

# Overview of DNR Regulation of Nonferrous Metallic Mining in Wisconsin

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# Nonferrous Metallic Mining and Related Activities

- Metallic/nonferrous – essentially all metallic minerals except iron (separate law and process)
  - Exploration – Drilling up to 18” diameter holes
  - Bulk Sampling – Small scale sampling up to 10,000 tons of material moved per excavation site
  - Prospecting – Larger scale sampling
  - Mining – Commercial extraction and development of a mineral resource including mining waste disposal

# Legal Authority

- Mining Authority – Ch. 293, Wis. Statutes
- Mining-specific Administrative Rules
  - Ch. NR 130, Exploration
  - Ch. NR 131, Prospecting
  - Ch. NR 132, Mining
  - Ch. NR 182, Mining Waste Management
- All other environmental protection laws and rules also apply to specific activities and facilities

# Legal Authority - Recent Developments

- 2017 Wisconsin Act 134 (effective 7/1/2018)
  - Created new regulated activity – Bulk Sampling
  - Specifies timelines for various steps in review process
  - Changed mine permitting process – no automatic contested case hearing
  - Added two new forms of financial assurance
    - Unforeseen remedial contingencies – during operation + 40 years
    - Maintenance of pollution control measures 40 yrs after closure + 250 yrs
    - Effectively repealed irrevocable trust fund requirement
  - Repealed “mining moratorium” provisions
    - Added finding on effectiveness of proposed technology
  - Synchronized mining wetland requirements with other regulated activities
  - Groundwater modeling process changes – timeframe and depth component
- Anticipated rule revisions to implement Act 134 and ensure consistency with past statutory changes



# Exploration

- Exploration License Requirement
  - License fee, company financial information, insurance, bond
- Regulation of the activity
  - Pre-drilling notification – location, number of holes, drilling methods, access, water source, cuttings management, abandonment and reclamation (temporary or permanent)
  - Pre-drill inspection – identify issues and need for other permits/approvals, make adjustments to avoid significant resources and minimize impacts, impose conditions
  - Notification Requirements – pre-drilling, pre-filling
  - Abandonment reports, drilling fee, notice of completion – inspection, certificate of completion, bond reduction or release
  - Surveillance – during and after, especially drillhole filling/sealing

# Exploration Drilling





# Exploration Conditions

## Site Access





# Exploration Conditions Cuttings Management





# Exploration - Temporary Abandonment Site Stabilization



# Bulk Sampling

- Bulk sampling license
  - Bulk Sampling Plan
    - Description and map of the bulk sampling site
    - Description of the methods to be used for the bulk sampling.
    - Site-specific plan for controlling surface erosion
    - Revegetation plan
      - describes how adverse impacts to the environment will be avoided or minimized
      - how the site will be revegetated and stabilized
    - Estimated schedule for completing the bulk sampling and revegetation
    - Description of any likely adverse environmental impacts and plans to avoid them
  - Bond – estimated cost to reclaim the bulk sampling areas
- Other permits/approvals as needed (e.g., storm water, wetlands, navigable waters) - may trigger a hearing



# Bulk Sampling





# Bulk Sampling – Site Stabilization





# Regulatory Phases of Mining Projects

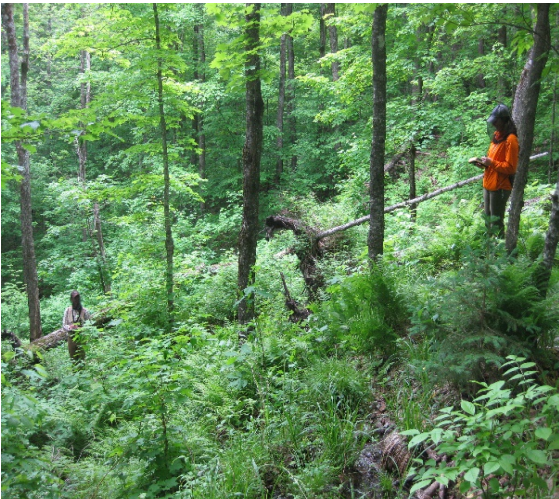
- Pre-application
- Permit Application/Environmental Review
- Operation
- Closure/Reclamation
- Post-closure/Long-term Care

# Phase 1 - Pre-Application

- Baseline data collection/monitoring
  - DNR identifies information needs and necessary
  - DNR verification
- Public comment period
  - Informational needs by applicant and DNR independent studies
- Project evaluation and design
  - Waste characterization
  - Groundwater modeling
- Compile permit applications & environmental impact report
- Communicate with local governments
- Start to recover review costs



# Data Collection and Verification



## **Phase 2 - Permit Application/Environmental Review**

- Continue data collection
- Agency review/information requests
  - Project design changes
  - Timeline
- Development of EIS
- Assess compliance with permitting criteria
- Develop decision documents
- Informational hearing – draft approvals and DEIS
- Final decision – issue or deny permits/approvals
  - Conditions



# Mining Permit Application

- Mining Plan
- Reclamation Plan – Cost Estimate
- Monitoring Plan
- Waste Site Feasibility Report and Plan of Operation
- Contingency Plan/Risk Assessment
- Pre-blasting survey

# Mining Permit and Waste Facility Permitting Criteria

- Mining plan and reclamation plan - consistent with minimum standards specified in the mining law and rules
- Groundwater Withdrawal – no unreasonable detriment to wells or waters of the state
- GW Quality – show compliance with standards for operation + 250 years
- Net positive economic impact in the area
- Will comply with all applicable environmental laws and rules – e.g., groundwater, surface water, wastewater discharge, storm water, air, wetlands, solid and hazardous waste,
- Conforms with all applicable zoning ordinances
- Technology will be effective for compliance with applicable air, groundwater, surface water, and solid and hazardous waste management laws and rules
- Track record – bond or permit forfeiture, felony convictions, bankruptcy
- Will not endanger public health, safety or welfare

## Phase 3 - Operation

- Submit final detailed construction plans
- Submit financial assurance instruments
  - Reclamation bond
  - Unforeseen remediation (including water supplies)
  - Long-term care of waste facility
  - Proof of liability insurance
- Construct and operate facilities according to plans - construction documentation
- Ongoing or phased reclamation/site stabilization

# Operation Phase

- Monitoring – submit results to DNR as collected
- Annual Reports
  - Changes
  - Deviations
  - Monitoring data evaluation
  - Reclamation activities
  - Projected development for the next year
  - Bond Review



# Operation Phase

- DNR Oversight
  - Inspections – frequency, scope
  - Monitoring – verify methods, verify results (split or independent), review compiled data for trends and compliance
  - Communicate with operator and local governments
  - Review and act on any request for modifications
  - Enforcement if needed – fines, orders, revocation

## Phase 4 - Reclamation/Closure

- Mining site reclamation plan final implementation
  - Achieve designated final land use
  - Facilities removal or conversion
  - Site regrading, water management and vegetative stabilization
- Detailed construction plans and specs – QA/QC
- Site monitoring continues
- Reclamation/closure documentation
  - Notice of Completion – demonstrate that the reclamation success criteria are met (cover, diversity, survival of intended species, etc..) and site is self-sustaining
  - Certificate of Completion – 4-year waiting period, hearing, bond reduction

# Site Reclamation





# Site Reclamation

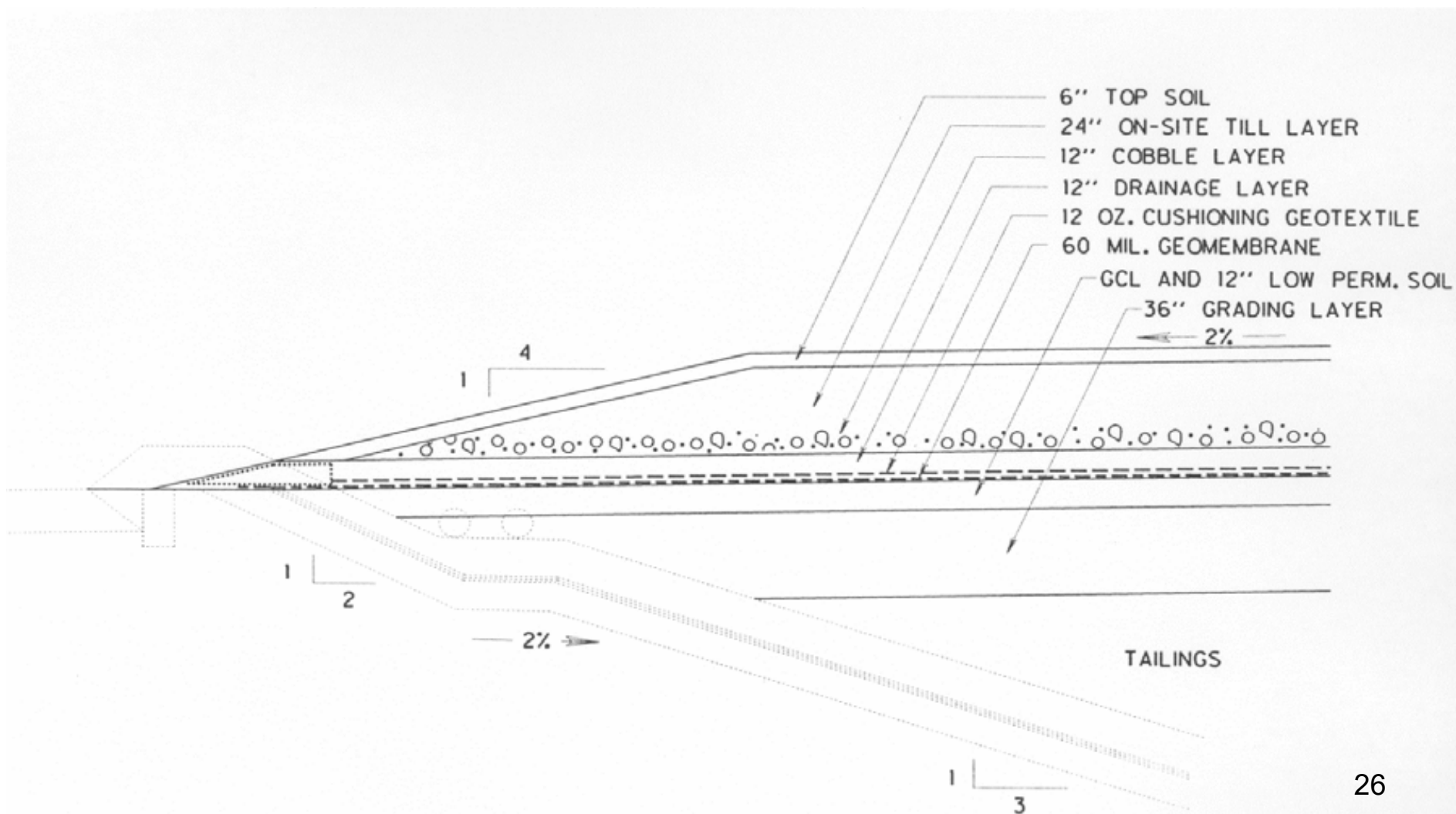


# Waste Site Closure

- Submit final construction details to implement closure plan
  - Designed for designated final use
  - Waste containment/isolation – engineered cover system,
  - Water/leachate management
    - Surface water management plan
    - Leachate management plan – collection, treatment
  - Closure documentation – QA/QC for cover components
    - Membrane installation
    - Soil material (clay and drain materials) properties verification, compaction tests, hydraulic conductivity tests
  - Financial assurance mechanism - reasonably anticipated costs for replacement or maintenance of cover , water treatment systems, etc. for 250 years after long-term care



# Waste Site – Engineered Cover System



# Waste Site Long-term Care

- Inspections
- Facility maintenance – soil erosion, vegetation, runoff control structures
- Leachate handling
- Monitoring
- Financial assurance for minimum of 40 years
  - owner must petition for release of financial assurance requirement
  - owner's responsibility for site does not terminate even if proof requirement is lifted



# Long-term Care Activities





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