

# Mosaic Fertilizer, LLC/ Wingate East Mine

*Presented by:*

*Rob Brown*

*Alissa Powers*

*Lisa Barrett*

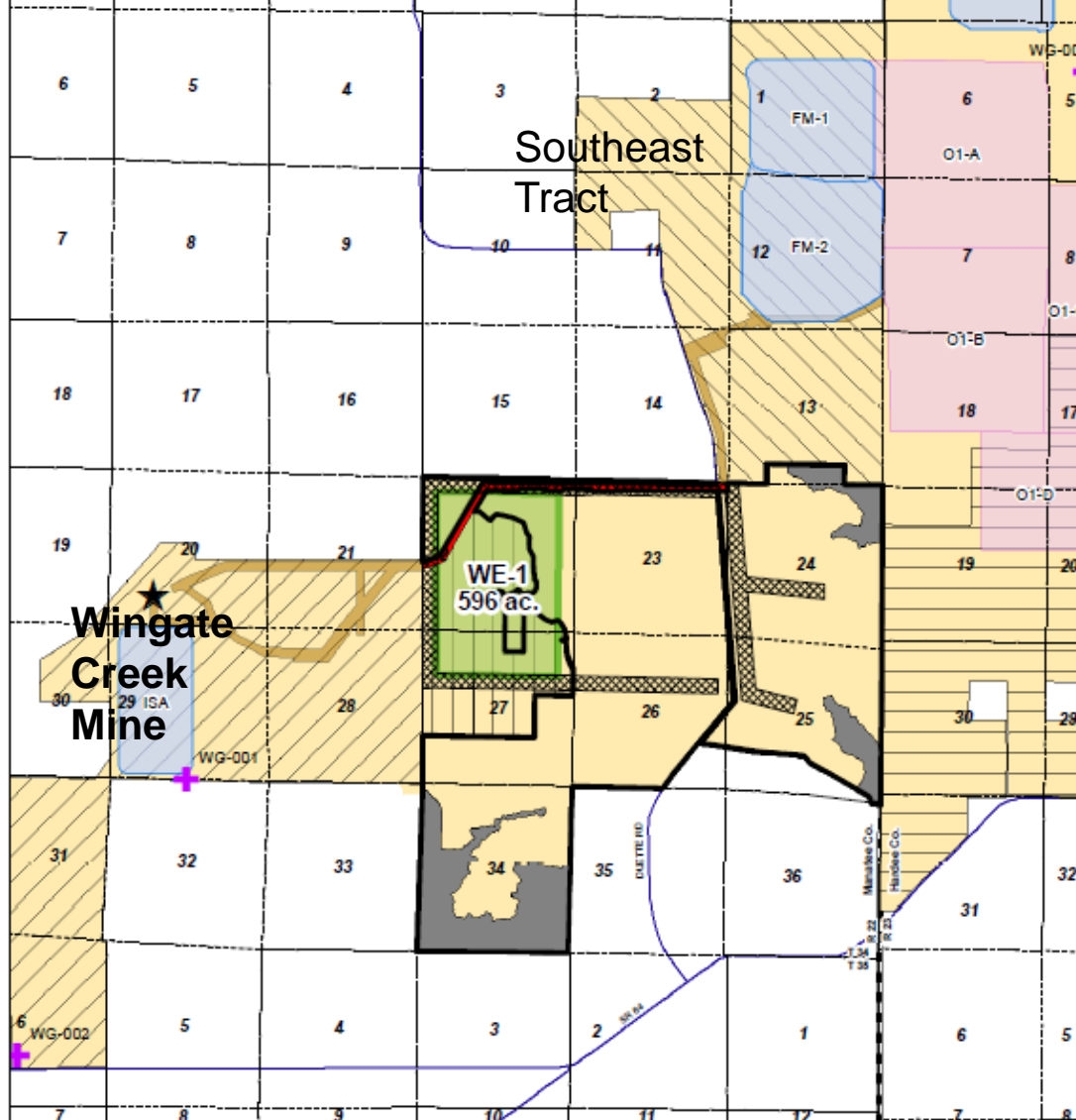
*Joel Christian*



# Wingate East Mine

- *Phosphate Mining History*
- *Army Corps of Engineers Areas-wide Environmental Impact Statement*
- *Wingate East Mine*
  - *Rezone*
  - *Master Mining Plan (MMP)*



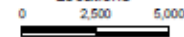


**Legend**

- |   |   |
|---|---|
| Wingate East Boundary                               | Wingate Plant (Existing)                    |
| Southeast Tract Boundary (SAJ-1992-01545)           | Existing NPDES Outfalls                     |
| Wingate Creek Mine Boundary                         | Existing Corridors                          |
| Wingate Extension Boundary (SAJ-2011-00105)         | Corridors (Proposed)                        |
| Wingate to Southeast Tract Corridor (SAJ-2007-6503) | Wingate East Clay Settling Areas (Proposed) |
| Ona Boundary (Proposed SAJ-2011-01869)              | Clay Settling Areas (Active)                |
| Other Mosaic Property                               | Ona Clay Settling Areas (Proposed)          |
| Section Lines                                       | Avoided Area / Native Soils                 |
| County Lines  |   |
| Roads   |   |



**Wingate East**  
 Manatee County  
 Master Mine Plan  
 Map H-6  
 Clay Settling Area  
 Locations



# Wingate East Mine Phosphate Mining History

## *Wingate Creek Mine Permitted Acres – 3,029*

- 1975 initial County approval
- In 1988, Beker filed bankruptcy
- Bought by NuGulf Industries
- Mine shut down from Dec. 1999 – Aug. 2004
- Cargill (now Mosaic) reopened the mine

## *Southeast Tract Permitted Acres – 2,611*

- In 1988 added to Four Corners Mine
- Connected to Wingate Creek Mine via corridor in 2008
- Completed extraction in 2014

## *Wingate Extension Permitted Acres - 661*

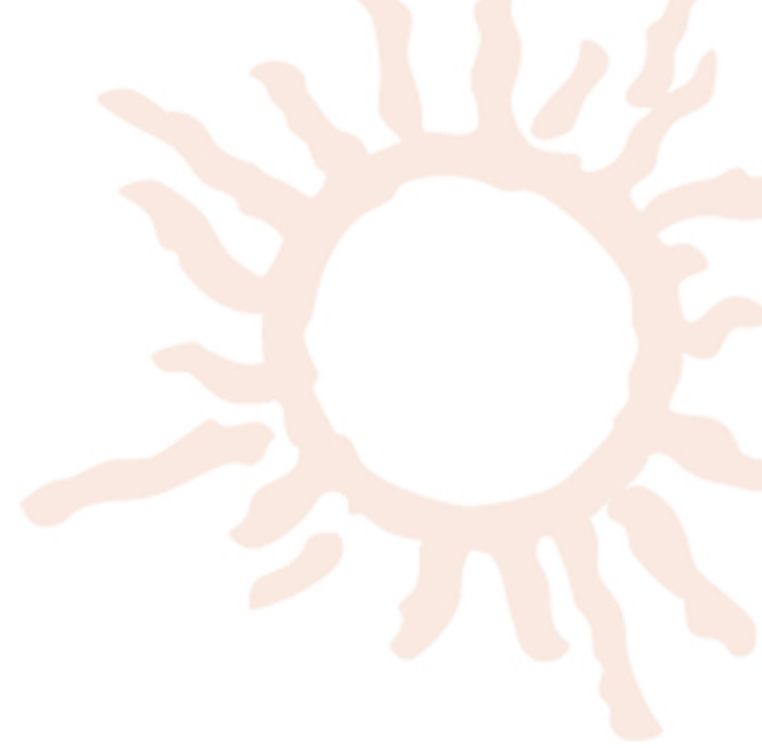
- In 2012, County approval
- Avoided federal jurisdictional wetlands



# Area-wide Environmental Impact Statement (AEIS)

- *Federal non-regulatory process to evaluate direct, indirect and cumulative environmental impacts*
- *Central Florida Phosphate AEIS completed in 2013*
- *Wingate East Mine 1 of 4 similar permit applications*
- *AEIS Conclusions:*
  - *Minor - major impacts without mitigation*
  - *With mitigation – minor, non-significant impacts*
  - *Project-specific record of decision statement of finding*
- *Dredge & Fill 404 permit not yet issued*





# *Rezone*

*Presented by Lisa Barrett*

**WINGATE EAST MINE**

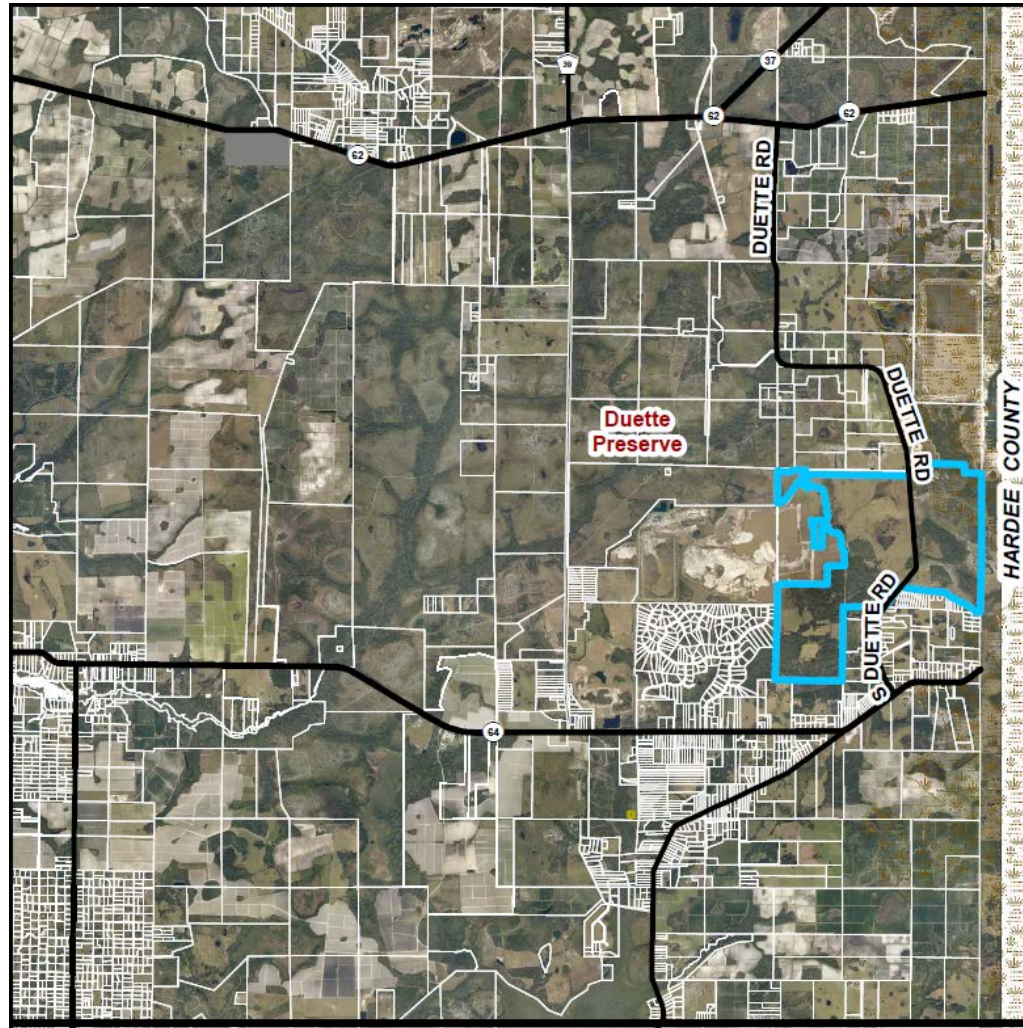


# Wingate East Mine Rezone

- *Rezone +/- 3,595.99 acres from A to EX*
- *Accompanied by MMP to allow mining of the resource*
- *Wingate Creek Mine was a DRI.*
  - *HB 7207: no longer reviewed thru DRI process.*
  - *Local approvals: Rezone, MMP, and Operating Permits*
- *Potential impacts analyzed with MMP*
- *Consistent with the AG/R FLUC*
- *Logical expansion of EX zoning in area*
- *Staff recommends approval of rezone, contingent upon approval of MMP*

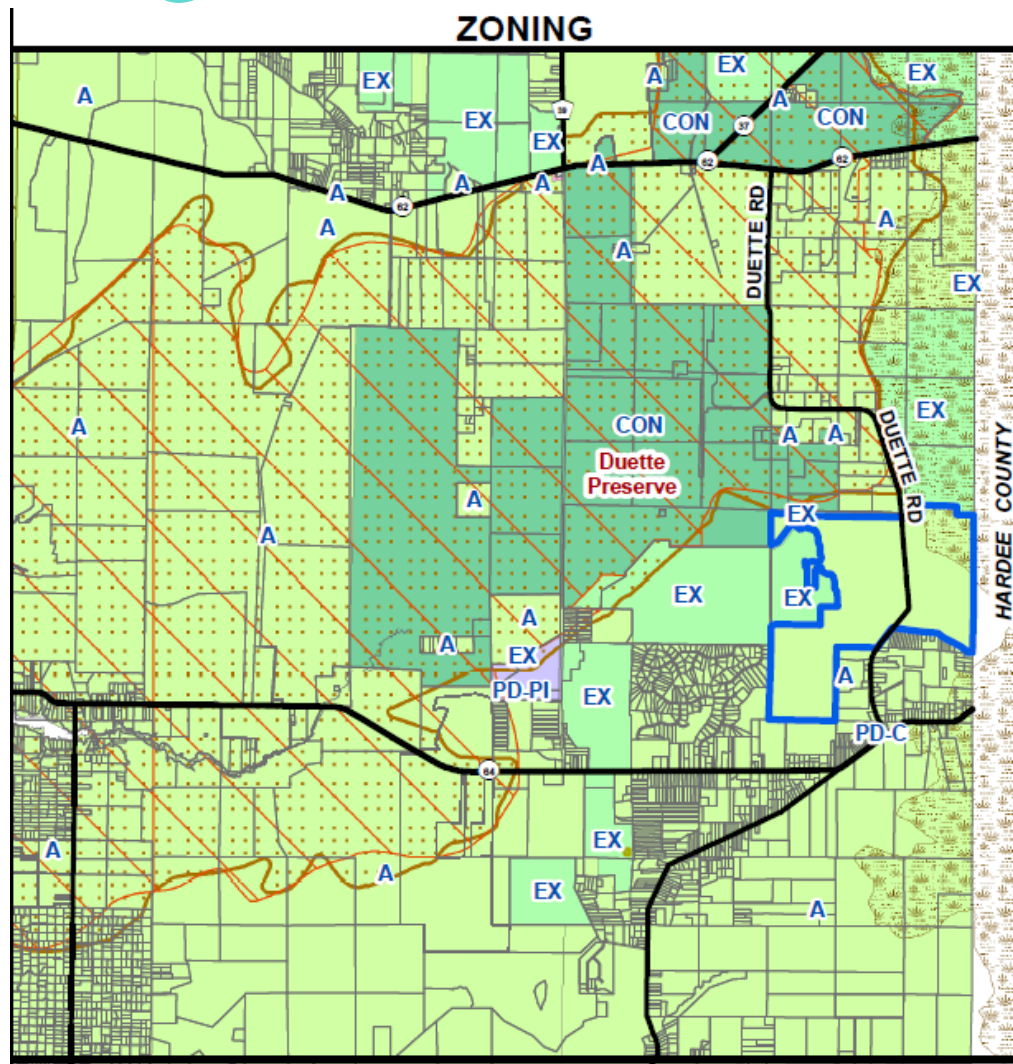


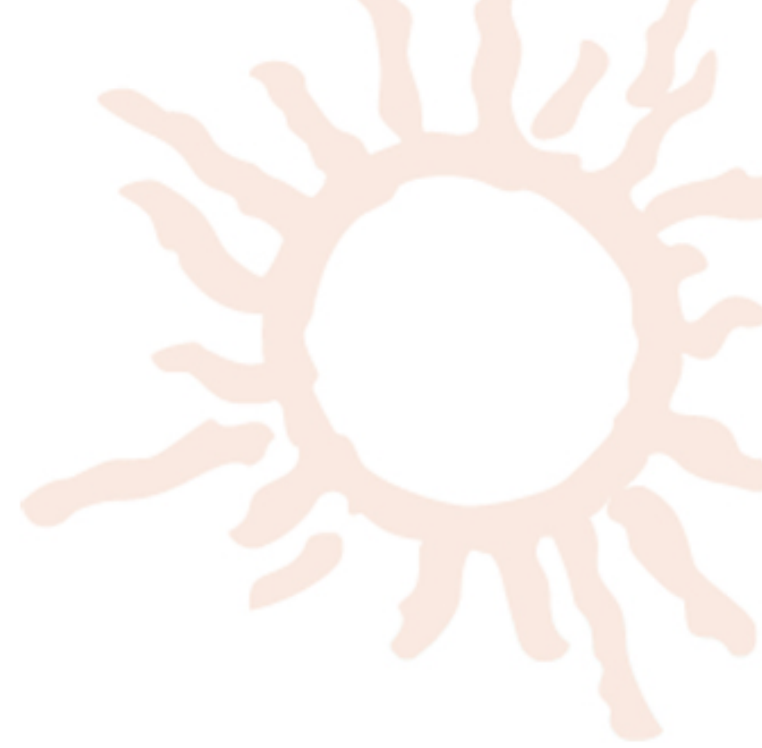
# Wingate East Mine





# Wingate East Mine





# *Master Mining Plan*

## **WINGATE EAST MINE**



# Wingate East Mine

## Minimum Standards & Requirements

- *Compliance with the Comprehensive Plan*
- *Manner and Sequence that minimize adverse impacts*
- *Reasonable protection of natural resources*
- *Employ best operating practices & maximize protection of public facilities & natural resources*
- *Special protection of watersheds (Peace River & Lake Manatee)*
- *Setback limitations and reductions in setbacks*
- *Compliance with noise, light, and vibrations regulations*
- *Post-reclamation lands radiation standards*
- *Clay Settling Area standards*
- *Reclamation schedule*
- *25-Yr floodplain restrictions*



# Wingate East Mine

## Items for Board Consideration

- *Approval of master mining plan, reclamation plan and environmental monitoring plan & incorporate Wingate Extension approvals*
- *Approval of Wetland impacts and mitigation*
- *Special Approval to mine in Peace River Watershed*
- *Approval of CSA WE-1 & amended Waste Clay Plan*
- *Granting Setback waiver from Duette Park*
- *Granting Setback waiver from Duette wetland*
- *Granting Setback waiver from Duette Road*
- *Texaco Tract Wetland Contract*
- *Stream 100 25-Yr floodplain restriction*



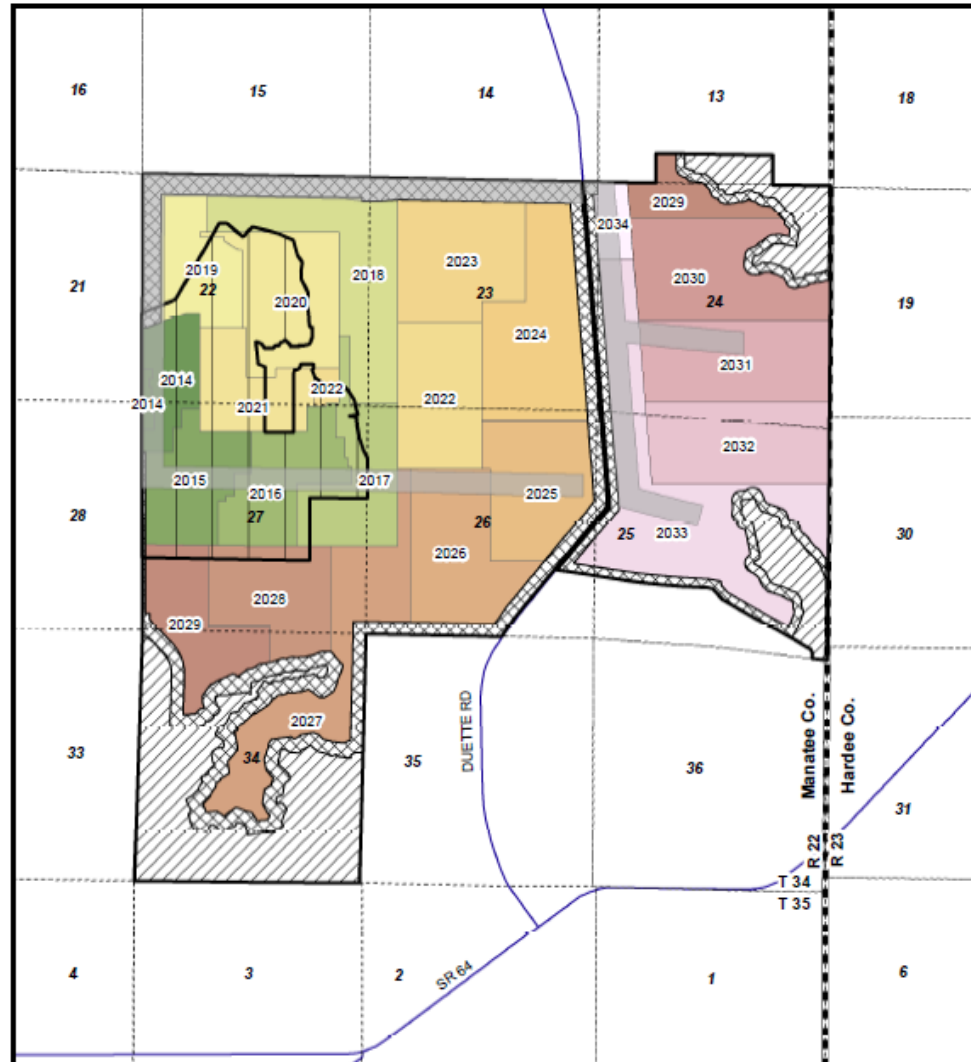
# Wingate East Mine

- *Mining Methods:*

- *Dragline East of Duette Road*
- *Dredge West of Duette Road*



# Wingate East Mine Plan



**Legend**

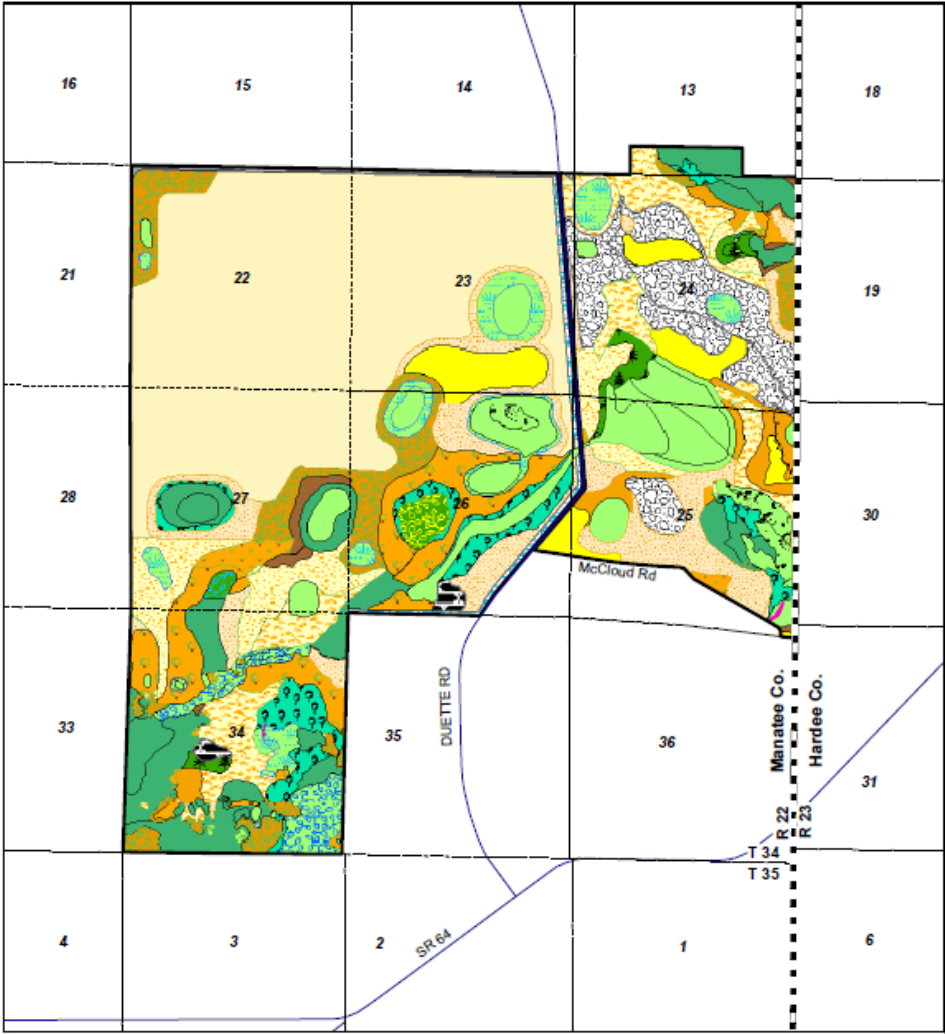
- Corridors
- BMP Area
- Permitted Mining Areas (Wingate Extension)
- Wingate East Boundary
- Section Lines
- Avoided Area

**Mining Sequence: Mine Year**

2014	2018	2022	2026	2030
2015	2019	2023	2027	2031
2016	2020	2024	2028	2032
2017	2021	2025	2029	2033
				2034

**Mosaic Wingate East**  
 Manatee County Master Mine Plan  
 Map H-3

# Wingate East Reclamation Plan



**Legend**

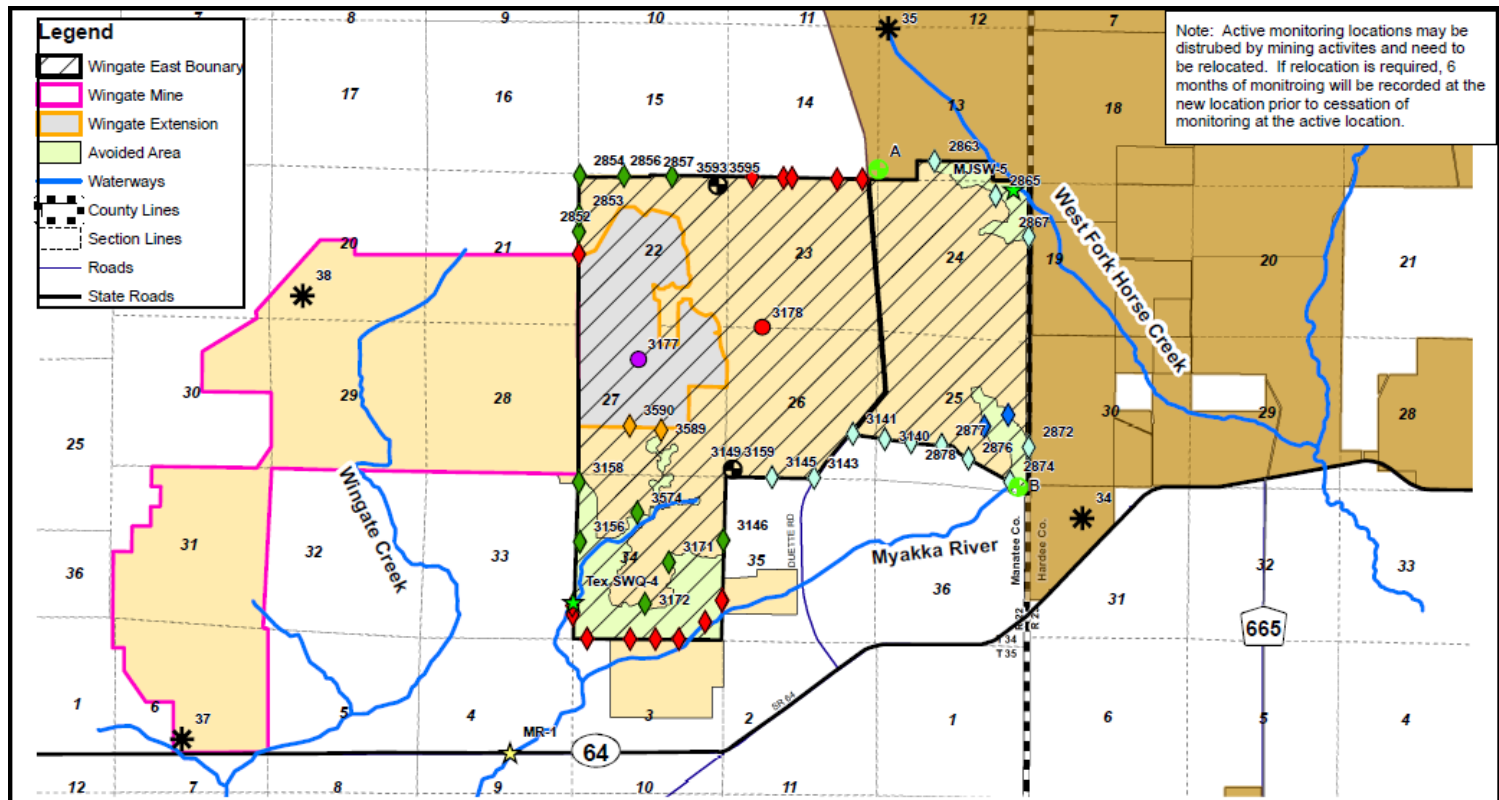
County Lines	329 - Other Shrubs and Brush	434 - Hardwood - Conifer Mixed	430 - Wetland Coniferous Forests
Section Lines	330 - Mixed Rangeland	513 - Ditched Wetlands	530 - Wetland Forested Mixed
Roads	411 - Pine Flatwoods	534 - Res. < 10 ac. (cattle Pond)	541 - Fresh Water Marshes
Wingate East Boundary	419 - Other Pines	511 - Bay Swamps	543 - Wet Prairies
Post Reclamation Land Use	421 - Xeric Oaks	513 - Gum Swamps	547 - Shrubby Wetland
211 - Improved Pastures	425 - Temperate Hardwood	515 - Streams and Lake Swamps	548 - Wet Palmetto Prairie
310 - Dry Prairie	427 - Live Oak	516 - Inland Ponds and Sloughs	514 - Roads
321 - Palmetto Prairies	432 - Sand Live Oak	517 - Mixed Wetland Hardwoods	532 - Electrical Power: Transmission Lines

**Mosaic**

Wingate East  
Manatee County  
Master Mine Plan  
Map H-9  
Post Reclamation Land Use

0 1,500 3,000

# Wingate East Environmental Monitoring Plan



## Monitoring Legend

- ◆ Active Piezometer - To Remain Per Encumbrance
- ◆ Proposed Piezometer
- Active Monitoring Well
- To Be Retired
- Retired
- Proposed Monitoring Well Location (To be Field Located)
- ◆ Proposed Piezometer - SWFWMD WUP Network (Shown for Reference)
- ★ Surface Water Monitoring Station - Manatee County
- ★ Surface Water Monitoring Station - FDEP ERP Location - (Shown for Reference)
- ◆ SWFWMD WUP Network - Active (Shown for Reference)
- ◆ SWFWMD WUP Network - Proposed Cease Monitoring (Shown for Reference)
- ★ Rain Gauges



**Mosaic**

**Wingate East**  
Mosaic Fertilizer, LLC  
Exhibit F  
Environmental Monitoring Map  
Revised: September 2016

0 2,500 5,000  
FEET

1 in = 5,000 ft

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# *Wetland Impacts and Mitigation*

*Presented by Joel Christian*

**WINGATE EAST MINE**



# Wingate East Mine Wetland Impacts

- *Proposed 649 acres of wetland impacts*
- *Wetlands make up 24% of the project area*
- *Wetland quality ranges from low (0.40 UMAM) to high (0.80 UMAM)*
- *Department of Environmental Protection issued environmental resource permit for mining which includes wetland impacts and mitigation*
- *Staff Recommends Approval*



# Wingate East Mine Wetland Impacts



<b>Overall Project</b>	<b>4341 Acres</b>		
<b>Overall Wetland</b>	<b>1041 Acres</b>	<b>24% of Project Acreage</b>	
<b>Overall Wetland Impacts</b>	<b>649 Acres</b>	<b>15% of Project Acreage</b>	<b>62% of Overall Wetland Acreage</b>
<b>Overall High Quality Wetlands (≥ .7 UMAM)</b>	<b>284.6 Acres</b>	<b>7% of Project Area</b>	<b>27% of Overall Wetland Acreage</b>
<b>Overall High Quality Wetland Impacts (≥ .7 UMAM)</b>	<b>69 Acres</b>	<b>24% of Overall High Quality Wetlands</b>	<b>11% of Overall Wetland Impacts</b>

# Wingate East Mine Wetland Impacts

## Consistency with Comprehensive Plan Policy 3.3.1.1

### Objective: 3.3.1

**Wetlands Protection:** Preserve and protect existing, *viable* wetland systems...

### Policy: 3.3.1.1

*Prohibit* removal, alteration, or encroachment within wetlands *except* in cases *where no other practical alternatives exist that will permit a reasonable use of the land* or *where there is an overriding public benefit...*



# Wingate East Mine Wetland Impacts

- *The following factors were evaluated for Staff's recommendation for approval:*
  - *Wetland Viability*
  - *Reasonable Use of the Property*
  - *Overriding Public Benefit*



# Wingate East Mine Wetland Impacts

- *Wetland Viability*
- *Wetland provides low to high function – UMAM scores between 0.4 and 0.8; average*
- *Approved wetland mitigation will replace the lost wetland functions at a 1:1.2 ratio.*
- *Reclamation is generally located in a similar location as the pre-mining wetlands.*



# Wingate East Mine

## Wetland Impacts

- ***Reasonable Use***

- *The proposed use can be achieved on this site while still avoiding wetland impacts, but avoiding the impacts creates a greater burden on the mining industry than other types of development.*
  - *Operational constraint (BMPs ditch and berms and sloping for bank stability), as well as wetland buffers, averages 300 feet for dredge equipment and 200 feet for dragline equipment.*
  - *Avoiding all wetland impacts would result in the inability to mine an additional 1,535 acres of mineable upland (57% of total uplands).*
  - *Unlike residential development, density cannot be transferred from wetlands to uplands because mining around wetlands does not increase the mineral reserves present beneath the uplands.*

# Wingate East Mine

## Wetland Impacts

- ***Overriding Public Benefit***

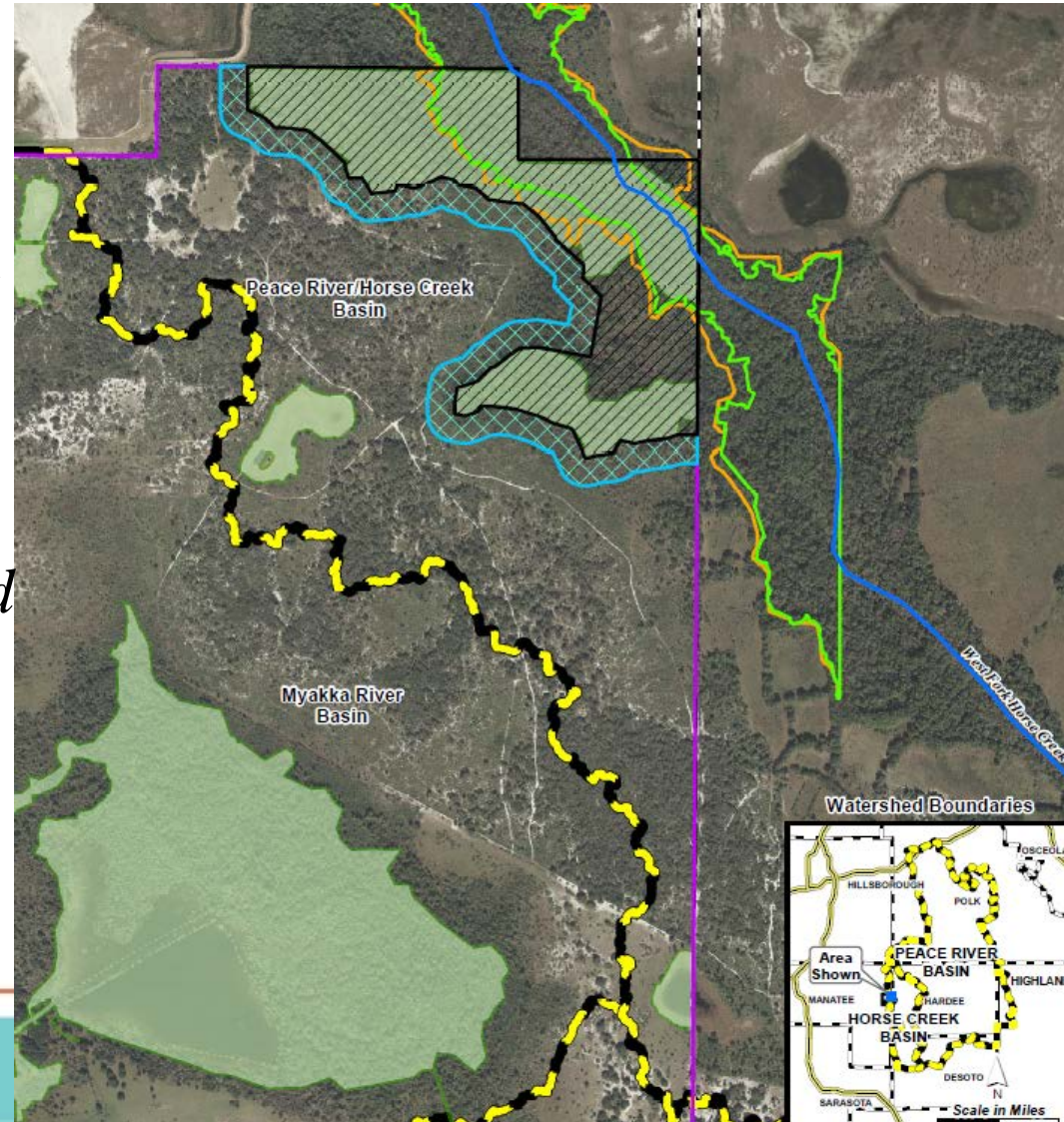
- *The applicant is proposing two offsite projects with regional significance to offset the detriments to the public resulting from the loss wetlands functions and values.*
  - *The Myakka River Headwaters Restoration Project includes the preservation and enhancement of 193 acres in the Myakka River watershed adjacent to the Wingate East Mine. Proposed improvements to the property are expected to result in a net gain of 22.5 wetland UMAM credits.*
  - *The applicant has also proposed to provide the sum of \$2.5 million dollars to the Manatee Community Foundation to be used to purchase or restore environmentally significant lands within the upper Myakka River Watershed in Manatee County.*



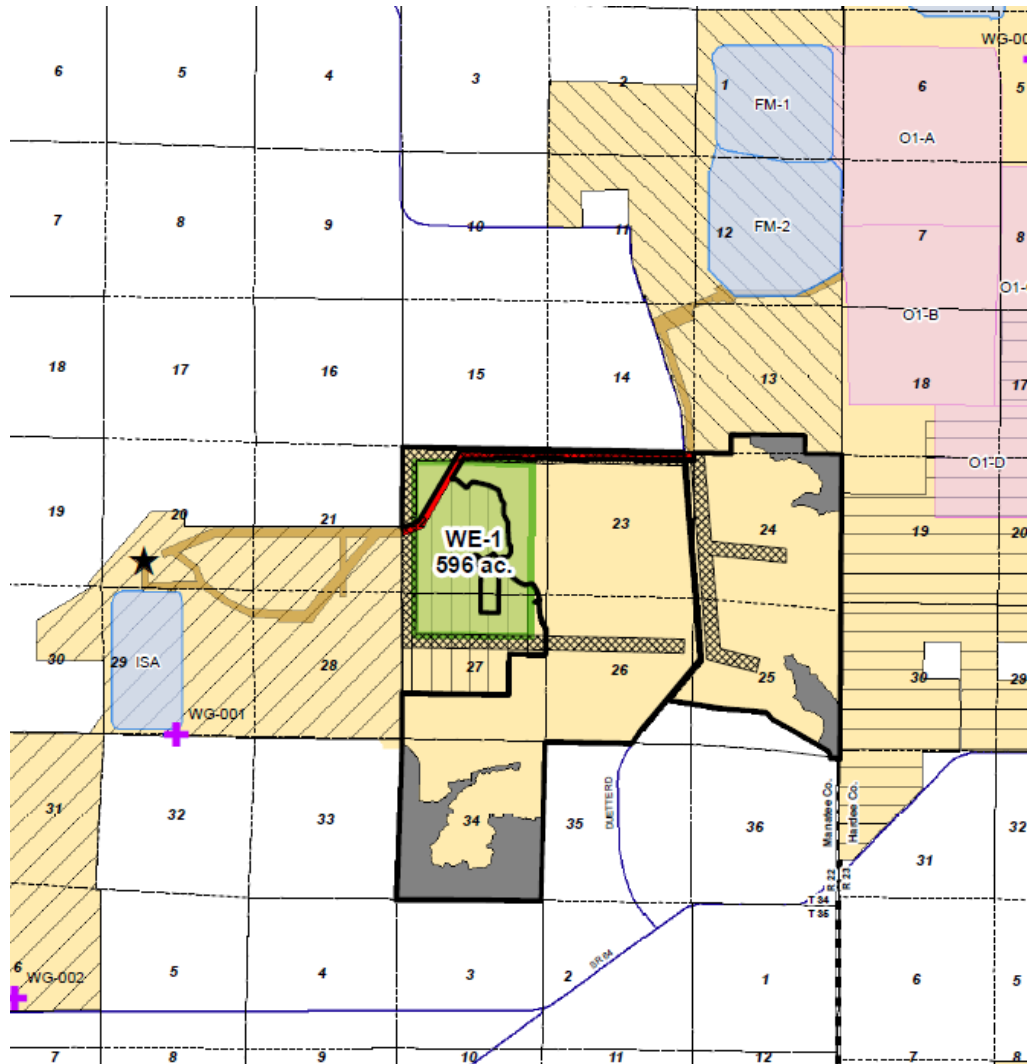
# Wingate East Mine

## *Special Approval in Peace River Watershed*

- *Mine and disturb 279 acres; includes 9.5 ac. of wetlands*
- *Preserve 88 acres; includes 70 ac. of wetlands*
- *Avoid 100-year floodplain*
- *50 foot wetland buffers*
- *BPTs including accelerated reclamation & advanced reclamation techniques*
- *Cumulative Impact Assessment*



# Wingate East Waste Clay Plan

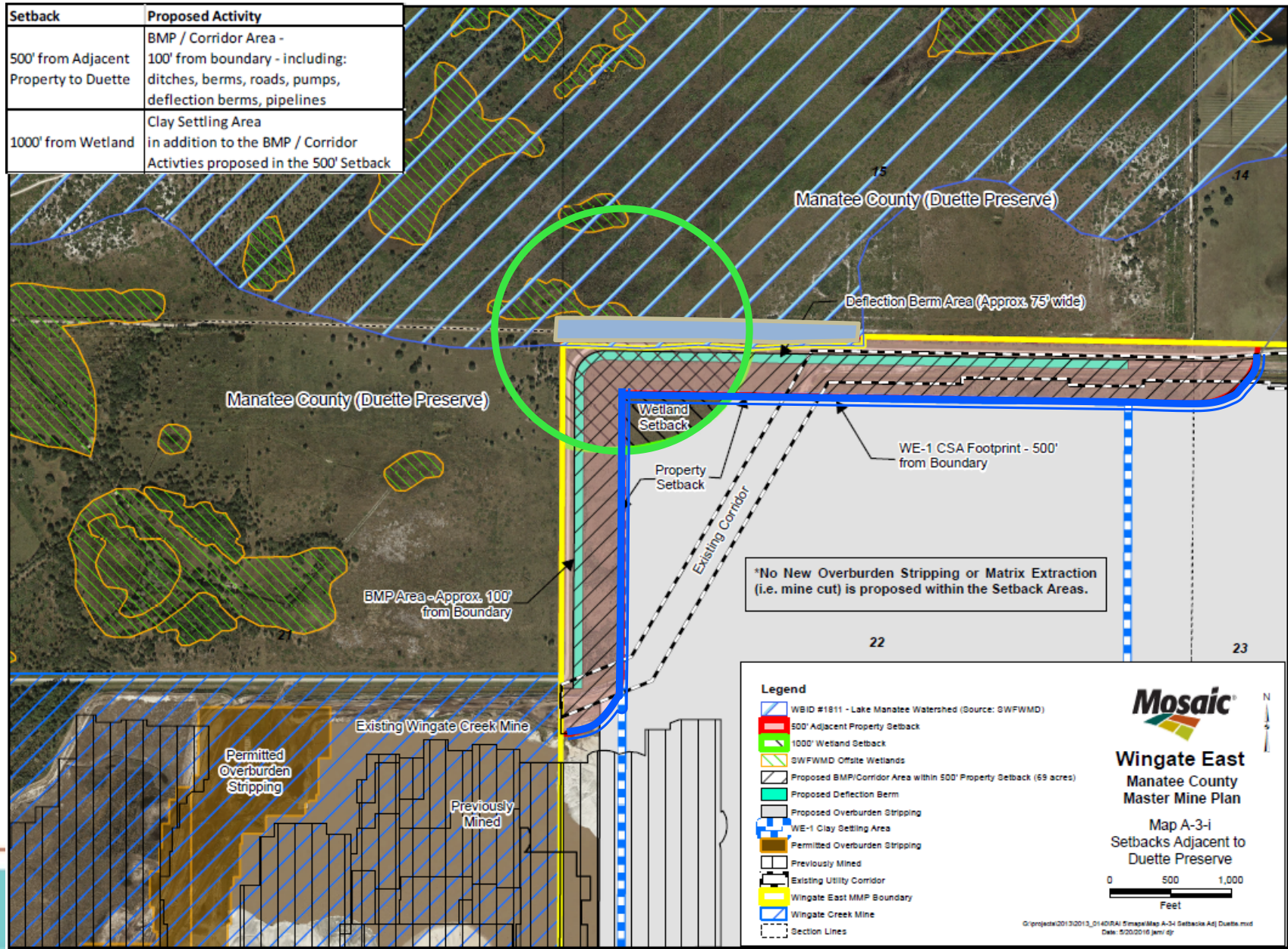


**Legend**

Wingate East Boundary	Wingate Plant (Existing)
Southeast Tract Boundary (SAJ-1992-01545)	Existing NPDES Outfalls
Wingate Creek Mine Boundary	Existing Corridors
Wingate Extension Boundary (SAJ-2011-00106)	Corridors (Proposed)
Wingate to Southeast Tract Corridor (SAJ-2007-6503)	Wingate East Clay Settling Areas (Proposed)
Ona Boundary (Proposed SAJ-2011-01869)	

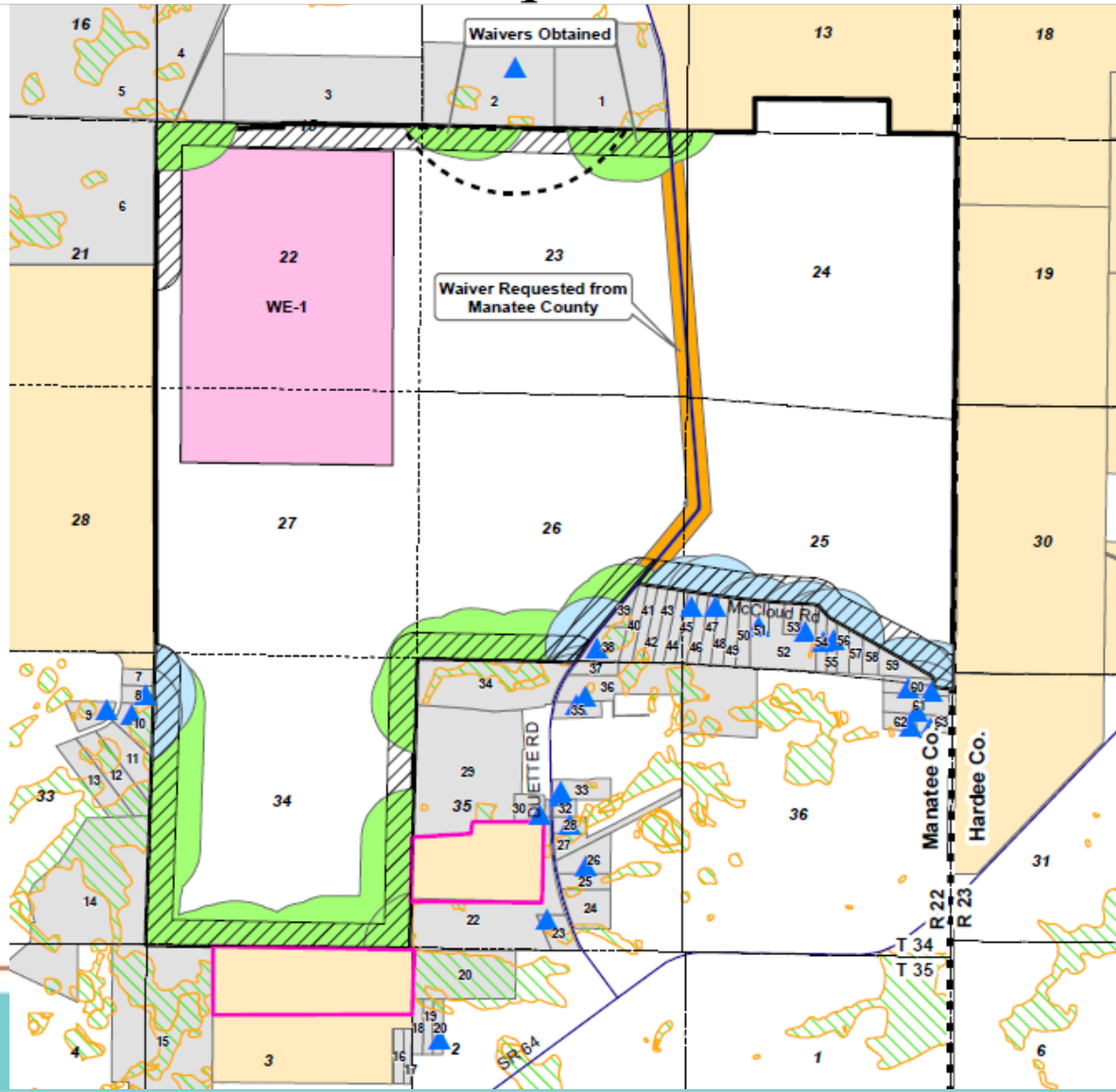
**Mosaic**  
**Wingate East**  
 Manatee County  
 Master Mine Plan  
 Map H-6

# Wingate East Mine: WE-1 Location



# Wingate East Mine

## *Setback Waiver Request – Duette Road*



# Wingate East Mine

## Setback Waiver Request – Duette Road

BMP Design Element Ranges	
BMP Design Element	Width in Feet
A. Silt fence	5 - 10
B. Berm outside slope (2H:1V max, 4H:1V slope, 4-10 feet high)	8 - 40
C. Berm – top road (drivable)	20 - 30
D. Berm – inside slope (2H:1V typical slope, 4-10 feet high)	8 - 20
E. Setback from Mine Cut	40-100

**Note:**  
All Dimensions shown are examples, and are variable based on site specific conditions and requirements.

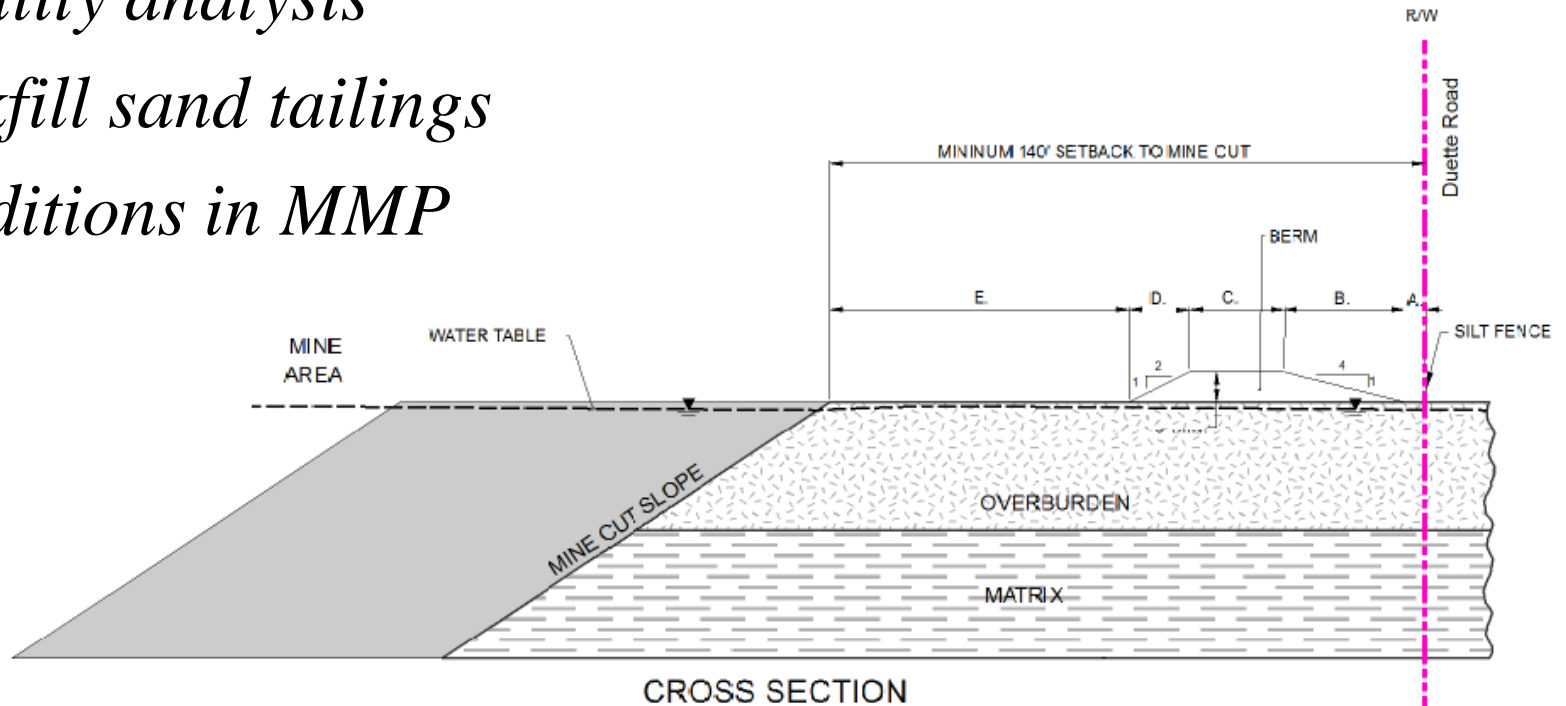


Figure 5-B

Typical BMP Cross Section  
Adjacent to Duette Road Right of Way

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Source: Mosaic, 2011

- *Stability analysis*
- *Backfill sand tailings*
- *Conditions in MMP*

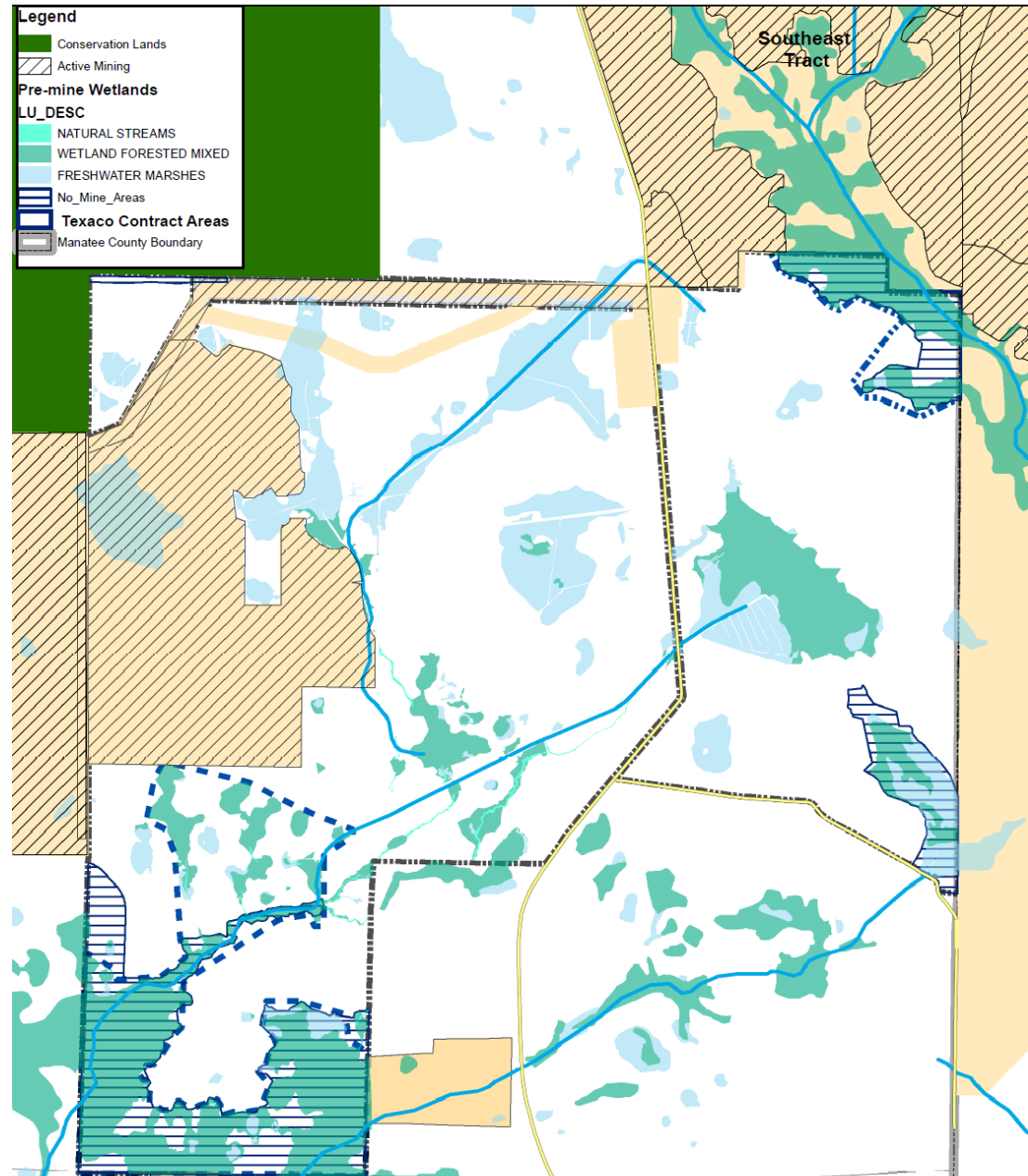


# Wingate East Mine

## *Texaco Tract*

## *Wetland Contract*

- *Contract to secure Altman Tract – Parcel No. 4 wetland reclamation obligation*
- *Demonstrate high quality wetlands can be reclaimed to Ord. 04-39 standards*
- *Encumbered Property: 597 ac. includes high quality wetlands*



# Wingate East Mine

## *25-year Floodplains*

- *Phosphate Mining Code Restrictions  
Ord. 04-39, I.E. 1-3*
- *Proposed Mining Plan*
  - *Avoids:*
    - *Perennial Streams*
    - *West Fork Horse Creek 100-yr floodplain & wetlands*
    - *Upper Myakka River 100-yr floodplain & wetlands*
    - *Upper Myakka headwater wetland*
  - *Disturbs & mines:*
    - *Portion of Stream 100 25-yr floodplain & wetlands*



# Wingate East Mine

## *25-year Floodplains*

- *Stream 100 25-yr Floodplain and Wetlands Stipulation:*

*25.a No mining activities shall occur below 25-Yr Floodplain elevation of Stream 100, except for a temporary stream crossing, unless applicant provides site-specific mitigating measures for water quantity and water quality, such as an alternate flow way or other hydrologic supplementation, during Operating Permit application.*

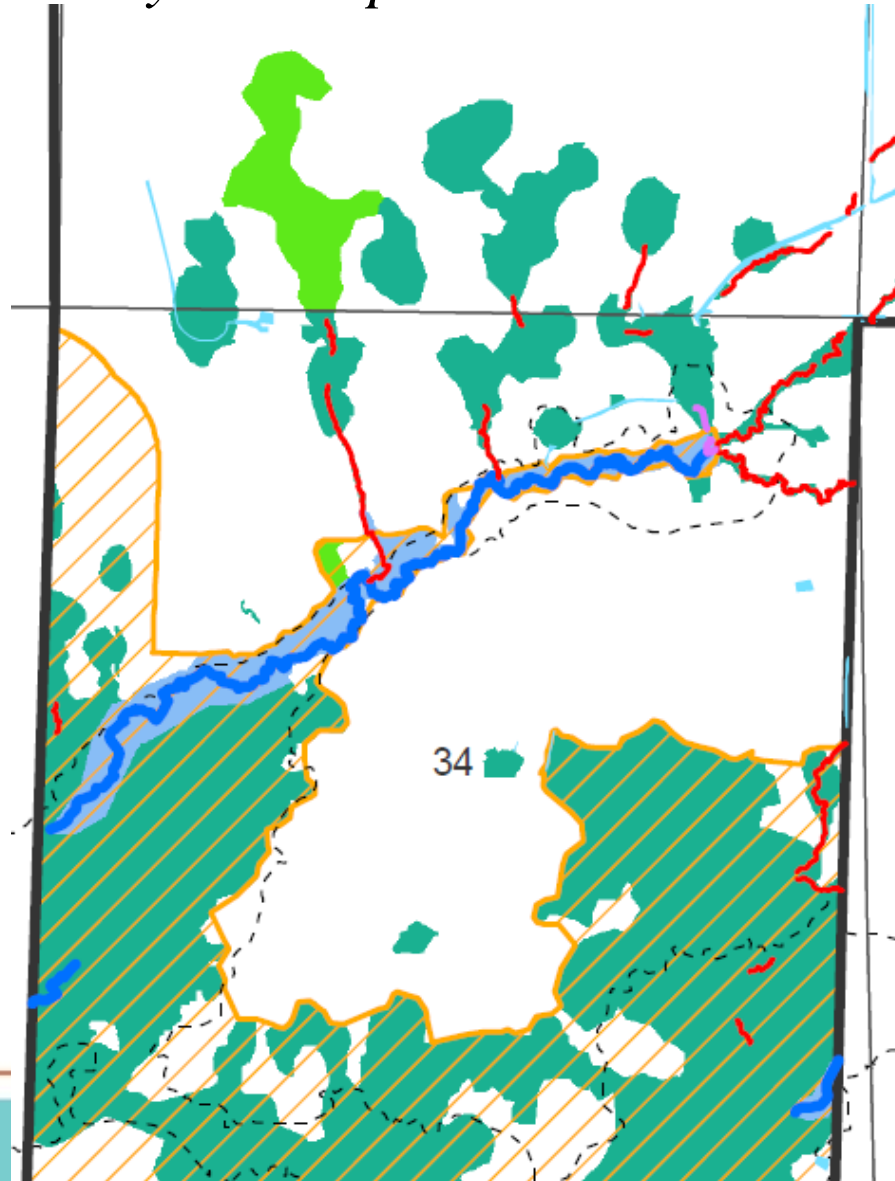
*25.b No mining activities shall occur in wetlands functionally integrated with 25-Yr Floodplain of Stream 100 in Sections 27, and 34 until such time as it has been demonstrated that wetlands on Altman Tract, Parcel No. 4\* have been reclaimed to same quality of wetlands as agreed in Texaco Tract Wetland Contract, Section 6.E.(3) of Ord. 08-32 and in accordance with objective criteria and standards found in Ord. 04-39.*





# Wingate East Mine

- *Stream 100 25-yr Floodplain and Wetlands Stipulation:*

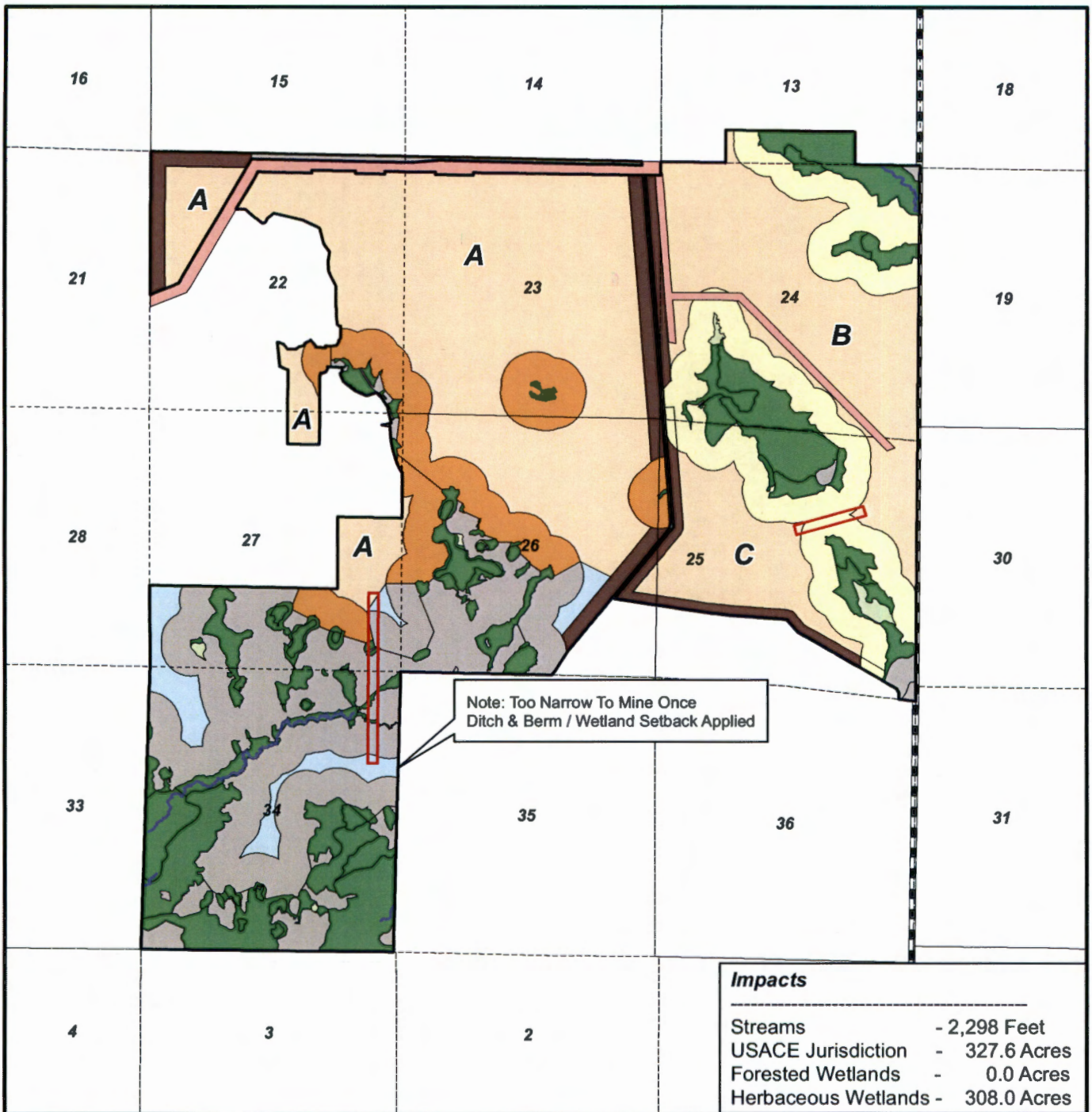


# Staff Recommendations

- *Staff recommends approval of Rezone*
- *Staff recommends approval of Master Mining Plan, R-17-017*







Impacts	
Streams	- 2,298 Feet
USACE Jurisdiction	- 327.6 Acres
Forested Wetlands	- 0.0 Acres
Herbaceous Wetlands	- 308.0 Acres

**Legend**

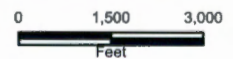
- Wingate East Boundary
- Infrastructure Corridors
- Section Lines
- Natural (511) Intermittent Channels
- Access Crossings (200 Ft.)
- Mineable Areas (1,555.8 Acres)
- Road/Property Line Ditch & Berm
- Unmineable: <700' Wide (86.5 Acres)
- Inaccessible Stranded Uplands (650.0 Acres)
- 500' Buffer Ditch & Berm / Wetland Setback (352.2 Acres & 24,793 Ft.)
- 600' Buffer Ditch & Berm / Wetland Setback (256.1 Acres & 19,748 Ft.)
- All Forested Wetlands (570.4 Acres)
- Herbaceous Wetlands >= 0.70 UMAM Values (11.5 Acres)
- County Lines

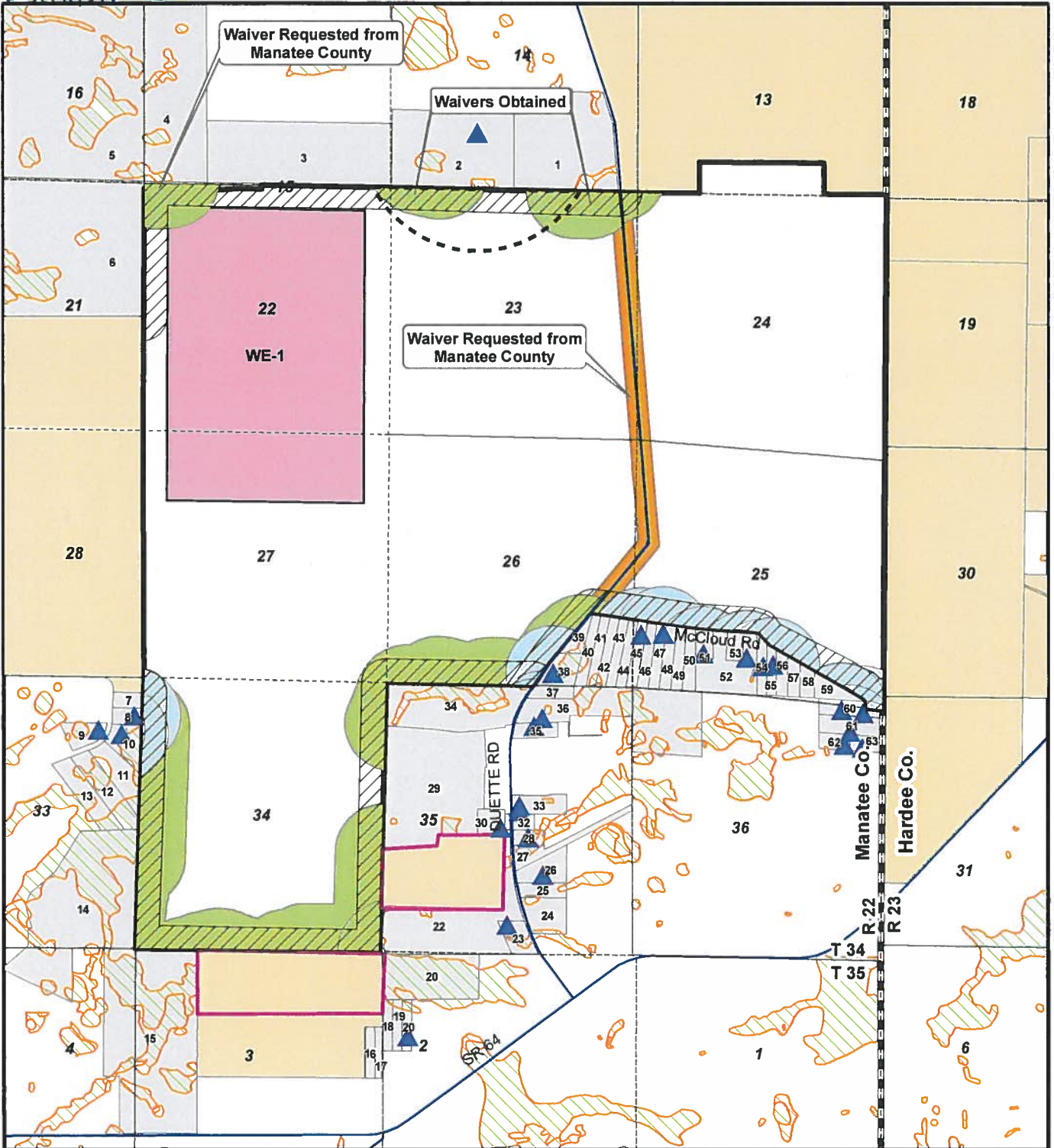
**Mineable Areas**

- A** - 964.1 Acres
- B** - 431.2 Acres
- C** - 160.5 Acres



USACE 404 Application  
 Map 5-3-E  
 Alternative No. 2B - FAEIS Mitigation  
 Framework Avoidance with Crossings





**Legend**

- County Lines
- Section Lines
- Roads
- Wingate East Boundary
- Off Site Mitigation Project Parcels
- WE-1 Clay Settling Area
- Habitable Structures within 1000'
- SWFWMD Offsite Wetlands
- Adjacent Parcels
- Mosaic Property
- 200' ROW Setback
- 500' Adjacent Property Setback
- 1000' Habitable Structure Setback
- 1000' Wetland Setback
- 2500' Habitable Structure Setback for CSA

Setback	Proposed Activity
500' from Adjacent Property to Duette	BMP / Corridor Area - 100' from boundary - including: ditches, berms, roads, pumps, deflection berms, pipelines
1000' from Wetland	Clay Settling Area in addition to the BMP / Corridor Activities proposed in the 500' Setback
200' from Duette Right-of-Way	BMP / Corridor Area adjacent to ROW; Overburden Stripping (i.e. mine cut) 140' from ROW



**Wingate East  
Manatee County  
Master Mine Plan  
Map A-3  
Setbacks**

