27.25 27.61	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.23 74.52 74.78 75.03 75.27 75.49 75.70	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476 .468 .468 .460 .453	CV (SQFT/DAY) .243E-01 .228E-01 .219E-01 .216E-01 .215E-01 .214E-01 .213E-01 .211E-01 .211E-01 .211E-01 .210E-01 .209E-01 .209E-01 .209E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .153E-01 .146E-01 .146E-01 .136E-01 .131E-01 .127E-01 .124E-01 .121E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05 82.07 88.09 94.10 100.12	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644 7.486 7.343 7.212 7.091	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 284.3 291.3 284.3 277.9 272.2 267.0 262.2 257.8	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46 26.87 27.25 27.61 27.94	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.52 74.52 74.78 75.03 75.27 75.49 75.70 75.90	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476 .468 .460 .453 .446	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .215E-01 .213E-01 .211E-01 .211E-01 .211E-01 .210E-01 .209E-01 .209E-01 .209E-01 .208E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .190E-01 .174E-01 .162E-01 .146E-01 .146E-01 .136E-01 .131E-01 .127E-01 .124E-01 .121E-01 .118E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05 82.07 88.09 94.10 100.12 106.14	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644 7.486 7.343 7.212 7.091 6.979	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 284.3 291.3 284.3 277.9 272.2 267.0 262.2 257.8 253.8	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46 26.87 27.25 27.61 27.94 28.27	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 72.77 73.20 73.58 73.92 74.23 74.52 74.78 75.03 75.27 75.49 75.70 75.90 76.09	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476 .468 .460 .453 .446 .440	CV (SQFT/DAY) .243E-01 .228E-01 .219E-01 .216E-01 .215E-01 .213E-01 .212E-01 .211E-01 .211E-01 .210E-01 .209E-01 .209E-01 .209E-01 .208E-01 .208E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .214E-01 .174E-01 .174E-01 .153E-01 .146E-01 .146E-01 .131E-01 .127E-01 .121E-01 .121E-01 .115E-01
LAYER NO. 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92	EFF. STRESS PSF 3.84 9.86 15.88 21.90 27.91 33.93 39.95 45.97 51.98 58.00 64.02 70.03 76.05 82.07 88.09 94.10 100.12 106.14 112.16	VOID RATIO 17.267 13.351 11.723 10.738 10.049 9.528 9.112 8.770 8.480 8.230 8.012 7.818 7.644 7.486 7.343 7.212 7.091 6.979 6.874	WATER CONTENT (PC) 627.9 485.5 426.3 390.5 365.4 346.5 331.4 318.9 308.4 299.3 291.3 284.3 277.9 272.2 267.0 262.2 257.8 253.8 250.0	SOLIDS CONTENT (PC) 13.74 17.08 19.00 20.39 21.49 22.40 23.18 23.87 24.49 25.04 25.55 26.02 26.46 26.87 27.25 27.61 27.94 28.27 28.57	TUW (PCF) 68.38 70.01 70.98 71.70 72.28 71.70 73.20 73.58 73.92 74.23 74.23 74.52 74.78 75.03 75.27 75.49 75.70 75.90 76.09 76.27	THICK- NESS (FT) 1.007 .791 .701 .647 .609 .580 .557 .538 .522 .509 .497 .486 .476 .468 .460 .453 .446 .440 .434	CV (SQFT/DAY) .243E-01 .228E-01 .222E-01 .219E-01 .216E-01 .214E-01 .213E-01 .211E-01 .211E-01 .210E-01 .209E-01 .209E-01 .209E-01 .208E-01 .208E-01 .208E-01 .208E-01	PK (FT/DAY) .120E+00 .477E-01 .319E-01 .251E-01 .190E-01 .174E-01 .162E-01 .162E-01 .146E-01 .146E-01 .131E-01 .131E-01 .121E-01 .121E-01 .115E-01 .113E-01

90	124.19	6.686	243.1	29.14	76.61	.424	.207E-01	.108E-01
89	130.21	6.600	240.0	29.41	76.77	.419	.207E-01	.105E-01
88	136.23	6.519	237.1	29.67	76.92	.414	.207E-01	.103E-01
87	142.24	6.443	234.3	29.92	77.07	.410	.206E-01	.101E-01
86	148.26	6.370	231.6	30.15	77.22	.406	.206E-01	.986E-02
85	154.28	6.301	229.1	30.38	77.36	.402	.206E-01	.965E-02
84	160.30	6.236	226.8	30.60	77.49	.399	.206E-01	.944E-02
83	166.31	6.173	224.5	30.82	77.62	.395	.205E-01	.924E-02
82	172.33	6.114	222.3	31.02	77.75	.392	.205E-01	.903E-02
81	178.35	6.057	220.2	31.23	77.87	. 389	.205E-01	.884E-02
80	184.37	6.002	218.3	31.42	78.00	. 386	.205E-01	.864E-02
79	190.38	5.950	216.4	31.61	78.11	. 383	.204E-01	.845E-02
78	196.40	5.899	214.5	31.79	78.23	. 380	.204E-01	.826E-02
77	202.42	5.851	212.8	31.97	78.34	. 378	.204E-01	.808E-02
76	208.44	5.804	211.1	32.15	78.45	. 375	.203E-01	.789E-02
75	214.45	5.760	209.4	32.32	78.55	. 372	.203E-01	.771E-02
74	220.47	5.716	207.9	32.48	78.66	. 370	.203E-01	.754F-02
73	226.49	5.674	206.3	32.64	78.76	368	203E-01	736E-02
72	232.51	5.634	200.9	32.80	78.86	366	202E-01	719E-02
71	238.52	5.595	201.5	32.96	78.96	.363	202E-01	703E-02
70	244 54	5 557	202.1	32.50	79 05	361	202E 01	686E-02
69	250 56	5 520	202.1	33 25	79 15	359	201E-01	670E-02
68	256 58	5 484	199 4	33 40	79 24	357	201E-01	654E-02
67	262.59	5.450	198.2	33,54	79.33	.355	201E-01	639E-02
66	268 61	5 416	197 Ø	33 68	79 42	354	201E-01	623E-02
65	274 63	5 383	195 8	22.00	79 51	352	200F_01	608F-02
64	280 64	5 352	194 6	33 94	79 59	350	200E-01	594F-02
63	286 66	5 321	193 5	34 07	79 68	348	200E-01	579E-02
62	200.00	5 291	197 A	34.20	79.76	347	200E 01	565E-02
61	292.00	5 261	191 3	34.33	79 84	345	199F-01	551E-02
60	304 71	5 233	190 3	34 45	79 92	343	199F-01	537E-02
59	310 73	5 205	189 3	34 57	80 00	342	199F-01	524F-02
58	316 75	5 178	188 3	34.69	80.00	340	198F-01	511E-02
57	322 77	5 151	187 3	34.80	80.00	220	198F-01	198F-02
56	328 78	5 125	186 4	34 92	80.23	228	198F-01	486F-02
55	334 80	5 100	185 5	35 03	80.20	336	197F_01	.400L 02
54	340 82	5 075	184 6	35 14	80.30	335	197E-01	461F-02
53	346 84	5 051	183 7	35 25	80.45		197E-01	450F-02
52	352 85	5 027	182 8	35 36	80.40		197E-01	138E-02
51	358 87	5 001	182.0	35 46	80.52	221	196E_01	127E_02
50	364 89	1 982	102.0	35 57	80.55	330	196E-01	116E_02
19	370 91	1 950	180 3	35 67	80.00		196E_01	105E_02
49	376 92	4.939	170 6	35.07	80.72 80.70	.520	195E-01	30/E-02
40	382 01	4.950	179.0	35.97	80.75	326	195E-01	-394L-02
47	388 96	1 896	178.0	35 97	80.00	325	195E-01	37/E-02
40	201 00	4.090	177.0	26 07	00.92 00.00	. 525	1055 01	-374L-02
45	100 00	4.0/J / 0[[176 5	26 16	00.99 91 AF	• 524 272	10/5 01	25/E 02
44 12	400.99	4.000 / 005	175 0	26 JE	01.0J Q1 11	• 525 277	10/E 01	20-345-02
4-) //)	407.01 112 02	4.055 / Q16	175 1	36.25	01.11 Q1 10	, 222 270	10/6 01	- 3345 AJ
+∠ ∕/1	410 OF	4.010	171 1	26.00	01.10	010	107E 01	
41	419.05	4./9/	1/4.4	30.44	ŏ1.24	.313	.193E-01	.3Z/E-02

425.06	4.778	173.8	36.53	81.30	.318	.193E-01	.318E-02
431.08	4.760	173.1	36.62	81.36	.317	.193E-01	.310E-02
437.10	4.742	172.4	36.71	81.42	.316	.193E-01	.301E-02
443.12	4.724	171.8	36.79	81.48	.315	.192E-01	.293E-02
449.13	4.707	171.2	36.88	81.53	.314	.192E-01	.285E-02
455.15	4.690	170.5	36.96	81.59	.314	.192E-01	.278E-02
461.17	4.673	169.9	37.05	81.65	.313	.192E-01	.270E-02
467.19	4.657	169.3	37.13	81.70	.312	.191E-01	.263E-02
473.20	4.640	168.7	37.21	81.76	.311	.191E-01	.256E-02
479.22	4.624	168.2	37.29	81.82	.310	.191E-01	.249E-02
485.24	4.609	167.6	37.37	81.87	.309	.190E-01	.242E-02
491.25	4.593	167.0	37.45	81.92	.308	.190E-01	.235E-02
497.27	4.578	166.5	37.53	81.98	.307	.190E-01	.229E-02
503.29	4.563	165.9	37.60	82.03	.307	.190E-01	.223E-02
509.31	4.548	165.4	37.68	82.08	.306	.189E-01	.216E-02
515.32	4.534	164.9	37.76	82.13	.305	.189E-01	.210E-02
521.34	4.519	164.3	37.83	82.19	.304	.189E-01	.205E-02
527.36	4.505	163.8	37.90	82.24	.303	.189E-01	.199E-02
533.38	4.491	163.3	37.98	82.29	.303	.188E-01	.194E-02
539.39	4.477	162.8	38.05	82.34	.302	.188E-01	.188E-02
545.41	4.464	162.3	38.12	82.39	.301	.188E-01	.183E-02
551.43	4.451	161.8	38.19	82.43	.300	.187E-01	.178E-02
557.45	4.437	161.4	38.26	82.48	.300	.187E-01	.173E-02
563.46	4.424	160.9	38.33	82.53	.299	.187E-01	.169E-02
569.48	4.412	160.4	38.40	82.58	.298	.187E-01	.164E-02
575.50	4.399	160.0	38.47	82.63	.298	.186E-01	.160E-02
581.52	4.386	159.5	38.53	82.67	.297	.186E-01	.155E-02
587.53	4.374	159.1	38.60	82.72	.296	.186E-01	.151E-02
593.55	4.362	158.6	38.67	82.77	.295	.186E-01	.147E-02
599.57	4.350	158.2	38.73	82.81	.295	.185E-01	.143E-02
605.59	4.338	157.8	38.80	82.86	.294	.185E-01	.139E-02
611.60	4.326	157.3	38.86	82.90	.294	.185E-01	.135E-02
617.62	4.315	156.9	38.92	82.95	.293	.185E-01	.132E-02
623.64	4.304	156.5	38.99	82.99	.292	.184E-01	.128E-02
629.66	4.292	156.1	39.05	83.03	.292	.184E-01	.125E-02
635.67	4.281	155.7	39.11	83.08	.291	.184E-01	.121E-02
641.69	4.270	155.3	39.17	83.12	.290	.184E-01	.118E-02
647.71	4.259	154.9	39.23	83.16	.290	.184E-01	.115E-02
653.73	4.249	154.5	39.29	83.21	.289	.183E-01	.112E-02
659.74	4.238	154.1	39.35	83.25	.289	.183E-01	.109E-02
	425.06 431.08 437.10 443.12 449.13 455.15 461.17 467.19 473.20 479.22 485.24 491.25 497.27 503.29 509.31 515.32 521.34 527.36 533.38 539.39 545.41 551.43 557.45 563.46 569.48 575.50 581.52 587.53 593.55 599.57 605.59 611.60 617.62 623.64 629.66 635.67 641.69 647.71 653.73 659.74	425.06 4.778 431.08 4.760 437.10 4.742 443.12 4.724 449.13 4.707 455.15 4.690 461.17 4.673 467.19 4.657 473.20 4.640 479.22 4.624 485.24 4.609 491.25 4.593 497.27 4.578 503.29 4.563 509.31 4.548 515.32 4.534 515.32 4.534 527.36 4.505 533.38 4.491 539.39 4.477 545.41 4.464 551.43 4.451 557.45 4.437 563.46 4.424 569.48 4.412 575.50 4.399 581.52 4.386 587.53 4.374 593.55 4.362 599.57 4.350 605.59 4.338 611.60 4.326 617.62 4.315 623.64 4.304 629.66 4.292 635.67 4.281 641.69 4.270 647.71 4.259 653.73 4.249	425.06 4.778 173.8 431.08 4.760 173.1 437.10 4.742 172.4 443.12 4.724 171.8 449.13 4.707 171.2 455.15 4.690 170.5 461.17 4.673 169.9 467.19 4.657 169.3 473.20 4.640 168.7 479.22 4.624 168.2 485.24 4.609 167.6 491.25 4.593 167.0 497.27 4.578 166.5 503.29 4.563 165.9 509.31 4.548 165.4 515.32 4.534 164.9 521.34 4.519 164.3 527.36 4.505 163.8 533.38 4.491 163.3 539.39 4.477 162.8 545.41 4.464 162.3 551.43 4.451 161.8 557.45 4.337 161.4 563.46 4.424 160.9 569.48 4.412 160.4 575.50 4.399 160.0 581.52 4.362 158.2 605.59 4.338 157.3 617.62 4.374 156.5 623.64 4.304 156.5 629.66 4.292 156.1 635.67 4.281 155.7 641.69 4.270 155.3 647.71 4.238 154.1	425.064.778173.836.53431.084.760173.136.62437.104.742172.436.71443.124.724171.836.79449.134.707171.236.88455.154.690170.536.96461.174.673169.937.05467.194.657169.337.13473.204.640168.737.21479.224.624168.237.29485.244.609167.637.37491.254.593167.037.45497.274.578166.537.53503.294.563165.937.60509.314.548165.437.68515.324.534164.937.76521.344.519164.337.83527.364.505163.837.90533.384.491163.337.98539.394.477162.838.05545.414.464162.338.12551.434.451161.838.19557.454.337161.438.26563.464.424160.938.33569.484.412160.438.40575.504.399160.038.47581.524.362158.638.67599.574.350158.238.73605.594.338157.838.80611.604.326157.338.86617.624.315156.938.92 </td <td>425.06$4.778$$173.8$$36.53$$81.30$$431.08$$4.760$$173.1$$36.62$$81.36$$437.10$$4.742$$172.4$$36.71$$81.42$$443.12$$4.724$$171.8$$36.79$$81.48$$449.13$$4.707$$171.2$$36.88$$81.53$$455.15$$4.690$$170.5$$36.96$$81.59$$461.17$$4.673$$169.9$$37.05$$81.65$$467.19$$4.657$$169.3$$37.13$$81.70$$473.20$$4.640$$168.7$$37.21$$81.76$$479.22$$4.624$$168.2$$37.29$$81.82$$485.24$$4.609$$167.6$$37.37$$81.87$$491.25$$4.593$$167.0$$37.45$$81.92$$497.27$$4.578$$166.5$$37.53$$81.98$$503.29$$4.563$$165.9$$37.60$$82.03$$509.31$$4.548$$165.4$$37.68$$82.24$$533.8$$4.491$$163.3$$37.98$$82.29$$539.39$$4.477$$162.8$$38.05$$82.34$$545.41$$4.464$$162.3$$38.12$$82.39$$551.43$$4.451$$161.8$$38.19$$82.43$$557.45$$4.337$$161.4$$38.60$$82.72$$593.55$$4.362$$159.5$$38.53$$82.67$$575.50$$4.399$$160.0$$38.47$$82.63$$587.53$$4.364$$159.5$</td> <td>425.06$4.778$$173.8$$36.53$$81.30$$.318$$431.08$$4.760$$173.1$$36.62$$81.36$$.317$$437.10$$4.742$$172.4$$36.71$$81.42$$.316$$443.12$$4.724$$171.2$$36.79$$81.48$$.315$$449.13$$4.707$$171.2$$36.88$$81.53$$.314$$455.15$$4.690$$170.5$$36.96$$81.59$$.314$$451.17$$4.673$$169.9$$37.05$$81.65$$.313$$467.19$$4.657$$169.3$$37.13$$81.70$$.312$$473.20$$4.640$$168.7$$37.21$$81.76$$.311$$479.22$$4.624$$168.2$$37.29$$81.82$$.310$$485.24$$4.609$$167.6$$37.37$$81.87$$.309$$491.25$$4.593$$167.0$$37.45$$81.92$$.308$$497.27$$4.578$$166.5$$37.53$$81.98$$.307$$503.29$$4.563$$165.9$$37.60$$82.03$$.307$$503.31$$4.548$$165.4$$37.68$$82.08$$.306$$515.32$$4.595$$163.8$$37.90$$82.24$$.303$$533.38$$4.491$$163.3$$37.98$$82.29$$.303$$539.39$$4.477$$162.8$$38.05$$82.34$$.302$$545.41$$4.464$$162.3$$38.12$$82.98$$.298$$575.50$$4.399$</td> <td>425.06$4.778$$173.8$$36.53$$81.30$$.318$$.193E-01$$431.08$$4.760$$173.1$$36.62$$81.36$$.317$$.193E-01$$437.10$$4.742$$171.8$$36.79$$81.48$$.315$$.192E-01$$443.12$$4.724$$171.8$$36.79$$81.48$$.315$$.192E-01$$449.13$$4.707$$171.2$$36.88$$81.53$$.314$$.192E-01$$455.15$$4.690$$170.5$$36.96$$81.59$$.314$$.192E-01$$461.17$$4.673$$169.9$$37.13$$81.76$$.311$$.191E-01$$473.20$$4.640$$168.7$$37.21$$81.76$$.311$$.191E-01$$479.22$$4.624$$168.2$$37.29$$81.82$$.310$$.191E-01$$485.24$$4.609$$167.6$$37.37$$81.87$$.307$$.190E-01$$491.25$$4.593$$167.0$$37.45$$81.92$$.308$$.190E-01$$593.29$$4.563$$165.9$$37.60$$82.03$$.307$$.190E-01$$593.39$$4.548$$165.4$$37.68$$82.08$$.306$$.189E-01$$515.32$$4.534$$164.9$$37.76$$82.13$$.305$$.189E-01$$527.36$$4.595$$163.8$$37.90$$82.29$$.303$$.188E-01$$533.38$$4.491$$163.3$$37.98$$82.29$$.303$$.188E-01$$534.41$$4.64$$162.3$<</td>	425.06 4.778 173.8 36.53 81.30 431.08 4.760 173.1 36.62 81.36 437.10 4.742 172.4 36.71 81.42 443.12 4.724 171.8 36.79 81.48 449.13 4.707 171.2 36.88 81.53 455.15 4.690 170.5 36.96 81.59 461.17 4.673 169.9 37.05 81.65 467.19 4.657 169.3 37.13 81.70 473.20 4.640 168.7 37.21 81.76 479.22 4.624 168.2 37.29 81.82 485.24 4.609 167.6 37.37 81.87 491.25 4.593 167.0 37.45 81.92 497.27 4.578 166.5 37.53 81.98 503.29 4.563 165.9 37.60 82.03 509.31 4.548 165.4 37.68 82.24 533.8 4.491 163.3 37.98 82.29 539.39 4.477 162.8 38.05 82.34 545.41 4.464 162.3 38.12 82.39 551.43 4.451 161.8 38.19 82.43 557.45 4.337 161.4 38.60 82.72 593.55 4.362 159.5 38.53 82.67 575.50 4.399 160.0 38.47 82.63 587.53 4.364 159.5	425.06 4.778 173.8 36.53 81.30 $.318$ 431.08 4.760 173.1 36.62 81.36 $.317$ 437.10 4.742 172.4 36.71 81.42 $.316$ 443.12 4.724 171.2 36.79 81.48 $.315$ 449.13 4.707 171.2 36.88 81.53 $.314$ 455.15 4.690 170.5 36.96 81.59 $.314$ 451.17 4.673 169.9 37.05 81.65 $.313$ 467.19 4.657 169.3 37.13 81.70 $.312$ 473.20 4.640 168.7 37.21 81.76 $.311$ 479.22 4.624 168.2 37.29 81.82 $.310$ 485.24 4.609 167.6 37.37 81.87 $.309$ 491.25 4.593 167.0 37.45 81.92 $.308$ 497.27 4.578 166.5 37.53 81.98 $.307$ 503.29 4.563 165.9 37.60 82.03 $.307$ 503.31 4.548 165.4 37.68 82.08 $.306$ 515.32 4.595 163.8 37.90 82.24 $.303$ 533.38 4.491 163.3 37.98 82.29 $.303$ 539.39 4.477 162.8 38.05 82.34 $.302$ 545.41 4.464 162.3 38.12 82.98 $.298$ 575.50 4.399	425.06 4.778 173.8 36.53 81.30 $.318$ $.193E-01$ 431.08 4.760 173.1 36.62 81.36 $.317$ $.193E-01$ 437.10 4.742 171.8 36.79 81.48 $.315$ $.192E-01$ 443.12 4.724 171.8 36.79 81.48 $.315$ $.192E-01$ 449.13 4.707 171.2 36.88 81.53 $.314$ $.192E-01$ 455.15 4.690 170.5 36.96 81.59 $.314$ $.192E-01$ 461.17 4.673 169.9 37.13 81.76 $.311$ $.191E-01$ 473.20 4.640 168.7 37.21 81.76 $.311$ $.191E-01$ 479.22 4.624 168.2 37.29 81.82 $.310$ $.191E-01$ 485.24 4.609 167.6 37.37 81.87 $.307$ $.190E-01$ 491.25 4.593 167.0 37.45 81.92 $.308$ $.190E-01$ 593.29 4.563 165.9 37.60 82.03 $.307$ $.190E-01$ 593.39 4.548 165.4 37.68 82.08 $.306$ $.189E-01$ 515.32 4.534 164.9 37.76 82.13 $.305$ $.189E-01$ 527.36 4.595 163.8 37.90 82.29 $.303$ $.188E-01$ 533.38 4.491 163.3 37.98 82.29 $.303$ $.188E-01$ 534.41 4.64 162.3 <

1

19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-1 PLAN CONSOLIDATION MODEL, L-1 FILLING CURVE 22500T/AC DATE:2/5/20, SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 %

THICK. AVE. AVE. AVE. FLOW FLOW

ADDED	CONSOL.	WATER	SOLIDS	DEG.OF	FROM	FROM
SLURRY	THICK.	CONTENT	CONTENT	CONSOL.	TOP	BOT.
FEET	FEET	PERCENT	PERCENT	PERCENT	FEET	FEET
163.4	139.4	807.6	11.0	19.4	24.0	.0
164.9	128.5	734.6	12.0	29.4	36.3	.0
164.9	116.1	660.0	13.2	39.4	48.8	.0
164.9	105.0	593.3	14.4	48.4	59.9	.0
164.9	96.8	544.1	15.5	55.0	68.1	.0
164.9	90.4	506.2	16.5	60.1	74.4	.0
164.9	85.4	475.9	17.4	64.2	79.5	.0
164.9	81.2	451.0	18.1	67.6	83.6	.0
164.9	77.8	430.1	18.9	70.4	87.1	.0
164.9	72.2	396.9	20.1	74.8	92.6	.0
164.9	68.0	371.6	21.2	78.2	96.8	.0
164.9	64.7	351.7	22.1	80.9	100.2	.0
164.9	62.0	335.5	23.0	83.1	102.9	.0
164.9	59.8	322.1	23.7	84.9	105.1	.0
164.9	57.9	310.8	24.3	86.4	107.0	.0
164.9	56.3	301.2	24.9	87.7	108.6	.0
164.9	41.1	210.0	32.3	100.0	123.8	.0
	ADDED SLURRY FEET 163.4 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9 164.9	ADDEDCONSOL.SLURRYTHICK.FEETFEET163.4139.4164.9128.5164.9105.0164.990.4164.990.4164.985.4164.977.8164.972.2164.968.0164.964.7164.959.8164.957.9164.956.3164.941.1	ADDEDCONSOL.WATERSLURRYTHICK.CONTENTFEETFEETPERCENT163.4139.4807.6164.9128.5734.6164.9105.0593.3164.990.4506.2164.990.4506.2164.981.2451.0164.977.8430.1164.968.0371.6164.964.7351.7164.959.8322.1164.957.9310.8164.956.3301.2164.941.1210.0	ADDEDCONSOL.WATERSOLIDSSLURRYTHICK.CONTENTCONTENTFEETFEETPERCENTPERCENT163.4139.4807.611.0164.9128.5734.612.0164.9116.1660.013.2164.9105.0593.314.4164.996.8544.115.5164.990.4506.216.5164.985.4475.917.4164.981.2451.018.1164.977.8430.118.9164.968.0371.621.2164.964.7351.722.1164.959.8322.123.7164.957.9310.824.3164.956.3301.224.9164.941.1210.032.3	ADDEDCONSOL.WATERSOLIDSDEG.OFSLURRYTHICK.CONTENTCONTENTCONSOL.FEETFEETPERCENTPERCENTPERCENT163.4139.4807.611.019.4164.9128.5734.612.029.4164.9116.1660.013.239.4164.9105.0593.314.448.4164.996.8544.115.555.0164.990.4506.216.560.1164.985.4475.917.464.2164.981.2451.018.167.6164.977.8430.118.970.4164.968.0371.621.278.2164.964.7351.722.180.9164.959.8322.123.784.9164.957.9310.824.386.4164.956.3301.224.987.7164.941.1210.032.3100.0	ADDEDCONSOL.WATERSOLIDSDEG.OFFROMSLURRYTHICK.CONTENTCONTENTCONSOL.TOPFEETFEETPERCENTPERCENTPERCENTFEET163.4139.4807.611.019.424.0164.9128.5734.612.029.436.3164.9116.1660.013.239.448.8164.9105.0593.314.448.459.9164.996.8544.115.555.068.1164.990.4506.216.560.174.4164.985.4475.917.464.279.5164.981.2451.018.167.683.6164.977.8430.118.970.487.1164.968.0371.621.278.296.8164.964.7351.722.180.9100.2164.962.0335.523.083.1102.9164.959.8322.123.784.9105.1164.957.9310.824.386.4107.0164.956.3301.224.987.7108.6164.941.1210.032.3100.0123.8

19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-2 & L-3 CONSOLIDATION MODEL, L-2 FILLING CURVE 22500T/AC DATE:2/5/20 SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 % FINI 952.6 2.75 62.4 1.50 WCO,GS,GW,DZMIN Ι BOTB -200.0 20000.0 EWTF, TWTF INSPEC RATE 730.00 118421.05 TSTART, TFILL, FILL .00 -1.00 .00 .00 TSTART, TFILL, FILL 1000.0 ELEVMX .0 20000.0 SUR, TSUR Y IDEF F 730.00 TO, DETOP F 1095.00 TO, DETOP F TO, DETOP 1460.00 1825.00 F TO, DETOP F TO, DETOP 2190.00 2555.00 F TO, DETOP F 2920.00 TO, DETOP F 3285.00 TO, DETOP F TO, DETOP 3650.00 F TO, DETOP 4380.00 F TO, DETOP 5110.00 F TO, DETOP 5840.00 6570.00 F TO, DETOP F 7300.00 TO, DETOP 8030.00 F TO, DETOP F 8760.00 TO, DETOP F TO, DETOP -1.00 LEVEL, QTDATA, PROP GEN D WFI .300E+01 -.255E+00 .482E-09 .421E+01 AWFI, BWFI, EWFI, FWFI 19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-2 & L-3 CONSOLIDATION MODEL, L-2 FILLING CURVE 22500T/AC DATE:2/5/20 SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 %

TABLE NO. 1 GENERAL DATA

BASE IS	IMPERVIOUS
DESIRED MINIMUM INITIAL NODE SPACING	(FEET)= 1.50
UNIT WEIGHT OF WATER (PCF)=	62.4
SPECIFIC GRAVITY OF SOLIDS=	2.750
SOLIDS CONTENT OF SLURRY (PERCENT)=	9.5
WATER CONTENT OF SLURRY (PERCENT)=	952.6

DURING FILLING, THE WATER TABLE WILL BE AT A DEPTH OF .007 FEET BELOW THE TOP OF THE CONSOLIDATING SLURRY. THE DEPTH OF THE WATER TABLE WILL BE RESET TO -200.0 FEET (BELOW GROUND SURFACE) AT 20000. DAYS.

TABLE NO. 2 PARAMETERS USED TO CONTROL ACCURACY

ТА	ALIM
.0	.5
729.9	.5
20000.0	10.0

CHGMIN =	.1	CHGPLM =	.0	PPLIM = 5.0
CHGLIM =	.5	NPMAX =	50	NCTMX= 15000

TABLE NO. 3 PUMPING SCHEDULE

TIME PUMPING	PUMPING	PUMPING
STARTS	PERIOD	RATE
DAYS	DAYS	TONS/ACRE/YEAR

1

FILLING SCHEDULE USED IN ANALYSES

TIME STEP FILLING	TOTAL THICKNESS OF
IS APPLIED - DAYS	ADDED SLURRY - FEET

.000	.0
3.349	.0
3.349	1.5
10.046	1.5
10.046	3.0
16.743	3.0
16.743	4.5
23.440	4.5
23.440	6.0
30.138	6.0
30.138	7.5
36.835	7.5
36.835	9.0
43.532	9.0
43.532	10.5
50.229	10.5
50.229	12.0
56.927	12.0
56.927	13.5
63.624	13.5
63.624	15.0
70.321	15.0
70.321	16.5
77.018	16.5
77.018	18.0
83.716	18.0
83.716	19.5
90.413	19.5
90.413	21.0
97.110	21.0
97.110	22.5
103.807	22.5
103.807	24.0
110.505	24.0
110.505	25.5
117.202	25.5
117.202	27.0
123.899	27.0
123.899	28.5
130.596	28.5
130.596	30.0

137.294	30.0
137.294	31.5
143.991	31.5
143.991	33.0
150.688	33.0
150.688	34.5
157.385	34.5
157.385	36.1
164.083	36.1
164.083	37.6
170.780	37.6
170.780	39.1
177 477	39 1
177 477	40 6
184 174	40.0
184 174	40.0
100 977	42.1
100.072	42.1
190.072	45.0
197.509	45.0
197.309	45.1
204.200	45.1
204.200	40.0
210.903	40.0
210.963	48.1
217.661	48.1
217.661	49.6
224.358	49.6
224.358	51.1
231.055	51.1
231.055	52.6
237.752	52.6
237.752	54.1
244.450	54.1
244.450	55.6
251.147	55.6
251.147	57.1
257.844	57.1
257.844	58.6
264.541	58.6
264.541	60.1
271.239	60.1
271.239	61.6
277.936	61.6
277.936	63.1
284.633	63.1
284.633	64.6
291.330	64.6
291.330	66.1
298.027	66.1
298.027	67.6

304.725	67.6
304.725	69.1
311.422	69.1
311.422	70.6
318.119	70.6
318,119	72.1
324.816	72.1
32/ 816	73 6
221 51/	73.6
331.314	75.0
331.314	75.1
220.211	75.1
338.211	76.6
344.908	/6.6
344.908	/8.1
351.605	78.1
351.605	79.6
358.303	79.6
358.303	81.1
365.000	81.1
365.000	82.6
371.697	82.6
371.697	84.1
378.394	84.1
378.394	85.6
385.092	85.6
385.092	87.1
391.789	87.1
391,789	88.6
398 /86	88.6
398 186	90.0
JJ0.400	00.1
403.103	90.1
403.103	91.0
411.000	91.0
411.880	93.1
418.578	93.1
418.578	94.6
425.275	94.6
425.275	96.1
431.972	96.1
431.972	97.6
438.669	97.6
438.669	99.1
445.367	99.1
445.367	100.6
452.064	100.6
452.064	102.1
458.761	102.1
458.761	103.6
465.458	103.6
465.458	105.1

472.156	105.1
472.156	106.7
478.853	106.7
478.853	108.2
485.550	108.2
485 550	100.2
403.330	100.7
492.247	111 2
492.247	111.2
498.945	111.2
498.945	112.7
505.642	112.7
505.642	114.2
512.339	114.2
512.339	115.7
519.036	115.7
519.036	117.2
525.734	117.2
525.734	118.7
532.431	118.7
532.431	120.2
539.128	120.2
539.128	121.7
545.825	121.7
545.825	123.2
552.523	123.2
552.523	124.7
559 220	124.7
550 220	124.7
555.220	120.2
505.917	120.2
505.91/	127.7
572.014	12/./
572.614	129.2
5/9.312	129.2
5/9.312	130.7
586.009	130.7
586.009	132.2
592.706	132.2
592.706	133.7
599.404	133.7
599.404	135.2
606.101	135.2
606.101	136.7
612.798	136.7
612.798	138.2
619.495	138.2
619.495	139.7
626.193	139.7
626.193	141.2
632.890	141 2
632 800	1/2 7
072.090	142./

639.587	142.7
639.587	144.2
646.284	144.2
646.284	145.7
652.982	145.7
652.982	147.2
659.679	147.2
659.679	148.7
666.376	148.7
666.376	150.2
673.073	150.2
673.073	151.7
679.771	151.7
679.771	153.2
686.468	153.2
686.468	154.7
693.165	154.7
693.165	156.2
699.862	156.2
699.862	157.7
706.560	157.7
706.560	159.2
713.257	159.2
713.257	160.7
719.954	160.7
719.954	162.2
729.900	162.2
729.900	163.7
20000.000	163.7

LIMIT ON ELEVATION OF SLURRY (FEET) = 1000.0

SURCHARGE PRESSURE (PSF)=	0.
TIME OF APPLICATION	(DAYS)=	20000.

TABLE NO. 4 SUMMARY OF DESIRED OUTPUT TIMES

JO	TO(JO)	DETAIL
1	730.0	NO
2	1095.0	NO
3	1460.0	NO
4	1825.0	NO
5	2190.0	NO
6	2555.0	NO

7	2920.0	NO
8	3285.0	NO
9	3650.0	NO
10	4380.0	NO
11	5110.0	NO
12	5840.0	NO
13	6570.0	NO
14	7300.0	NO
15	8030.0	NO
16	8760.0	NO

TABLE NO. 5 WISSA/FULEIHAN/INGRA COEFFICIENTS

A (KG/SQ.CM)=	.300E+01		
A (PSF)=	.210E+02		
B=	255E+00		
E (CM/SEC)=	.482E-09		
E (FT/DAY)=	.137E-05		
F=	.421E+01		

 TABLE NO. 8
 SUMMARY OF DATA FROM SUBPROGRAM INITIAL

INITIAL WATER CONTENT=	952.60
INITIAL SOLIDS CONTENT=	9.50
INITIAL VOID RATIO=	26.196
INITIAL TOTAL UNIT WEIGHT (PCF)=	66.42
INITIAL EFFECTIVE STRESS (PSF)=	.423
INITIAL VALUE OF CV (SQ FT/DAY)=	.352E-01
INITIAL VALUE OF PK (FT/DAY)=	.128E+01
DEPTH TO WATER TABLE (FEET)=	.007
COEFF. OF COMP. (SQFT/LB)=	.158E+02

1

19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-2 & L-3 CONSOLIDATION MODEL, L-2 FILLING CURVE 22500T/AC DATE:2/5/20 SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 %

TABLE OF VARIABLES FOR ALL PP(I)=0

TIME TC (DAYS)

TOTAL THICKNESS OF ADDED SLURRY (FEET)	163.730700
DEPTH OF WATER TABLE (FEET)	38.327570
ELEVATION OF TOP OF SEDIMENT (FEET)	38.334340
TOTAL OUTFLOW THROUGH THE TOP (FEET)	125.396400
TOTAL OUTFLOW THROUGH THE BOT. (FEET)	.000000

NODE	ELEV-	SIGNS STRESS	EXCESS PP	STATIC PP	EFFECTIVE
NO.	FT	PSF	PSF	PSF	PSF
110	38 334	99	99	- 42	42
109	37,431	62.39	.00	55.93	6.45
108	36.721	112.72	.00	100.24	12.49
107	36.088	158.24	.00	139.72	18.52
106	35,502	200.85	.00	176.31	24.55
105	34.948	241.45	.00	210.87	30.58
104	34.419	280.51	.00	243.90	36.61
103	33,909	318.35	.00	275.71	42.64
102	33.415	355.19	.00	306.52	48.67
101	32,935	391.18	.00	336.47	54.71
100	32.467	426.42	.00	365.69	60.74
99	32.009	461.03	.00	394.26	66.77
98	31.561	495.06	.00	422.26	72.80
97	31.120	528.58	.00	449.75	78.83
96	30.687	561.63	.00	476.77	84.86
95	30.261	594.26	.00	503.37	90.89
94	29.841	626.50	.00	529.58	96.92
93	29.426	658.39	.00	555.43	102.96
92	29.017	689.94	.00	580.95	108.99
91	28.613	721.18	.00	606.16	115.02
90	28.214	752.13	.00	631.08	121.05
89	27.819	782.81	.00	655.73	127.08
88	27.428	813.23	.00	680.12	133.11
87	27.041	843.42	.00	704.28	139.14
86	26.658	873.38	.00	728.20	145.18
85	26.278	903.12	.00	751.91	151.21
84	25.901	932.65	.00	775.42	157.24
83	25.527	962.00	.00	798.73	163.27
82	25.157	991.15	.00	821.85	169.30
81	24.789	1020.13	.00	844.79	175.33
80	24.424	1048.93	.00	867.57	181.36
79	24.062	1077.58	.00	890.18	187.39
78	23.702	1106.06	.00	912.64	193.43
77	23.345	1134.40	.00	934.94	199.46
76	22.989	1162.59	.00	957.10	205.49
75	22.637	1190.64	.00	979.12	211.52
74	22.286	1218.56	.00	1001.01	217.55
73	21.937	1246.34	.00	1022.76	223.58

72	21.591	1274.01	.00	1044.39	229.61
71	21.246	1301.55	.00	1065.90	235.65
70	20.903	1328.97	.00	1087.29	241.68
69	20.562	1356.28	.00	1108.57	247.71
68	20.223	1383.48	.00	1129.74	253.74
67	19.885	1410.57	.00	1150.80	259.77
66	19.549	1437.55	.00	1171.75	265.80
65	19.215	1464.44	.00	1192.61	271.83
64	18.883	1491.23	.00	1213.36	277.86
63	18.552	1517.92	.00	1234.03	283.90
62	18.222	1544.52	.00	1254.59	289.93
61	17.894	1571.03	.00	1275.07	295.96
60	17.567	1597.45	.00	1295.46	301.99
59	17.242	1623.79	.00	1315.76	308.02
58	16.918	1650.04	.00	1335.98	314.05
57	16.595	1676.20	.00	1356.12	320.08
56	16.273	1702.29	.00	1376.18	326.12
55	15.953	1728.30	.00	1396.16	332.15
54	15.634	1754.24	.00	1416.06	338.18
53	15.317	1780.10	.00	1435.89	344.21
52	15,000	1805.88	.00	1455.64	350.24
51	14,685	1831.60	.00	1475.33	356.27
50	14,370	1857.24	.00	1494.94	362.30
49	14.057	1882.82	.00	1514.49	368.33
48	13,745	1908.33	.00	1533.96	374.37
40	13 434	1933 77	.00	1553 38	380 40
46	13,124	1959.15	.00	1572.72	386.43
45	12,815	1984.47	.00	1592.01	392.46
44	12 507	2009 72	.00	1611 23	398 49
43	12.307	2003.72	.00	1630 39	404 52
42	11,893	2060.05	.00	1649.50	410.55
41	11,588	2085.13	.00	1668.54	416.58
40	11 284	2110 14	.00	1687 53	422 62
29	10 981	2135 10	.00	1706 46	428 65
38	10.501	2160 01	.00	1725 33	434 68
37	10.376	2184 86	.00	1744 15	440 71
36	10.076	2209.66	.00	1762 92	446 74
35	9 776	2233.00	.00	1781 63	452 77
34	9 477	2254.40	.00	1800 29	458 80
22	9.477	2233.10	.00	1818 91	458.80
22	2 221	2203.74	.00	1837 /7	404.84
21	Q 59/	2200.22	.00	1855 08	476.07
20	0.004	2352.00	.00	1071 11	470.90
20	7 993	2327.37	.00	1802 86	482.95
29	7.555	2301.02	.00	1011 22	488.90
20 27	7 1055	2400.22	00.	1070 55	494.99 501 07
21 26	7.405	2430.37	00. 00	10/7 07	507.02
20 2⊑	6 070	2434.00 2170 11	00.	1066 06	CU./UC 512 00
∠⊃ ว⊿	0.020 6 E20	24/3.14	.00	100,00CT	510 10
24 22	6.229	2000.00	.00	1904.24	213.17
∠3	0.238	2027.54	.00	2002.39	272.12

22	5.948	2551.67	.00	2020	.49	531.18		
21	5.659	2575.76	.00	2038	.55	537.21		
20	5.370	2599.81	.00	2056	.56	543.24		
19	5.082	2623.81	.00	2074	.54	549.27		
18	4.794	2647.78	.00	2092	.47	555.31		
17	4.508	2671.71	.00	2110	.37	561.34		
16	4.221	2695.59	.00	2128	.22	567.37		
15	3.936	2719.44	.00	2146	.04	573.40		
14	3.651	2743.25	.00	2163	.82	579.43		
13	3.36/	2/6/.02	.00	2181	.56	585.46		
12	3.083	2/90./5	.00	2199	.26	591.49		
11	2.800	2814.45	.00	2216	.93	597.52		
10	2.51/	2838.11	.00	2234	.55	603.56		
9	2.235	2861./3	.00	2252	.15	609.59		
8	1.954	2885.32	.00	2269	.70	615.62		
	1.0/3	2908.88	.00	2287	.23	621.65		
6	1.393 1.112	2932.39	.00	2304	./1	627.68		
2	1.113	2900.00	.00	2322	.1/	620 74		
4	.034	29/9.00	.00	2009	.)0 07	6/5 70		
2	. JJU 970	2026 12	.00	2550	. <i>91</i> 20	651 01		
1	.270	30/0 /8	.00	2374	.JZ 64	657 8/		
-	.000	50+5.40	.00	2371	•0+	057.04		
	EFF.		WATER	SOLIDS		THICK-		
LAYER	STRESS	VOID	CONTENT	CONTENT	TUW	NESS	CV	PK
NO.	PSF	RATIO	(PC)	(PC)	(PCF)	(FT)	(SQFT/DAY)	(FT/DAY)
4.0.0	2 44	45 354		45 40	<u> </u>			4455 00
109	3.44	15.351	558.2	15.19	69.08	.903	.311E-01	.145E+00
108	9.4/	11.856	431.1	18.83	70.89	./10	.294E-01	.508E-01
107	15.50	10.456	380.2	20.82	/1.93	.633	.28/E-01	.315E-01
105	21.53	9.615	349.6	22.24	72.69	.586	.283E-01	.232E-01
104	27.50	9.028	528.5 515 5	23.35	75.29	.554	.2005-01	1575 01
104	20.62	0.004	312.2	24.20	73.79	.529	.2/8E-01	1275 01
102	J9.0J	0.200	299.5	25.05	74.25	101	.277E-01 275E 01	1000 01
102	43.00 51 60	7.900	200./	25.75	74.02	.494	.273E-01	1125 01
100	57 72	7.091	279.7	20.54	75 28	.400	273E_01	103E_01
00	63 75	7 200	265 1	20.05	75 57	.400	272E-01	956E-02
98	69.75	7 124	259.1	27.35	75 84	.430	271F-01	898F-02
97	75 81	6 975	253 6	28.28	76 09	2	271E-01	848F-02
96	81.85	6.840	248.7	28.67	76.33	. 433	270F-01	.040E 02
95	87.88	6.718	244.3	29.05	76.55	. 426	270E-01	.769E-02
94	93.91	6.605	240.2	29.40	76.76	. 420	.269E-01	.737F-02
93	99.94	6.501	236.4	29.73	76.96	.414	.269E-01	.709F-02
92	105.97	6.404	232.9	30.04	77.15	.409	.268E-01	.683E-02
91	112.00	6.315	229.6	30.34	77.33	.404	.268E-01	.660E-02
90	118.03	6.231	226.6	30.62	77.50	.399	.268E-01	.639E-02
89	124.07	6.152	223.7	30.89	77.67	.395	.267E-01	.620E-02
88	130.10	6.078	221.0	31.15	77.83	.391	.267E-01	.602E-02
87	136.13	6.008	218.5	31.40	77.98	.387	.267E-01	.585E-02

86	142.16	5.942	216.1	31.64	78.13	.383	.266E-01	.570E-02
85	148.19	5.879	213.8	31.87	78.27	.380	.266E-01	.556E-02
84	154.22	5.820	211.6	32.09	78.41	.377	.266E-01	.542E-02
83	160.25	5.763	209.6	32.30	78.55	.374	.266E-01	.529E-02
82	166.28	5.709	207.6	32.51	78.68	.371	.265E-01	.517E-02
81	172.32	5.658	205.7	32.71	78.80	.368	.265E-01	.505E-02
80	178.35	5.608	203.9	32.90	78.92	.365	.265E-01	.494E-02
79	184.38	5.561	202.2	33.09	79.04	.362	.265E-01	.483E-02
78	190.41	5.515	200.6	33.27	79.16	.360	.265E-01	.473E-02
77	196.44	5.472	199.0	33.45	79.27	.357	.264E-01	.463E-02
76	202.47	5.430	197.4	33.62	79.38	.355	.264E-01	.453E-02
75	208.50	5.389	196.0	33.79	79.49	.353	.264E-01	.444E-02
74	214.54	5.350	194.6	33.95	79.60	.351	.264E-01	.435E-02
73	220.57	5.312	193.2	34.11	79.70	.349	.263E-01	.426E-02
72	226.60	5.276	191.9	34.26	79.80	.347	.263E-01	.418E-02
71	232.63	5.241	190.6	34.41	79.90	.345	.263E-01	.409E-02
70	238.66	5.207	189.3	34.56	79.99	.343	.263E-01	.401E-02
69	244.69	5.174	188.1	34.71	80.09	.341	.263E-01	.393E-02
68	250.72	5.142	187.0	34.85	80.18	.339	.262E-01	.386E-02
67	256.75	5.111	185.8	34.98	80.27	.337	.262E-01	.378E-02
66	262.79	5.080	184.7	35.12	80.36	.336	.262E-01	.371E-02
65	268.82	5.051	183.7	35.25	80.45	.334	.262E-01	.363E-02
64	274.85	5.023	182.6	35.38	80.53	.333	.262E-01	.356E-02
63	280.88	4.995	181.6	35.51	80.62	.331	.262E-01	.349E-02
62	286.91	4.968	180.7	35.63	80.70	.330	.261E-01	.343E-02
61	292.94	4.942	179.7	35.75	80.78	.328	.261E-01	.336E-02
60	298.97	4.916	178.8	35.87	80.86	.327	.261E-01	.329E-02
59	305.00	4.891	177.9	35.99	80.94	.325	.261E-01	.323E-02
58	311.04	4.867	177.0	36.11	81.01	.324	.261E-01	.317E-02
57	317.07	4.843	176.1	36.22	81.09	.323	.260E-01	.310E-02
56	323.10	4.820	175.3	36.33	81.16	.321	.260E-01	.304E-02
55	329.13	4.797	174.4	36.44	81.24	.320	.260E-01	.298E-02
54	335.16	4.775	173.6	36.55	81.31	.319	.260E-01	.293E-02
53	341.19	4.753	172.8	36.65	81.38	.318	.260E-01	.287E-02
52	347.22	4.732	172.1	36.75	81.45	.317	.259E-01	.281E-02
51	353.26	4.711	171.3	36.86	81.52	.315	.259E-01	.276E-02
50	359.29	4.691	170.6	36.96	81.59	.314	.259E-01	.270E-02
49	365.32	4.671	169.9	37.06	81.66	.313	.259E-01	.265E-02
48	371.35	4.652	169.1	37.15	81.72	.312	.259E-01	.260E-02
47	377.38	4.633	168.5	37.25	81.79	.311	.259E-01	.255E-02
46	383.41	4.614	167.8	37.34	81.85	.310	.258E-01	.250E-02
45	389.44	4.596	167.1	37.44	81.92	.309	.258E-01	.245E-02
44	395.47	4.578	166.5	37.53	81.98	.308	.258E-01	.240E-02
43	401.51	4.560	165.8	37.62	82.04	.307	.258E-01	.235E-02
42	407.54	4.543	165.2	37.71	82.10	.306	.258E-01	.230E-02
41	413.57	4.526	164.6	37.80	82.16	.305	.258E-01	.226E-02
40	419.60	4.509	164.0	37.88	82.22	.304	.257E-01	.221E-02
39	425.63	4.493	163.4	37.97	82.28	.303	.257E-01	.217E-02
38	431.66	4.476	162.8	38.05	82.34	.302	.257E-01	.213E-02
37	437.69	4.461	162.2	38.14	82.40	.302	.257E-01	.208E-02

36	443.72	4.445	161.6	38.22	82.45	.301	.257E-01	.204E-02
35	449.76	4.430	161.1	38.30	82.51	.300	.256E-01	.200E-02
34	455.79	4.415	160.5	38.38	82.57	.299	.256E-01	.196E-02
33	461.82	4.400	160.0	38.46	82.62	.298	.256E-01	.192E-02
32	467.85	4.386	159.5	38.54	82.68	.297	.256E-01	.188E-02
31	473.88	4.371	159.0	38.62	82.73	.297	.256E-01	.185E-02
30	479.91	4.357	158.4	38.69	82.78	.296	.256E-01	.181E-02
29	485.94	4.343	157.9	38.77	82.84	.295	.255E-01	.177E-02
28	491.98	4.330	157.4	38.84	82.89	.294	.255E-01	.174E-02
27	498.01	4.316	157.0	38.92	82.94	.294	.255E-01	.170E-02
26	504.04	4.303	156.5	38.99	82.99	.293	.255E-01	.167E-02
25	510.07	4.290	156.0	39.06	83.04	.292	.255E-01	.163E-02
24	516.10	4.277	155.5	39.13	83.09	.291	.255E-01	.160E-02
23	522.13	4.264	155.1	39.20	83.14	.291	.255E-01	.157E-02
22	528.16	4.252	154.6	39.27	83.19	.290	.254E-01	.154E-02
21	534.20	4.240	154.2	39.34	83.24	.289	.254E-01	.151E-02
20	540.23	4.228	153.7	39.41	83.29	.289	.254E-01	.148E-02
19	546.26	4.216	153.3	39.48	83.34	.288	.254E-01	.145E-02
18	552.29	4.204	152.9	39.55	83.38	.287	.254E-01	.142E-02
17	558.32	4.192	152.4	39.61	83.43	.287	.254E-01	.139E-02
16	564.35	4.181	152.0	39.68	83.48	.286	.253E-01	.136E-02
15	570.38	4.169	151.6	39.74	83.52	.286	.253E-01	.134E-02
14	576.41	4.158	151.2	39.81	83.57	.285	.253E-01	.131E-02
13	582.45	4.147	150.8	39.87	83.62	.284	.253E-01	.128E-02
12	588.48	4.136	150.4	39.93	83.66	.284	.253E-01	.126E-02
11	594.51	4.126	150.0	40.00	83.70	.283	.253E-01	.123E-02
10	600.54	4.115	149.6	40.06	83.75	.283	.253E-01	.121E-02
9	606.57	4.105	149.3	40.12	83.79	.282	.252E-01	.118E-02
8	612.60	4.094	148.9	40.18	83.84	.281	.252E-01	.116E-02
7	618.63	4.084	148.5	40.24	83.88	.281	.252E-01	.114E-02
6	624.67	4.074	148.1	40.30	83.92	.280	.252E-01	.112E-02
5	630.70	4.064	147.8	40.36	83.96	.280	.252E-01	.109E-02
4	636.73	4.054	147.4	40.42	84.01	.279	.252E-01	.107E-02
3	642.76	4.044	147.1	40.47	84.05	.279	.252E-01	.105E-02
2	648.79	4.035	146.7	40.53	84.09	.278	.251E-01	.103E-02
1	654.82	4.025	146.4	40.59	84.13	.278	.251E-01	.101E-02

1

19-13-0087 MOSAIC FERTILIZER LLC. FORT LONESOME L-2 & L-3 CONSOLIDATION MODEL, L-2 FILLING CURVE 22500T/AC DATE:2/5/20 SINGLE DRAINAGE BOUNDARY CONDITIONS CLAY PLASTICTY INDEX = -, INITIAL SOLIDS CONTENT = 9.5 %

	THICK.		AVE.	AVE.	AVE.	FLOW	FLOW
CONSOL.	ADDED	CONSOL.	WATER	SOLIDS	DEG.OF	FROM	FROM
TIME	SLURRY	THICK.	CONTENT	CONTENT	CONSOL.	TOP	BOT.
DAYS	FEET	FEET	PERCENT	PERCENT	PERCENT	FEET	FEET
730.0	163.7	107.5	612.7	14.0	44.9	56.3	.0

1095 O	163 7	90 6	511 0	16 4	58 3	73 1	a
1055.0	105.7	50.0	511.0	10.4	50.5	/ 5.1	.0
1460.0	163./	80.7	451.3	18.1	66.2	83.0	.0
1825.0	163.7	74.0	410.8	19.6	71.5	89.7	.0
2190.0	163.7	69.1	381.0	20.8	75.5	94.6	.0
2555.0	163.7	65.3	358.1	21.8	78.5	98.4	.0
2920.0	163.7	62.3	339.9	22.7	80.9	101.4	.0
3285.0	163.7	59.8	324.9	23.5	82.9	103.9	.0
3650.0	163.7	57.7	312.4	24.2	84.5	106.0	.0
4380.0	163.7	54.5	292.7	25.5	87.1	109.3	.0
5110.0	163.7	52.0	277.8	26.5	89.1	111.7	.0
5840.0	163.7	50.1	266.1	27.3	90.6	113.7	.0
6570.0	163.7	48.5	256.7	28.0	91.9	115.2	.0
7300.0	163.7	47.3	249.1	28.6	92.9	116.5	.0
8030.0	163.7	46.2	242.7	29.2	93.7	117.5	.0
8760.0	163.7	45.3	237.2	29.7	94.4	118.4	.0
INFINITY	163.7	38.3	195.2	33.9	100.0	125.4	.0

19-13-0087	19-13-0087 MOSAIC FERTILIZER LLC. WEST ONA MINE					
CONSOLIDAT	ION MODEL,	FILLING CU	RVE 22500	Γ/AF DATE:8/21/09		
SINGLE DRA	INAGE BOUN	DARY CONDIT	IONS,			
CLAY PLAST	ICTY INDEX	= ?, INITI	AL SOLIDS	CONTENT = 9.5 %		
FINI						
_952.6	2.80 62.4	1.50		WCO,GS,GW,DZMIN		
I				ВОТВ		
-200.0	20000.0			EWTF,TWTF		
RATE				INSPEC		
.00	183.00	473684.21		TSTART, TFILL, FILL		
-1.00	.00	.00		TSTART, TFILL, FILL		
1000.0				ELEVMX		
.0	20000.0			SUR, TSUR		
Y	-			IDEF		
183.00	F			IO, DETOP		
2/4.00	F			IO, DETOP		
365.00	F			IO, DETOP		
/30.00	F			IO, DETOP		
1095.00	F			TO, DETOP		
1460.00	F					
1825.00	F			TO, DETOP		
2190.00	F					
2555.00	F					
2920.00	F					
3285.00	F					
3050.00	F					
4380.00	F					
5110.00	F E					
5640.00	г с					
7200.00	E E					
0125 00	F					
10950 00	F					
1 00.00	F					
	WET			LEVEL OTDATA PROP		
250F101	_ 29/F100	106E-08	3735101	AWET RWET FWET FWET		
.2391401	2941700	.4001-00		ר ד ד ד ד ד ד ד ד ד ד ד ד ד ד ד ד ד ד ד		

19-13-0087 MOSAIC FERTILIZER LLC. WEST ONA MINE CONSOLIDATION MODEL, FILLING CURVE 22500T/AF DATE:8/21/09 SINGLE DRAINAGE BOUNDARY CONDITIONS, CLAY PLASTICTY INDEX = ?, INITIAL SOLIDS CONTENT = 9.5 %

TABLE NO. 1 GENERAL DATA

WATER CONTENT OF SLURRY (PERCENT)=952.6SOLIDS CONTENT OF SLURRY (PERCENT)=9.5SPECIFIC GRAVITY OF SOLIDS=2.800UNIT WEIGHT OF WATER (PCF)=62.4DESIRED MINIMUM INITIAL NODE SPACING (FEET)=1.50BASE ISIMPERVIOUS

DURING FILLING, THE WATER TABLE WILL BE AT A DEPTH OF .012 FEET BELOW THE TOP OF THE CONSOLIDATING SLURRY. THE DEPTH OF THE WATER TABLE WILL BE RESET TO -200.0 FEET (BELOW GROUND SURFACE) AT 20000. DAYS.

TABLE NO. 2 PARAMETERS USED TO CONTROL ACCURACY

TA ALIM .0 .5 182.9 .5 20000.0 10.0

CHGMIN =	.1	CHGPLM =	.0	PPLIM = 5.0
CHGLIM =	.5	NPMAX =	50	NCTMX= 15000

TABLE NO. 3 PUMPING SCHEDULE

TIME PUMPING	PUMPING	PUMPING
STARTS	PERIOD	RATE
DAYS	DAYS	TONS/ACRE/YEAR

FILLING SCHEDULE USED IN ANALYSES

TIME STEP FILLING	TOTAL THICKNESS OF
IS APPLIED - DAYS	ADDED SLURRY - FEET

.000	.0
.839	.0
.839	1.5
2.518	1.5
2.518	3.0
4.197	3.0
4.197	4.5
5.876	4.5
5.876	6.0
7.555	6.0
7.555	7.5
9.234	7.5
9.234	9.0
10.913	9.0
10.913	10.5
12.592	10.5
12.592	12.0
14.271	12.0
14.271	13.5
15.950	13.5
15.950	15.1
17.628	15.1
17.628	16.6
19.307	16.6
19.307	18.1
20.986	18.1
20.986	19.6
22.665	19.6
22.665	21.1
24.344	21.1
24.344	22.6
26.023	22.6
26.023	24.1
27.702	24.1
27.702	25.6
29.381	25.6
29.381	27.1
31.060	27.1
31.060	28.6
32.739	28.6
32.739	30.1

34.417	30.1
34.417	31.6
36.096	31.6
36.096	33.1
37.775	33.1
37.775	34.6
39.454	34.6
39.454	36.1
41.133	36.1
41.133	37.6
42,812	37.6
42 812	39 1
42.012 11 191	39.1
11 101	10 6
44.451	40.0
40.170	40.0
40.170	42.1
47.049	42.1
47.049	45.7
49.520	45.7
49.JZ0 E1 206	45.2
51.200	43.2
51.200	40.7
52.005	40.7
52.005	40.2
54.504	40.2
54.504	49.7
56 243	49.7 51 0
57 922	51.2
57 022	52.2
50 601	52.7
59.001	52.7
61 200	54.2
61 200	54.2
62.050	
62.959	55.7
64 639	57.2
64.638	57.2
66.216	50.7
66.316	58.7
67 005	60.2
67.995	60.2
67.995	61.7
69.074	62) 61./
71 252	62.2
/1.202 71 252	61 7
2000 CC	04./ 61 7
250,67 רכם בד	04./ 66 0
73.032 71 711	00.2 66 0
/4./11 7/ 711	
/4./11	0/./

76.390	67.7
76.390	69.2
78.069	69.2
78.069	70.7
79.748	70.7
79.748	72.3
81.427	72.3
81.427	73.8
83.106	73.8
83.106	75.3
84.784	75.3
84 784	76.8
86 463	76.8
86 463	78.3
88 1/2	78.3
88.142 88.142	70.5
00.142	79.8
09.021	79.0
01 500	81.3 81 3
91.500	01.5
91.500	02.0
93.179	82.8
93.179	84.3
94.858	84.3
94.858	85.8
96.537	85.8
96.537	87.3
98.216	87.3
98.216	88.8
99.895	88.8
99.895	90.3
101.573	90.3
101.5/3	91.8
103.252	91.8
103.252	93.3
104.931	93.3
104.931	94.8
106.610	94.8
106.610	96.3
108.289	96.3
108.289	97.8
109.968	97.8
109.968	99.3
111.647	99.3
111.647	100.9
113.326	100.9
113.326	102.4
115.005	102.4
115.005	103.9
116.684	103.9
116.684	105.4

118.362	105.4
110 262	106 0
110.302	100.9
120.041	106.9
120.041	108.4
121.720	108.4
121.720	109.9
122 300	100 0
122.200	
123.399	111.4
125.078	111.4
125.078	112.9
126.757	112.9
126.757	114.4
120.757	11/ /
120.430	114.4
128.436	115.9
130.115	115.9
130.115	117.4
131.794	117.4
131 79/	118 9
100 470	110.0
133.473	118.9
133.473	120.4
135.151	120.4
135.151	121.9
136,830	121.9
126 920	172 /
130.830	123.4
138.509	123.4
138.509	124.9
140.188	124.9
140.188	126.4
141 867	126 4
1/1 067	120.4
141.00/	127.9
143.546	127.9
143.546	129.5
145.225	129.5
145.225	131.0
146 904	131 0
146 004	122.0
140.904	132.5
148.583	132.5
148.583	134.0
150.261	134.0
150.261	135.5
151 940	135 5
151.040	107.0
151.940	137.0
153.619	137.0
153.619	138.5
155.298	138.5
155.298	140.0
156 077	1/0 0
150.9//	140.0
120.9//	141.5
158.656	141.5
158.656	143.0

160.335	143.0
160.335	144.5
162.014	144.5
162.014	146.0
163.693	146.0
163.693	147.5
165.372	147.5
165.372	149.0
167.050	149.0
167.050	150.5
168.729	150.5
168.729	152.0
170.408	152.0
170.408	153.5
172.087	153.5
172.087	155.0
173.766	155.0
173.766	156.5
175.445	156.5
175.445	158.1
177.124	158.1
177.124	159.6
178.803	159.6
178.803	161.1
180.482	161.1
180.482	162.6
182.900	162.6
182.900	164.1
20000.000	164.1

LIMIT ON ELEVATION OF SLURRY (FEET) = 1000.0

SURCHARGE PRESSURE (PSF)=	0.
TIME OF APPLICATION	(DAYS)=	20000.

TABLE NO. 4 SUMMARY OF DESIRED OUTPUT TIMES

JO	TO(JO)	DETAIL
1	183.0	NO
2	274.0	NO
3	365.0	NO
4	730.0	NO
5	1095.0	NO
6	1460.0	NO

7	1825.0	NO
8	2190.0	NO
9	2555.0	NO
10	2920.0	NO
11	3285.0	NO
12	3650.0	NO
13	4380.0	NO
14	5110.0	NO
15	5840.0	NO
16	6570.0	NO
17	7300.0	NO

TABLE NO. 5 WISSA/FULEIHAN/INGRA COEFFICIENTS

А	(KG/SQ.CM)=	.259E+01
А	(PSF)=	.245E+02
B=	=	294E+00
Е	(CM/SEC)=	.406E-08
Е	(FT/DAY)=	.115E-04
F=	=	.373E+01

TABLE NO. 8 SUMMARY OF DATA FROM SUBPROGRAM INITIAL

INITIAL WATER CONTENT=	952.60
INITIAL SOLIDS CONTENT=	9.50
INITIAL VOID RATIO=	26.673
INITIAL TOTAL UNIT WEIGHT (PCF)=	66.46
INITIAL EFFECTIVE STRESS (PSF)=	.745
INITIAL VALUE OF CV (SQ FT/DAY)=	.101E+00
INITIAL VALUE OF PK (FT/DAY)=	.240E+01
DEPTH TO WATER TABLE (FEET)=	.012
COEFF. OF COMP. (SQFT/LB)=	.105E+02

1

19-13-0087 MOSAIC FERTILIZER LLC. WEST ONA MINE CONSOLIDATION MODEL, FILLING CURVE 22500T/AF DATE:8/21/09 SINGLE DRAINAGE BOUNDARY CONDITIONS, CLAY PLASTICTY INDEX = ?, INITIAL SOLIDS CONTENT = 9.5 %

TABLE OF VARIABLES FOR ALL PP(I)=0

TIME TC (DAYS)	INFINITY
TOTAL THICKNESS OF ADDED SLURRY (FEET)	164.071500
DEPTH OF WATER TABLE (FEET)	36.006310
ELEVATION OF TOP OF SEDIMENT (FEET)	36.018240
TOTAL OUTFLOW THROUGH THE TOP (FEET)	128.053300
TOTAL OUTFLOW THROUGH THE BOT. (FEET)	.000000

	ELEV-	SIGNS	EXCESS	STATIC	EFFECTIVE	
NODE	ATION	STRESS	PP	PP	STRESS	
NO.	FT	PSF	PSF	PSF	PSF	
110	36.018	.00	.00	74	.74	
109	35.065	65.57	.00	58.72	6.85	
108	34.333	117.38	.00	104.41	12.96	
107	33.690	163.61	.00	144.54	19.07	
106	33.100	206.51	.00	181.33	25.18	
105	32.548	247.11	.00	215.82	31.29	
104	32.023	285.96	.00	248.56	37.40	
103	31.520	323.44	.00	279.93	43.51	
102	31.036	359.78	.00	310.16	49.62	
101	30.567	395.17	.00	339.44	55.73	
100	30.111	429.73	.00	367.89	61.84	
99	29.666	463.58	.00	395.63	67.95	
98	29.232	496.79	.00	422.73	74.06	
97	28.807	529.43	.00	449.27	80.17	
96	28.390	561.56	.00	475.29	86.28	
95	27.980	593.23	.00	500.84	92.39	
94	27.577	624.47	.00	525.97	98.50	
93	27.181	655.31	.00	550.70	104.61	
92	26.790	685.79	.00	575.07	110.72	
91	26.405	715.93	.00	599.11	116.83	
90	26.025	745.76	.00	622.83	122.94	
89	25.650	775.30	.00	646.25	129.05	
88	25.279	804.55	.00	669.40	135.16	
87	24.912	833.55	.00	692.28	141.26	
86	24.549	862.30	.00	714.92	147.37	
85	24.190	890.81	.00	737.33	153.48	
84	23.835	919.11	.00	759.51	159.59	
83	23.482	947.19	.00	781.49	165.70	
82	23.133	975.08	.00	803.26	171.81	
81	22.788	1002.77	.00	824.85	177.92	
80	22.445	1030.28	.00	846.25	184.03	
79	22.104	1057.61	.00	867.47	190.14	
78	21.767	1084.78	.00	888.53	196.25	
77	21.432	1111.79	.00	909.43	202.36	
76	21.100	1138.64	.00	930.17	208.47	
75	20.770	1165.34	.00	950.76	214.58	
74	20.442	1191.90	.00	971.21	220.69	

73	20.116	1218.32	.00	991.53	226.80
72	19.793	1244.61	.00	1011.70	232.91
71	19.472	1270.77	.00	1031.75	239.02
70	19.152	1296.81	.00	1051.68	245.13
69	18.835	1322.72	.00	1071.48	251.24
68	18.520	1348.52	.00	1091.17	257.35
67	18.206	1374.20	.00	1110.74	263.46
66	17.894	1399.77	.00	1130.21	269.57
65	17.584	1425.24	.00	1149.57	275.68
64	17.275	1450.60	.00	1168.82	281.78
63	16.968	1475.87	.00	1187.97	287.89
62	16.663	1501.03	.00	1207.03	294.00
61	16.359	1526.10	.00	1225.99	300.11
60	16.057	1551.07	.00	1244.85	306.22
59	15.756	1575.96	.00	1263.63	312.33
58	15.456	1600.76	.00	1282.32	318.44
57	15.158	1625.47	.00	1300.92	324.55
56	14.862	1650.10	.00	1319.44	330.66
55	14.566	1674.64	.00	1337.87	336.77
54	14.272	1699.11	.00	1356.23	342.88
53	13.979	1723.49	. 00	1374.50	348.99
52	13.687	1747.81	.00	1392.71	355.10
51	13.397	1772.04	.00	1410.83	361.21
50	13,107	1796.20	.00	1428.89	367.32
49	12.819	1820.30	. 00	1446.87	373.43
48	12.532	1844.32	.00	1464.78	379.54
47	12.246	1868.27	.00	1482.62	385.65
46	11.961	1892.16	.00	1500.40	391.76
45	11.678	1915.98	. 00	1518.11	397.87
44	11.395	1939.73	.00	1535.76	403.98
43	11,113	1963.42	.00	1553.34	410.09
42	10.832	1987.05	.00	1570.86	416.20
41	10.552	2010.62	. 00	1588.32	422.30
40	10.274	2034.13	.00	1605.72	428.41
39	9,996	2057.59	.00	1623.06	434.52
38	9,719	2080.98	.00	1640.35	440.63
37	9.443	2104.32	.00	1657.57	446.74
36	9,167	2127.60	.00	1674.74	452.85
35	8,893	2150.82	.00	1691.86	458.96
34	8 620	2174 00	.00	1708 93	465 07
27	8 347	2197 12	.00	1725 94	471 18
32	8 075	2220 19	.00	1742 90	477 29
32	7 804	2220.13	.00	1759 81	483 40
30	7 534	2245.21	.00	1776 66	489 51
29	7 265	2200.17	.00	1793 47	495 62
22	6 996	2205.05	.00	1810 23	501 73
20	6 729	2334 70	.00	1826 95	507.75
26	6 /61	2354.75	.00	1842 61	512 95
25	6 105	2320.20	.00	1860 22	520 06
2/	5 020	2300.23	.00	1876 21	576 17
∠→	ر ے ر ، ر	2702.07	.00	TO, 0.0T	720.1/

23	5.664	2425.61	.00) 1893	.33	532.28		
22	5.400	2448.21	.00) 1909	.82	538.39		
21	5.137	2470.76	.00	9 1926	.26	544.50		
20	4.874	2493.26	.00) 1942	.66	550.61		
19	4.612	2515.73	.00) 1959	.01	556.72		
18	4.350	2538.15	.00) 1975	.33	562.83		
17	4.090	2560.54	.00) 1991	.60	568.93		
16	3.830	2582.88	.00	2007	.83	575.04		
15	3.570	2605.18	.00	2024	.02	581.15		
14	3.311	2627.44	.00	2040	.18	587.26		
13	3.053	2649.66	.00	2056	.29	593.37		
12	2.795	2671.85	.00	2072	.37	599.48		
11	2.538	2694.00	.00	2088	.40	605.59		
10	2.282	2716.11	.00	2104	.40	611.70		
9	2.026	2738.18	.00	2120	.37	617.81		
8	1.771	2760.21	.00	2136	.29	623.92		
7	1.516	2782.21	.00) 2152	.18	630.03		
6	1.262	2804.18	.00	2168	.04	636.14		
5	1.009	2826.11	.00	2183	.86	642.25		
4	.756	2848.00	.00) 2199	.64	648.36		
3	.503	2869.86	.00) 2215	.39	654.47		
2	.251	2891.69	.00) 2231	.11	660.58		
1	.000	2913.48	.00	2246	.79	666.69		
	EFF.		WATER	SOLIDS		THICK-		
LAYER	STRESS	VOID	CONTENT	CONTENT	TUW	NESS	CV	PK
NO.	PSF	RATIO	(PC)	(PC)	(PCF)	(FT)	(SQFT/DAY)	(FT/DAY)
			• •				,	• •
109	3.80	16.520	590.0	14.49	68.81	.953	.883E-01	.406E+00
109 108	3.80 9.91	16.520 12.462	590.0 445.1	14.49 18.35	68.81 70.74	.953 .732	.883E-01 .820E-01	.406E+00 .143E+00
109 108 107	3.80 9.91 16.02	16.520 12.462 10.821	590.0 445.1 386.5	14.49 18.35 20.56	68.81 70.74 71.90	.953 .732 .643	.883E-01 .820E-01 .792E-01	.406E+00 .143E+00 .849E-01
109 108 107 106	3.80 9.91 16.02 22.13	16.520 12.462 10.821 9.841	590.0 445.1 386.5 351.4	14.49 18.35 20.56 22.15	68.81 70.74 71.90 72.76	.953 .732 .643 .590	.883E-01 .820E-01 .792E-01 .775E-01	.406E+00 .143E+00 .849E-01 .600E-01
109 108 107 106 105	3.80 9.91 16.02 22.13 28.24	16.520 12.462 10.821 9.841 9.160	590.0 445.1 386.5 351.4 327.1	14.49 18.35 20.56 22.15 23.41	68.81 70.74 71.90 72.76 73.46	.953 .732 .643 .590 .553	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01
109 108 107 106 105 104	3.80 9.91 16.02 22.13 28.24 34.35	16.520 12.462 10.821 9.841 9.160 8.647	590.0 445.1 386.5 351.4 327.1 308.8	14.49 18.35 20.56 22.15 23.41 24.46	68.81 70.74 71.90 72.76 73.46 74.04	.953 .732 .643 .590 .553 .525	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01
109 108 107 106 105 104 103	3.80 9.91 16.02 22.13 28.24 34.35 40.46	16.520 12.462 10.821 9.841 9.160 8.647 8.241	590.0 445.1 386.5 351.4 327.1 308.8 294.3	14.49 18.35 20.56 22.15 23.41 24.46 25.36	68.81 70.74 71.90 72.76 73.46 74.04 74.55	.953 .732 .643 .590 .553 .525 .503	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01
109 108 107 106 105 104 103 102	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01	.953 .732 .643 .590 .553 .525 .503 .484	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01
109 108 107 106 105 104 103 102 101	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42	.953 .732 .643 .590 .553 .525 .503 .484 .469	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .732E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01
109 108 107 106 105 104 103 102 101 100	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .732E-01 .728E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .213E-01
109 108 107 106 105 104 103 102 101 100 99	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .732E-01 .728E-01 .724E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .213E-01 .192E-01
109 108 107 106 105 104 103 102 101 100 99 98	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.47	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .732E-01 .728E-01 .724E-01 .720E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .213E-01 .192E-01 .175E-01
109 108 107 106 105 104 103 102 101 100 99 98 97	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.47 76.77	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .732E-01 .728E-01 .724E-01 .720E-01 .716E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .213E-01 .192E-01 .175E-01 .161E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 238.1	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.77 77.05	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .732E-01 .728E-01 .728E-01 .724E-01 .720E-01 .716E-01 .713E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .175E-01 .161E-01 .149E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96 95	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 238.1 233.2	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.01	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.47 76.77 77.05 77.32	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417 .410	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .724E-01 .724E-01 .720E-01 .716E-01 .713E-01 .711E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .175E-01 .161E-01 .149E-01 .138E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 98 97 96 95 94	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33 95.44	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529 6.403	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 238.1 233.2 228.7	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.01 30.42	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.47 76.77 77.05 77.32 77.57	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417 .410 .403	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .724E-01 .724E-01 .726E-01 .716E-01 .711E-01 .708E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .213E-01 .192E-01 .161E-01 .149E-01 .138E-01 .129E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33 95.44 101.55	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529 6.403 6.287	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 243.5 238.1 233.2 228.7 224.5	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.01 30.42 30.81	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.77 76.77 77.05 77.32 77.57 77.81	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .434 .425 .417 .410 .403 .396	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .724E-01 .724E-01 .716E-01 .713E-01 .711E-01 .708E-01 .706E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .175E-01 .161E-01 .149E-01 .129E-01 .121E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33 95.44 101.55 107.66	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529 6.403 6.287 6.180	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 238.1 233.2 228.7 224.5 220.7	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.01 30.42 30.81 31.18	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.77 77.05 77.32 77.57 77.81 78.04	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417 .410 .403 .396 .391	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .724E-01 .720E-01 .716E-01 .713E-01 .711E-01 .708E-01 .706E-01 .704E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .175E-01 .161E-01 .149E-01 .129E-01 .121E-01 .114E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33 95.44 101.55 107.66 113.77	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529 6.403 6.287 6.180 6.081	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 238.1 233.2 228.7 224.5 220.7 217.2	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.01 30.42 30.81 31.18 31.53	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.47 76.77 77.05 77.32 77.57 77.81 78.04 78.26	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417 .410 .403 .396 .391 .385	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .728E-01 .726E-01 .716E-01 .711E-01 .708E-01 .706E-01 .704E-01 .702E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .175E-01 .161E-01 .149E-01 .129E-01 .121E-01 .121E-01 .108E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91 90	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33 95.44 101.55 107.66 113.77 119.88	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529 6.403 6.287 6.180 6.081 5.988	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 238.1 233.2 228.7 228.7 224.5 220.7 217.2 213.9	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.01 30.42 30.81 31.18 31.53 31.86	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.77 76.77 77.05 77.32 77.57 77.81 78.04 78.26 78.47	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417 .410 .403 .396 .391 .385 .380	.883E-01 .820E-01 .792E-01 .762E-01 .752E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .724E-01 .724E-01 .716E-01 .711E-01 .711E-01 .708E-01 .706E-01 .702E-01 .700E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .161E-01 .149E-01 .129E-01 .121E-01 .121E-01 .114E-01 .108E-01 .103E-01
109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91 90 89	3.80 9.91 16.02 22.13 28.24 34.35 40.46 46.57 52.68 58.79 64.89 71.00 77.11 83.22 89.33 95.44 101.55 107.66 113.77 119.88 125.99	16.520 12.462 10.821 9.841 9.160 8.647 8.241 7.907 7.626 7.384 7.172 6.985 6.817 6.666 6.529 6.403 6.287 6.180 6.081 5.988 5.901	590.0 445.1 386.5 351.4 327.1 308.8 294.3 282.4 272.3 263.7 256.1 249.5 243.5 243.5 238.1 233.2 228.7 224.5 228.7 224.5 220.7 217.2 213.9 210.8	14.49 18.35 20.56 22.15 23.41 24.46 25.36 26.15 26.86 27.50 28.08 28.62 29.11 29.58 30.42 30.42 30.42 30.42 30.42 30.81 31.53 31.86 32.18	68.81 70.74 71.90 72.76 73.46 74.04 74.55 75.01 75.42 75.80 76.14 76.77 76.77 77.05 77.32 77.57 77.81 78.04 78.26 78.47 78.68	.953 .732 .643 .590 .553 .525 .503 .484 .469 .456 .445 .434 .425 .417 .410 .403 .396 .391 .385 .380 .375	.883E-01 .820E-01 .792E-01 .775E-01 .762E-01 .752E-01 .744E-01 .738E-01 .738E-01 .728E-01 .724E-01 .724E-01 .716E-01 .711E-01 .708E-01 .706E-01 .704E-01 .700E-01 .698E-01	.406E+00 .143E+00 .849E-01 .600E-01 .462E-01 .375E-01 .316E-01 .272E-01 .239E-01 .192E-01 .175E-01 .161E-01 .149E-01 .129E-01 .129E-01 .121E-01 .121E-01 .108E-01 .103E-01 .975E-02

87	138.21	5.743	205.1	32.78	79.06	.367	.695E-01	.889E-02
86	144.32	5.670	202.5	33.06	79.24	.363	.693E-01	.851E-02
85	150.43	5.601	200.0	33.33	79.41	.359	.692E-01	.816E-02
84	156.54	5,536	197.7	33.59	79.58	.356	.690E-01	.784E-02
83	162.65	5.474	195.5	33.84	79.75	.352	.689E-01	.755E-02
82	168.76	5.415	193.4	34.08	79.91	.349	.688E-01	.727E-02
81	174.87	5.359	191.4	34.32	80.06	. 346	.687E-01	.702E-02
80	180.98	5.305	189.5	34.55	80.21	343	686F-01	678E-02
79	187.09	5.254	187.6	34.77	80.36	340	.685E-01	.656E-02
78	193 20	5 204	185 9	34 98	80.50	337	684F-01	636E-02
77	199.20	5 157	184 2	35 19	80.50	335	683E-01	616E-02
76	205 42	5 111	182 5	35 39	80.78	.222	682E-01	598F-02
75	203.42	5 067	181 0	35 59	80.70	330	681F-01	581E-02
74	217.63	5 025	179 5	35 78	81 04	328	680F-01	565E-02
73	223.74	4,984	178.0	35.97	81.17	.326	.679E-01	549E-02
72	229.71	4 945	176 6	36 15	81 29	323	678E-01	535E-02
71	225.05	4 907	175 2	36 33	81 41	321	677E-01	521E-02
70	242 07	4 870	173 9	36 50	81 53	319	677E-01	508E-02
69	242.07	4.835	172 7	36 67	81 65	317	676E-01	495F-02
68	254 29	4 800	171 <u>4</u>	36 84	81 76	315	675E-01	483F-02
67	269 40	4.000	170 2	37 00	81 88	314	674F-01	472F-02
66	266 51	4.734	169 1	37.00	81 99	312	674E-01	461F-02
65	272 62	4 703	168 0	37.10	82 09	310	673E-01	451F-02
64	272.02	4.705	166 9	37.52	82.00	309	672E-01	441F-02
63	284 84	4 643	165 8	37 62	82.20	307	672E-01	431F-02
62	290 95	4 614	164 8	37.02	82.31	305	671E-01	422F-02
61	297.06	4 586	163 8	37.91	82 51	304	671E-01	413F-02
60	303,17	4.558	162.8	38.05	82.61	.307	.670E-01	.405E-02
59	309.28	4 532	161 8	38 19	82 70	301	669E-01	397F-02
58	315 39	4 506	160.9	38 33	82.80	299	669E-01	389F-02
57	321.50	4,480	160.0	38.46	82.89	.298	.668E-01	381E-02
56	327.61	4,456	159.1	38.59	82.99	.297	.668E-01	374F-02
55	333 72	4 432	158 3	38 72	83 08	295	667E-01	367E-02
54	339.83	4 408	157 4	38 85	83 17	294	667E-01	360F-02
53	345 94	4 385	156 6	38 97	83 26	293	666E-01	354F-02
52	352.05	4.362	155.8	39,09	83.35	.292	.666E-01	347F-02
51	358.15	4.340	155.0	39,21	83.43	.290	.665E-01	341F-02
50	364 26	4 319	154 2	39.21	83 52	289	665E-01	335E-02
<u>4</u> 9	370 37	4 298	153 5	39 45	83 60	288	664F-01	329F-02
49 48	376 48	4.277	152 8	39 56	83 68	287	664E-01	324E-02
47	382 59	4 257	152.0	39.68	83 77	286	663E-01	318F-02
46	388 70	4.237	151 3	39.00	83 85	285	663E-01	313E-02
45	394 81	4.237 A 218	150 6	39 90	82 93	284	663E-01	308F-02
45 44	400 92	4.199	150.0	40 01	84 00	283	662E-01	303E-02
44	407.03	4 180	1/9 3	40.01	84 08	205	662E-01	298F-02
42	407.05	4 162	148 6	40.11	84 16	281	661E-01	293E-02
<u>4</u> 1	419 25	4.102 1 111	148 A	40.22	84 23	201	.661F-01	288F_02
40	425 36	4 126	147 /	40.52	84 31	.200 270	661F-01	284F_02
20	431 47	4.120 1 100	146 8	40.42	84 38	.275	660F_01	280F_02
38	427 58	4.10J	146 2	40.55 40 62	84 16	.273	660F_01	275F_02
50		0JZ	1-0.2	-0.0J	040	• ∠ / /	.000L-01	• Z / JL = UZ

37	443.69	4.076	145.6	40.72	84.53	.276	.659E-01	.271E-02
36	449.80	4.059	145.0	40.82	84.60	.275	.659E-01	.267E-02
35	455.91	4.043	144.4	40.92	84.67	.274	.659E-01	.263E-02
34	462.02	4.027	143.8	41.01	84.74	.273	.658E-01	.259E-02
33	468.13	4.012	143.3	41.10	84.81	.273	.658E-01	.255E-02
32	474.24	3.997	142.7	41.20	84.88	.272	.658E-01	.252E-02
31	480.35	3.982	142.2	41.29	84.95	.271	.657E-01	.248E-02
30	486.46	3.967	141.7	41.38	85.01	.270	.657E-01	.245E-02
29	492.57	3.952	141.2	41.47	85.08	.269	.657E-01	.241E-02
28	498.67	3.938	140.6	41.56	85.15	.269	.656E-01	.238E-02
27	504.78	3.924	140.1	41.64	85.21	.268	.656E-01	.234E-02
26	510.89	3.910	139.6	41.73	85.28	.267	.656E-01	.231E-02
25	517.00	3.896	139.2	41.81	85.34	.266	.655E-01	.228E-02
24	523.11	3.883	138.7	41.90	85.40	.266	.655E-01	.225E-02
23	529.22	3.870	138.2	41.98	85.46	.265	.655E-01	.222E-02
22	535.33	3.857	137.7	42.06	85.53	.264	.654E-01	.219E-02
21	541.44	3.844	137.3	42.14	85.59	.263	.654E-01	.216E-02
20	547.55	3.831	136.8	42.22	85.65	.263	.654E-01	.213E-02
19	553.66	3.819	136.4	42.30	85.71	.262	.653E-01	.210E-02
18	559.77	3.806	135.9	42.38	85.77	.261	.653E-01	.208E-02
17	565.88	3.794	135.5	42.46	85.83	.261	.653E-01	.205E-02
16	571.99	3.782	135.1	42.54	85.89	.260	.652E-01	.202E-02
15	578.10	3.771	134.7	42.61	85.94	.259	.652E-01	.200E-02
14	584.21	3.759	134.2	42.69	86.00	.259	.652E-01	.197E-02
13	590.32	3.747	133.8	42.76	86.06	.258	.652E-01	.195E-02
12	596.43	3.736	133.4	42.84	86.12	.258	.651E-01	.192E-02
11	602.54	3.725	133.0	42.91	86.17	.257	.651E-01	.190E-02
10	608.65	3.714	132.6	42.99	86.23	.256	.651E-01	.187E-02
9	614.76	3.703	132.2	43.06	86.28	.256	.650E-01	.185E-02
8	620.87	3.692	131.9	43.13	86.34	.255	.650E-01	.183E-02
7	626.98	3.682	131.5	43.20	86.39	.255	.650E-01	.181E-02
6	633.09	3.671	131.1	43.27	86.45	.254	.650E-01	.178E-02
5	639.20	3.661	130.7	43.34	86.50	.254	.649E-01	.176E-02
4	645.30	3.651	130.4	43.41	86.55	.253	.649E-01	.174E-02
3	651.41	3.640	130.0	43.48	86.60	.252	.649E-01	.172E-02
2	657.52	3.630	129.7	43.54	86.66	.252	.649E-01	.170E-02
1	663.63	3.621	129.3	43.61	86.71	.251	.648E-01	.168E-02

1

19-13-0087 MOSAIC FERTILIZER LLC. WEST ONA MINE CONSOLIDATION MODEL, FILLING CURVE 22500T/AF DATE:8/21/09 SINGLE DRAINAGE BOUNDARY CONDITIONS, CLAY PLASTICTY INDEX = ?, INITIAL SOLIDS CONTENT = 9.5 %

	THICK.		AVE.	AVE.	AVE.	FLOW	FLOW
CONSOL.	ADDED	CONSOL.	WATER	SOLIDS	DEG.OF	FROM	FROM
TIME	SLURRY	THICK.	CONTENT	CONTENT	CONSOL.	TOP	BOT.
DAYS	FEET	FEET	PERCENT	PERCENT	PERCENT	FEET	FEET

183.0	164.1	136.9	788.8	11.3	21.2	27.2	.0
274.0	164.1	122.8	703.9	12.4	32.2	41.3	.0
365.0	164.1	108.6	618.7	13.9	43.3	55.4	.0
730.0	164.1	76.5	424.9	19.1	68.4	87.6	.0
1095.0	164.1	63.4	345.9	22.4	78.7	100.7	.0
1460.0	164.1	56.1	302.2	24.9	84.3	108.0	.0
1825.0	164.1	51.5	274.4	26.7	87.9	112.6	.0
2190.0	164.1	48.3	255.3	28.1	90.4	115.8	.0
2555.0	164.1	46.0	241.3	29.3	92.2	118.1	.0
2920.0	164.1	44.2	230.7	30.2	93.6	119.8	.0
3285.0	164.1	42.9	222.5	31.0	94.7	121.2	.0
3650.0	164.1	41.8	216.0	31.6	95.5	122.3	.0
4380.0	164.1	40.2	206.3	32.6	96.8	123.9	.0
5110.0	164.1	39.1	199.7	33.4	97.6	125.0	.0
5840.0	164.1	38.3	194.9	33.9	98.2	125.8	.0
6570.0	164.1	37.7	191.5	34.3	98.7	126.4	.0
7300.0	164.1	37.3	188.9	34.6	99.0	126.8	.0
INFINITY	164.1	36.0	181.2	35.6	100.0	128.1	.0

ATTACHMENT 3

REQUEST TO EXTEND R-18-129: NON-SIGNIFICANT AMENDMENT TO DRI 263

1.0 REQUEST FOR EXTENSION AND MODIFICATION

Mosaic Fertilizer, LLC ("Mosaic") requests to extend the authorization granted in R-18-129 which allows six clay settling areas ("CSAs" or "ponds") in the DRI 263 footprint to accept clays from Hardee County for five years or until each CSA is utilized to its full design storage capacity. *See* **Map A: DRI 263 Boundary** and **Map B: DRI 263 CSA Locations**. Mosaic is requesting an extension of this authorization, as was contemplated at the time of approval, for five years. *See* **Appendix 1: R-18-129**; and **Appendix 2: Draft Proposed Resolution**. The estimated current inventory and remaining capacity of each affected CSA, as well as the estimated inventory and remaining capacity of each CSA after the requested additional five years of life are provided in **Table 1 – CSA Status and Projections**.

2.0 BACKGROUND

In the Bone Valley Region, the phosphate ore mined by Mosaic is mixed with clay and sand in roughly equal parts; this composite material is known as matrix. After extraction, the matrix is combined with water, forming slurry, and pumped through pipelines to a beneficiation plant for separation into its component parts. Sand is then piped back to the mine and used to backfill mined areas; phosphate rock is transported offsite for further processing; and the remaining clay-water mixture is piped to CSAs. In CSAs the clay settles out of the mixture and is retained within the CSA; the remaining water is recycled for use in the mining and beneficiation processes. Excess water evaporates or is released from the mine boundary through an outfall permitted and monitored under the National Pollution Discharge Elimination System ("NPDES"). **Composite Appendix 3: NPDES Permits**.

Due to its location, the Four Corners Beneficiation Plant ("FCBP") currently processes matrix that is mined from Mosaic's Hillsborough, Hardee, and Manatee mines. FCBP straddles the Hillsborough/Manatee county line, and the Hillsborough side of FCBP lies within the DRI 263 property boundary. Existing infrastructure (e.g. matrix slurry, water and clay pipelines, electric utility lines, etc.) ties the FCBP to these active mining operations. As a result, only previously approved infrastructure is necessary within Hillsborough County to support the current request. *See* Map C: FCBP and Five-Year Mining Projections.

Prior to 2018, Mosaic and its predecessors committed to balancing the amount of clay stored in CSAs within each county with the amount of clay extracted from that county during the mining process. Because the matrix (sand, clay and phosphate rock) from each county is mixed during beneficiation at a single plant (FCBP), it is impossible to segregate and return the specific clay material to their county of origin. Instead, the balance is accomplished by mass rather than source.
Historically, the number and location of CSAs permitted was based on the information then available regarding the capacity needed to achieve this balance on a county-by-county basis. However, over time, Mosaic learned how to store clays more efficiently through a process known as stage filling. This resulted in previously constructed CSAs having significantly more capacity for storing clay than originally planned, extended the useful life of the CSAs, and created opportunities to improve the reclamation. Recognizing the benefits of stage filling, Mosaic began to develop and implement a regional clay disposal plan. This regional approach to clay storage ensures existing CSAs are efficiently used, managed, and reclaimed to create the most productive and environmentally friendly post-reclamation landscape. Because existing CSAs can be used for longer periods of time and can store significantly more clay, this approach has simultaneously reduced the footprint of approved CSAs and eliminated the need for constructing new CSAs.

As part of this regional clay plan, in 2018, Mosaic sought to store additional clays in specific CSAs within DRI 263, requiring final deposition of more clay within existing CSAs in Hillsborough County than was generated in Hillsborough County.¹ Ultimately, the Board of County Commissioners ("BOCC") approved a temporary amendment that permitted Mosaic to deposit clay volume derived from mining in Hardee County in Hillsborough County CSAs for permanent storage, subject to monitoring and reporting requirements as codified in R-18-129. The amendment sunset in five years. The extension to continue existing operations approved by R-18-129 is the subject of this application.

3.0. DESCRIPTION OF STAGE FILLING

Stage filling, referenced above, is the process of gradually filling a CSA with rest periods between each new layer of clay slurry to allow the previous deposit (stage) to settle and consolidate before returning to active use to capture the additional capacity created through consolidation. This procedure is different from previously planned CSA usage which involved continually depositing clay slurry in the pond until it reached its fill capacity, then reclaiming the CSA at some future point and moving on to the next CSA. In the stage filling process, slurry deposits rotate among several ponds. While one pond is receiving slurry, the others are resting. During the resting period, clays settle out and consolidate and the remaining clear water is recycled for use in the mining and beneficiation processes, evaporates, or is discharged through a permitted NPDES outfall (typically in the wet season). The consolidation that occurs during these rest periods allows the pond to hold more clay than previously anticipated; however, the rate of consolidation is variable and dependent on clay characteristics which vary with mining location, mining rates, environmental conditions including rainfall, and the duration of the rest and fill periods. This makes pinpointing exact clay capacities and final fill dates for CSAs challenging. Mosaic remains committed to beginning reclamation within two years of the end of each CSA's approved operating life and completing reclamation within four years of being taken

¹ The regional clay plan requires participation from multiple counties – for example, Polk County has allowed a CSA in its jurisdiction to receive clay from Hardee County; in Hardee County, permission is being sought to waive requirements that restrict clay disposal by mine site, permitting clays to be stored across mine boundaries, resulting in the construction of lower and fewer dams.

out of use. *See* Sections 8.02.08C.5.a. and 8.02.08C.5.b.(1), Hillsborough County Land Development Code ("LDC").

4.0 BENEFITS OF STAGE FILLING AND FILLING TO CAPACITY

Extending the life of existing CSAs means fewer CSAs are needed and development pressure to construct new CSAs is significantly reduced or eliminated.² As a result of stage filling, Mosaic voluntarily waived construction of four CSAs within the DRI 263 footprint that were previously approved by Hillsborough County and reduced by more than 2,000 acres the total amount of land that would be used as CSAs. Mined lands not encumbered by CSAs can be reclaimed faster and with greater flexibility, allowing for an increase in habitat type diversity and options for economic redevelopment. Extending the timeline available for the existing CSAs to promote stage filling allows for the reclamation phase to occur in a shorter timeframe and increases the efficiency for future land uses.

In addition to reducing the land area necessary for CSAs, stage filling provides significant environmental and hydrologic benefits to the reclamation landscape. Filling the CSAs in layers creates a smoother surface post-consolidation allowing for corrections of small-scale differential consolidation in subsequent rounds of filling – thus preventing pooling and wet depressions- that often occurred in CSAs that were not filled to capacity.



Figure: Stage Filled CSA Reclaimed

² Additionally, the amount of clay found in prospecting samples informs CSA capacity requirements. Data collected in the samples is highly variable and must be over estimated to ensure adequate capacity for clay storage; therefore, CSAs are frequently slightly larger than necessary.



Figure: Traditional Consolidation and Reclamation

The benefits of stage filling are further detailed in Appendix 4 - Hydroecology of Clay Settling Area Stage-Fill.

Filling CSAs to their design capacity has similar reclamation benefits. CSAs are constructed in historic interfluves - high spots between river valleys. This means downgradient hydrology is dependent on water runoff from these areas. When CSAs are filled to their capacity using stage filling, the surface is smoother and there is less probability of mining patterns (mine cuts) being expressed on the surface, due to the fact they are covered with thicker layers of clay and corrections of small-scale differential consolidation can be made as rounds of filling progress. Filling the CSAs to their design capacities ensures the landform is able to fulfill its original role as an up-gradient provider of water runoff. The smoother surface and greater elevation of the CSA stage filled to capacity creates a hydraulic head able to effectively route sheet flow off the CSA, directly feeding about 225 acres of wetlands, and contributing to the hydrology of an additional 330 acres of wetlands within 500 feet and down-gradient from the CSAs. See Appendix 4. Wetlands created within the footprint of a CSA that has been stage filled to capacity are expected to be of a higher quality than those created in the footprint of CSAs that are not stage filled to completion because the appropriate depth for rooting of vegetation is able to be achieved.³ Filling CSAs to capacity creates a surface with the correct drainage characteristics and at the correct elevation and water depths, to support wetland and upland uses in large, contiguous areas.

4.0 COMPLIANCE AND SAFETY

³ As has been previously discussed with the County, Mosaic remains committed to relocating reclamation wetlands off of CSAs to reduce lag time resulting in continued use of the CSAs and achieve ecological benefits.

4.1 Clay Settling Area Status Reports

Over the past five years, Mosaic has fully complied with the terms of R-18-129. Mosaic provides an annual status update regarding the Hillsborough County CSAs, including documenting the amount of clay received from Hardee County. *See* **Composite Appendix 5** – **Hillsborough County CSA Annual Reports**.⁴

4.2 Water Quality Permitting

Most water drained from CSAs following the settling period is recirculated and continues to be used in the mining and beneficiation processes. Excess water that cannot be reused and recycled, typically only during the wet season, is discharged through outfalls permitted under the NPDES permitting program implemented by the Florida Department of Environmental Protection ("FDEP"). *See* **Composite Appendix 3**. Discharges from these outfalls are monitored and must comply with water quality criteria.

4.3 Dam Safety Inspections

In compliance with R-18-129, the relevant FDEP Phosphate Management Facility Permits ("PMFPs") and Chapter 62-672, Florida Administrative Code ("F.A.C."), Mosaic conducts rigorous safety inspections on its CSA dams. The dams are visually inspected daily by Mosaic staff to assess water levels and structural conditions; more thorough inspections are conducted weekly by conducting both the daily checks and assessing piezometers clustered around the dam. Ongoing maintenance such as roadway and erosion repair, vegetation control, etc. is performed on a weekly basis. In addition, a third-party engineering firm conducts thorough annual inspections of the dams. The last several years of third-party dam safety inspection reports are provided in **Composite Appendix 6** – **Third-party Annual Dam Inspections**. FDEP also has the right to conduct Dam Compliance Inspections and typically conducts annual inspections, though more frequent inspections are possible and occur. Hillsborough County Environmental Protection Commission ("HCEPC") staff is invited to participate in these site inspections and frequently attend.

4.4 Hurricane Preparedness and Emergency Response

Mosaic's hurricane preparedness and emergency response policies and procedures place heavy emphasis on the safety of its CSAs and associated infrastructure. Response plans and procedures are continuously reviewed and updated to capture facility changes and lessons learned from previous events and practice drills. Mosaic's hurricane response plan consists of preseason preparation activities, progressive in-season storm response activities, response activities, and post-event review and effectiveness evaluations. In

 $^{^{4}}$ The relevant reporting information for the first year of this resolution, Appendix 5A – 2019 clay report, was provided through a series of emails. After this exchange, a format was agreed to by Hillsborough County staff and Mosaic and was used in proceeding years.

terms of function, the plan is focused on minimizing and managing risk. Key elements pertaining to CSAs include:

- Pre-season evaluation and adjustment of operating plans.
- Pre-season third-party inspections of CSAs
- Pre-season completion of all required maintenance activities identified by routine and annual third- party inspections.
- Managing water levels in CSAs at minimum levels during hurricane season.
- Pre-storm progressive preparation and risk mitigation activities such as additional reductions of water levels, identification of response teams and plans, and staging of supplies, equipment, and vendor resources.
- CSAs receive first-priority post-storm evaluations, resource allocations, and recovery activities

This approach, in addition to conservative design and construction practices, has been highly effective over the past 20 years for notable storms such as Hurricane Charlie in 2004, Hurricane Irma in 2017, and most recently Hurricane Ian in 2022. While Mosaic experienced serious impacts to operations and plant facilities during these events, there were no failures or serious damages to CSAs.

5.0 Compliance with Comprehensive Plan and Land Development Code Provisions

The DRI 263 CSA Amendment requests an extension of time for the existing approval to accept clays from Hardee County until each existing CSA is utilized to its full design storage capacity. Regarding the operation of the existing CSAs, the current approved land use, conditions of operation, monitoring/maintenance and reclamation will remain in place and unaltered ensuring consistency with the Hillsborough County Comprehensive Plan ("Comprehensive Plan"). No new industrial lands or uses are created as a result of the request. The existing clay settling areas are not currently utilized to the full design storage capacity. The requested amendment will extend the timeline the CSAs can be utilized and permit additional clays to be processed with the existing infrastructure and CSAs.

Since the time of approval in 2018, additional permits have been secured from FDEP addressing any discharge points and requiring the implementation of monitoring to ensure water quality through the operation and reclamation of the facility. These additional permits will remain in place with the requested amendment to ensure continued consistency with the Comprehensive Plan.

After processing at the beneficiation plant, the remaining clay-water mixture is piped to CSAs. Consistent with the terms and conditions of DRI #263, the Four Corners Mine and beneficiation plant have constructed pipelines that transport the clay-water mixture from the beneficiation plant to the existing CSAs, no unapproved infrastructure is necessary to support the request. Due to the existing supporting infrastructure, there will be no off-site impacts associated with the proposed request ensuring continued consistency with the Comprehensive Plan.

The method of stage filling the existing CSAs has been demonstrated to establish a smoother surface post-consolidation and preventing pooling and wet depressions. Stage filling aids in setting drainage divides within the CSAs and assures sufficient positive drainage is directed appropriately. **See Appendix 4**. As a result, the reclamation landscape is improved as is the reclamation function of the area to support the flow of surface and groundwater to natural tributaries and nearby reclaimed and natural wetlands, consistent with Objective 1.3 of the One Water Chapter of the Comprehensive Plan. Stage filled reclaimed CSAs also promote more fully vegetated wetland conditions in reclamation, which reduces nutrient run off and improves water quality. By continuing to add outside clay to these CSAs until capacity is reached promotes the highest and best post-reclamation land use.

The proposed amendment is consistent with the Objective 3.2 of the Environmental and Sustainability Element of the Comprehensive Plan and its implementing policies. Providing the opportunity to utilize the CSAs to their capacity and address known issues with the reclamation topography ensures a healthy environment as outlined in Objective 3.2. With the commitment to implement the existing approved reclamation plans within two years of the end of each CSA's approved operating life, and completing reclamation within four years of being taken out of use, the requested amendment is consistent with Policies 3.2.1., 3.2.2.

SECOND REQUEST FOR ADDITIONAL INFORMATION AND RESPONSE

From:	Vinette Godelia
То:	Cruz, Kimberly
Cc:	"Thornton, Shelley"; "Jake.Dotson@mosaicco.com"; Felicia Kitzmiller; Carter, Kevin (Mike); Carol Walden; Moran, Kevin; Greenwell, Jeffry; Grady, Brian; Takemori, Nancy
Subject:	RE: Agency Comments and Requests for Additional Information - 2023 Mosaic Clay Settling Area Resolution App. No. 23-0742
Date:	Tuesday, August 29, 2023 3:59:19 PM
Attachments:	image004.png 20230828 Hillsborough CSA Ac-Ft Summary.pdf

External email: Use caution when clicking on links, opening attachments or replying to this email.

Good afternoon, Kim. See attached in response to your request below. Let us know if you have further questions.

Vinette D. Godelia, Esq. Stearns Weaver Miller Weissler Alhadeff & Sitterson, P.A. 401 East Jackson Street, Suite 2100 | Tampa, FL 33602 Direct: 813-222-5070 | Main: 813-223-4800 vgodelia@stearnsweaver.com

STEARNS WEAVER MILLER

From: Cruz, Kimberly <CruzKi@hillsboroughcounty.org>Sent: Friday, August 25, 2023 4:19 PMTo: Vinette Godelia <vgodelia@stearnsweaver.com>Cc: 'Thornton, Shelley' <Shelley.Thornton@mosaicco.com>; 'Jake.Dotson@mosaicco.com'<Jake.Dotson@mosaicco.com>; Felicia Kitzmiller <fkitzmiller@stearnsweaver.com>; Carter, Kevin(Mike) <CarterK@hillsboroughcounty.org>; Carol Walden <cwalden@stearnsweaver.com>; Moran,Kevin <MoranK@HillsboroughCounty.ORG>; Greenwell, Jeffry<GreenwellJ@hillsboroughcounty.org>; Grady, Brian <GradyB@HillsboroughCounty.ORG>;Takemori, Nancy <TakemoriN@HillsboroughCounty.ORG>Subject: RE: Agency Comments and Requests for Additional Information - 2023 Mosaic Clay Settling

Good afternoon,

Thank you for the submittal of the requested changes and additional information. The submittal is currently being reviewed.

As discussed, this morning, HC EVSD has another request for information. Please provide a table of the information below for CSAs L-1, L-2, L-3, F-4, F-5, and F-7. The requested information below will be used to show that Mosaic has not and will not fill the CSAs beyond *design storage capacity*. Additionally, the information will provide a benefit comparison of how full the CSAs are in 2023 versus the proposed Nov. 2028 expiration date.

- Design storage capacity accounting for applicable requirements, such as freeboard, etc.
- Estimated amount of the design capacity filled with clays as of the most current 2023 data.
- Percentage of the design capacity filled with clays as of the most current 2023 data.
- Estimated amount of design capacity filled with clays as of Nov 15, 2028.
- Percentage of the design capacity filled with clays as of Nov. 15, 2028.

Please let me know if you have any questions or if you determine that a meeting to discuss the above request is necessary.

Have a great weekend!

Kim Cruz

Environmental Supervisor

Hillsborough County Environmental Services Division

P: (813) 276-8370 E: <u>CruzKi@HillsboroughCounty.org</u> W: <u>HCFLGov.net</u>

Hillsborough County

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From: Carol Walden < cwalden@stearnsweaver.com >

Sent: Thursday, August 24, 2023 5:04 PM

To: Cruz, Kimberly <<u>CruzKi@hillsboroughcounty.org</u>>; Greenwell, Jeffry

<<u>GreenwellJ@hillsboroughcounty.org</u>>; Grady, Brian <<u>GradyB@HillsboroughCounty.ORG</u>>; Moran,

Kevin <<u>MoranK@HillsboroughCounty.ORG</u>>; Takemori, Nancy

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Cc: Vinette Godelia <<u>vgodelia@stearnsweaver.com</u>>; 'Thornton, Shelley'

<<u>Shelley.Thornton@mosaicco.com</u>>; 'Jake.Dotson@mosaicco.com' <<u>Jake.Dotson@mosaicco.com</u>>; Felicia Kitzmiller <<u>fkitzmiller@stearnsweaver.com</u>>

Subject: Agency Comments and Requests for Additional Information - 2023 Mosaic Clay Settling Area Resolution App. No. 23-0742

External email: Use caution when clicking on links, opening attachments or replying to this email.

Good afternoon, Kim,

Attached please find Mosaic's responses to comments and supporting documentation regarding DRI-NOPC 23-0742. Thank you.

Carol Walden, Land Development Paralegal Stearns Weaver Miller Weissler Alhadeff & Sitterson, P.A. 401 East Jackson Street, Suite 2100 Tampa, FL 33602 Direct Number: (813) 222-5035 Main Number: (813) 223-4800 Email: <u>cwalden@stearnsweaver.com</u> www.stearnsweaver.com STEARNS WEAVER MILLER

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As of 8/1/2023		Prop (thro	osed 5-year Extension ugh year 11/15/2028)		
Area Name	Constructed Volume ¹ (Ac-Ft)	Est. Current Fill Volume ² (Ac-Ft)	Est. % of Constructed Volume Filled	Est. Proposed Fill Volume ³ (Ac-Ft)	Est. Proposed % of Constructed Volume Filled
F-4	56,648	49,682	88%	55,770	98%
F-5	28,955	24,416	84%	28,428	98%
F-7	54,178	49,821	92%	53,479	99%
L-1	29,131	26,639	91%	28,644	98%
L-2	27,897	24,777	89%	27,352	98%
L-3	21,093	19,209	91%	20,646	98%
Total	217,902	194,545	89%	214,319	98%

Hillsborough County Clay Settling Area Ac-Ft Summary

Constructed Volume is taken from Updated Life of Mine Waste Disposal Plan for Four Corners Extension Mine by Ardaman & 1 Associates, dated August 4, 2020. It is calculated using the Maximum Fluid Elevation and accounts for a minimum of 5 feet of freeboard.

2 Current Inventory as of August 1, 2023. Estimated from a combination of Sampling, Sounding, and Operational data.

The Proposed Fill Volume assumes fill to a level 1 foot below the Maximum Fluid Level to account for 5 feet of freeboard and 3 another foot for water managment. Many factors can impact the disposal operation which would reduce the actual fill volume on 11/15/28. However, at no time is the proposed fill volume expected to be greater than the constructed volume.

FINAL RESPONSE TO AGENCY REVIEW COMMENTS AND REQUEST FOR ADDITIONAL INFORMATION



ENVIRONMENTAL SERVICES PO Box 1110, Tampa, FL 33601-1110 813-209-3073

September 5, 2023

Jake Dotson Engineer II, Mine Permitting Mosaic Fertilizer, LLC 13830 Circa Crossing Drive Lithia, FL 33547 jake.dotson@mosaicco.com BOARD OF COUNTY COMMISSIONERS Donna Cameron Cepeda Harry Cohen Ken Hagan Pat Kemp Gwendolyn "Gwen" Myers Michael Owen Joshua Wostal COUNTY ADMINISTRATOR Bonnie M. Wise COUNTY ATTORNEY Christine M. Beck COUNTY INTERNAL AUDITOR Peggy Caskey

ASSISTANT COUNTY ADMINISTRATOR George Cassady

Re: Response to Agency Comments and Request for Additional Information (RAI) received August 16, 2023 regarding Extension of R-18-129 concerning Clay Settling Areas in DRI-263

Dear Mr. Dotson:

On August 24, 2023, and August 29, 2023, Hillsborough County Environmental Services Division (EVSD) received Mosaic Fertilizer, LLC (Mosaic) responses to agency comments, proposed conditions, and requests for additional information regarding Mosaic's application to extend use of clay settling areas ("CSAs") within the footprint of DRI 263 as previously approved in R-18-129 ("CSA Resolution 2023").

Original agency comments are provided in bold font, Mosai's response in regular font, and EVSD comments to Mosaic's RAI responses are provided in italic font below.

1. <u>Environmental Services Division</u> – The applicant shall continue associated monitoring and reporting requirements as codified in R-18-129 (see comment 15 and 17 for additional reporting requirements).

<u>Mosaic</u> - Noted. Mosaic understands the original reporting requirements codified in R-18-129 with the added specificity contained in comments 15 and 17 will continue to apply to any extension of this approval.

Environmental Services Division - Response acknowledged.

2. <u>Environmental Services Division</u> – The applicant shall obtain and maintain all applicable Federal, State, or local permits.

<u>Mosaic</u> - Noted. All required permits have been obtained and will be maintained consistent with this condition of extension.

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Environmental Services Division - Response acknowledged.

3. <u>Environmental Services Division</u> – Reclamation shall be completed in accordance with the Hillsborough County Board of County Commissioners (HCBOCC) approved post- reclamation plans and timelines.

<u>Mosaic -</u> Noted. Reclamation will be completed in accordance with reclamation plans approved by the HCBOCC and in accordance with the reclamation timelines.

Environmental Services Division - Response acknowledged.

4. <u>Environmental Services Division</u> – For the time extension regarding the Emergency Order, please provide your calculation.

<u>Mosaic</u> - Applied to DRI-263, emergency order extensions currently in effect will result in the following deadlines, provided there are no further extensions.

Section & Subject	Current Date	Extended Date
Section 5 Restriction on Downzoning	October 9, 2032	September 27, 2034
Composite Attachment A – Section III. A. Life and Timing of Development – Effective period of Development Order.	October 9, 2032	September 27, 2034
Composite Attachment A – Section III. A. Life and Timing of Development – Mining Completion Date.	October 9, 2023	September 26, 2025
Composite Attachment A – Section III. A. Life and Timing of Development – Reclamation Completion Date.	October 9, 2031	September 26, 2033

Environmental Services Division - Response acknowledged.

5. <u>Environmental Services Division</u> – As of 8/14/2023, the Executive Orders have added 354 days plus 6 months for each order (182 days x 2), which amounts to 718 days. The timelines shall be recalculated prior to the PHM meeting and subsequently prior to the BOCC meeting, if applicable.

<u>Mosaic</u> - Noted. Updated timelines for DRI 263 that account for the emergency orders currently in effect will be available at the PHM and BOCC hearings.

<u>Environmental Services Division</u> - Response acknowledged. Please update and resubmit the proposed resolution with the new timelines provided above.

6. <u>Environmental Services Division</u> – Revise Section 1.C. of the proposed Resolution to add a statement that the clays deposited will not exceed the freeboard elevations conditioned in the Florida Department of Environmental Protection (FDEP) permits.

Mosaic - Noted. A revised proposed resolution is attached to this response.

<u>Environmental Services Division</u> - Response and revision acknowledged.

7. <u>Environmental Services Division</u> – To be consistent with Resolution R-18-129, the following language shall be included in the proposed Resolution at the end of the Section 2.B.: 'as part of the report referenced in Section 2.E., below.'

<u>Mosaic - Noted</u>. A revised proposed resolution is attached to this response.

Environmental Services Division - Response and revision acknowledged.

8. <u>Environmental Services Division</u> – To be consistent with Resolution R-18-129, the following language in the proposed Resolution shall be included in Section 2.E. in front of 'furthermore': This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners.

Mosaic - Noted. A revised proposed resolution is attached to this response.

Environmental Services Division - Response and revision acknowledged.

9. <u>Environmental Services Division</u> – Submit a copy of the most updated version of the Clay Waste Disposal Plan to be included with the application.

<u>Mosaic -</u> The most updated Life of Mine Waste Disposal Plan for Four Corners Extension Mine dated August 4, 2020, and prepared by Ardaman & Associates is attached. This is the most current version of the Clay Waste Disposal Plan for the Four Corners Mine. Mosaic is in the process of producing an update to this disposal plan that will incorporate this application's request to continue to utilize the Hillsborough County CSAs to store clay produced from other counties. The updated plan is expected to be completed in late 2023. Once complete, a copy of the updated plan will be provided to Hillsborough County.

<u>Environmental Services Division -</u> Condition of approval - Within 90 days of the HC BOCC approval of this application, Mosaic shall review the Life of Mine Waste Disposal Plan dated August 4, 2020, and revise the plan to incorporate this application's request to continue to utilize the Hillsborough County CSAs to store clay determined to be extracted from Hardee County until each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever comes first unless

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expressly extended by the HC BOCC.

10. <u>Environmental Services Division</u> – The application indicates that F-2A, F-2C, and F-2D will continue to be used for water management and clay thickening to support the transfer of clays to other Clay Settling Areas (CSA). Provide a summary of this process and how the process relates to Hillsborough County receiving clay from Hardee County.

<u>Mosaic</u> - F-2A, F-2C and F-2D will be utilized to provide clear water to the Four Corner plant operations while also serving to thicken clays prior to pumping them to distant settling areas. Clay slurry coming from the plant is typically around 2% solids by weight. By depositing that slurry in a CSA adjacent to the plant, we can allow it to consolidate before picking it up again by dredge to pump to a more distant location. This results in a slurry being pumped over long distances that is roughly 10% solids by weight, thereby significantly reducing the volume of slurry required to move the clays to their final storage location and the associated energy required to power the pumping system. Furthermore, water utilized to pump the clay into nearby clay settling areas where thickening operations are occurring is then decanted off the CSA and provides a critical clear water source proximate to the mine's beneficiation plant.

This process is strictly a means of reducing energy consumption and maximizing recycling of water. There is no net change in the amount of clay planned to be stored in these CSAs in association with this process. In other words, the amount of clay transferred into these CSAs will equal the amount pumped out to distant CSAs.

Environmental Services Division – Response acknowledged.

11. <u>Environmental Protection Commission</u> – No comment.

Mosaic - Noted.

12. <u>Environmental Protection Commission</u> – No comment.

Mosaic - Noted.

13. <u>Development Services – Natural Resources</u> – No objection.

Mosaic - Noted.

14. <u>Environmental Services Division</u> – The application mentions a Regional Clay Plan. Does the Regional Clay Plan include an agreement between Mosaic, Hillsborough County, and Hardee County? If applicable, provide a copy of the Regional Clay Plan to be included with the application packet.

<u>Mosaic</u> - No interlocal agreement exists or is required. Regional Clay Plan refers to Mosaic's overall strategy for efficiently managing clay and minimizing CSA footprint across all jurisdictions in which the company operates. It is not a specific document. As an example, through efficient clay

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management such as that proposed by this application, Mosaic was able to eliminate four approved CSA footprints in Hillsborough County that the company committed not to construct in the 2018 amendment to DRI 263. The efficient regional management of clays and CSA footprints furthers Mosaic's commitment to maximize the value of reclaimed lands and to reduce greenhouse gas emissions.

Environmental Services Division - Response acknowledged.

15. <u>Environmental Services Division</u> – At a minimum, the annual reports shall include the following a clay balance table signed and sealed by a P.E.: total volume of clay processed in Hillsborough County, the volume of clay deposited in the Hillsborough County CSAs, the remaining available volume for clay disposal in the Hillsborough County CSAs, the volume of clays mined from Hillsborough County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and deposited in the Hillsborough County CSAs, the volume of clays mined from Hardee County and returned to Hardee County, Clays deposited in each clay settling area in tons, the remaining available volume in acre-feet and tons, and provide any correspondence and/or data related to compliance with FDEP's Phospahte (sic) Management Facility Permit (PMFP) and relating to any modification or change related to the CSAs.

<u>Mosaic</u> - Noted. Annual reports shall contain the information requested above for the duration of the extension requested.

Environmental Services Division - Response acknowledged.

16. <u>Environmental Services Division</u> – The County requests paragraph 2 be reworded similar to the following: Ultimately, the HC BOCC approved a temporary amendment for a duration of five years which allows for clays calculated to be from Hardee County be deposited in the Hillsborough County CSAs with associated monitoring and reporting requirements as codified in R-18-129.

<u>Mosaic</u> - A revised narrative is attached. The sentence at issue has been revised to say, "Ultimately, the Board of County Commissioners ("BOCC") approved a temporary amendment that permitted Mosaic to deposit clay volume derived from mining in Hardee County in Hillsborough County CSAs for permanent storage, subject to monitoring and reporting requirements as codified in R-18-129. The amendment sunset in five years. The extension to continue existing operations approved by R-18-129 is the subject of this application."

<u>Environmental Services Division</u> - Response and revision acknowledged.

17. <u>Environmental Services Division</u> – Reporting period for the CSA annual reports associated with the new resolution shall be from November 1St through October 31St and shall be submitted within 90 days from the end of the reporting period.

Mosaic - Noted. Mosaic has no objection to this schedule.

Environmental Services Division - Response acknowledged.

- 18. Environmental Services Division Please provide a table of the information below for CSAs L-1, L-2, L-3, F-4, F-5, and F-7. The requested information below will be used to show that Mosaic has not and will not fill the CSAs beyond *design storage capacity*. Additionally, the information will provide a benefit comparison of how full the CSAs are in 2023 versus the proposed Nov. 2028 expiration date.
 - Design storage capacity accounting for applicable requirements, such as freeboard, etc.
 - Estimated amount of the design capacity filled with clays as of the most current 2023 data.
 - Percentage of the design capacity filled with clays as of the most current 2023 data.
 - Estimated amount of design capacity filled with clays as of Nov 15, 2028.
 - Percentage of the design capacity filled with clays as of Nov. 15, 2028.

<u>Mosaic</u> - See attached in response to your request below. Let us know if you have further questions.

		As of 8/1/2023		Prop (thro	osed 5-year Extension ugh year11/15/2028)
Area Name	Constructed Volume ¹ (Ac-Ft)	Est. Current Fill Volume ² (Ac-Ft)	Est. % of Constructed Volume Filled	Est. Proposed Fill Volume ³ (Ac-Ft)	Est. Proposed % of Constructed Volume Filled
F-4	56,648	49,682	88%	55,770	98%
F-5	28,955	24,416	84%	28,428	98%
F-7	54,178	49,821	92%	53,479	99%
L-1	29,131	26,639	91%	28,644	98%
L-2	27,897	24,777	89%	27,352	98%
L-3	21,093	19,209	91%	20,646	98%
Total	217,902	194,545	89%	214,319	98%

Hillsborough County Clay Settling Area Ac-Ft Summary

Constructed Volume is taken from Updated Life of Mine Waste Disposal Plan for Four Corners Extension Mine by Ardaman & 1 Associates, dated August 4, 2020. It is calculated using the Maximum Fluid Elevation and accounts for a minimum of 5 feet of freeboard.

2 Current Inventory as of August 1, 2023. Estimated from a combination of Sampling, Sounding, and Operational data.

The Proposed Fill Volume assumes fill to a level 1 foot below the Maximum Fluid Level to account for 5 feet of freeboard and 3 another foot for water managment. Many factors can impact the disposal operation which would reduce the actual fill volume on 11/15/28. However, at no time is the proposed fill volume expected to be greater than the constructed volume.

Environmental Services Division – Response acknowledged.

RESOLUTION R23-

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA DRI #263 DEVELOPMENT ORDER AMENDMENT AND RELATED OPERATING PERMIT AMENDMENTS

Upon motion by Commissioner _____, seconded by Commissioner _____, the following Resolution was adopted by a vote of ____ to ____ with Commissioner(s) ______ voting "No."

WHEREAS, Mosaic Fertilizer, LLC is the successor in interest to Mosaic Phosphates Company, IMC Phosphates Company, IMC Agrico, and IMC Fertilizer, Inc., hereinafter referred to as "MOSF" or "Mosaic Fertilizer, LLC" or "Mosaic" or "Mosaic Fertilizer"; and

WHEREAS, the Lonesome Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on March 21, 1974 and was subsequently amended on February 21, 1984, January 9, 1990, September 25, 1990 and May 7, 1991; and

WHEREAS, the Kingsford Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 15, 1975 and was subsequently amended on March 29, 1988; and

WHEREAS, the Four Corners Mine Development of Regional Impact was originally approved by the Hillsborough County Board of County Commissioners on January 4, 1978, and was subsequently amended on April 22, 1981, May 13, 1986, January 9, 1990 and September 25, 1990; and

WHEREAS, the Lonesome Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on November 8, 1974 and has been subsequently amended; and

WHEREAS, the Kingsford Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 15, 1975 and has been subsequently amended; and

WHEREAS, the Four Corners Mine Operating Permit was originally issued by the Hillsborough County Board of County Commissioners on January 5, 1978 and has been subsequently amended; and

WHEREAS, on July 1, 1990, IMC Fertilizer, Inc. filed an application for development approval for a substantial deviation to the approved Lonesome, Kingsford and Four Corners DRIs and related operating permit amendments with the Hillsborough County Board of County Commissioners, pursuant to the provisions of Section 380.06, Florida Statutes; and

WHEREAS, said 1990 substantial deviation proposed, among other things, the addition of approximately 18,000 acres to form the Extension Phase, the removal of approximately 850 acres from the Lonesome Mine boundary, an addition to the mining area, a revision to the mining schedule and equipment utilization, a revision of the clay and tailing storage areas and disposal methods, an addition to the approved methods for transporting product from the plants, a revision of the employee traffic impacts, the addition of a railroad to connect the Four Comers, Lonesome and Kingsford plants, the upgrading of the Lonesome Plan operations, including wet rock loading facilities, additional floodplain crossings, and the combination of the three approved mines into a single mine for reporting purposes; and

WHEREAS, on or about March 25, 1992, IMC Fertilizer, Inc. requested that the application be divided into Phase I (the "Consolidation Phase") and Phase II (the "Extension Phase"); and

WHEREAS, on July 1, 1993, IMC Fertilizer, Inc. became IMC-Agrico (IMC-Agrico); and

WHEREAS, on July 21, 1993, the Hillsborough County Board of County Commissioners approved Resolution 93-071, the Consolidation Phase of the Hillsborough County Mines; and

WHEREAS, on March 23, 1995, the Hillsborough County Board of County Commissioners approved Resolution 95-062, the Extension Phase of the Hillsborough County Mines; and

WHEREAS, on April 25, 1996, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 96-120, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Shuman Tract, approximately 35 acres; and

WHEREAS, on January 13, 1998, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 98-012, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Spivey Tract, approximately 157 acres; and WHEREAS, on September 26, 2000, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 00-223, amending the DRI Development Order, Operating Permit, and Master Mine Plan to add the Reynolds Parcel, approximately 357 acres; and

WHEREAS, on February 11, 2003, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 03-026, amending the DRI Development Order, Operating Permit, and Master Mine Plan to allow temporary trucking of tailings sand to the Tampa Bay Water Reservoir site; and

WHEREAS, on January 25, 2005, Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution 05-021, amending the ORI Development Order, Operating Permit, and Master Mine Plan to allow construction and operation of the Central Screening Station; and

WHEREAS, on March 11, 2008, Hillsborough County Board of County Commissioners approved Resolution 08-047, which added approximately 1,540 acres to form the Hillsborough County Mines Addition Area - DRI #263 (hereinafter "ORI #263 Addition Area Phase"); removed approximately 7,251.5 acres from the Lonesome and Four Corners Mine boundaries; added a mine infrastructure corridor, revised mining plans and incorporated clay settling area siting plans conceptually approved by the Environmental Protection Commission of Hillsborough County on April 26, 2005 and July 7, 2005, revised reclamation plans reflecting these changes as well as the reclamation already completed in the DRI #213 area; updated DRI #213 Development Order conditions already satisfied or no longer applicable; updated the approved methods for transporting product between the mines and plants; and updated product shipment destination points and deletion of certain destination points and route segments (hereafter "DRI #263 Composite Development Order and Operating Permit"); and

WHEREAS, on July 15, 2009, Mosaic Fertilizer, LLC filed a Notice of Proposed Change ("NOPC") and an application to amend the Operating Permit/Master Mine and Reclamation Plan for the Hillsborough County Mines Development of Regional Impact DRI #263 proposing to add approximately 75 acres of land, previously owned by Kathy Surface (hereinafter referred to as the "Surface Parcel"), to DRI #263 Composite Development Order and Operating Permit"; and

WHEREAS, on August 10, 2010, the Hillsborough County Board of County Commissioners approved the NOPC and adopted Resolution R10-113, amending DRI #263 Composite Development Order and Operating Permit, and the Master Mine and Reclamation Plan to add the approximately 75 acre Surface Parcel; and WHEREAS, per § 252.363, Florida Statutes, and by letter dated November 3, 2017, from counsel for Mosaic, as confirmed by letter from the County dated April 4, 2018, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 31, 2027	December 22, 2030
Restriction on Downzoning		
Composite Attachment A-	December 31, 2027	December 22, 2030
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 31, 2018	December 22, 2021
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 31, 2026	December 22, 2029
Development-		
Reclamation Completion Date		

and

WHEREAS, on November 18, 2018, Hillsborough County Board of County Commissioners approved R18-129, amending DRI #263 Composite Development Order and Operating Permit to enable existing clay settling areas (CSAs) L-1, L-2, L-3, F-4, F-5, and F-7 within DRI #263 to accept clays from Hardee County, in addition to clays from Hillsborough County, until such time as each clay settling area is utilized to its existing, permitted full design storage capacity or until November 14, 2023, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master; and eliminating construction of CSAs L-4, L-5, L-6, and F-8; and

WHEREAS, per § 252.363, Florida Statutes, and by letter dated September 13, 2021, from counsel for Mosaic, as confirmed by letter from the County dated January 14, 2022, the DRI #263 Composite Development Order and Operating Permit dates were extended as follows:

Section & Subject	Prior Date	Extended Date
Section 5	December 22, 2030	October 9, 2032
Restriction on Downzoning		
Composite Attachment A-	December 22, 2030	October 9, 2032

Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	December 22, 2021	October 9, 2023
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	December 22, 2029	October 9, 2031
Development-		
Reclamation Completion Date		

and

WHEREAS, per § 252.363, Florida Statutes, Mosaic has indicated via a letter from counsel dated January 5, 2023, that it intends to exercise its rights to extend the DRI #263 expiration dates upon expiration of ongoing hurricane related Emergency Orders 22-218 and 22-253 resulting in anticipated dates of <u>no earlier</u> than the following:

Section & Subject	Prior Date	Extended Date
Section 5	October 9, 2032	November 9, 2034
Restriction on Downzoning		
Composite Attachment A-	October 9, 2032	November 9, 2034
Section III.A. Life and Timing		
of Development-		
Effective Period of		
Development Order		
Composite Attachment A-	October 9, 2023	November 8, 2025
Section III.A. Life and Timing		
of Development-		
Mining Completion Date		
Life and Timing of	October 9, 2031	November 8, 2033
Development-		
Reclamation Completion Date		

and

WHEREAS, June 27, 2023, Mosaic submitted an application to amend the DRI #263 Composite Development Order and Operating Permit to extend the amendment approved in R18-129 to DRI #263 Developer Commitment (ADA, 38A-11) set forth in Composite Attachment A, Section VI. MINING to allow existing Hillsborough County Clay Settling Areas to accept additional clay volume produced by phosphate extraction activities in Hardee County ("Application"); and

WHEREAS, the Application seeks to extend the date for operation of clay settling areas for 5 additional years to November 15, 2028

WHEREAS, on ______, 2023, the Phosphate Mining Hearing Master reviewed the request to extend the amendment to DRI #263 Composite Development Order and Operating Permit approved in R18-129, pursuant to the Hillsborough County Land Development Code, and filed a recommendation on said Application with the Hillsborough County Board of County Commissioners; and

WHEREAS, it is the intent of the Hillsborough County Board of County Commissioners that except for the amendments specified herein, previous DRI and Operating Permit approvals and conditions set forth in prior development orders shall remain in full force and effect; and

WHEREAS, the Hillsborough County Board of County Commissioners, as the governing body of the local government having jurisdiction pursuant to Section 380.06(7), Florida Statutes, is authorized and empowered to consider proposed changes to approved Developments of Regional Impact pursuant to standards and procedures in the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code; and

WHEREAS, the public notice requirements of the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County and the Hillsborough County Land Development Code, have been satisfied; and

WHEREAS, the Hillsborough County Board of County Commissioners has solicited, received and considered reports, comments and recommendations from interested citizens, state and local agencies, and the Phosphate Mining Hearing Master; and

WHEREAS, the Hillsborough County Board of County Commissioners on , 2023, held a duly noticed public hearing on said Application, as required by Hillsborough County Land Development Code Section 8.02.07, and has heard and considered testimony and reviewed documents and evidence received thereon.

NOW, THEREFORE, BE IT RESOLVED THIS ______TH DAY OF ______, 2023 BY THE BOARD OF COUNTY COMMISSIONERS OF HILLSBOROUGH COUNTY, FLORIDA, DRI #263 COMPOSITE DEVELOPMENT ORDER AND OPERATING PERMIT IS HEREBY AMENDED BY ADDING THE FOLLOWING FINDINGS OF FACT AND CONDITIONS, WITH THE BALANCE OF THE ADOPTED DEVELOPMENT ORDER AND OPERATING PERMIT REMAINING IN

EFFECT IN ITS ENTIRETY.

SECTION 1. FINDINGS OF FACT:

- A. MOSF is the Developer of DRI #263. The authorized agent for MOSF is Mr. Russell Schweiss, Senior Director – Land and Resource Strategies, Mosaic Fertilizer, LLC, 13830 Circa Crossing Drive, Lithia, Florida 33547.
- B. The real property that is the subject of this Application is as attached to Section IV to the DRI #263 Composite Development Order and Operating Permit, as amended by Rl0-113.
- C. Modification of the Developer Commitment in DRI # 263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING (ADA, 38A-11) enabling existing clay settling areas L-1, L-2, L-3, F-4, F-5 and F-7 within DRI #263 to accept clays from Hardee County until such time as each such clay settling area is filled to its design storage capacity not to exceed the freeboard elevations conditioned in permits for the facilities issued by the Florida Department of Environmental Protection (FDEP) will not change the existing approved dimensions of those existing clay settling areas and will allow such clay settling areas to be fully utilized.

SECTION 2. CONDITIONS:

A. The Developer Commitment (ADA, 38A-11) by Mosaic in DRI #263 Composite Development Order and Operating Permit, Composite Attachment A, Section VI MINING which originally stated "MOSF commits to balance clay disposal so that the amount of clay produced in each county is disposed in that county" shall be amended to state as follows: "MOSF commits to balance the clay disposal so that the amount of clay produced in each county does not exceed the amount of clay permanently disposed of in that county, with the exception that CSA L-1, L-2, L-3, F-4, F-5 and F-7 in Hillsborough County, are authorized to accept clays mined by MOSF from outside of the County until such time as each CSA is utilized to its full design storage capacity or until November 15, 2028, whichever occurs first, unless expressly extended by the Board of County Commissioners after hearing before the Phosphate Hearing Master. Additionally, MOSF will not construct CSAs L-4, L-5, L-6, and F-8."

- B. On each anniversary of this Resolution, Mosaic shall report to the County's Development Services Department the amount of clay from outside Hillsborough County deposited in Hillsborough County clay settling areas in the previous year. This information shall be reported to the Hillsborough County Board of County Commissioners annually as part of the report referenced in Section 2.E. below.
- C. Mosaic shall continue to fill CSAs L-1, L-2, L-3, F-4, F-5, and F-7 with clays originating from Hillsborough County, until such clay supply from mining operations in Hillsborough County is exhausted.
- D. No new pipelines or clay transport mechanisms shall be constructed in Hillsborough County to accommodate any clay derived from outside of the County.
- E. All aspects of the approved CSAs' design, construction and maintenance shall occur in accordance with the terms and conditions of such permits or authorizations given in connection with the design, construction or maintenance of the clay settling area(s), including but not limited to the FDEP Phosphate Management Facility Permit (PMFP). Nothing herein shall be construed as to exceed or expand the terms or conditions of an approved PMFP. Mosaic shall provide to the appropriate representative of Hillsborough County's Development Services Department copies of any correspondence or any data relating to compliance with FDEP's PMFP and relating to any modification or change to any approvals granted relating to the clay settling areas. Simultaneous with any submittal to FDEP of any data regarding the composition or content of clay, water or any other substance from a clay settling area within DRI #263, Mosaic shall provide the same data in the same format to the Hillsborough County Environmental Protection Commission (EPC) for review. This data shall be summarized and reviewed by Hillsborough County staff and provided in an annual report to the Hillsborough County Board of County Commissioners. Furthermore, Mosaic agrees to allow the EPC or an independent monitor selected by the EPC to take samples from the clay settling areas with reasonable notice, and shall pay all reasonable costs associated with such sampling, testing and monitoring.
- F. Mosaic shall obtain all required or necessary governmental approvals, authorizations, permits and documents prior to conducting any mining activity. Mosaic agrees to pay all of the County's reasonable costs and expenses related

to monitoring the clay settling areas until such time as all clay settling areas within the DRI are reclaimed.

- G. Except as amended in this Resolution, the approvals and conditions set forth in the DRI #263 Composite Development Order and Operating Permit, as amended, shall continue in full force and effect as previously approved.
- H. The changes approved in this Resolution are consistent with the Hillsborough County Comprehensive Plan for Unincorporated Hillsborough County, the Hillsborough County Land Development Code, and Section 380.06(7) Florida Statutes.

SECTION 3. ADMINISTRATION:

- A. The Ex Officio Clerk of the Board of County Commissioners shall send copies of this Resolution, by certified mail, within thirty (30) days following the effective date hereof, to MOSF and the Tampa Bay Regional Planning Council.
- B. A notice of adoption of this Resolution shall be recorded by MOSF in the public records of Hillsborough County, Florida.

STATE OF FLORIDA COUNTY OF HILLSBOROUGH

I, _____, Clerk of the Circuit Court and Ex Officio Clerk of the Board of County Commissioners of Hillsborough County, Florida, do hereby certify that the above and foregoing is a true and correct copy of a Resolution adopted by the Board at its regular meeting of ______, 2023, as the same appears of record in Minute Book _____ of the Public Records of Hillsborough County, Florida.

WITNESS my hand and official sealthis _____ day of _____ 2023.

CLERK OF THE CIRCUIT COURT

APPROVED BY COUNTY ATTORNEY As to Form and Legal Sufficiency

By_____ Sr. Assistant County Attorney