

# Nonmetallic Mine Reclamation

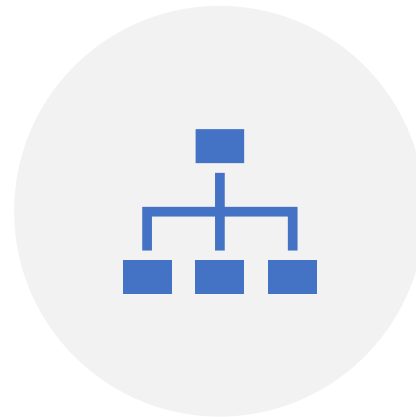
What works and what doesn't

Roberta Walls - WDNR

# Reclamation in view



GOALS OF RECLAMATION



RELATION BETWEEN THE  
STANDARDS, REQUIREMENTS, AND  
ADMINISTRATION



EXAMPLES

# Goals of Reclamation (NR135.01)

## Rehabilitate Sites where NMM takes place

- Removal/Reuse of NMM Refuse
- Removal of structures no longer in use
- Stabilization and revegetation
- Surface water control and groundwater withdrawal
- Prevention of pollution
- Restore plant/fish/wildlife habitat as applicable

## Promote Successful reclamation

- Consistent with standards
- Minimizes the cost to reclaim
- Minimizes area disturbed by mining via contemporaneous reclamation

# Scope of Reclamation Goals (N135)

## Reclamation Standards

- 14 total standards
- Not optional, but as applicable
- Contemporaneous
  - Applies to all sites

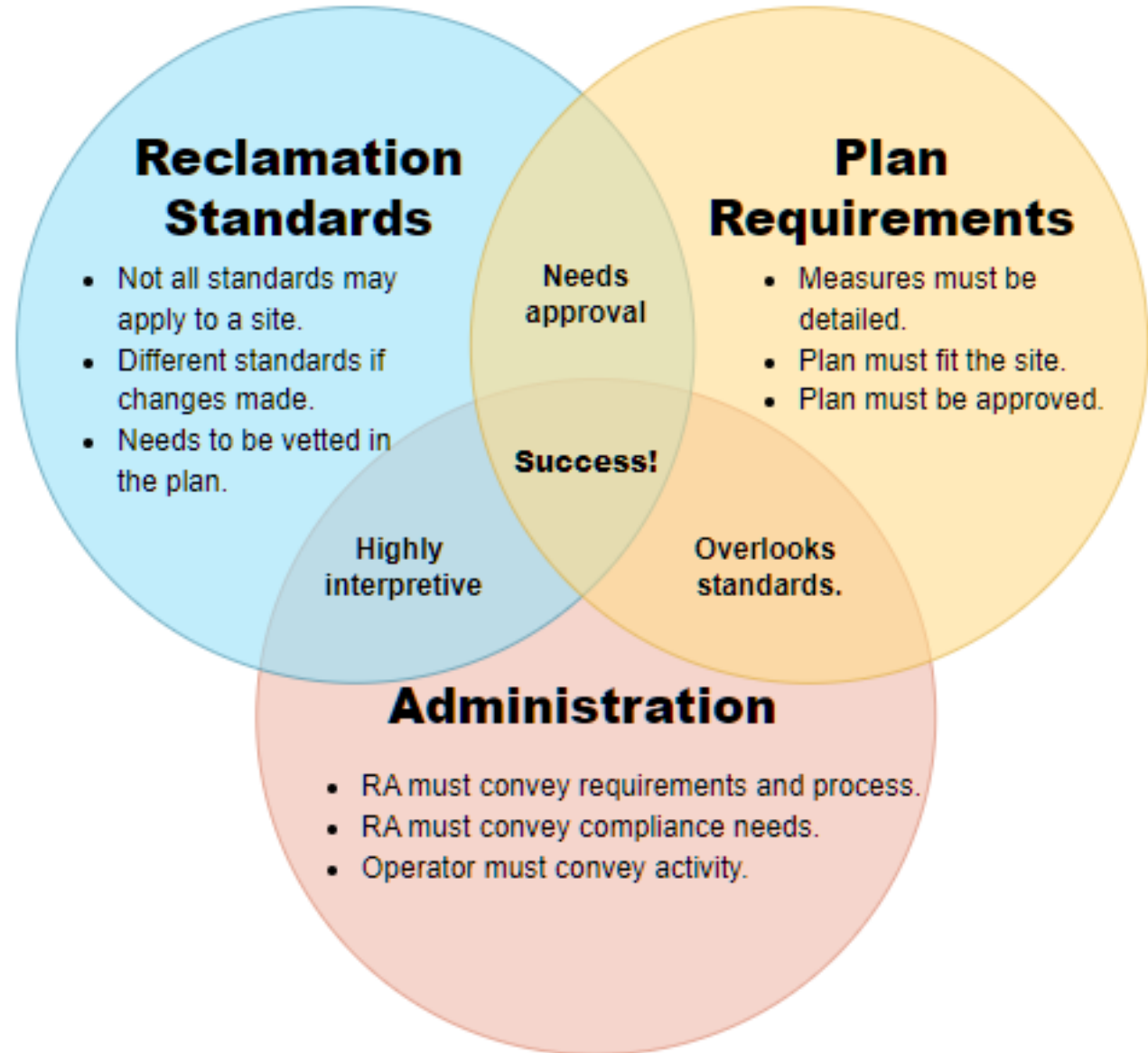
## Reclamation Requirements

- Reclamation plan
- Reclamation permit
- Commitment by operator (and Landowner if different)

## Provides Procedures and Administrative Tools

- Inspections
- Reporting
- Certificate of Completion
- Many other admin tools

# Relation of: Standards Requirements and Administration



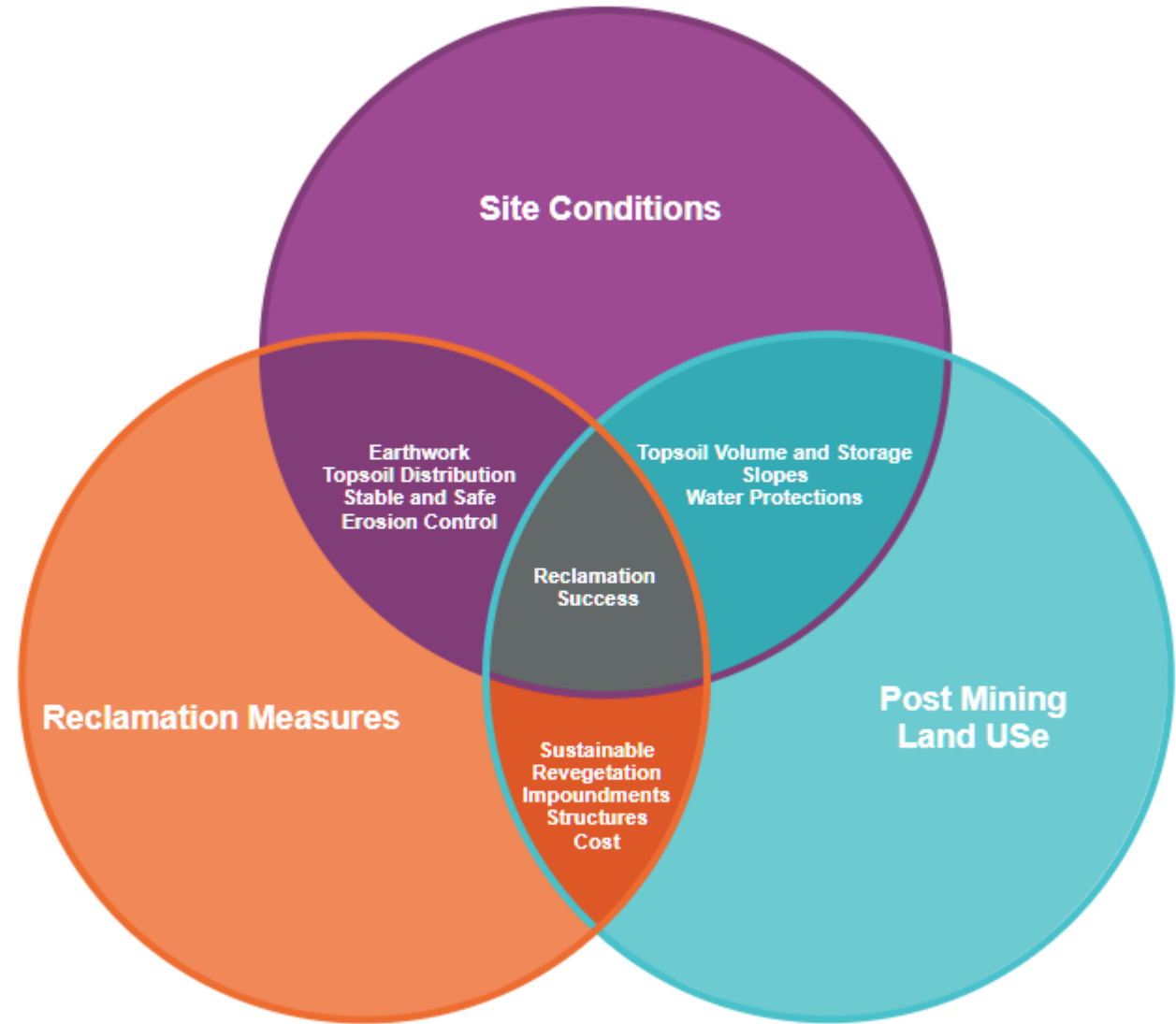
# Ties that Bind

The reclamation plan is the roadmap to success and is built with the standards in mind.

How does it work?

## Reclamation Requirements

# Relation of Plan Components



# Set the plan in motion

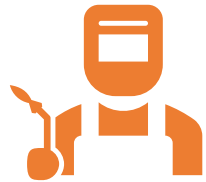
## Success starts with:

- A good plan: Components are well described.
- Start-Up:
  - Verify conditions
  - Sets plan in *motion*
  - Options to modify

## Follow-through:

- Maintain the plan: Operator roadmap to stay on track.
- ID Changing Conditions:
  - Topsoil volume
  - Consolidated (Bedrock)
  - Many other features
- Continuous: Not left to the end

# Examples in the Field



## Success starts with the very first:

Placement of topsoil  
Placement of overburden



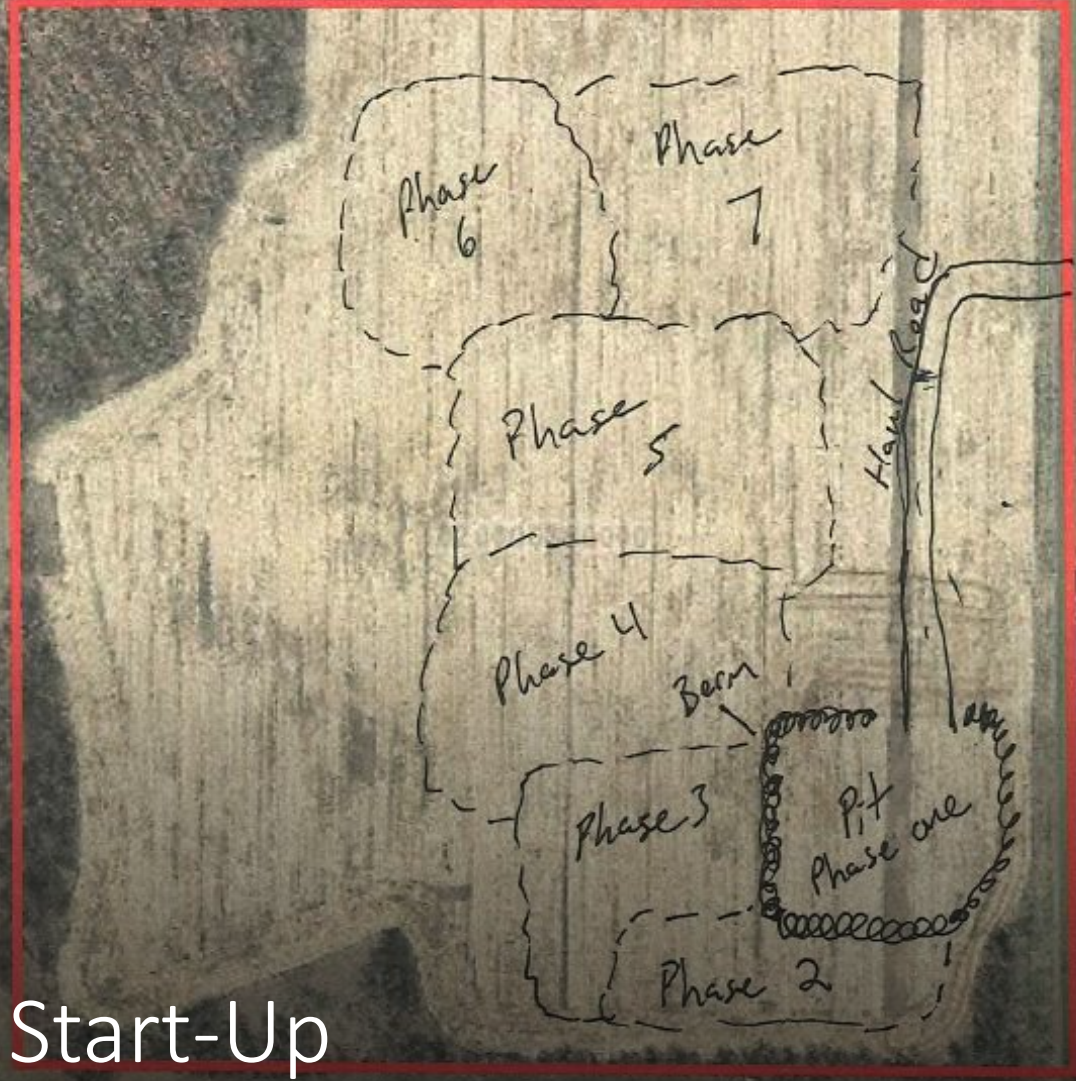
## Success is maintained by:

Sticking with the plan  
Modifying it if things change



## Success is reached when:

Supports the PMLU  
Meets the criteria in the plan  
Satisfies the reclamation standards



Start-Up





Start-Up



Compare: Side Casting



Compare: Lifts

# Compare: Erosion Control



# Contemporaneous Reclamation

- ① Topsoil Removal
- ② Spreading Topsoil on Backfilled Overburden
- ③ Loading of Subsoil Overburden
- ④ Hauling of Overburden
- ⑤ Backfilling of Subsoil Overburden
- ⑥ Drilling and Blasting
- ⑦ Crushing, Screening & Stockpiling
- ⑧ Loading & Hauling of Product
- ⑨ Seeding & Reclaimed Land





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Reclaimed areas: Final or Interim?



Compare: Contemporaneous  
Final & Interim



On-going operations

Ideal application of  
contemporaneous reclamation



Standard: Intermittent Cessation of mining



Compare: Waterbody Stabilization



Compare: Highwalls





Contemporaneous reclamation: Highwalls





Share your stories

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