MADRID MINING LANDSCAPE

2013 Western Planner/Nevada APA Conference

A New Mexico Abandoned Mine Land (AML) Program Community-Based Planning Project

Presented by:
Ken Romig, ASLA
Associate, Dekker/Perich/Sabatini
Outline

- New Mexico Abandoned Mine Land Program Basics
- Madrid Setting
  - History
  - Community
- Unusual Planning Challenges
- Planning Process
- Key Issues
- Final Plan Elements
- Summary
What is AML?

The New Mexico AML Program, part of the New Mexico Energy, Minerals, and Natural Resources Department, addresses the reclamation of abandoned mines throughout the state on both public and private property.

Priority 1: Protect public health, safety and property from immediate hazards resulting from historic mining practices.

Priority 2: Protect the public from hazards that do not constitute immediate hazards.

Priority 3: Restore lands and water degraded by historic mining practices. Restoration must facilitate the higher priority reclamation.

Fun Facts

- Federally funded State Program through the Office of Surface Mining
- Funded through a tax on existing coal mines.
- 15,000 abandoned mines in New Mexico statewide.
- AML programs nationwide will sunset in 2021.
The New Mexico Abandoned Mine Land (AML) Program

AML Project Staff

John Kretzmann, P.E. Program Director

Lloyd Miolola, Archaeologist and Project Manager

THE PLANNING TEAM

Dekker/Perich/Sabatini
  Planning and Landscape Architecture

Karpoff and Associates
  Community Facilitation

Golder Associates
  Environmental Science
Madrid, New Mexico
Historical Context

1400’s – Native Americans mine turquoise in and around the Madrid region

1591- Spanish explorers discover the turquoise and gold near Madrid

1830- the Madrid area is locally mined for coal.

1892- a narrow gauge rail line was run to “Coal Gulch”, later named Madrid, NM, from the Rio Grande. The construction of the rail line constricts the gulch.

1899- Madrid flourishes as a “company town” with a population of 2500 people.
1920- Coal production peaks under the ownership and management of Oscar Huber

1954- Recognizing the demise of coal, Owner Oscar Huber puts the entire town up for sale—cost $250,000. There are no buyers.

1960- Mining comes to an end

1975- The town site is subdivided and sold

1975 to Present- the town is occupied and rehabilitated
Community Setting

A 150 person community which values personal independence and is in transition from early “settlers” to a new generation of landowners.

An unincorporated community which relies a network of civic groups.

- Madrid Landowners Association
- Madrid Water Cooperative
- Madrid Cultural Projects
- Madrid Merchants Association

Madrid is a welcoming community of artisans and well-educated individuals who love visitors to leave their money and leave town.
AML in Madrid, NM

AML Approach - 1980 to 2000

Successes include:

- Closure of adits and shafts that pose imminent hazards
- Mitigation of subsidence with fill materials
- Removal of hazardous mining structures
- Reclamation of gob piles to reduce erosion

Current AML Approach

- Comprehensive planning and implementation involving multiple landowners
- Collaborative planning and design from the basis of a community consensus.
- Respectful of animal habitat, mining heritage and community values
The Project Purpose

Address the historical mineral mining issues in Madrid holistically, by developing a community-based plan that addresses the historic impact and secondary effects of past mineral mining and processing practices.
Unusual Planning Challenges

• **AML’s first undertaking into community-based planning.**

• **A plan that is funded for implementation.**

• **Creating consensus in a community that values independent opinions and has no official governing body**

• **Community Property vs. Private Property Action**
Planning Process

Public Outreach

• Multiple methods of communication

Educate

• The client about community-based planning processes
• Madrid residents about AML programmatic constraints

Open-ended Planning Decisions
Outreach Principles

- Develop multiple ways to participate and listen
- Focus on substantive, critical issues

Strategies

- Community Meetings
- Individual Meetings
- Civic Group Reports
- Community Advisory Board
- Community Story Boards
- Project Website
AML

- Evaluate preconceived notions of community based planning
- Prepare for atypical planning conclusions

Stakeholders

- Clearly state the funding and programmatic constraints of the AML Program
- Create long term project momentum
Open-ended Planning Conclusions

• A legitimate no-action option
• Be willing and ready to learn
• Abandon preconceived implementation notions
Key Issues and Concerns

- Poor water quality
- Tenuous water supply
- Excessive erosion and sedimentation
- Flooding from storm water runoff
- Concerns about moving the gob piles
- Unanswered environmental questions
  - Fugitive Dust
  - Chemical composition of Gob
  - Methane
- Concerns that AML project(s) address substantive quality of life issues
Environmental Findings

- Rapid accumulation of storm water.
- Madrid Gulch has degraded and is incised ≈ 30’.
- Gob piles are chemically benign
- Fugitive dust is worrisome to residents
- Unlikely connection between past mining practices and current water issues

Community Findings

- Civic groups provide Madrid a loose but effective governance structure
- The civic groups may take a leadership role in implementing community projects
- The County may be an important partner for project implementation and maintenance
Community Meetings

- Educate Madrid about the AML organization
- Envision and vet improvements
- Develop consensus for implementation
Final Community Plan Projects

- East Slope Catchment Project
- Arroyo Restoration Project
Goals

• Restore Watershed
• Protect Private Property
• Improve Public Open Space
• Support Community's History and Identity
• Secure Long Term Community Water Supply

Strategies

• Reclaim/Stabilize Some Gob Piles
• Stabilize and Naturalize Drainage
• Assure Long-term Sustainability of Improvements
• Utilize Storm Water is a Community Resource
• Develop Recreational/Interpretative Elements
Community Project #1 East Slope Catchment Project

Project Goals:

- Use Low Impact Development Techniques
- Reuse water for community food source development
- Improve village vehicular roadways for emergency access, storm water and sediment control
Community Project #2  Arroyo Restoration

**Project Goals:**

- Restore hydrologic function of arroyo
- Create recreational trails for community use and install interpretative elements
- Detain and reuse water for community food source development (alleviate food insecurity)
Summary

Project Innovations

• Work with a broad range of stakeholders to identify projects
• Select and develop mine projects on a watershed basis
• Promote projects that involve multiple property owners and provide benefits to the larger community
• Apply low impact development techniques in a rural area
• Encourage the use of local expertise into project implementation

Current Conditions

• Emergency work is underway due to a 50 yr. flood event this August
• Partnership development is tenuous
• Landowners are committed
• East Slope Catchment Project is under design
Summary (cont.)

Project Status

- AML has hired a design/build team made up of a watershed restoration contractor, engineers and public outreach professionals to design and build the East Slope Catchment Project.
- Landowners are consenting to archaeological and environmental survey to their lands to be improved.
- Partnership development is progressing.

Current Conditions

- Emergency work is underway due to a 50 yr. flood event this August.
- Emergency archaeological survey work is occurring.
THANK YOU!

QUESTIONS?

New Mexico Energy, Minerals and Natural Resources Department

Dekker/Perich/Sabatini
architecture interiors landscape planning engineering

http://www.emnrd.state.nm.us/MMD/AML/MML/

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OCTOBER, 2013