

# **DeSoto County Regulation of Phosphate Mining**

**Workshop – November 5, 2019**





# **TOPICS TO BE DISCUSSED**

**Phosphate Mining Regulation Pyramid**

**Comprehensive Plan – History and Current (Overlay)**

**Zoning - General and Specific**

**Phosphate Mining Ordinance – History and Current**

**Selected Topics**

**Special Magistrate & Settlement Agreement**



# **TOPICS NOT FOR DISCUSSION**

**Mosaic's Application for Rezoning**

**Mosaic's Application for Mining Master Plan**

**Mosaic's Application for Operating Permit**

**Mosaic's Mining Experiences in other Counties**

**Mosaic's Mining Practices**

**WHY ??**

# PHOSPHATE MINING PYRAMID

**START OF MINING**





# **ADDITIONAL REQUIRED PERMITS**

## **FEDERAL**

**US ARMY CORPS OF ENGINEERS / USEPA**

**Section 404 Permit – Discharge of Dredge and Fill Material  
Spill Prevention, Control and Countermeasure (SPCC) Plan**

**DEPARTMENT OF INTERIOR**

**Endangered Species Act**

## **REGIONAL**

**SWFWMD**

**Water Use Permit**

**Environmental Management Plan**



# **ADDITIONAL REQUIRED PERMITS (Continued)**

## **STATE OF FLORIDA**

### **FDEP**

**Environmental Resource Permit (ERP)**

**Conceptual Reclamation Plan**

**Industrial Wastewater/Stormwater Permit (NPDES)**

**Approval of Clay Storage Area Impoundments/Dams**

**Air Emission Construction/Operation Permit**

### **FLORIDA FISH & WILDLIFE COMMISSION**

**State Listed Protected Species – Relocation permits; pre-clearing surveys**

### **FDOT**

**Railroad Grade and Utility Crossing Permits for Public ROWs**



# **DESOTO COUNTY COMPREHENSIVE PLAN**



## COMPREHENSIVE PLAN - History

**April 1991** – Did not address phosphate mining specifically but **allowed extraction of mineral resources in all land use classifications**

**September 2010** – Created a Generalized **Phosphate Mining Overlay** consisting of 25,000+ areas where the Overlay would apply; did not grant any development rights; proper zoning and permits required to mine phosphate

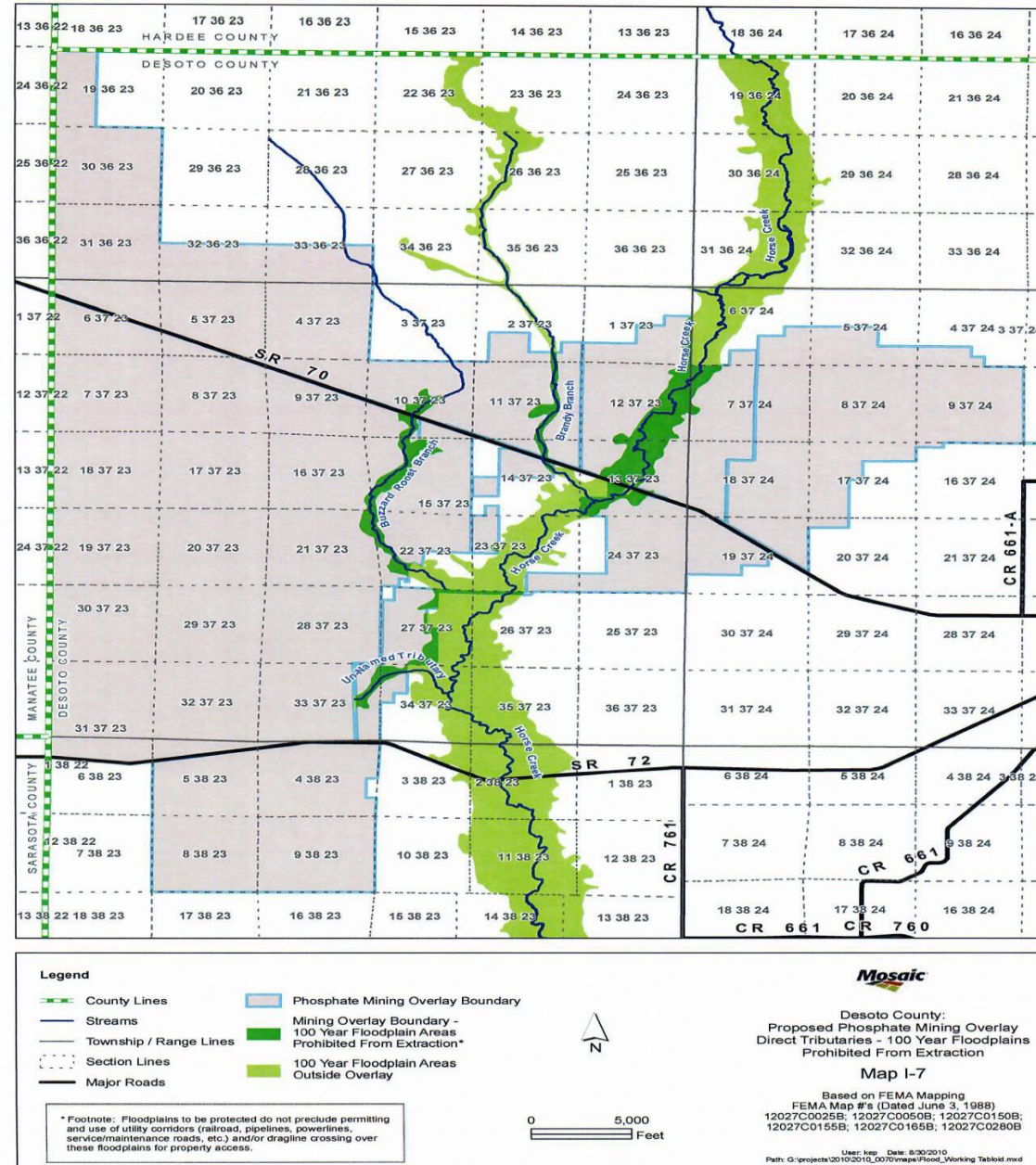
**January 2015** – Designated a **prohibited mining area**





Conn & Buenaventura P.A.  
ATTORNEYS AT LAW

## Overlay & No Mine Area





## **COMPREHENSIVE PLAN – Future Land Use Element**

### **Phosphate mining allowed**

- **in Rural/Ag and use category only when included in Phosphate Mining Overlay**

### **Restrictions within 100-year floodplain**

### **Best Management Practices**

**Must comply with policies applicable to phosphate mining in Future Land Use Element, Conservation Element and Generalized Phosphate Mining Overlay Designation**



## **COMPREHENSIVE PLAN – Overlay Generally**

**Private lands likely to contain phosphate minerals**

**Located in the Rural/Agricultural Future Land Use District**

**Ensure orderly development of phosphate mining, including extraction and reclamation**

**Mining activities conducted in manner compatible with overall development of the County and protection of environmental resources**



## **COMPREHENSIVE PLAN – Overlay Uses**

**Phosphate mining/extraction**

**Phosphate rock and slurry processing and transfer**

**Beneficiation plant**

**Clay settling areas and recirculation systems, outfalls and other drainage uses**

**Heavy machinery, equipment and vehicles including draglines, dredges, bull dozers**

**Land reclamation**

**Agriculture**



# **COMPREHENSIVE PLAN – Overlay Development Standards**

**Buffer from agriculture and residential uses**

**Reclaim all wetlands impacted by mining**

**Buffer from preserved wetlands and surface waters**

**Prohibit extraction from portions of Horse Creek classified as wetlands**

**Prohibit extraction from historically unaltered portions of direct tributaries to Horse Creek (Brandy Branch and Bussard Roost Branch) and portions of the Peace River, Joshua Creek and Prairie Creek**

**Setback protection for Horse Creek and its direct tributaries (min. 50' from 100-year floodplain)**



# **COMPREHENSIVE PLAN – Overlay Development Standards (Continued)**

## **Best Management Practices**

**Limit corridor crossings and encroachments of the 100-yr floodplain of Horse Creek and its tributaries**

**Consistent with the Conservation Element**

**Exceptions may be allowed on case-by-case basis when in the public interest or results in improved water quality and habitat protection**

**Ensure future beneficial use of mined land**

## **COMPREHENSIVE PLAN - Overlay Implementation Criteria**

**All mining allowed in the Overlay must be approved through the development review process in accordance with the LDRs**

**Zoning approval must be received before MMP approval**

**Regulation of location and operation shall minimize negative impacts on surrounding properties, ensure reclamation and productive reuse of such areas**

**LDRs shall specify appropriate setbacks and buffering, and identify land uses associated with phosphate mining such as extraction, clay settling areas, reclamation, beneficiation plants and allied industries**





## **COMPREHENSIVE PLAN – Overlay Conservation Element**

**Reclamation revegetation proposals shall be based on requirements of Chapter 62C-16, FAC**

**Finished slopes for reclamation areas shall not exceed 1 foot vertical to 4 feet horizontal**

**Protect watercourses and wetlands in or near reclamation areas against siltation until vegetation is well established**

**Downstream property owners shall not be adversely affected by the relocation or increase in flow of water leaving the mine property**

**Permits from SWFWMD, FDEP and/or the USACOE shall be evidence that resource extraction will not result in a reduction of ecological value of the area being mined.**





## **COMPREHENSIVE PLAN – Overlay Conservation Element (Continued)**

**Rate of mitigation shall be one-to-one, or as specified by permitting agencies**

**Phosphate mining prohibited in portions of 100-year floodplain of the Peace River, Horse Creek, Joshua Creek and Prairie Creek**

**Include plans for spill emergencies such as notification, containment, safety**

**Reclaimed land converted to ponds or lakes should resemble natural pond or lake with littoral zone shelves and contours, open water free of emergent or submerged vegetation, and a buffer of upland vegetation**

**Mined areas shall be returned to their natural condition through replanting of native trees, shrubs and vegetation Downstream property owners shall not be adversely affected by the relocation or increase in flow of water leaving the mine property**



# DESOTO COUNTY ZONING



# **ZONING - General**

## **15 Criteria**

- **Consistent with Comprehensive Plan**
- **Change existing land use pattern**
- **Create isolated district**
- **Adversely affect living conditions in area**
- **Increase traffic congestion or affect public safety**
- **Create drainage problems**
- **Adversely affect property values**
- **Deter development of adjacent property**



# **ZONING - General**

## **15 Criteria (Continued)**

- **Impact on the availability of adequate public facilities**
- **Out of scale with surrounding area**
- **Illogically drawn district boundaries**
- **Request is due to changed or changing conditions**
- **Results in a reduction in light and air to adjacent properties**
- **Grant of a special privilege**
- **Can the property be used in accord with existing zoning**



## **ZONING - Specific**

### **Phosphate Mining-Industrial District (PMI)**

- **Intent – permit extraction of phosphate materials in accordance with applicable ordinances and associated practices; allow for industrial uses associated with phosphate operations**
- **Permitted uses**
  - **Phosphate mining and related activities/structures**
  - **Rail transport and transmission line corridors**
  - **Agricultural uses (field crops, fruit and nut production, egg and poultry production, milk production, breeding, training stabling, kenneling, aquaculture, gardening, animal hospitals, veterinary clinics, roadside produce stands, greenhouses and nurseries, produce transfer stations and light manufacturing)**



## **ZONING - Specific**

### **Phosphate Mining-Industrial District (PMI)**

- **Accessory uses**
  - **Administrative office building**
  - **Radio and TV antennas and dishes**
  - **Sale and repair of heavy equipment**
  - **Truck terminals, warehousing**
  - **Sheet metal shop**
  
- **Special exception uses**
  - **Sanitary landfills, feed lots, livestock sales, citrus packing, indoor and outdoor firing ranges, saw mills**



# **DESOTO COUNTY PHOSPHATE MINING ORDINANCE History & Current**

# PHOSPHATE MINING ORDINANCE

## HISTORY

1974 (#1974-06)– Ordinance regulating mining adopted; “*earthmoving*” of sand, rock and minerals; approval by *special exception without geographic or zoning district limitation*; *phosphate mining not specifically addressed*

1981 (#1981-11)– Ordinance *limiting mining to Agricultural districts*; *phosphate mining not specifically addressed*

1984 (#1984-17)– Ordinance adopted *specifically regulating phosphate mining*



# PHOSPHATE MINING ORDINANCE

## HISTORY

May, 1999 (#1999-09) –

- More extensively regulated phosphate mining;
- Director of Public Works primarily responsible for review
- Board approval of Mining Master Plan and Operating Permit required before mining commenced
- Required setbacks and an approved Reclamation Plan
- Requirements for financial responsibility, bonds, insurance
- Imposed absolute liability
- Established a County Environmental Restoration Fund for money recovered in civil action for damage to natural resources and specified civil penalty of \$100,000 per day/per offense

# PHOSPHATE MINING ORDINANCE

## HISTORY

October 1999 (#1999-15) –

- Re-enacted phosphate mining regulations
- Added requirements for beneficiation plant
- Prohibited mining below 25-year floodplain elevation
- Set conditions for mining inside the 100-year floodplain elevation
- Required emergency response plans

# PHOSPHATE MINING ORDINANCE

## CURRENT

- 2012 (#2012-06) – Ordinance adopted providing for:
1. Administration, review and approval, fees, waivers
  2. Mining Master Plan content, standards, effect
  3. Operating Permit content, criteria, standards, effect
  4. Processing of Applications
  5. Enforcement

2014 (#2014-05) – Ordinance incorporated 2012-06 into LDRs without change



# **DESOTO COUNTY PHOSPHATE MINING ORDINANCE Administration**

# **PHOSPHATE MINING ORDINANCE**

## **1. ADMINISTRATION**

- **Purpose and Intent – protect public health, safety, welfare**
  - **Implement Comp Plan**
  - **Ensure orderly development of mineral resources**
  - **Consider cumulative effects of phosphate mining**
  - **Protect and conserve natural resources & environment**
  - **Assure use of best management practices**
  - **Control adverse effects of mining**
  - **Ensure future beneficial use of mined lands**
  - **Ensure reclamation promotes economic development and enhances recreational opportunities**
  - **Protect legally existing vested rights**

# **PHOSPHATE MINING ORDINANCE**

## **1. ADMINISTRATION (Continued)**

- **Additional Ordinances that Still Apply**
  - **Zoning**
  - **Resource protection standards**
  - **Vested rights**
  - **Floodplain management**
- **Fees for Initial and Annual Reviews, Inspections**
  - **Costs NOT Borne by County Taxpayers to Greatest Extent Possible**
- **Waiver of Any Requirement by Board**
  - **Demonstrated unreasonable restriction on use of property**
  - **No adverse effect on public health, safety, welfare**
  - **Consistent with Comp Plan**
  - **Public Hearing and Notice to Regulatory Agencies**



# **DESOTO COUNTY PHOSPHATE MINING ORDINANCE Mining Master Plan**

# PHOSPHATE MINING ORDINANCE

## 2. MINING MASTER PLAN

### **A & B. Application and Required Content**

- Mining sequence, schedule of operation and completion
- Results of exploratory drilling
- Description of beneficiation process and facility; reagents to be used in process
- Location and dimension of clay settling ponds; height of dams
- Assessment of mining impacts on surface & groundwater hydrology, stream flow
- Components and location of discharges of water, effluents, liquid waste



# PHOSPHATE MINING ORDINANCE

## 2. MINING MASTER PLAN

### **A & B. Application and Required Content (Continued)**

- Volume and weight of tailings and clays created, plans for storage or disposal
- Copies of other permits or applications
- Program for controlling runoff and water pollution
- Environmental monitoring program
- Transportation analysis
- Reclamation Plan

# PHOSPHATE MINING ORDINANCE

## 2. MINING MASTER PLAN

### C. Standards for Approval

- Consistent with Comp Plan
- Orderly development of mineral resources
- Compatible with overall development of County
- Consider cumulative effects of other mining activities
- Provide reasonable protection and conservation of natural resources & environment
- Provide for best management practices
- Development of technology for maximum control of adverse effects
- Will not preclude future use of mined lands for residential, commercial, industrial, agricultural, public, utility facilities and other uses
- Meets requirements of the County's flood control and management regs.

# PHOSPHATE MINING ORDINANCE

## 2. MINING MASTER PLAN

### **D. Effect of Approval**

- **Board can then consider Operating Permit**
- **Does NOT vest any right to issuance of Operating Permit**
- **Does NOT allow pre-mining construction activities**
- **Does NOT allow actual mining activities to commence**
- **Terminates after 3 years if Operating Permit application not submitted, unless extended**



# **DESOTO COUNTY PHOSPHATE MINING ORDINANCE Operating Permit**

# PHOSPHATE MINING ORDINANCE

## 3. OPERATING PERMIT

### A. Application

- May be filed concurrently with Mining Master Plan

### B. Required Content

- New updated information since Mining Master Plan application
- Permits from and applications to other agencies
- Detailed description of any changes to approved environmental monitoring program
- Plan for spill notification, containment and safety; inspection schedules
- Plan for maintenance of warning systems, hurricane preparedness and clean-up responsibilities
- Site security plan and access restrictions
- Evidence of financial responsibility (Insurance, Surety Bond, LOC, Financial Statements)
- Continuing obligation to supplement permit application with any new information until permit issuance

# PHOSPHATE MINING ORDINANCE

## 3. OPERATING PERMIT

### C. Criteria for Issuance

- Use of best management practices to minimize effects of mining and maximize protection of natural resources and environment
- Setbacks for excavation activities
- Setbacks for ponds and beneficiation facilities
- Setbacks for stockpiles
- Reduction to setbacks with consent of adjoining property owners or without consent if applicable setback is demonstrated to be unreasonable, or competent substantial evidence shows a lesser requirement will not adversely effect public health, safety and welfare
- Height requirement for stockpiles and excavated materials other than overburden
- Overburden may be stockpiled in setbacks with Board approval
- Limitation of mining in floodplains

# PHOSPHATE MINING ORDINANCE

## 3. OPERATING PERMIT

### C. Criteria for Issuance (Continued)

- Environmental monitoring program to establish baseline conditions and evaluate compliance with standards
  - Surface water quality
  - Surface water Setbacks for excavation activities
  - Ground water quality
  - Ground water quantity
  - Rainfall
  - Air quality
- Radiation standards to ensure state requirements will not be exceeded
- Reclamation criteria
  - Revegetation site plans and monitoring
  - Lake design including littoral zones, perimeter berms and swales
  - Sequence and schedule on a yearly basis

# PHOSPHATE MINING ORDINANCE

## 3. OPERATING PERMIT

### C. Criteria for Issuance (Continued)

- Control of nonpoint source pollution of air and water resources
- Settling ponds designed and constructed to meet FDEP standards
- Pipelines protected against leaks or significant discharges
- Impacts to roadways and crossings mitigated
- Meet federal and state standards for noise and blasting as measured from property line
- Prevent damage to adjoining property from vibrations
- Financial responsibility in the form of insurance, bonds, letters of credit, financial statements
- Annual review of financial responsibility



# PHOSPHATE MINING ORDINANCE

## 3. OPERATING PERMIT

### D. Standards for Issuance

- No substantial, adverse environmental impacts
- Meets all requirements /criteria for issuance
- Consistent with purposes of phosphate mining ordinance
- Consistent with Mining Master Plan

### E. Effect of Issuance

- Entitled to begin mining
- 5 years with annual review; can be extended additional 5 years without new application
- Void if mining does not commence within 5 years



# **DESOTO COUNTY PHOSPHATE MINING ORDINANCE Processing of Applications**

# PHOSPHATE MINING ORDINANCE

## 4. PROCESSING OF APPLICATIONS

### A. Initial Application

- Staff Review for Completeness
- Staff Review for Compliance & Recommendation
- Board Public Hearing – Quasi Judicial
- Board Final Decision

### B. Amendment

### C. Transfer upon evidence of financial responsibility & assumption of all obligations

### D. Subsequent Applications

- 6 months prior to expiration
- Permit remains in effect until final decision

### E. Annual Reports and Reclamation Approval



# **DESOTO COUNTY PHOSPHATE MINING ORDINANCE Enforcement and Penalties**

# PHOSPHATE MINING ORDINANCE

## 5. ENFORCEMENT AND PENALTIES

### A. Absolute Liability for Damages

- Liability without proof of negligence
- Failure of any dam, settling pond or outlet structure, or failure to complete reclamation of lands

### B. Inspection by County

### C. Violations

- Fail to meet any criteria, standards or requirement
- Fail to obtain any other required permit
- Fail to notify County of violations of other permits
- Fail to comply with reclamation schedule
- Knowing false statements or certifications in reports
- Tamper with or render inaccurate monitoring devices
- Violation of any federal or state standards

# PHOSPHATE MINING ORDINANCE

## 5. ENFORCEMENT AND PENALTIES (Continued)

**D. Suspension or Revocation after Quasi-Judicial Public Hearing**

**E. Judicial Enforcement**

- Criminal penalty
- Civil penalty up to \$100,000 per offense; each day is a separate offense
- Injunction
- Cost to restore water quality, all costs of clean up, all enforcement costs
- County Environmental Restoration Fund
  - Awards from civil suits
  - Use to restore damaged areas



## SELECTED TOPICS



# **PHOSPHATE MINING ORDINANCE**

## **SELECTED TOPICS**

- A. Setbacks**
- B. Reclamation and Revegetation**
- C. Financial Responsibility**
- D. Radiation**
- E. Water Quality & Quantity**



# PHOSPHATE MINING ORDINANCE

## A. SETBACKS

- 500 feet from church property line
- 1000 feet from school property line
- 1000 feet from closest portion of dwelling or 200 feet from dwelling property line, whichever is greater
- 200 feet from existing ROW for excavation activities or stockpiles and 500 from ROW for settling ponds
- 1000 from applicant's property line for beneficiation plant
- 200 feet from property line for all others, including agricultural use

# PHOSPHATE MINING ORDINANCE

## A. SETBACKS (Continued)

### Reduction of Setbacks

- Cannot reduce groundwater levels on adjoining property by more than 3 feet in intermediate aquifer or more than 1 foot in surficial aquifer
  - Consent of adjoining owners
  - Without Consent
    - ✓ Lesser requirement will protect public health
    - ✓ Applicable setbacks are unreasonable
    - ✓ No off-site impact on water quality, vibration, noise, wetlands, drainage, floodways, esthetics

### Variance for Setbacks

- Requirement is unreasonable, create a hardship and lesser setback protects public health
- Notice and Public Hearing

# PHOSPHATE MINING ORDINANCE

## B. RECLAMATION & REVEGETATION

- **Ag lands** – level, free from hole, stable and firm, slope no steeper than 4:1
- **Flatwoods** – 200 trees per acre with species consisting of pine and oak but no more than 90% pine; reclaim with low management, diverse native flora that benefits wildlife, timber and aesthetics
- **Wetlands** reclaimed with 200 trees per acre, minimum of 3 species at generally acre for acre with no more than 80% in one species; soil moisture, stability, native species
- **Lakes** shall sustain fish and wildlife, filter runoff with perimeter berm and swale system, and meet FDEP requirements for lake depth
- **Berms and swales** – perimeter swale minimum slope of 3%; swale side slope minimum 4:1; spillways at intervals not to exceed 200 feet and protected from erosion; perimeter **greenbelt of tree and shrub indigenous species at least 120 feet wide**
- **Revegetation** shall ensure diversity, density/cover, protection from grazing/mowing for 3 years, measurement
- **Schedule of reclamation** showing year-by-year sequence for completion of reclamation units for life of the mine

# PHOSPHATE MINING ORDINANCE

## C. FINANCIAL RESPONSIBILITY

- **Demonstrate financial responsibility with audited financial statement**
  - **\$5000 each acre to be mined or excavated**
  - **\$1000 for each acre-foot of maximum above ground storage of largest settling pond or area, or thickening pond**
- **Insurance, bond, letters of credit payable to County covering all costs and expenses of completion of reclamation and costs of any pollution cleanup**
- **Personal injury insurance – not less than \$5 million**
- **Property damage insurance – not less than \$5 million**
- **Environmental damage insurance – not less than \$20 million**

# PHOSPHATE MINING ORDINANCE

## D. RADIATION

**“Assure the use of best management practices and the development of technology for maximum control of adverse effects of phosphate mining activities.”**

**“Ensure that phosphate mining and reclamation will not preclude future beneficial uses of mined out lands.”**

**“The applicant shall conduct mining and reclamation in such a manner as to ensure that upon completion of reclamation, all disturbed lands within the operating permit area have radiation levels that do not exceed applicable state requirements.”**

# PHOSPHATE MINING ORDINANCE

## E. WATER QUALITY & QUANTITY

**Environmental Monitoring Program** – establish baseline conditions and subsequent evaluation for compliance over life of the mine

- Surface water quality and quantity
- Groundwater quality and quantity
- Rainfall

**Monitoring Program Content**

- Sampling locations and schedule
- Parameters and standards for sampling
- Methodology for sampling and analysis
- Quality assurance
- Data reporting



## **SPECIAL MAGISTRATE & SETTLEMENT AGREEMENT**

# **PHOSPHATE MINING ORDINANCE**

## **SPECIAL MAGISTRATE & SETTLEMENT AGREEMENT**

- **Intent to Mine**
- **Necessary Local Approvals (zoning, MMP, OP, building permits)**
- **Rezoning Application**
  - **New or Resubmittal**
  - **Prior Denial**
- **MMP and OP Applications**
  - **Pending until December 31, 2025**
- **Quasi-Judicial Hearings**
- **Workshops – Conclude by January 1, 2023**
- **Development Agreement – Demonstrate consistency with law or protection of public, safety and welfare**
- **Additional Protections of Public Health, Safety and Welfare**
- **Applications and Proposed Use must be consistent with Comp Plan**





# SUMMARY



# SUMMARY

**Phosphate Mining Regulation Pyramid - Local, State, Federal Approvals**

**Comp Plan – History and Current (Overlay)**

**Zoning – General Criteria and Specific PMI District**

**Phosphate Mining Ordinance – History and Current**

**Administration**

**Mining Master Plan**

**Operating Permit**

**Processing of Application**

**Enforcement & Penalties**

**Selected Topics**

**Setbacks**

**Reclamation and Revegetation**

**Financial Responsibility**

**Radiation**

**Water Quality**

**Special Magistrate & Settlement Agreement**



# QUESTIONS & DISCUSSION