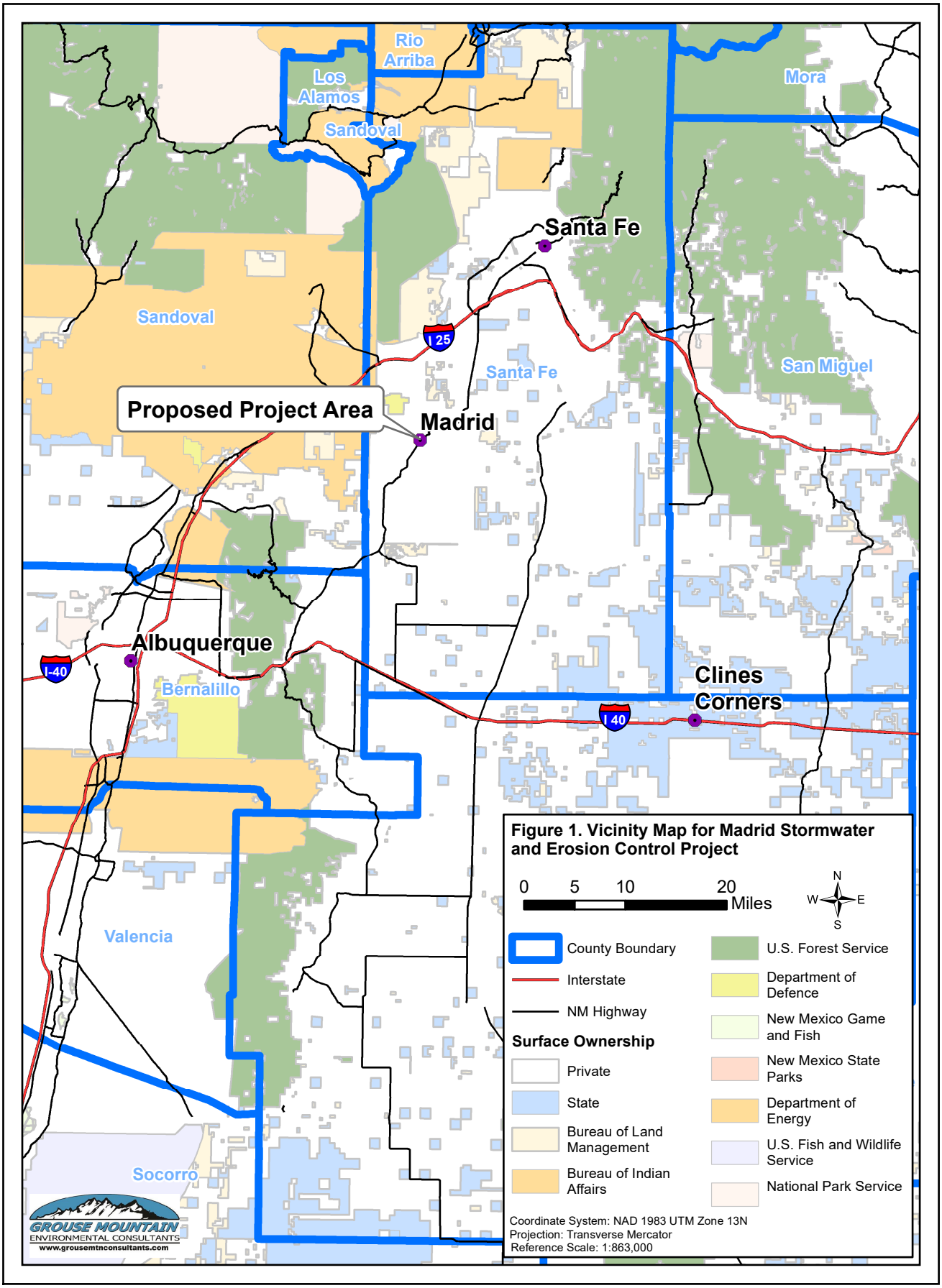
FIGURES


Rio Arriba
Los Alamos
Sandoval
Mora
Santa Fe
Sandoval
I 25
Santa Fe
San Miguel
Proposed Project Area
Madrid
Albuquerque
I-40
Bernalillo
Clines Corners
I 40
Valencia
Socorro
GROUSE MOUNTAIN
ENVIRONMENTAL CONSULTANTS
www.grousemtnconsultants.com
Figure 1. Vicinity Map for Madrid Stormwater and Erosion Control Project
0 5 10 20 Miles
N
W E
S
County Boundary
Interstate
NM Highway
Surface Ownership
Private
State
Bureau of Land Management
Bureau of Indian Affairs
U.S. Forest Service
Department of Defence
New Mexico Game and Fish
New Mexico State Parks
Department of Energy
U.S. Fish and Wildlife Service
National Park Service
Coordinate System: NAD 1983 UTM Zone 13N
Projection: Transverse Mercator
Reference Scale: 1:863,000

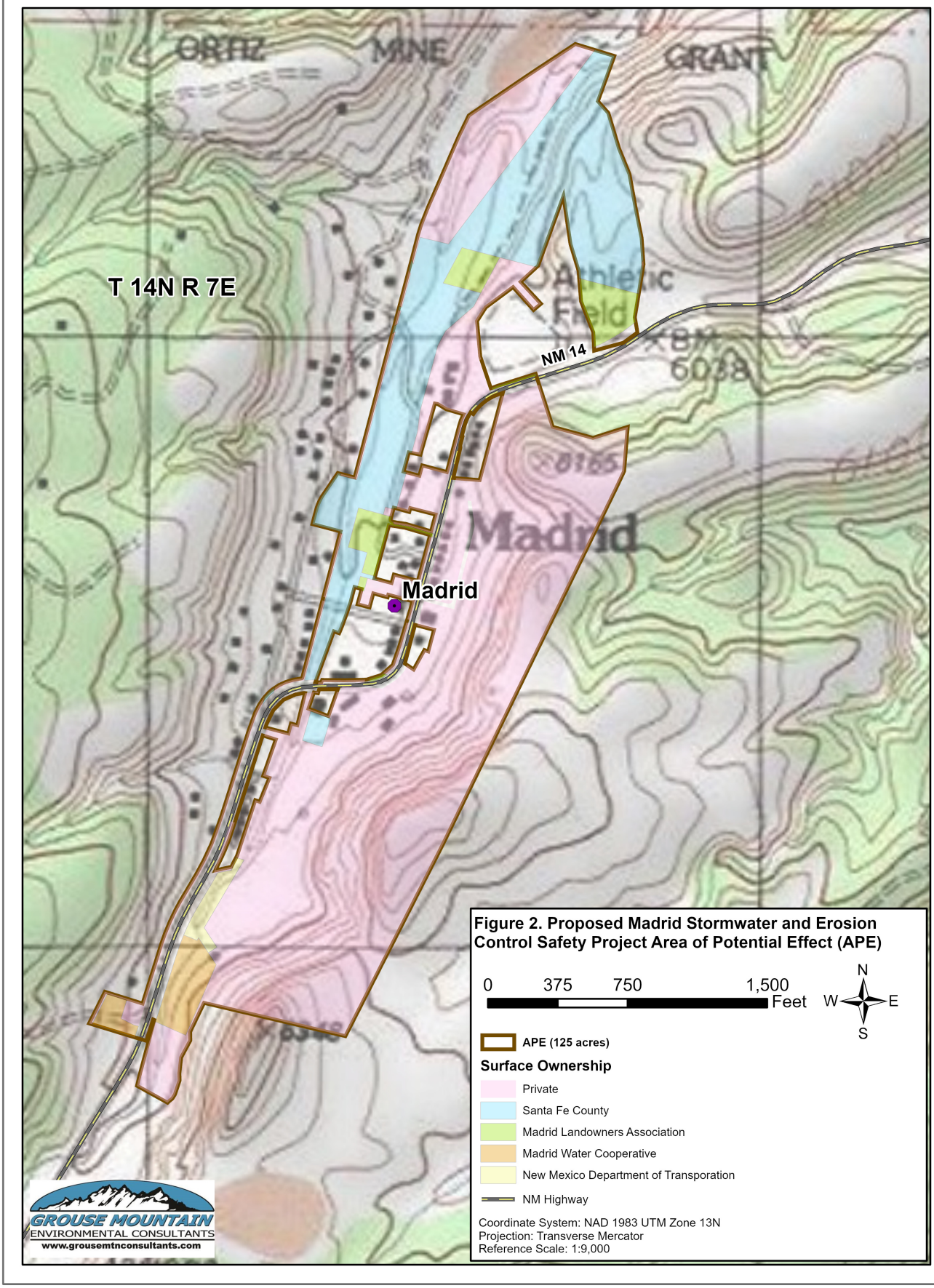


Figure 2. Proposed Madrid Stormwater and Erosion Control Safety Project Area of Potential Effect (APE)

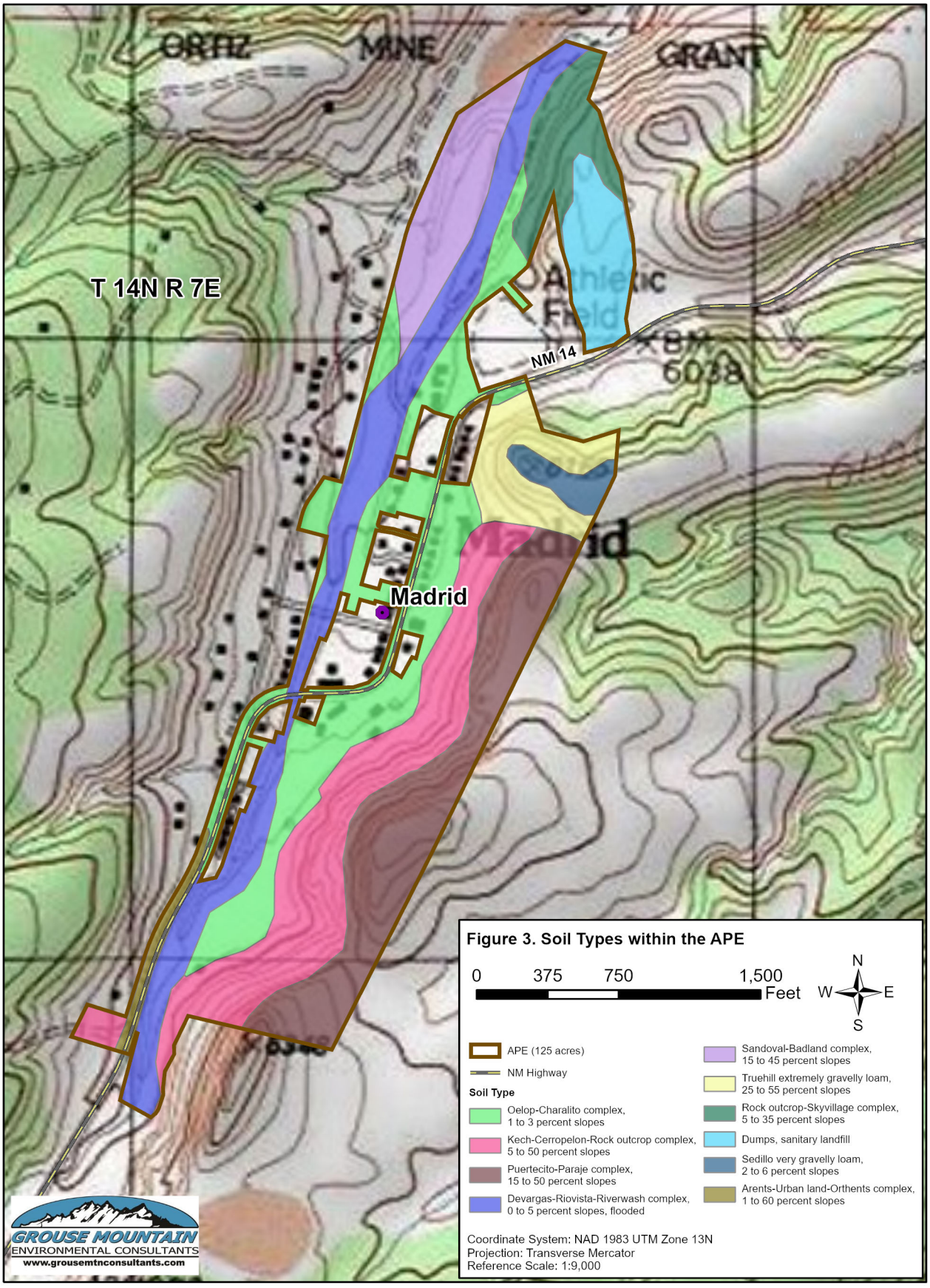


Figure 3. Soil Types within the APE

Appendix A.

Agency Correspondence

MEMORANDUM

DATE: June 13, 2023

TO: James Hollen, NEPA Coordinator NMAML

FROM: Curt Temple, Public Works Projects Section Manager

SUBJECT: Approval of Environmental Report

I am writing to officially acknowledge the receipt and review of the environmental report submitted by New Mexico Abandoned Mine Land Program on 5/18/2023. After careful examination, I am pleased to inform you that your environmental report has been thoroughly evaluated and approved by our team at Santa Fe County Projects Division.

The level of detail provided demonstrates your commitment to ensuring environmental sustainability and compliance with applicable regulations and standards.

Upon review, we have determined that the report adequately addresses all pertinent aspects, including but not limited to environmental impact assessment, mitigation measures, and compliance with local, state, and federal regulations. Your findings and recommendations provide valuable insights that will assist in making informed decisions regarding environmental management and protection.

On behalf of Santa Fe County, I hereby grant approval for the submitted environmental report. The document is accepted as a comprehensive assessment of the environmental impacts associated with the Madrid projects, and we trust that the recommendations and measures outlined in the report will be implemented diligently.

Please feel free to contact us should you have any questions or require further assistance. We look forward to witnessing your continued commitment to environmental stewardship.

Once again, congratulations on a job well done, and thank you for your dedication to environmental preservation.

Murray, Leeland, EMNRD

From: Kellermueller, Ronald, DGF
Sent: Thursday, July 20, 2023 2:19 PM
To: Murray, Leeland, EMNRD
Cc: DGF-EEP-TG
Subject: RE: No Response Concurrence - Draft EA Madrid Stormwater and Erosion Control Project

Hi Leeland,
Thanks for arranging a site inspection today (20 July 2023) regarding the above referenced Madrid Stormwater and Erosion Control Project. Two fully feathered Cooper's Hawk nestlings were observed at the nest near the proposed project area, and an adult female was also observed near the nest site. The young fledglings are most likely capable of limited flight and have begun periodically branching away from the nest and should be fully fledged by the end of the month.

All migratory birds are protected against direct take under the federal Migratory Bird Treaty Act (16 U.S.C. Sections 703-712). In addition, hawks, falcons, vultures, owls, songbirds, and other insect-eating birds are protected from take under New Mexico State Statutes (17-2-13 and 17-2-14 NMSA), unless permitted by the applicable regulatory agency. To minimize the likelihood of adverse impacts to migratory bird nests, eggs or nestlings during project construction activities, the Department recommends that ground disturbance and vegetation removal activities be conducted outside of the primary breeding season for migratory songbirds and raptors (1 March – 1 September; 1 January-15 July for golden eagle and great horned owl). If ground disturbing and clearing activities must be conducted during the breeding season, the area should be surveyed for active nest sites (with birds or eggs present in the nesting territory), and avoid disturbing active nests until young have fledged. For active nests, establish adequate buffer zones to minimize disturbance to nesting birds. Buffer distances should be a minimum of 100 feet from songbird and raven nests, and 0.25 miles from most raptor nests; and 0.5 miles for ferruginous hawk, golden eagle, peregrine falcon and prairie falcon nests. Active nest sites in trees or shrubs that must be removed should be mitigated by qualified biologists or wildlife rehabilitators. Department biologists are available to consult on nest site mitigation and can facilitate contact with qualified personnel.

If you have any questions please do not hesitate to contact me. I will also be available for consultation regarding any concerns about potential impacts to wildlife and mitigation measures as the project moves forward.

Yours Truly, Ron

RON KELLERMUELLER
MINING AND ENERGY HABITAT SPECIALIST
ECOLOGICAL AND ENVIRONMENTAL PLANNING DIVISION
NEW MEXICO DEPARTMENT OF GAME AND FISH
1 WILDLIFE WAY
SANTA FE, NM 87507
(505) 270-6612
Ronald.Kellermueller@dgf.nm.gov

Conserving New Mexico's Wildlife for Future Generations

From: Duvuvuei, Erin, DGF <Erin.Duvuvuei@dgf.nm.gov>
Sent: Wednesday, July 19, 2023 3:47 PM
To: Kellermueller, Ronald, DGF <Ronald.Kellermueller@dgf.nm.gov>
Cc: Cline, Mason, DGF <Mason.Cline@dgf.nm.gov>
Subject: FW: No Response Concurrence - Draft EA Madrid Stormwater and Erosion Control Project

Hey Ron,

I completely forgot about following up with you after I sent this original request from EMNRD in mid-June; it looks like no comments were provided from the Department, & EMNRD are assuming concurrence (below). Were you/EEP aware of this project? Seems like if might be too late, but I wasn't sure if I should follow up with Leeland Murray at this point.

Thanks,
Erin

Erin Duvuvuei
Please note my new email address: Erin.Duvuvuei@dgf.nm.gov
Nongame Avian Biologist
New Mexico Department of Game & Fish
One Wildlife Way
Santa Fe, NM 87507

Conserving New Mexico's Wildlife for Future Generations

From: Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>
Sent: Wednesday, July 19, 2023 3:39 PM
To: Cline, Mason, DGF <Mason.Cline@dgf.nm.gov>; Duvuvuei, Erin, DGF <Erin.Duvuvuei@dgf.nm.gov>
Cc: Hollen, James, EMNRD <james.hollen@emnrd.nm.gov>; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>; Maestas, Yeny, EMNRD <Yeny.Maestas@emnrd.nm.gov>
Subject: No Response Concurrence - Draft EA Madrid Stormwater and Erosion Control Project

July 19, 2023

Via email: mason.cline@dgf.nm.gov

Mason Cline, Bird Program Manager
New Mexico Department of Game and Fish
One Wildlife Way
Santa Fe, NM 87507

Dear Mr. Mason,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, is writing to confirm that no response nor comments have been received by the New Mexico Department of Game and Fish (NMDGF) during the 30-day comment period. This comment period was to provide agencies the opportunity to comment prior to publishing the draft EA for public comment. This no response will be assumed to be concurrence.

Please contact me at (505) 629-9677 or via email at: leeland.murray@emnrd.nm.gov if you have any further questions regarding this project.

Regards,

Leeland Murray
Project Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
Cell: 505-629-9677

Cc via email:
Erin Duvuvuei, Nongame Avian Biologist, NMDGF erin.duvuvuei@dgf.nm.gov
James Hollen, NEPA Coordinator, AML james.hollen@emnrd.nm.gov
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov

From: Murray, Leeland, EMNRD
Sent: Tuesday, June 13, 2023 2:07 PM
To: Cline, Mason, DGF <Mason.Cline@dgf.nm.gov>; Duvuvuei, Erin, DGF <Erin.Duvuvuei@dgf.nm.gov>
Cc: Hollen, James, EMNRD <James.Hollen@emnrd.nm.gov>; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>; Maestas, Yeny, EMNRD <Yeny.Maestas@emnrd.nm.gov>
Subject: Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

June 13, 2023

Via email: mason.cline@dgf.nm.gov

Mason Cline, Bird Program Manager
New Mexico Department of Game and Fish
One Wildlife Way
Santa Fe, NM 87507

Dear Mr. Mason,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, in cooperation with the US Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), is planning to address long-term threats to life and properties due to stormwater runoff, flooding and erosion across coal mining gob throughout the Town of Madrid while also working to limit disturbance to other resources on adjacent county, federal and private lands.

Since the 1980's, the OSMRE and AML have addressed public safety concerns associated with the open abandoned mine adits and shafts along the margins of the townsite as well as a variety of drainage issues resulting in flooding and emergency situations, most notably after storm events. As a federally funded program this proposed AML project constitutes an undertaking subject to review under NEPA. Under the Proposed Action, the OSMRE would approve a Federal Grant for use by the state of New Mexico in implementing the Proposed Action.

AML has previously consulted on the Madrid project with USFWS in 2019, specifically as the project relates to the active Cooper Hawk nest within the project APE. The Proposed Action's activities are not anticipated to impact any nesting raptors within the area. Though the Cooper's Hawk nest was documented in 2019, our program has not performed yearly raptor checks since. Based on the analysis in the draft EA and the supporting documentation, the AML Program

finds that remediation activities in the Madrid Stormwater and Erosion Control Project will not have significant effects on the quality of the human or natural environment. Proposed construction within the arroyo is estimated to start Spring 2024.

A draft Environmental Assessment (EA) has been completed and is available for your review via the following link:

https:/[redacted]

AML requests that you review the draft EA and provide any comments you may have before July 7, 2023.

Please contact me at (505) 629-9677 or via email at: leeland.murray@emnrd.nm.gov with any problems accessing the documents, questions or comments you may have regarding the project or this request.

Sincerely,

Leeland Murray
Project Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
Cell: 505-629-9677

Cc via email:
Erin Duvuvuei, Nongame Avian Biologist, NMDGF erin.duvuvuei@dgf.nm.gov
James Hollen, NEPA Coordinator, AML james.hollen@emnrd.nm.gov
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov

Murray, Leeland, EMNRD

From: Murray, Leeland, EMNRD
Sent: Thursday, June 22, 2023 9:14 AM
To: Botkin, Trent, DOT
Cc: Brasher, Paul, DOT; Moiola, Lloyd, EMNRD; Maestas, Yeny, EMNRD; Hollen, James, EMNRD
Subject: No Response Concurrence - Draft EA Madrid Stormwater and Erosion Control Project

June 22, 2023

Via email: trent.botkin@dot.nm.gov

Trent Botkin, Manager
Environmental Bureau
NM Department of Transportation (NMDOT)
P.O. Box 1149
1120 Cerillos Rd., Room 205
Santa Fe, NM 87504-1149

Dear Mr. Botkin,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, is writing to confirm that no response nor comments have been received by the New Mexico Department of Transportation (NMDOT) during the 30-day comment period. This comment period was to provide agencies the opportunity to comment prior to publishing the draft EA for public comment. This no response will be assumed to be concurrence.

Please contact me at (505) 629-9677 or via email at: leeland.murray@emnrd.nm.gov if you have any further questions regarding this project.

Regards,

Leeland Murray
Project Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
Cell: 505-629-9677

Cc via email:

Paul Brasher, District 5 Engineer, NMDOT paul.brasher@dot.nm.gov
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov
James Hollen, NEPA Coordinator, AML james.hollen@emnrd.nm.gov

---

From: Hollen, James, EMNRD <james.hollen@emnrd.nm.gov>
Sent: Thursday, May 18, 2023 7:34 AM
To: Botkin, Trent, DOT <Trent.Botkin@dot.nm.gov>
Cc: Brasher, Paul, DOT <Paul.Brasher@dot.nm.gov>; Herrera, Marcos G, DOT <marcos.herrera@dot.nm.gov>; Moiola,

Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>; Maestas, Yeny, EMNRD <Yeny.Maestas@emnrd.nm.gov>; Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>
Subject: Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

May 18, 2023

Via email: trent.botkin@dot.nm.gov

Trent Botkin, Manager
Environmental Bureau
NM Department of Transportation (NMDOT)
P.O. Box 1149
1120 Cerillos Rd., Room 205
Santa Fe, NM 87504-1149

Dear Mr. Botkin,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, in cooperation with the US Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), is planning to address long-term threats to life and properties due to stormwater runoff, flooding and erosion across coal mining gob throughout the Town of Madrid while also working to limit disturbance to other resources on adjacent county, federal and private lands.

Since the 1980's, the OSMRE and AML have addressed public safety concerns associated with the open abandoned mine adits and shafts along the margins of the townsite as well as a variety of drainage issues resulting in flooding and emergency situations, most notably after storm events. As a federally funded program this proposed AML project constitutes an undertaking subject to review under NEPA. Under the Proposed Action, the OSMRE would approve a Federal Grant for use by the state of New Mexico in implementing the Proposed Action.

AML has previously consulted on the Madrid project with Paul Brasher, NMDOT District 5 Engineer, and Marcos Herrera, NMDOT Utility Agent, specifically as the project relates to utility locating and geotechnical drilling activity within the NMDOT Right of Way along NM Highway 14. The Proposed Action's activity is not anticipated to develop any conflict with NMDOT rights-of-way, permits, or leases. Based on the analysis in the draft EA and the supporting documentation, the AML Program finds that remediation activities in the Madrid Stormwater and Erosion Control Project will not have significant effects on the quality of the human or natural environment.

A draft Environmental Assessment (EA) has been completed and is available for your review via the following link:

AML requests that you review the draft EA and provide any comments you may have before June 16, 2023.

Please contact me at (505) 231-8332 or via email at: james.hollen@emnrd.nm.gov with any problems accessing the documents, questions or comments you may have regarding the project or this request.

Sincerely,

James Hollen <> NEPA Coordinator
New Mexico Abandoned Mine Land Program
Energy, Minerals & Natural Resources Department <> Mining & Minerals Division
1220 South St. Francis Drive <> Santa Fe, NM 87505
Cell: 505-231-8332 <> Email: james.hollen@emnrd.nm.gov

Web: www.emnrd.nm.gov

Cc via email:

Paul Brasher, District 5 Engineer, NMDOT paul.brasher@dot.nm.gov
Marcos Herrera, Utility Permit Agent, NMDOT marcos.herrera@dot.nm.gov
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov
Leeland Murray, Project Manager, AML leeland.murray@emnrd.nm.gov

Murray, Leeland, EMNRD

From: Murray, Leeland, EMNRD
Sent: Thursday, June 22, 2023 9:18 AM
To: kelly.allen@usace.army.mil
Cc: winston.s.zack@usace.army.mil; Forrest.Luna@usace.army.mil; Moiola, Lloyd, EMNRD; Maestas, Yeny, EMNRD; Hollen, James, EMNRD
Subject: No Response Concurrence - Draft EA Madrid Stormwater and Erosion Control Project

June 22, 2023

Via email: Kelly.allen@usace.army.mil

Kelly Allen, Regulatory Division Chief
Albuquerque Division
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, NM 87109

Dear Ms. Allen,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, is writing to confirm that no response nor comments have been received by the U.S. Army Corps of Engineers Albuquerque Division during the 30-day comment period. This comment period was to provide agencies the opportunity to comment prior to publishing the draft EA for public comment. This no response will be assumed to be concurrence.

Please contact me at (505) 629-9677 or via email at: leeland.murray@emnrd.nm.gov if you have any further questions regarding this project.

Regards,

Leeland Murray
Project Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
Cell: 505-629-9677

Cc via email:

Winston Zack, Albuquerque Division and SPD Regulatory Archaeologist, USACE winston.s.zack@usace.army.mil
Forrest Luna, Regulatory Specialist, Albuquerque Division USACE forrest.luna@usace.army.mil
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov
James Hollen, NEPA Coordinator, AML james.hollen@emnrd.nm.gov

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From: Hollen, James, EMNRD <james.hollen@emnrd.nm.gov>
Sent: Thursday, May 18, 2023 7:34 AM
To: kelly.allen@usace.army.mil

Cc: Forrest.Luna@usace.army.mil; winston.s.zack@usace.army.mil; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>; Maestas, Yeny, EMNRD <Yeny.Maestas@emnrd.nm.gov>; Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>
Subject: Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

May 18, 2023

Via email: Kelly.allen@usace.army.mil

Kelly Allen, Regulatory Division Chief
Albuquerque Division
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, NM 87109

Hello Kelly,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, in cooperation with the US Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), is planning to address long-term threats to life and properties due to stormwater runoff, flooding and erosion across coal mining gob throughout the Town of Madrid while also working to limit disturbance to other resources on adjacent county, federal and private lands.

Since the 1980's, the OSMRE and AML have addressed public safety concerns associated with the open abandoned mine adits and shafts along the margins of the townsite as well as a variety of drainage issues resulting in flooding and emergency situations, most notably after storm events. As a federally funded program this proposed AML project constitutes an undertaking subject to review under NEPA. Under the Proposed Action, the OSMRE would approve a Federal Grant for use by the state of New Mexico in implementing the Proposed Action.

AML has previously consulted on the Madrid project with others of your staff from the USACE Albuquerque District, including Forrest Luna, and Winston Zack, specifically as the project relates to the project's cultural resources avoidance within the project area, in addition to the County's participation as a signatory party in concurrence with the Memorandum of Agreement in place among the participating agencies and other stakeholders in the project. The Proposed Action's activity is anticipated to be regulated by the USACE NWP 37 process also currently underway. Based on the analysis in the draft EA and the supporting documentation, the AML Program finds that remediation activities in the Madrid Stormwater and Erosion Control Project will not have significant effects on the quality of the human or natural environment.

A draft Environmental Assessment (EA) has been completed and is available for your review via the following link:

https://fs.emnrd.state.nm.us/[redacted]

AML requests that you review the draft EA and provide any comments you may have before June 16, 2023.

Please contact me at (505) 231-8332 or via email at: james.hollen@emnrd.nm.gov with any problems accessing the documents, questions or comments you may have regarding the project or this request.

Sincerely,

James Hollen <> NEPA Coordinator
New Mexico Abandoned Mine Land Program
Energy, Minerals & Natural Resources Department <> Mining & Minerals Division

1220 South St. Francis Drive <> Santa Fe, NM 87505
Cell: 505-231-8332 <> Email: james.hollen@emnrd.nm.gov
Web: www.emnrd.nm.gov

Cc via email:

Winston Zack, Albuquerque Division and SPD Regulatory Archaeologist, USACE winston.s.zack@usace.army.mil
Forrest Luna, Regulatory Specialist, Albuquerque Division USACE forrest.luna@usace.army.mil
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov
Leeland Murray, Project Manager, AML leeland.murray@emnrd.nm.gov

Murray, Leeland, EMNRD

From: Hayes, Charles (Chuck) <charles_hayes@fws.gov>
Sent: Thursday, August 31, 2023 4:45 PM
To: Murray, Leeland, EMNRD
Subject: Re: [EXTERNAL] Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

He Leeland,

I wanted to confirm that we (Ecological Services) reviewed the EA, and identified no comments or concerns to pass on. We also provided a copy of this information to our MIgratory Birds biologists and did not get any additional response. Based on that, I think you can consider our response to have no additional recommendations.

Thanks for checking in on this, and sorry for the delay in getting back to you.

Chuck

~~~~~~

Chuck Hayes
(he/him/his)
Branch Supervisor, Collaborative Conservation Services
New Mexico Ecological Services Field Office
U.S. Fish and Wildlife Service
2105 Osuna Rd NE
Albuquerque, NM 87113
charles_hayes@fws.gov
505-761-4754
cell 505-480-4821

~~~~~~

Working with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.

Notice: Please direct any electronic (email) requests for reviews of projects within New Mexico to nmesfo@fws.gov.

From: Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>
Sent: Friday, August 25, 2023 1:33 PM
To: Hayes, Charles (Chuck) <charles_hayes@fws.gov>
Cc: NMESFO, FW2 <nmesfo@fws.gov>
Subject: RE: [EXTERNAL] Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

Hi Chuck,

Just wanted to check in and see if USFWS wanted to provide any response for the Madrid project? If not, we are find incorporating the prior “no response” email in our EA.

Thanks!

Leeland Murray

From: Hayes, Charles (Chuck) <charles_hayes@fws.gov>
Sent: Monday, July 17, 2023 3:45 PM
To: Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>
Cc: NMESFO, FW2 <nmesfo@fws.gov>
Subject: Re: [EXTERNAL] Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

Hi Leeland,

I just wanted to confirm that I received your message, and was able to access the materials regarding the draft EA. I am also copying the message to nmesfo@fws.gov, which is our main address for submitting and cataloging projects to be reviewed.

I notice that you have "no effect" determinations for the ESA listed species, and therefore no formal section 7 concurrence is required from us. Therefore, would you need any comments from us on other species or resources in a formal written (i.e., signed) correspondence, or would an email response to your message below meet your needs?

Thanks for the opportunity to review this project, and don't hesitate to contact me any point if you have questions, etc.

Chuck

~~~~~~

Chuck Hayes
(he/him/his)
Branch Supervisor, Collaborative Conservation Services
New Mexico Ecological Services Field Office
U.S. Fish and Wildlife Service
2105 Osuna Rd NE
Albuquerque, NM 87113
charles_hayes@fws.gov
505-761-4754
cell 505-480-4821

~~~~~~

Working with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.

Notice: Please direct any electronic (email) requests for reviews of projects within New Mexico to nmesfo@fws.gov.

From: Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>
Sent: Friday, July 14, 2023 7:27 AM
To: Hayes, Charles (Chuck) <charles_hayes@fws.gov>
Cc: Hollen, James, EMNRD <james.hollen@emnrd.nm.gov>; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>; Maestas, Yeny, EMNRD <Yeny.Maestas@emnrd.nm.gov>
Subject: [EXTERNAL] Requests Review and Comment - Draft EA Madrid Stormwater and Erosion Control Project

June 14, 2023

Via email: charles_hayes@fws.gov

Chuck Hayes
New Mexico Ecological Services Field Office
U.S. Fish and Wildlife Service
2105 Osuna Rd NE
Albuquerque, NM 87113

Dear Mr. Hayes,

The New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division, Abandoned Mine Land (AML) Program, in cooperation with the US Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), is planning to address long-term threats to life and properties due to stormwater runoff, flooding and erosion across coal mining gob throughout the Town of Madrid while also working to limit disturbance to other resources on adjacent county, federal and private lands.

Since the 1980's, the OSMRE and AML have addressed public safety concerns associated with the open abandoned mine adits and shafts along the margins of the townsite as well as a variety of drainage issues resulting in flooding and emergency situations, most notably after storm events. As a federally funded program this proposed AML project constitutes an undertaking subject to review under NEPA. Under the Proposed Action, the OSMRE would approve a Federal Grant for use by the state of New Mexico in implementing the Proposed Action.

AML Program previously reach out informally on the Madrid project with USFWS in 2019, specifically as the project relates to the active Cooper Hawk nest within the project APE. The Proposed Action's activities are not anticipated to impact any nesting raptors within the area. First documented in 2019, the Cooper's Hawk nest is near an active walking trail and road and during surveys this summer was documented active. Based on our draft EA and the proposed construction, the AML Program finds that remediation activities in the Madrid Stormwater and Erosion Control Project will not have significant effects on the quality of the human or natural environment. Proposed construction within the arroyo is estimated to start Fall 2024.

A draft Environmental Assessment (EA) has been completed and is available for your review via the following link:

https://fs.emnrd.state.nm.us[redacted]

AML requests that you review the draft EA and provide any comments you may have August 15, 2023.

Please contact me at (505) 629-9677 or via email at: leeland.murray@emnrd.nm.gov with any problems accessing the documents, questions or comments you may have regarding the project or this request.

Sincerely,

Leeland Murray
Project Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department

8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
Cell: 505-629-9677

Cc via email:
James Hollen, NEPA Coordinator, AML james.hollen@emnrd.nm.gov
Lloyd Moiola, Environmental Manager, AML lloyd.moiola@emnrd.nm.gov
Yeny Maestas, Project Manager, AML yeny.maestas@emnrd.nm.gov

Appendix B.

Cultural Compliance

From:	Moiola, Lloyd, EMNRD
To:	Zink, Andrew, EMNRD
Subject:	FW: Madrid MOA Signature Request
Date:	Friday, June 30, 2023 10:17:04 AM
Attachments:	MMD MOA 23-521-600-0176 OSM MMD SHPO Final 03-30-23.pdf

From: Ensey, Michelle, DCA <michelle.ensey@dca.nm.gov>
Sent: Monday, April 3, 2023 2:21 PM
To: Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Cc: Zink, Andrew, DCA <Andrew.Zink@dca.nm.gov>
Subject: RE: Madrid MOA Signature Request

Hi Lloyd,

Attached is the MOA with Jeff's signature.

Michelle

Michelle M. Ensey
Deputy State Historic Preservation Officer & State Archaeologist
New Mexico Department of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Ste. 236
Santa Fe, NM 87501
Office: (505) 827-4064, Cell: (505) 490-3928
PLEASE NOTE NEW EMAIL ADDRESS: michelle.ensey@dca.nm.gov

From: Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Sent: Thursday, March 30, 2023 2:33 PM
To: Ensey, Michelle, DCA <michelle.ensey@dca.nm.gov>
Cc: Zink, Andrew, DCA <Andrew.Zink@dca.nm.gov>
Subject: Madrid MOA Signature Request

Hello Michelle,

Enclosed is the final Memorandum of Agreement (MOA) between OSMRE, SHPO, and EMNRD that outlines stipulations the NMAML Program will follow on behalf of OSMRE to address adverse effects to historic properties in Madrid, New Mexico during implementation of the Madrid Stormwater & Erosion Control Project. The MOA has been signed by both OSMRE and EMNRD; please sign and return the attached Agreement as soon as possible and I will forward to the concurring parties for signature. We appreciate all your assistance in the development and completion of the MOA.

I may be contacted at (505) 629-3757 or by email at Lloyd.moiola@emnrd.nm.gov with any

questions regarding implementation of the Agreement.

Sincerely,

Lloyd Moiola
Environmental Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505
Cell: 505-629-3757

MEMORANDUM OF AGREEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT,
THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT MINING AND MINERALS DIVISION,
AND THE
NEW MEXICO, STATE HISTORIC PRESERVATION OFFICER

REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

WHEREAS, the United States Department of the Interior's Office of Surface Mining, Reclamation and Enforcement (OSMRE) provides funding to the State of New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Mining and Minerals Division (MMD) and MMD's Abandoned Mine Land Program (AMLP) proposes using federal funds for the Madrid Stormwater and Erosion Control Project (the undertaking) pursuant to the Surface Mining Control and Reclamation Act of 1977; and

WHEREAS, OSMRE, MMD, the New Mexico, State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) executed the Programmatic Agreement Regarding the Abandoned Mine Land Program in New Mexico on December 17, 2020 (EMNRD No. 09-521-0620-0196) (2020 AMLP PA) in which OSMRE authorized AMLP to initiate Section 106 consultation for AMLP undertakings and assist OSMRE in meeting its responsibilities under Section 106 of the National Historic Preservation Act (NHPA); and

WHEREAS, the undertaking consists of the establishment of storm water conveyances, erosion control measures, and new fire prevention improvements to remediate flooding and erosion issues resulting from the impacts of legacy coal mining activities that pose a threat to life and property within the community of Madrid in Santa Fe County, New Mexico; and

WHEREAS, AMLP has defined the undertaking's area of potential effects (APE) in consultation with the SHPO as shown in Attachment 1; and

WHEREAS, the APE covers lands owned privately, lands owned by the County of Santa Fe, and lands managed by the New Mexico, Department of Transportation (NMDOT); and

WHEREAS, the APE for the proposed undertaking contains Madrid Historic District, which is listed in the National Register of Historic Places (NRHP No. 77000928) and New Mexico State Register of Cultural Properties (SR 356). The National Register of Historic Places Inventory-Nomination form for the Madrid Historic District recognizes that Madrid is an excellent example of a company-owned western mining town. Its period of significance begins in 1828 and ends in 1926. The historic district encompasses the entire town of Madrid and includes coal mine entries, waste or 'gob'

piles, a standard gauge railway grade and numerous smaller gauge railroads to transport the coal from the mines to the processors, shop buildings, the remains of two tipples, residential houses, and building sites. A significant coal mining landscape is also present; and

WHEREAS, OSMRE and AMLP have identified within the project area of potential effects 16 archaeological sites (LA 108551, LA 115534, LA 117776, LA 117777, LA 117778, LA 170805, LA 195464—LA 195466, LA 195467, LA 195468, LA 195469, LA 197066, LA 197067, and LA 197068), 112 historic buildings (HCPI32455, HCPI 32479, HCPI 32480, HCPI 32481, HCPI 47456—HCPI 47460, HCPI 47462—47505, HCPI 47507—47544, HCPI 47646, HCPI 47647, HCPI 48961, HCPI 48963—48965, HCPI 48468—48974 and HCPI 48976—48983) and one historic isolated occurrence; and

WHEREAS, OSMRE, AMLP, and the SHPO have determined that the undertaking may adversely affect the Madrid Historic District, archaeological sites LA 115534, LA 117777, LA 170805, LA 195467, LA 195468, LA 195469, LA 197066, LA 197068, and LA 197067; and

WHEREAS, AMLP, on behalf of OSMRE, initiated consultation with Indian tribes through either the tribe's Tribal Historic Preservation Officer (THPO), or appropriate tribal official for: Cochiti Pueblo, Comanche Indian Tribe, Hopi Tribe, Isleta Pueblo, Jicarilla Apache Nation, Kiowa Tribe, Nambe Pueblo, Navajo Nation , Ohkay Owingeh (San Juan) Pueblo, Pojoaque Pueblo, San Ildefonso Pueblo, Sandia Pueblo, Santa Clara Pueblo (THPO), Santo Domingo Pueblo and Tesuque Pueblo pursuant to 36 C.F.R. Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 100101) and none of the tribes have identified properties having religious and cultural significance within the APE; and

WHEREAS, AMLP has consulted with the County of Santa Fe and the Madrid Landowners Association, and the United States Army Corps of Engineers and invited them to sign this MOA as a concurring party and they have accepted; and

WHEREAS, AMLP has consulted with the Madrid Water Co-op and invited them to sign this MOA as a concurring party and no response has been received; and

WHEREAS, AMLP has consulted with the NMDOT and invited them to sign this MOA as a concurring party and NMDOT has declined; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), OSMRE has notified the ACHP of its adverse effect determination with specified documentation, and the ACHP has chosen *not to* participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii); and

NOW, THEREFORE, The OSMRE, AMLP, and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations to consider the effects of the undertaking on historic properties.

I. STIPULATIONS

The OSMRE and the AMLP shall ensure that the following measures are implemented to mitigate potential adverse effects to historic properties as listed in Attachment 2 & 3:

1. The OSMRE and the AMLP shall develop and submit a treatment plan to SHPO for review and comment. The SHPO shall have 30 days to review the plan and respond. Concurrently with SHPO review, the AMLP shall require that its consultant(s) obtain the appropriate permit(s) from the Cultural Properties Review Committee (CPRC) for archaeological investigations at LA 170805, LA 108551, LA 115534, LA 1170805, LA17777, LA 195467, and a historic drainage channel within the Madrid Historic District. Upon approval of the treatment plan by the SHPO and the CPRC, archaeological investigations can commence.

2. The AMLP shall require its consultant(s) prepare a preliminary report. The preliminary report will serve to document completion of the fieldwork and to recommend additional protection measures for intact cultural deposits outside of, but adjacent to, the Project APE and other APEs identified above if necessary. In accordance with the treatment plan, the findings in the preliminary report will be submitted within 30 days after completion of fieldwork and again every 30 calendar days after the initial preliminary report, or as needed with an alternative schedule agreed to between signatories.

3. The OSMRE and the AMLP shall submit a copy of the preliminary report to the SHPO who will have 30 days from receipt to review and comment on the preliminary report. AMLP shall ensure that the consultant addresses any comments provided.

4. The AMLP shall require its consultant(s) to prepare a final report discussing the findings resulting from the treatment plan within 12 months after completion of the undertaking and the SHPO shall have 30 days to review and comment on the draft final report. The AMLP shall ensure that any comments are addressed in the final report, which will be provided to the SHPO and consulting parties within 12 months.

5. All records and artifacts resulting from treatment, including data recovery, shall be curated at the Museum of Indian Arts and Culture in accordance with federal regulations (36 C.F.R. Part 79) and with state law (NMSA 1978, Section 18-6-6).

6. Education/Outreach - The AMLP shall produce interpretive materials conveying to the public the results of the investigation. The AMLP may consult with the SHPO prior to finalizing the materials.

II. DURATION

This MOA will expire if its terms are not carried out within five years from the date of its execution. Prior to such time, OSMRE may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Section VIII below.

III. POST-REVIEW DISCOVERIES

1. “Discoveries” means the discovery of cultural properties. “Cultural properties” means a structure, place, site, or object having historic, archaeological, scientific, architectural, or other cultural significance.

2. If cultural properties are discovered after the permitted field investigations have concluded or unanticipated effects on cultural properties occur during construction or other ground-disturbing activities, all construction, or other ground-disturbing activities in the vicinity of the discovery shall immediately cease and a buffer of at least 50 feet shall be established around the discovery. The ALMP shall notify the SHPO within 24 hours of the discovery.

3. OSMRE, in consultation with SHPO, shall evaluate the discovery's significance and determine appropriate actions to avoid disturbing the cultural property or recover significant information.

4. If the discovery is in an area covered under a current permit that authorizes excavation of similar types of cultural properties, the discovery may be treated in accordance with the standards and methods outlined in the research design for the permit and the results shall either be included in the report for the permitted activity as an addendum or as a separate report.

5. If the discovery is in an area covered by a permit that has expired or in an area that was not subject to an archaeological investigation prior to the commencement of construction, the AMLP may request that a permittee develop a plan to protect or minimize damage to the discovery or to excavate the features or cultural deposits that will be affected by the construction. A “permittee” is a person or entity that has a valid permit to conduct archaeological investigations on State and/or Federal Land, project specific permits for testing, excavation, human burials, and test excavations.

6. The AMLP will review the plan and when approved shall forward it to the SHPO. The SHPO shall review the plan within 48 hours of receipt of the plan. If there are any questions or concerns, the SHPO will work closely with the AMLP and permittee to develop a plan acceptable to the AMLP and SHPO. The SHPO shall notify the AMLP and the permittee in writing when it has approved the plan.

IV. UNMARKED HUMAN BURIALS

If unmarked human burials are discovered during ground disturbing activities on state or private land, work will stop and the permittee shall notify local law enforcement pursuant to Rule 4.10.11 of the New Mexico Administrative Code (NMAC). If the unmarked human burial cannot be left in place, excavations shall be carried out in conformance with Rule 4.10.11 NMAC.

The remains will be protected from further disturbance and the AMLP will notify the local law enforcement agency, the Office of the Medical Investigator (OMI), the state land managing agency, and the SHPO. If OMI determines that the remains are without medico-legal significance, OMI will terminate jurisdiction and the SHPO, in consultation with AMLP and the state land managing agency, will determine the steps to be taken to protect or remove the remains in accordance with the Cultural Properties Act, NMSA 1978, Section 18-6-11.2 and implementing 4.10.11 NMAC.

V. MONITORING AND REPORTING

Each 360 calendar days, or an alternative schedule agreed by this MOA's signatories, following the execution of this MOA until it expires or is terminated, the OSMRE shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. The OSMRE report can be a brief summary regarding the effectiveness of the MOA, and shall include any scheduling changes proposed, any problems encountered, a summary of SHPO consultations and review of findings in the cultural resource preliminary/final mitigation report(s) and any disputes and objections received in OSMRE's efforts to carry out the terms of this MOA.

VI. CONFIDENTIALITY

Consistent with the New Mexico Cultural Properties Act, NMSA, 1978, Section 18-6-11.1 information on the location of archaeological resources will be held confidential unless the custodian of such information determines that the dissemination of such information will further the purposes of the Cultural Properties Act as set forth in NMSA 1978, Section 18-6-2 will not create a risk of loss of archaeological resources.

VII. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object to any actions pursuant to this MOA that are implemented, OSMRE shall consult with such party to resolve the objection. If OSMRE determines that such objection cannot be resolved, OSMRE will:

1. Forward all documentation relevant to the dispute, including OSMRE's proposed resolution, to the ACHP. The ACHP shall provide OSMRE with its advice on the resolution of the objection within 30 days of receiving adequate documentation. Prior to reaching a final decision on the dispute, OSMRE shall prepare a written

response that considers any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. OSMRE will then proceed according to its final decision.

2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, OSMRE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, OSMRE shall prepare a written response that considers any timely comments regarding the dispute from the signatories and concurring parties to the MOA and provide them and the ACHP with a copy of such written response.

3. OSMREs responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VIII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all the signatories is filed with the ACHP.

IX. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VIII, above. If within 30 days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, OSMRE must either (a) execute an MOA pursuant to 36 C.F.R. § 800.6 or (b) request, consider, and respond to the comments of the ACHP under 36 C.F.R. § 800.7. OSMRE shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by the OSMRE and the SHPO and implementation of its terms is evidence that OSMRE has considered the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE STATE OF NEW MEXICO, STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

SIGNATORY:

UNITED STATES DEPARTMENT OF THE INTERIOR, OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

By: HOWARD STRAND Digitally signed by HOWARD STRAND Date: 2023.03.28 09:03:28 -06'00'

Date: March 28, 2023

Howard E. Strand, Manager

MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

SIGNATORY:

STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

By: _____ Date: 3/30/23
EMNRD Cabinet Secretary or Designee

MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

SIGNATORY:

NEW MEXICO. DEPARTMENT OF CULTURAL AFFAIRS, HISTORIC PRESERVATION DIVISION

By: Jeff Pappas Date: 4/3/2023
State Historic Preservation Officer or Designee

MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

CONCURRING PARTY:

SANTA FE COUNTY

By:_____ Date: 4/9/2023

Santa Fe County Manager or Designee
Gregory S. Shaffer, SFC County Manager

MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

CONCURRING PARTY:

MADRID LANDOWNERS ASSOCIATION

By: Clinton Anderson Date: April 15, 2023
Authorized Signatory, Madrid Landowners Association

MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

CONCURRING PARTY:

U.S. ARMY CORPS OF ENGINEERS

By:_____ Date: 20 April 2023

Kelly Allen, Regulatory Division Chief, Albuquerque District

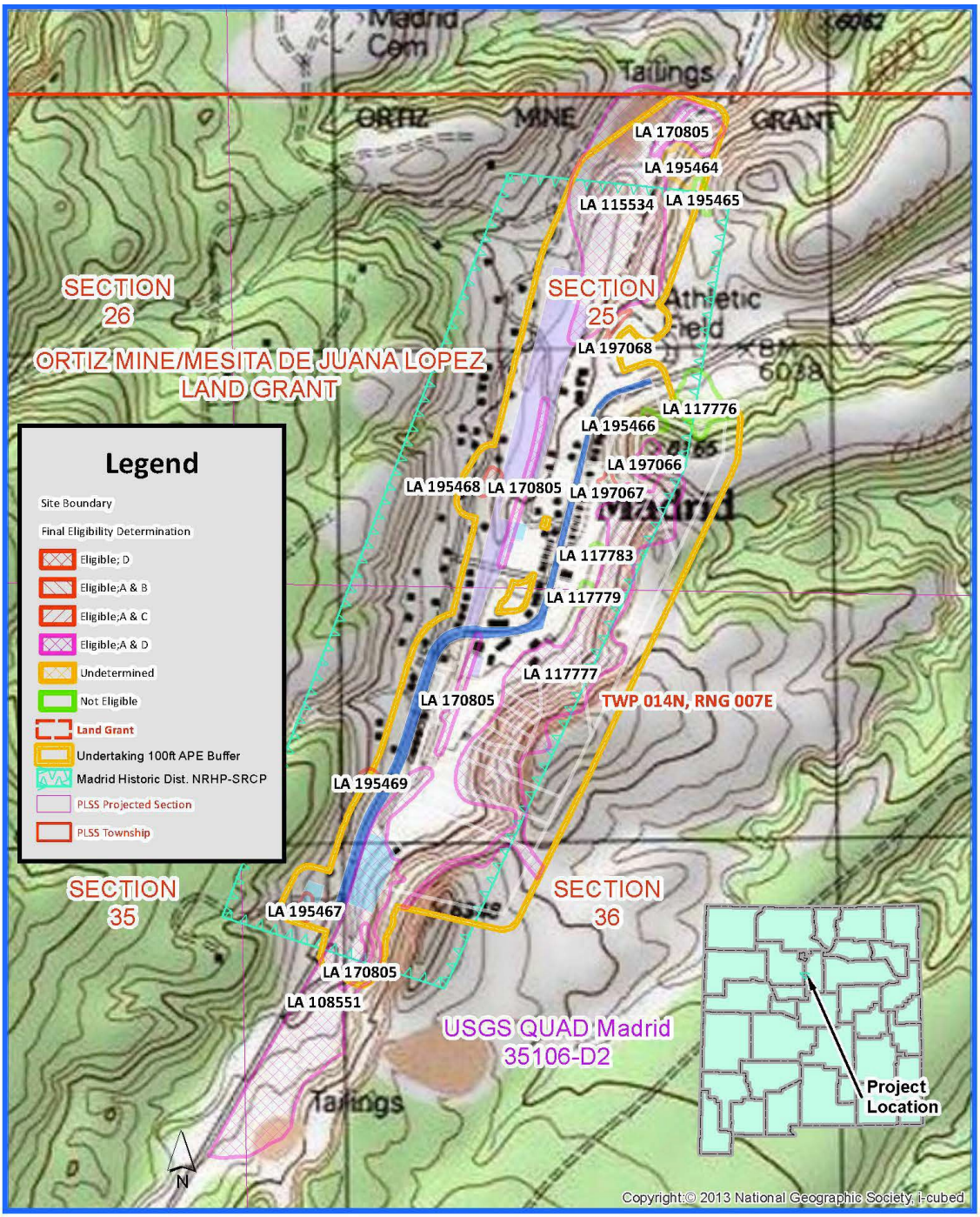
MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR'S OFFICE OF SURFACE MINING, RECLAMATION AND ENFORCEMENT, THE STATE OF NEW MEXICO, ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, MINING AND MINERALS DIVISION, AND THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER REGARDING THE MADRID STORMWATER AND EROSION CONTROL PROJECT

CONCURRING PARTY:

MADRID WATER COOPERATIVE

By: Glen Jethro Bowden Date: 4-13-23
Authorized Signatory

Attachment 1



Attachment 1: Madrid Stormwater & Erosion Control Project Location

20221107

1:10,000

Meters 0 230 460

0 1,250 2,500 Feet

Attachment 2

Attachment 2: Madrid Actions Potential Effects by Archaeological Site

MAP BOOK KEY	MAP BOOK PAGE	SITE-LA NO	ACTION TYPE	Land Status	NOTE TEXT	PROPOSED EFFECTS MITIGATION TREATMENT	POTENTIAL EFFECTS
1	9 & 13	170805	Large Deflector, Stacked Solder Fasing With Soil Fill Behind	SF County	ARROYO CHANNEL DEFLECTORS	Design to not affect bank slope	Adverse; Structure may require excavation into a resys be no potentially encountering significant buried archaeological features
2	9	170805	Large Deflector, Stacked Solder Fasing With Soil Fill Behind	SF County	Arroyo Channel Deflectors	Design to not affect bank slope	Adverse; Structure may require excavation into a resys be no potentially encountering significant buried archaeological features
3	9	170805	Grade A Wide Floodplain on Both Sides of Channel	SF County	Arroyo Channel	Limit work to channel bottom	Adverse; Structure will require excavation potentially encountering significant buried archaeological features.
4	10	170805	Large Deflector, Stacked Solder Fasing With Soil Fill Behind	SF County	Arroyo Channel Deflectors	Design to not affect bank slope	Adverse; Structure may require excavation into a resys be no potentially encountering significant buried archaeological features
5	9 & 13	170805	Construct Low Berm on Top of Old Rill Grade	SF County	Railroad Grade	Design to match material to existing grade material (pits)	Adverse; Capping fill grade may alter character of features
6	9	170805	Large Deflector, Stacked Solder Fasing With Soil Fill Behind	SF County	Arroyo Channel Deflectors	Design to not affect bank slope	Adverse; Structure may require excavation into a resys be no potentially encountering significant buried archaeological features
7	20	339694	Slope Limits	Private	FIREHOUSE LANE	Monitor construction and document discoveries	Adverse; Disturbing and covering drainage will alter current condition of roadway adding materials not culturally present
8	17	317777	Slope Limits	Private		Monitor construction and document discoveries	
9	17	317777	Potential Retaining wall	Private	POTENTIAL RETAINING WALLS	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
10	17	317777	Culvert	Private		Monitor construction and document discoveries.	Adverse; Structure will require excavation into gob potentially encountering significant buried archaeological features
11	17	317777	Inlet?	Private		Monitor construction and document discoveries.	Adverse; Structure will require excavation into gob potentially encountering significant buried archaeological features
12	14, 17 & 18	317777	Drainage Channel?	Private		Monitor construction and document discoveries.	Adverse; Structure will require excavation into gob potentially encountering significant buried archaeological
13	17	317777	Slope Limits	Private		Monitor construction and document discoveries.	Adverse; Structure will require excavation into gob potentially encountering significant buried archaeological features
14	17 & 21	317777	Slope Limits	Private		Monitor construction and document discoveries.	Adverse; Structure will require excavation into gob potentially encountering significant buried archaeological features
15	17	317777	Slope Limits	Private		Monitor construction and document discoveries.	Adverse; Structure will require excavation into gob potentially encountering significant buried archaeological features
16	14	317777	Proposed Retaining Wall	Private	PROPOSED RETAINING WALL	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
17	11, 14, 17	317777	Potential Retaining wall	Private	POTENTIAL RETAINING WALLS	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
18	14	317777	Potential Retaining wall	Private	POTENTIAL RETAINING WALLS	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
19	30 & 34	317777	Potential Retaining wall	Private	POTENTIAL RETAINING WALLS	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
20	14	317777	Potential Retaining wall	Private	POTENTIAL RETAINING WALLS	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
21	14	317777	Proposed Retaining Wall	Private	PROPOSED RETAINING WALL	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
22	14	317777	Proposed Retaining Wall	Private	PROPOSED RETAINING WALL	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
23	14	317777	Proposed Retaining Wall	Private	PROPOSED RETAINING WALL	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
24	30 & 34	317777	Potential Retaining wall	Private	POTENTIAL RETAINING WALLS	Reduce height of retaining wall to four feet or less, use color pallette to blend into grade.	Adverse; Retaining walls could be visible from the town and highway; distracting the visscited with introduced elements
26	30 & 34	317777	Bethlehem Pond	Private	BETHLEHEM POND	Monitor construction and document discoveries.	Adverse; Structure will require excavation potentially encountering significant buried archaeological features.
28	14	317777	Slope Limits	Private	ICE HOUSE LOWER INTERCEPTOR	Monitor construction and document discoveries.	Adverse; 36 volume will require excavation into gob potentially encountering significant buried archaeological features
27	10	317777	Plunge Pool	Private	SEE SHEET 0004 FOR PLUNGE POOL TYPICAL DETAIL	Contain activity to channel	Adverse; Plunge pools require limited excavation in drainage bottom. Work along banks may impact significant archaeological deposits
MAP BOOK KEY	MAP BOOK PAGE	SITE-LA NO	ACTION TYPE	Land Status	NOTE TEXT	PROPOSED EFFECTS MITIGATION TREATMENT	POTENTIAL EFFECTS
28	10	317777	Plunge Pool	Private	SEE SHEET 0004 FOR PLUNGE POOL TYPICAL DETAIL	Contain activity to channel	Adverse; Plunge pools require limited excavation in drainage bottom. Work along banks may impact significant archaeological deposits
29	10	317777	Plunge Pool	Private	SEE SHEET 0004 FOR PLUNGE POOL TYPICAL DETAIL	Contain activity to channel	Adverse; Plunge pools require limited excavation in drainage bottom. Work along banks may impact significant archaeological deposits
30	10	317777	Plunge Pool	Private	SEE SHEET 0004 FOR PLUNGE POOL TYPICAL DETAIL	Contain activity to channel	Adverse; Plunge pools require limited excavation in drainage bottom. Work along banks may impact significant archaeological deposits
31	13	317777	Plunge Pool	Private	SEE SHEET 0004 FOR PLUNGE POOL TYPICAL DETAIL	Contain activity to channel	Adverse; Plunge pools require limited excavation in drainage bottom. Work along banks may impact significant archaeological deposits
32	30 & 34	317777	Slope Limits	Private	ICE HOUSE UPPER INTERCEPTOR	Monitor construction and document discoveries.	Adverse; 36 volume will require excavation into gob potentially encountering significant buried archaeological features
33	10	317777	Trench	Private	24-INCH CMP CULVERT WITH END SECTIONS	Monitor construction and document discoveries.	Adverse; Structure will require excavation potentially encountering significant buried archaeological features.
34	7	339638	Realign Cave Rd, 20 Ft Width, Gravel Surfaced	Private	CAVE ROAD	Monitor construction and document discoveries.	Adverse; Construction of new alignment and increasing width of travel lanes may encounter significant buried cultural resources
35	23	356467	Slope Limits	M.W Coy	MW, Water Tower Pad	Data recovery within footprint focusing on features and artifact concentrations.	Adverse; Pad construction will impact the cultural resources within footprint
32	9	356465	Large Deflector, Stacked Solder Fasing With Soil Fill Behind	SF County Private	ARROYO CHANNEL DEFLECTORS	Testing and blanket construction and document discoveries.	Potential Adverse; work along banks could impact the cultural resources within footprint.
36	30 & 34	317777	Slope Limits	Private	ICE HOUSE RD	Monitor construction and document discoveries.	Low potentialto effect due to silt covering draft grade reported to be few feet thick, drainage along
36	30 & 34	317785	Slope Limits	Private	ICE HOUSE RD	Monitor construction and document discoveries.	Adverse; Structure will require excavation potentially encountering significant buried archaeological features.
36	30 & 34	357567	Slope Limits	Private	ICE HOUSE RD CONSTRUCTION	Monitor construction and document discoveries.	Low potentialto effect due to silt covering draft grade reported to be few feet thick, drainage along
37	30 & 33	317777	Slope Limits	Private	BETH EDEM RD	Reduce slope limits; use the vibration equipment; Monitor Construction	No Adverse Effect Roadway consist of Cut & Fill Deposit over culverts
37	30 & 33	170805	Slope Limits	Private	FIREHOUSE CHANNEL	Design to confine disturbance to channel bottom	Adverse; Structure will require excavation potentially encountering significant buried archaeological features.
37	30 & 33	357567	Slope Limits	Private	BETH EDEM RD CONSTRUCTION	Reduce slope limits; use the vibration equipment; Monitor Construction	Adverse; Steep banks remain open increasing fence around site endangering wall integrity
38	23	339638	Trench	M.W Coy	SF COUNTY FIRE HYDRANT SYSTEM WATERLINE	Monitor construction and document discoveries.	Adverse; Trenching may encounter significant buried cultural resources
38	28 & 29	39-866	Trench	NMDOT	SF COUNTY FIRE HYDRANT SYSTEM WATERLINE	Monitor construction and document discoveries.	Adverse; trenching may encounter significant cultural resources
39	9 & 10	39-866	Slope Limits	Private & NMDOT	Stormwater Conveyance From SR 14	Monitor construction and document discoveries.	Adverse; trenching may encounter significant cultural resources

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd Leahy, JD, PhD
Deputy Secretary

Jerry Schoeppner, Director
Mining and Minerals Division

HPD Log 117635

12 July 2022

Mr. Jeff Pappas Ph. D., State Historic Preservation Officer and Director
Historic Preservation Division
407 Galisteo Street, Suite 236
Bataan Memorial Bldg.
Santa Fe, NM 87501

RE: Determination of Project Effects for a Madrid Stormwater and Erosion Control Project

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), is planning to address long-term threats to life and properties due to stormwater runoff across coal mining gob through town, resulting in the flooding of historic elements within the town of Madrid, a property listed on the National Register of Historic Places and New Mexico State Register of Cultural Properties (SR 365, NR 77000928,) Santa Fe County, New Mexico. Since the 1980s, the OSMRE and AML have addressed public safety concerns associated with open abandoned mine adits and shafts at the margins of the townsite and a variety of drainage issues resulting in flooding and emergency situations, most notably after storm events in 2013. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

We have previously consulted with your office on the project Area of Potential Effects for the project (APE, HPD Log 110513,) Determinations of Eligibility of properties identified within the project APE (HPD Log 114885) and have met with HPD staff on several occasions, both in person and virtually. With this letter, we wish to consult with you concerning a determination of potential project effects upon historic properties. Consultation with appropriate Indian tribes was conducted and did not raise any concerns except for the discovery of human burials.

As previously noted, and discussed, the project involves a property registered on the National Register of Historic Properties (NRHP); the Madrid Historic District. We have determined that the project has the potential to adversely affect this district and are proposing treatments to mitigate such effects. (See below) In addition, A number of archaeological sites within the project APE that have been determined eligible for NRHP listing may potentially be adversely affected. These include sites LA 108551, LA 115534, LA 117777, LA 170805, LA 195467, LA 197066 and LA 197067. Potential

adverse effects are summarized in Tables 1 and 2 and depicted in Map Book 1. Fifty-Seven (57) historic buildings eligible for NRHP listing are within the project APE and will not be affected by the proposed project.

Proposed treatments to mitigate potential adverse effects include the execution of a Memorandum of Agreement and Treatment Plan to be developed in consultation with the SHPO and other consulting parties.

Sincerely,

Richard L. Wessel
Abandoned Mine Land Program
EMNRD-MMD
Richard.wessel@state.nm.us
505-819-8856

Comment:

The Storm-water Conveyance feature shown in the map book on pp. 9 & 10 and designated with the #39 yellow circle id, is listed as a cultural resource that will potentially be affected by this undertaking in the AML's 'Actions Potentially Affecting CR' table provided with this consultation. This feature is not overtly mentioned in this letter. This feature has yet to receive a recording or HCPI number but SHPO understands that it will be recorded in the future and will be addressed and treated as part of future mitigation plans.

Table 1:

Madrid Stormwater Erosion Control
Archaeological Site Determinations of NRHP Eligibility* Potential Effects

Site LA No.	Temporary No.	Property Type/Site Type	WCRM-EMNRD Eligibility Recommendation	WCRM-EMNRD MHD Contributing Recommendation	Age	HPD Eligibility Determination HPD Log 114885	OSMRE-AML Determination of Project Effects
LA 108551	N/A	Property Types 1 (Residential), 3 (Infrastructure), and 4 (Mine)/historic mining related residential habitation,	Eligible-D	Contributing-A	1860-1950	eligible, a & d	Potential Adverse
LA 115534	N/A	Property Type 4 (Mine)/Jones Tipple Complex	Eligible-D	Contributing-A	1890-1960	eligible, a & d	Potential Adverse
LA 117776	N/A	Property Type 1 (Residential)/ associated with the White Ash Mine	Eligible-A	Contributing-A	1888-1900 and 1907	Not Eligible	N/A
LA 117777	N/A	Property Type 4 (Mine)/mining related site	Eligible-D	Contributing-A	1880-1954	eligible, a & d	Potential Adverse
LA 117779	HCPI 47458	Property Type 2a (Community Pride)/ Madrid Old Coal Town Museum building	Eligible-A	Contributing-A	1880-Present	Not Eligible	N/A
LA 117783	N/A	N/A-no longer exists	Not Eligible	Noncontributing	N/A	Not Eligible	N/A
LA 170805	DVG-19	Property Type 3 (Transportation)/Railroad/ segments of the Cerrillos Coal Company Railroad grade	Eligible-D	Contributing-A	1890-1959	eligible, a & d	Potential Adverse
LA 195464	DVG-01	Property Type 1a. (Community Refuse Disposal -Dump)/Madrid Dump	Not Eligible	Noncontributing	Unknown-Present	undetermined	No Project Effects
LA 195465	DVG-02	Property Type 4 (Mine)/mining related site	Not Eligible	Noncontributing	Unknown	Not Eligible	N/A
LA 195466	DVG-03	Property Type 4 (Mine)/mining related site	Not Eligible	Noncontributing	Unknown	Not Eligible	N/A
LA 195467	DVG-04	Property Type 1 (Residential)/historic habitation	Eligible-D	Noncontributing-A and C	1940-1957	Eligible-D	Potential Adverse
LA 195468	DVG-05	Property Type 1 (Residential)/historic habitation	Eligible-D	Noncontributing-A and C	1846-Unknown	Eligible-D	No Project Effects
LA 195469	DVG-09	Property Type 1 (Residential)/residential site	Eligible-D	Noncontributing-A and C	1930-1950	Eligible-D	No Project Effects
LA 197066	EJS-03	Property Type 2a (Community Pride)/ Bethlehem Hill site	Eligible-A and B	Contributing-A	1880-1954	Eligible-A and B	Potential Adverse / Potential Adverse
LA 197067	EJS-04	Property Types 1 (Residential) and 3 (Infrastructure)/a historic residential site	Eligible- A and C	Contributing-A and C	1846-1970	Eligible- A and C	Potential Adverse
LA 197068	MJP-01	Property Type 2a (Community Pride)/ series of low walls and foundation vestiges	Eligible-A and B	Contributing-A	1936-1950	Eligible-A and B	No Project Effects / No Project Effects

Note: NRHP Eligible

Table 2:

Madrid Stormwater Erosion Control
Archaeological Site Determinations of NRHP Eligibility, Potential Effects & Proposed Adverse Effects Mitigation Treatment

Site LA No.	Temporary No.	Property Type/Site Type	WCRM-EMNRD Eligibility Recommendation	WCRM-EMNRD MHD Contributing Recommendation	Age	HPD Eligibility Determination HPD Log 114885	OSMRE-AML Determination of Project Effects	Proposed Treatment
SRP 365, adrid Historic District		Historic District			1890-1950	Listed Property	Adverse, Slope Limits of drainage structure and Culvert beneath NM Highway 14.	See LA 108551, LA 115534. LA 117777, LA 1700805, LA 197066 and LA 197067.
LA 108551	N/A	Property Types 1 (Residential), 3 (Infrastructure), and 4 (Mine)/historic mining related residential habitation,	Eligible-D	Contributing-A	1860-1950	eligible, a & d	Adverse; Slope Limits of drainage Structure	Document Historic Drainage Structure, Testing-Data Recovery New Channel Footprint
LA 115534	N/A	Property Type 4 (Mine)/Jones Tipple Complex	Eligible-D	Contributing-A	1890-1960	eligible, a & d	Adverse; Cave Rd Realignment	Monitor-Data Recovery Documentation
LA 117776	N/A	Property Type 1 (Residential)/ associated with the White Ash Mine	Eligible-A	Contributing-A	1888-1900 and 1907	Not Eligible	N/A	None
LA 117777	N/A	Property Type 4 (Mine)/mining related site	Eligible-D	Contributing-A	1880-1954	eligible, a & d	Adverse; Drainage Channels, Potential Retaining Walls, Bethleham Pool. Cave Rd. Realignment, Culvert	Monitor Inerceptor Channel Work-Data Recovery Documentation in Gob piles
LA 117779	HCPI 47458	Property Type 2a (Community Pride)/ Madrid Old Coal Town Museum building	Eligible-A	Contributing-A	1880-Present	Not Eligible	N/A	None
LA 117783	N/A	N/A-no longer exists	Not Eligible	Noncontributing	N/A	Not Eligible	N/A	None
LA 170805	DVG-19	Property Type 3 (Transportation)/Railroad/ segments of the Cerrillos Coal Company Railroad grade	Eligible-D	Contributing-A	1890-1959	eligible, a & d	Adverse; Grade Surface Treatment @ Utility Implacement	Monitor-Data Recovery Documentation
LA 195464	DVG-01	Property Type 1a. (Community Refuse Disposal -Dump)/Madrid Dump	Not Eligible	Noncontributing	Unknown-Present	undetermined	Not Affected	None
LA 195465	DVG-02	Property Type 4 (Mine)/mining related site	Not Eligible	Noncontributing	Unknown	Not Eligible	N/A	None
LA 195466	DVG-03	Property Type 4 (Mine)/mining related site	Not Eligible	Noncontributing	Unknown	Not Eligible	N/A	None
LA 195467	DVG-04	Property Type 1 (Residential)/historic habitation	Eligible-D	Noncontributing-A and C	1940-1957	Eligible-D	Adverse: Water Tower Pad & Waterline	Data Recovery Documentation
LA 195468	DVG-05	Property Type 1 (Residential)/historic habitation	Eligible-D	Noncontributing-A and C	1846-Unknown	Eligible-D	Not Affected	None
LA 195469	DVG-09	Property Type 1 (Residential)/residential site	Eligible-D	Noncontributing-A and C	1930-1950	Eligible-D	Not Affected	None
LA 197066	EJS-03	Property Type 2a (Community Pride)/Bethlehem Hill site	Eligible-A and B	Contributing-A	1880-1954	Eligible-A and B	Adverse, Bethlehem Rd Const	Reduce Slope Limits, Monitor Vibration
LA 197067	EJS-04	Property Types 1 (Residential) and 3 (Infrastructure)/a historic residential site	Eligible- A and C	Contributing-A and C	1846-1970	Eligible- A and C	Adverse; Icehouse Rd. Construction	Monitor, Data Recovery
LA 197068	MJP-01	Property Type 2a (Community Pride)/ series of low walls and foundation vestiges	Eligible-A and B	Contributing-A	1936-1950	Eligible-A and B	Not Affected	None
Note:		Properties with potential effects considered						
		Historic Properties with Potential Adverse Effects						

Michelle Lujan
Grisham

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
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PHONE (505) 827-6320 FAX (505) 827-6338

June 5, 2019

Richard L. Wessel
AML Program Manager
State of New Mexico, Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505
richard.wessel@state.nm.us

RE: Madrid Stormwater and Erosion Control Project Inventory Methods: Identification of Historic Properties Efforts

Dear Rick:

On behalf of the New Mexico State Historic Preservation officer (SHPO), I would like to thank you and Mr. Moiola for accepting to meet with the SHPO and Historic Preservation Division (HPD) staff to discuss the current Madrid Stormwater and Erosion Control Project and more specifically, the methods and effort planned by Abandoned Mine Lands (AML) for identifying historic properties for this undertaking.

The initial letter of correspondence from the AML summarizing the suggested alterations to standard cultural resource inventory was received by the HPD and logged in on May 13, 2019. Several HPD staff including myself, Lynette Pollari (Historic Architect), and Michelle Ensey (Deputy SHPO and State Archaeologist) reviewed the summary. As a staff, our primary concern was with the organizational methods proposed for cataloging or numbering historic properties, but other letter details needed clarification.

To facilitate the consultation and clarify certain aspects of the letter, I reached out via email and requested we set up a meeting between the AML, SHPO, and HPD staff. The meeting was held in the afternoon on June 3, 2019 and resulted in an agreement on how to move forward with the cultural inventory without committing to the proposed changes to methods as described in the May 13, 2019 AML letter. It was agreed to that the cultural resource contractor will conduct the inventory across the area previously agreed to as the area of potential direct affects following their internal inventory methods. It was decided that once the inventory is completed, AML, SHPO, and HPD staff will schedule a follow-up meeting to discuss how the results of the survey can be efficiently organized to be compatible and managed with the current and potentially future NMCRIS database. With this, it was also clarified that only buildings will be documented using

the HCPI form while structures, objects, and features will be documented on LA Forms as is the case for archaeological sites currently.

The lead reviewers are Lynette Pollari, Ph.D. and Andrew Zink. To discuss the above comments, Lynette can be reached at (505) 476-0548 or at lynette.pollari@state.nm.us. I can also be reached by telephone at (505) 827-4040 or by email at andrew.zink@state.nm.us.

Sincerely,

Andrew N. Zink
Archaeological Review and
State Archaeological permit

HPD Log 110513

From:	Wessel, Richard, EMNRD
To:	NMSHPO (nm.shpo@state.nm.us)
Subject:	Madrid Stormwater & Erosion Control Project Inventory Methods
Date:	Monday, May 13, 2019 7:34:00 AM
Attachments:	image001.gif Madrid Stormwater & Erosion Inventory Methods.pdf

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Dear Jeff and Andrew;

The AMLP proposes a few alterations of the standard cultural resource inventory methods for the above referenced project due to site conditions. Please review the attached letter. We request your concurrence with this proposal or comments.

Thank you;

Rick Wessel
Cultural Resources Manager
New Mexico Energy, Minerals & Natural Resources Department
Mines & Minerals Division-Abandoned Mine Land Program
1220 S. St. Francis, Room 378
Santa Fe, New Mexico 87505
(505) 476-3426 off
(505) 819-8856 cell
Richard.Wessel@state.nm.us

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd Leahy, JD, PhD
Deputy Secretary

Fernando Martinez, Director
Mining and Minerals Division

May 13, 2019

May 13, 2019May 13, 2019

Mr. Jeff Pappas Ph. D.
State Historic Preservation Officer and Director
Historic Preservation Division, New Mexico Department of Cultural Affairs
407 Galisteo Street, Suite 236
Bataan Memorial Bldg.
Santa Fe, NM 87501
ATTN: Mr. Andrew Zink

Subject: OSMRE AMLP Madrid Stormwater and Erosion Control Project Identification of Historic Property efforts

Dear Dr. Pappas:

The Energy Minerals and Natural Resources Department Abandoned Mine Land Program (EMNRD-AMLP) Proposed Methodology for Site Recording for the Madrid Stormwater & Erosion Safety Project

The Madrid Stormwater and Erosion Safety project's area of potential effects as defined by the EMNRD-AMLP received concurrence from your office on January 31, 2019 (HPD Log No. 109657). After numerous site visits we have determined that there is a need to modify the inventory methods due to site conditions. The first issue of concern is that for the developed lots both surface disturbance and modern refuse obscures the ground surface to a degree that prohibits the inspection of historic era ground surface and we propose not to inventory these areas. The second issue affecting the inventory methods is that there have been a number of inventory efforts, most of which predate the 2005 revisions of State code for conducting cultural resources surveys (4.10.15 NMAC).

The Madrid Historic District currently comprises 126 structures which have 122 HBI numbers and 4 HCPI numbers and eight archaeological sites. EMNRD-AMLP proposes that these cultural resources and all other resources that reflect the Madrid Mining Historic District be combined under one LA number. This number, LA 108551, is the lowest recorded site number previously assigned within the APE. All other current LA numbers within the APE and buffer will be subsumed under LA 108551 and will no longer be in use (LA 115534, 117776, 117777, 117778, 117779, 117783, and 126142). Additionally, the buildings encountered by EMNRD-AMLP contract archaeologists, Western Cultural Resource Management (WCRM) during the inventory will receive HCPI numbers to integrate them into the NMCRIS system. Further WCRM will extend the site boundary beyond the extent of the APE/buffer as discovered buildings, structures, features, or objects dictate. It should be noted that the inventory will include the 122 Fairchild buildings within the site boundary but will not record any buildings that are located outside the APE/buffer, nor will these buildings receive HCPI numbers. The entirety of the Madrid Historic District may or may not fall within the final site boundary.

Should other sites be identified that do not reflect the Mining Historic District and are not within the site boundary of LA 108551, they will be assigned new and separate site numbers. For example, an Archaic site separated from the mining site by a large distance, and have no association with the theme of the district, would receive its own LA number. However, should a prehistoric site be located within the boundary of LA 108551, it will be considered a separate component within the site – not a separate site.

During the site recording EMNRD-AMLP will have WCRM assign each element (any cultural resource) a designation as follows. All buildings as defined by the HCPI manual will be given a sequential alpha numeric designation that begins with the letter B (e.g. B1, B2, B3…). All structures as defined by the HCPI manual will be given a sequential alpha numeric designation that begins with letter S (e.g. S1, S2, S3). All features as defined by the HCPI manual will be given a sequential alpha numeric designation that begins with letter F (e.g. F1, F2, F3). Features will be limited to archaeological features such as trash scatters. Objects as define by the HCPI manual will be given a sequential alpha numeric designation that begins with letter O (e.g. O1, O2, O3).

WCRM will identify all contributing and noncontributing elements of the Madrid Historic District and will evaluate each element of the site against the seven aspects of integrity as defined by the National Register of Historic Places. The themes WCRM will be using are: 1) prospecting and early mining; 2) coal mining, 1880-post World War II; 3) settlement and company town development; and 4) modern era development 1945-1970. Evaluations will be based on clear associations with one or more of the themes and evaluations of integrity as to how the resource represents the theme – the building must retain enough of its elements.

WCRM will use the concept of registration requirements to assess the significance and integrity of the elements recorded within the Historic District/APE. Contributing buildings will exhibit two key characteristics: 1) have been present in the district during the period of significance (which is 1880 to post World War II); 2) Retain integrity to express their feeling and association to the coal mining theme and the period of significance and that form, materials, design and workmanship are readily apparent. Structures and objects will be evaluated using the same approaches as that outlined for buildings. If the resource is archaeological it will be considered to have integrity if it has not been vandalized or overly disturbed by post occupational disturbances. It retains the potential to provide additional information about local mining technology or miner lifestyles in the area.

WCRM will develop a field guide for crews that include definitions of the elements based on the HCPI manual. Before fieldwork, WCRM will inspect the current appearance of each building and compare it to the Fairchild HBI records. After comparison WCRM will note all difference that need to be updated in the field.

For site recording WCRM will take at least one photo per cultural element, barring any access constraints. These photos will be taken with digital cameras with 16-megapixel resolution. The sites will be mapped with a Trimble Geo 7x GPS unit accurate to 1 to 10 m.

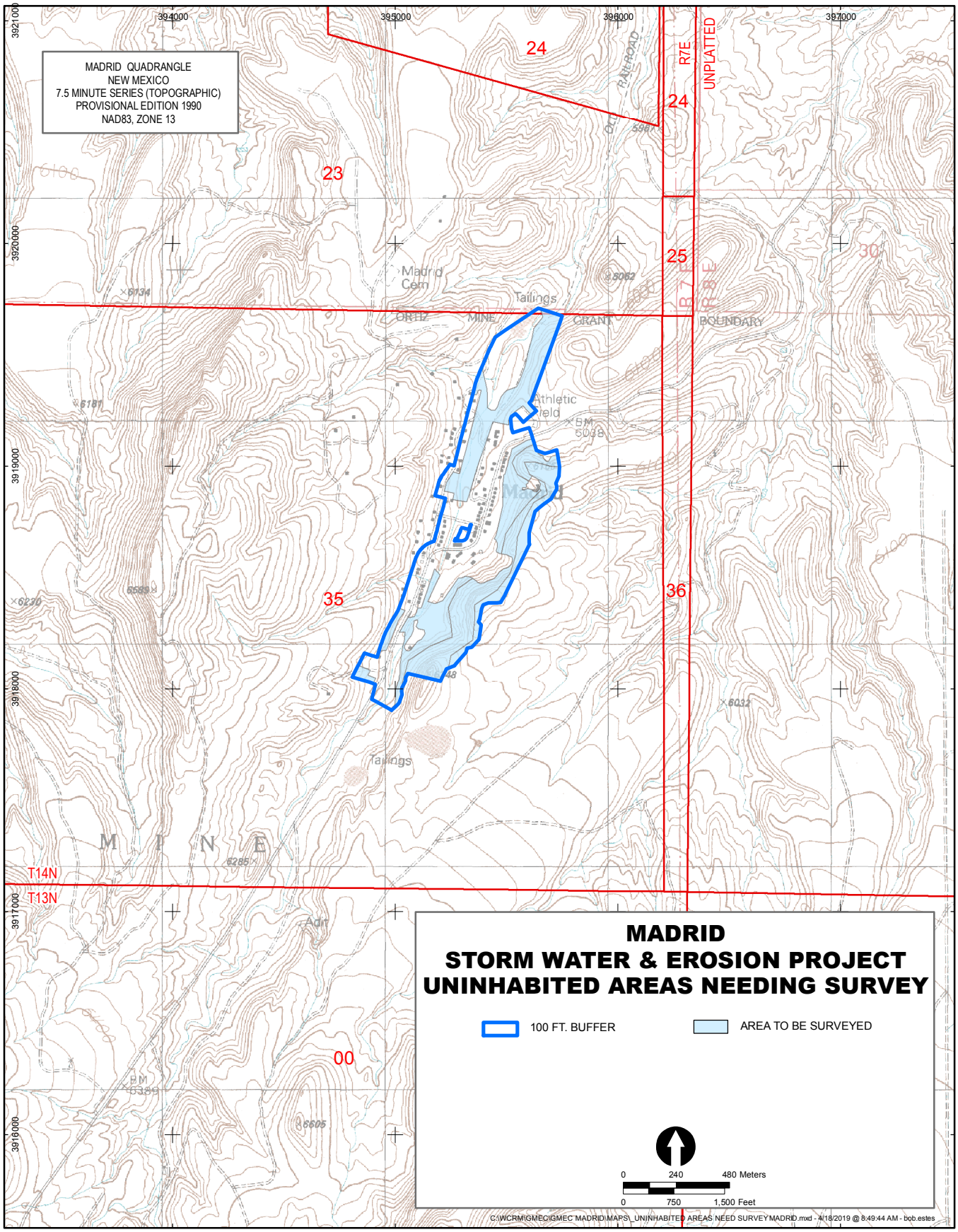
We hope that you concur with these methods and should you have any questions please contact me.

Sincerely,

Richard L. Wessel
AMLP Cultural Resources Director
Richard.wessel@state.nm.us
505-476-3426

Concurrance: Date:

Comments:


MADRID QUADRANGLE
NEW MEXICO
7.5 MINUTE SERIES (TOPOGRAPHIC)
PROVISIONAL EDITION 1990
NAD83, ZONE 13
394000
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Athletic Field
BM 5038
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MADRID
STORM WATER & EROSION PROJECT
UNINHABITED AREAS NEEDING SURVEY
100 FT. BUFFER
AREA TO BE SURVEYED
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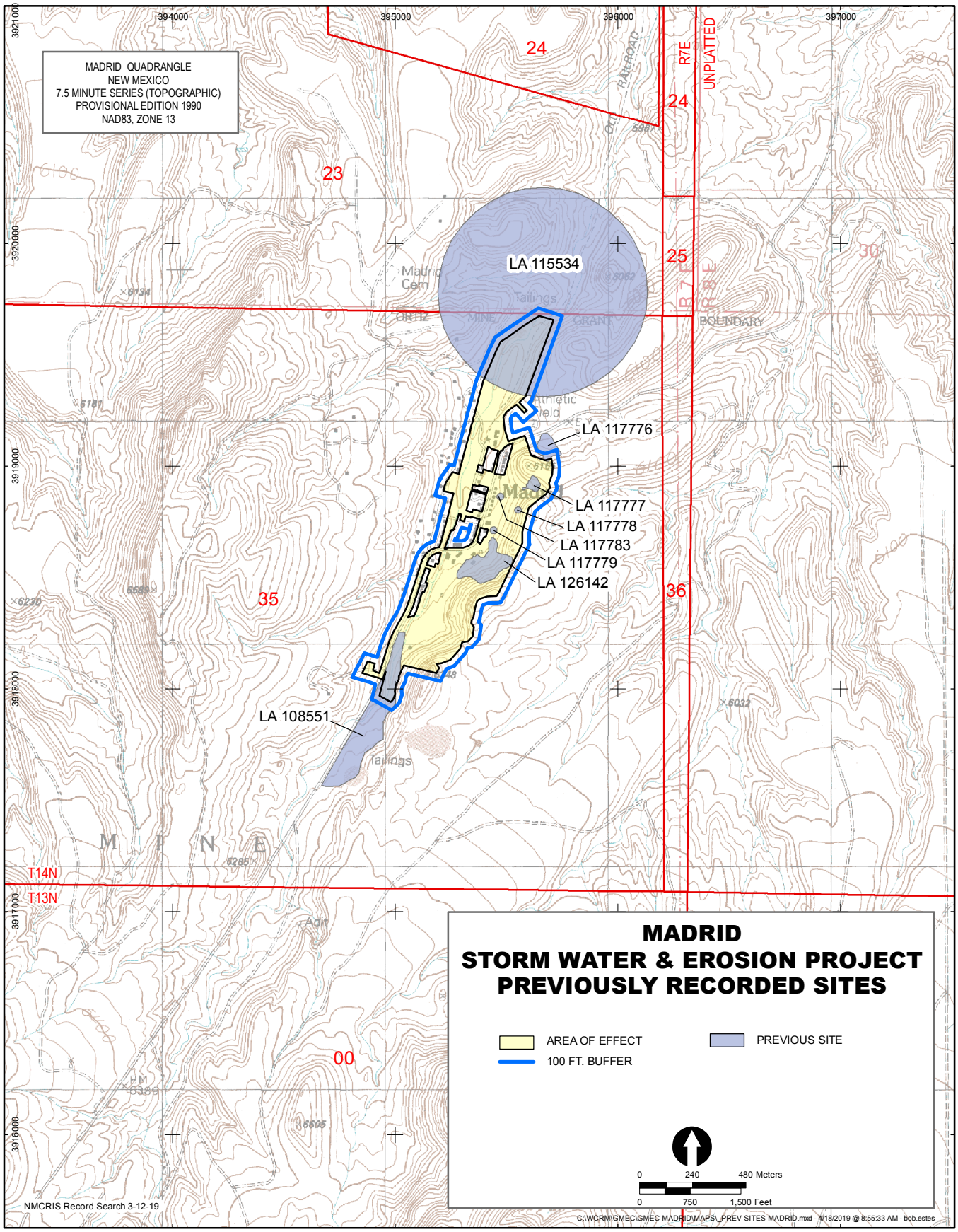
MADRID QUADRANGLE
NEW MEXICO
7.5 MINUTE SERIES (TOPOGRAPHIC)
PROVISIONAL EDITION 1990
NAD83, ZONE 13
LA 115534
LA 117776
LA 117777
LA 117778
LA 117783
LA 117779
LA 126142
LA 108551
MADRID
STORM WATER & EROSION PROJECT
PREVIOUSLY RECORDED SITES
AREA OF EFFECT
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NMCRIS Record Search 3-12-19
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Michelle Lujan Grisham
Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

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April 22, 2021

Richard L. Wessel
Cultural Resource Manager
EMNRD-MMD-Abandoned Mine Land Program
1220 S. St. Francis Dr.
Santa Fe, NM 87505
Richard.wessel@state.nm.us

RE: ***Madrid Stormwater and Erosion Safety Project: Cultural Resource Inventory-task Order 6 Amendment, Santa Fe County, New Mexico.***

Dear Mr. Wessel

Thank you for submitting Western Cultural Resource Management's (WCRM) cultural resource inventory report referenced above for review and comment under Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer has provided comment on Abandoned Mine Land Program's (AML) National Register of Historic Places (NRHP) eligibility determinations for 130 cultural resources' documented during this inventory of the proposed project's area of potential effect (APE). The New Mexico SHPO has completed its review of the 112 HCPI forms and 18 LA forms for the town of Madrid, Santa Fe County. We concur with the following eligibility assessments regarding the HCPI forms:

HCPI 32455 through HCPI 47467
HCPI 47469 through HCPI 47470
HCPI 47472 through HCPI 47477
HCPI 47481
HCPI 47484 through HCPI 47510
HCPI 47512 through HCPI 47514
HCPI 47516 through HCPI 47520
HCPI 46522 through HCPI 47534
HCPI 47536 through HCPI 47537
HCPI 47539 through HCPI 47541
HCPI 47544 through HCPI 48968
HCPI 48970 through HCPI 48982

In the following HCPIs, the recorder identified buildings as eligible and HPD disagreed and identified them as not eligible:

HCPI 47468
HCPI 47471
HCPI 47498
HCPI 47535
HCPI 47538

In the following HCPIs, the recorder identified buildings as not eligible and HPD disagreed and identified them eligible for listing under Criterion C:

HCPI 47479 through HCPI 47480
HCPI 47482 through HCPI 47483
HCPI 47511
HCPI 47515
HCPI 47521
HCPI 47542 through HCPI 47543
HCPI 48969
HCPI 48983

In regards to the NRHP eligibilities of the archaeological sites, SHPO concurred, in part, with AML's determinations. This reviewer did catch some discrepancies between the determinations of eligibilities (DOE) entered on the site form by AML and the summary of their DOEs described in the letter. An example of this would be LA 108551 where the LA form shows AML with a DOE of eligible under both criterion A and D but in contrast the summary in the letter only has the site eligible under Criterion D.

For LA 117776 and LA 117779, the archaeological site/component is not NRHP eligible and both WCRM and AML agreed on this as does SHPO. The LA forms though, have both WCRM and AML indicating the sites are eligible for listing under Criterion A but this in actuality a reflection of your (WCRM and AML) NRHP eligibility DOEs for the structures that are on the sites (HCPI 32455 and HCPI 47458 respectively) and not the archaeological site on which site forms these are entered. For future documentation, please indicate the eligibility determination of the HCPI on the HCPI form and the archaeological site on the LA form. The narrative descriptions of the various forms can address the alternate resource types said resource is associated with.

The SHPO Also recommends AML enter their determination for both the HCPIs and the LA forms into NMCRIS. SHPO has already entered their NRHP eligibility recommendations. Having both AML's and SHPO's DOE entered provides all parties with a more definitive source of resource eligibilities to reference if there is any future confusion regarding a resource's NRHP eligibility when addressing effects.

Also, if possible, please have WCRM upload the shapefiles for the HCPI forms into the NMCRIS mapservice database.

Finally, WCRM's eligibility table included in the submission needs edited if it is to be submitted as part of the deliverables. There are many discrepancies between the NRHP eligibility recommendations entered in this table and the eligibilities recommended in the LA forms and in the report. I have included with this letter a spreadsheet with the archaeological sites listed that includes comments on any anomalies and/or discrepancies regarding NRHP eligibility entries from either AML or WCRM.

If you have any questions regarding the HCPI forms, please contact Steven Moffsson at (505) 476-04444 or by email at steven.moffson@state.nm.us. For questions regarding the LA forms, please contact Andrew Zink at (505) 476-4040 or by email at andrew.zink@state.nm.us. I would note that during the COVID-19 pandemic, the most reliable and efficient method of contact is by email.

Sincerely,

Andrew Zink
Archaeological Review &
State Archaeological Permits

HPD Log: 114885
ENC: Comment Spreadsheet

Resource Number	AML DOE	WRCM ROE	HPD ROE	Comments
LA108551	E, A&D	E, A&D	E, A&D	Some confusion here - WCRM table shows they recommend a 'Not Sure' NR eligibility and the AML consultation letter only shows LA 108551 determined eligible under Criterion D and not A.... Which differs from the site form entries reflected here in this spresdsheet.
LA115534	E, D	E, A&D	E, A&D	WCRM in both the table and on the LA Form recommend the site eligible under A & D... The AML entered on the LA Form that they agree with WRCM's recommendations and determined the site Eligible under A... only A?... Why not Criterion D too? Oversight by AML?
LA117776	E, A	E, A	NE	The WCRM 2019 site form shows both WCRM and AML have LA 117776 eligible for the NR under A but WCRM's narrative explains they are referenceing the structure (Feature 4) on the site which is HCPI 32455. SHPO concurs that the archaeological site LA 117776 is not eligible for NR listing but the structure HCPI 32455 is under Criteria A... and contributes to the SR MHD (SR 356)
LA117777	E, D	E, D	E, A&D	2019 update of LA 117777 expands site to subsume LA 117778 and LA 126142
LA117778	NA	NA	NA	2019 update of LA 117777 expands site to subsume LA 117778 and LA 126142
LA117779	E, A	E, A	NE	The WCRM 2019 site form shows both WCRM and AML have LA 117779 eligible for the NR under A but WCRM's narrative explains they are referenceing the structure (Feature 1) on the site which is HCPI 47458. SHPO concurs that the archaeological site LA 117779 is not eligible for NR listing but the structure HCPI 47458 is under Criteria A... and contributes to the SR MHD (SR 356)
LA117783	NE	NE	NE	Destroyed by Residential development.
LA126142	NA	NA	NA	2019 update of LA 117777 expands site to subsume LA 117778 and LA 126142
LA170805	E, A&D	E, A&D	E, A&D	
LA195464	U	U	U	Site form shows WCRM recommends the site eligibility as 'not eligible' but report spreadsheet say's 'Not Sure'.
LA195465	NE	NE	NE	
LA195466	NE	NE	NE	
LA195467	E, D	E, D	E, D	WCRM report table has site recommended NE... but E, D on site form...
LA195468	E, D	E, D	E, D	WCRM report table has site recommended NE... but E, D on site form...
LA195469	E, D	E, D	E, D	WCRM report table has site recommended NE... but E, D on site form...
LA197066	E, A&B	E, A&B	E, A&B	
LA197067	E, A&C	E, A&C	E, A&C	
LA197068	E, A&B	E, A&B	E, A&B	

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary Designate

Matthias Sayer
Deputy Cabinet Secretary

Fernando Martinez, Director
Mining and Minerals Division

April 15, 2021

Mr. Jeff Pappas Ph. D., State Historic Preservation Officer and Director
Historic Preservation Division
407 Galisteo Street, Suite 236
Bataan Memorial Bldg.
Santa Fe, NM 87501

RE: Proposed AML Area of Potential Effects for a Madrid Stormwater and Water System Protection Project

Dear Dr. Pappas,

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), is planning to address long-term threats to life and properties due to stormwater runoff across coal mining gob through town resulting in the flooding of historic elements within the town of Madrid, a property listed on the National Register of Histopric Plasces and New Mecico State Register of Cultural Properties, Santa Fe County, New Mexico. Since the 1980s the OSMRE and AML have addressed public safety concerns associated with open abandoned mine adits and shafts at the margins of the townsite and a variety of drainage issues resulting in flooding and emergency situations, most notably after storm events in 2013. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

The AML Program is developing a comprehensive and long-term solution to alleviate the potential for future stormwater flooding in the area. The proposed project area is in the community of Madrid, Santa Fe County, New Mexico located is shown on the Madrid USGS 7.5-minute quadrangle, Township 14N, Range 7E, Sections 25 and 26 (Figure 1).

The area of potential effects, as defined under 36 CFR 800.16(d), encompasses staging areas and existing roads, the subsidence features themselves and areas where further actions may be necessary. Your office concurred with this APE on June 5, 2019 (HPD Log No. 110513). This may include new geotechnical studies,. Non-emergency work may also include controlling flow and run-off of storm water surrounding the subsidence area and other areas adjacent to the community of Allison. Previous cultural resource identification efforts include the L. C. Fairchild 1998-1999 historic building inventory of Madrid. The resulting documentation of this effort included the recording of 122 buildings, of which, one was previously listed on the NRHP under criterion A, and another merely assessed as NRHP Eligible. For the remaining 120 structures Fairchild assessed, 2 structures were considered as NRHP eligible under criterion A, one under criterion A and C, and one under criterion B. Since the Fairchild effort took place from 1998 to 1999, the documentation does not meet current standards set in New Mexico Administrative Code. Significant alterations to some structures have occurred in the 20 intervening years..

As part of the historic property identification efforts for this undertaking, the Western Cultural Resource Management, Inc. completed an intensive level cultural resources management (CRM) inventory of the entire APE for the AML Program. Enclosed is a 2021 report entitled *Madrid Stormwater and Erosion Safety Project: Cultural Resources Inventory-Task Order 6 Amendment, Santa Fe County, New Mexico*, prepared by Steven F. Mehls and Deborah V. Gibson. In addition, consultation with appropriate Indian tribes was undertaken in February of 2021. Responses from tribes have not been received at this time,

but any comments provided will be given due consideration and those tribes having stated their wish to remain as consulting parties will continue as such.

In all, fifteen historic archaeological sites and one isolated occurrence (IO) were documented. Of the sites, nine were newly recorded (LA 195464, LA 195465, LA 195466, LA 195467, LA 195468, LA 195469, LA 197066, LA 197067, and LA 197068) and six had been previously recorded (LA 108551, LA 115534, LA 117776, LA 117777, LA 117779, and LA 117783). Two previously recorded sites (LA 117778 and LA 126142) were subsumed into LA 117777. Two sites are recommended eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion A (LA 117776 and LA 117779), two are recommended eligible under Criteria A and B (LA 197066 and LA 197068), one is recommended eligible under Criteria A and C (LA 197067), and seven are recommended eligible under Criterion D (LA 108551, LA 115534, LA 117777, LA 170805, LA 195467, LA 195468,and LA 195469). Sites LA 195464, LA 195465, and LA 195466 are recommended not eligible, and no further work is recommended. The IO represents a nonsignificant resource, and no further work is recommended.

WCRM also documented two structures (HCPI 48961 and HCPI 48973) and 109 historic buildings. Four buildings had been previously recorded as historic properties (HCPI 32455, HCPI 32479, HCPI 32480, and HCPI 32481); during the pedestrian survey, these four buildings were found to be within the boundaries of archaeological sites and, therefore, were recorded as features of those entities. Fifty of these buildings were recommended eligible for inclusion in the NRHP under Criterion A (n=28), Criteria A and C (n=-21), Criteria A, B, and C (n=1), and Criterion C (n=1); 59 historic properties are recommended not eligible. The two structures (HCPI 48961 and HCPI 48973) are recommended as not eligible, as well. The urban core areas of the town have already experienced substantial mechanical disturbance. Archaeological survey was not conducted within the urban core. While most portions of the town appear to be heavily disturbed, the potential for subsurface archaeological resources has not been evaluated here. Historic photographs of the townsite taken during the historic period of significance indicate the potential for buried archaeological deposits in the form of outbuilding and privy remnants.

At present we are unable to determine the potential effects of proposed safety measures. As we design these measures we will consult with your office and consider your comments. At present we are consulting with your office regarding the identification of historic properties; whether the properties identified are eligible for NRHP listing.

We request your concurrence with our determinations of NRHP eligibility and or comments. If you have any questions or need additional information feel free to contact me at (505) 476-3426 or at richard.wessel@state.nm.us. The attached table presents a summary of our eligibility determinations and your comments are welcome

Sincerely,

Richard L. Wessel
Cultural Resources Manager

_____ Date: _____

New Mexico Historic Preservation Officer

Comments:

Michelle Lujan
Grisham
Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320

September 9, 2022

Curt E. Temple
Public Works Projects Section Manager
Santa Fe County Public Works Department
Santa Fe County
ctemple@santafecountynm.gov

Re: Log# 117823, Construction Approval for Madrid Fire Water Line

Dear Mr. Temple

In order to assess the potential for the proposed project to impact historic properties, I have reviewed the documents you submitted, our State Register of Cultural Properties, the National Register of Historic Places (NRHP), and our cultural resource records database. The NM Route 14 project area has been surveyed for cultural resources and the State Historic Preservation Officer (SHPO) concurs that no historical properties will be affected by the fire water line construction along NM Route 14. The new water tank location situated on New Mexico Abandoned Mine Lands (AML) property, and any connections to the new tank, are not included in this SHPO concurrence. As mentioned in the submission letter, AML will be responsible for submitting archaeological mitigation documentation to the SHPO for site LA 195467, which is situated on or adjacent to the new water tank location.

If you would like to discuss this further, please do not hesitate to contact me. I can be reached by telephone at (505) 452-6115 or email at richard.reycraft@state.nm.us.

Sincerely,

Richard Reycraft

Richard Reycraft
HPD Archaeologist

From: Murray, Leeland, EMNRD
To: Zink, Andrew, EMNRD
Subject: FW: Madrid Utility location
Date: Wednesday, November 29, 2023 11:37:43 AM

Leeland Murray

From: Murray, Leeland, EMNRD
Sent: Monday, November 21, 2022 10:18 AM
To: Tompson, Mike, EMNRD <Mike.Tompson@emnrd.nm.gov>; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>; Maestas, Yeny, EMNRD <Yeny.Maestas@emnrd.nm.gov>; Wessel, Richard, EMNRD <Richard.Wessel@emnrd.nm.gov>
Subject: FW: Madrid Utility location

So since SHPO did not include DOT in the email, should we forward it to Gary Funkhouser to complete the permit?

Leeland Murray

From: Zink, Andrew, DCA <Andrew.Zink@dca.nm.gov>
Sent: Monday, November 21, 2022 10:12 AM
To: Wessel, Richard, EMNRD <Richard.Wessel@emnrd.nm.gov>
Cc: Ensey, Michelle, DCA <michelle.ensey@dca.nm.gov>; Brock, Gretchen, DCA <Gretchen.Brock@dca.nm.gov>; Murray, Leeland, EMNRD <leeland.murray@emnrd.nm.gov>; Thompson, Michael, RLD <Michael.Thompson@rld.nm.gov>
Subject: RE: Madrid Utility location

Dear, Rick-

I am writing in response to the below email and our discussion regarding the measures required to locate and avoid in-place utilities for the upcoming stormwater improvements within the Madrid Historic District (SR 356). In this particular case, as described in the below email, the design contractor plans on utilizing a standard practice of utility potholing in their effort to locate existing utility lines for avoidance. This practice involves minimal mechanical disturbance as mechanical backhoe trenching is not utilized. It is also planned for previously disturbed and fill areas. Because the disturbance is minimal in the context of the overall work planned for the Madrid Stormwater Project and because mitigation measures for the overall project are in development, it is SHPO's opinion that the current utility locating activities will not require a monitor. I do want to emphasize that if these activities were being conducted in isolation and not a part of a larger project where the known adverse effects were currently being addressed, SHPO would request a monitoring plan be submitted to the New Mexico Historic Preservation Division (HPD) for approval under the Abandoned Mines land's (AML) General permit, before the work within the New Mexico Department of Transportation's (NMDOT) right-of-way could commence. Instead, I would like the contractors to be informed there is potential to encounter cultural resources. If significant archaeological materials (both

historic and pre-historic) are encountered during construction activities relating to the proposed utility locating activities(i.e., buried structures, ceramic sherds, lithic artifacts, bone, darkly stained sediment etc.), construction activity should be stopped, and our office contacted.

SHPO appreciates the AML monitoring the planned work along Bethlehem Road in the proximity of the masonry wall surrounding the Bethlehem Hill Diorama site (LA 19066) and would encourage the AML to follow the above recommendation for the contractors regarding cultural material discoveries outside the NMDOT right of way during their pothole utility locating activities.

Please do not hesitate to contact me if you have any questions. I can be reached by telephone at (505) (505) 827-4040 or by email at andrew.zink@dca.nm.gov.

Sincerely,

Andrew Zink
State Archeological Permits
and Archaeological Review

HPD Log: 118369

From: Wessel, Richard, EMNRD <Richard.Wessel@emnrd.nm.gov>
Sent: Monday, November 07, 2022 10:27 AM
To: Zink, Andrew, DCA <Andrew.Zink@dca.nm.gov>
Subject: Madrid Utility location

Good morning, Andrew-

So far, I have received comments on the 1st draft of the MOA from you folks, the OSMRE and Lloyd. I'll incorporate them into the document or address them and distribute to all. My invitations to participate in the MOA to the Madrid Landowner's Assoc., County of Santa Fe, NMDOT and Madrid Water Coop is going out soon, but I am still trying to identify new staff for the county, landowner's assoc., and water coop. NMDOT has no need to be part of the MOA development but will remain in the information loop.

One aspect that was not dealt with in our earlier consultation was the need for utility location work, which the design contractor needs to do to avoid utilities All of the proposed potholes are within the Madrid Historic District (SR 356,) and the vast majority of the work involved standard utility location potholing along roadways such as Bethlehem Road, Icehouse Road, Firehouse Road and the NM 14 edge, all of which are in either cut or fill contexts and are not likely to affect cultural resources, however one proposed pothole (No. 6) along the edge of Bethlehem Road is close to the masonry

fence surrounding the Bethlehem Hill diorama site (LA 197066). I'll monitor that one just in case vibrations from the action dislodge a stone. The locations are depicted in the attached map.

In Summary, it is not expected that the utility location work will affect historic properties. Your concurrence with this finding is requested along with any comments you may have.

Thank you,

Rick Wessel
Cultural Resources Manager
EMNRD-MMD-Abandoned Mine Land Program
1220 S. St. Francis Dr., Santa Fe, NM 87505
richard.wessel@emnrd.nm.gov
Cell: 505.819.8856

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd Leahy, JD, PhD
Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

July 30, 2023

Mr. Jeff Pappas Ph. D.
State Historic Preservation Officer and Director
Historic Preservation Division
407 Galisteo Street, Suite 236
Bataan Memorial Bldg.
Santa Fe, NM 87501
jeff.pappas@dca.nm.gov

RE: Madrid Stormwater and Fire Suppression Project: Geotechnical Borehole for the Proposed Fire Suppression Water Storage Tank Foundation Design

Dear Dr. Pappas,

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is following up previous consultations (see HPD Logs 110513, 114885, 117635, and 118116) with the New Mexico State Historic Preservation Officer (SHPO) on the Madrid Stormwater Erosion, and Fire Suppression Project. The above referenced activity is planned in support of the overall project and specifically for the fire suppression water storage tank foundation design. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

The AML is seeking to drill an additional 3" borehole as part of a larger geotechnical analysis within the Madrid project area. Two 7" boreholes were previously drilled in 2019, and due to slight design changes with the fire suppression water tank foundation (from a mat slab to a ring foundation), a new borehole is requested within LA 195467 (Attachments 1, Figure 1). The two prior boreholes were drilled outside of the water tank foundation for unknown reasons; however, this new borehole would be drilled within the proposed foundation location. This additional borehole would provide greater geotechnical information along with an up-to-date geotechnical analysis report to our engineering firm to ensure the concrete ring foundation is built to proper specifications.

LA 195467, an Anglo/Euro-American archaeological site dating from the 1940s to 1957, is located on private land within T:14N, R:7E, S:35. It was determined eligible for listing to the National Register of Historic Places (NRHP) under Criterion D, on April 15, 2021. The SHPO concurred with this

Figure 1.) Overview of proposed Borehole Location, LA 195467 (Fea.6 in foreground, Fea.1/Drum to right, Fea.2/Juniper in background)

determination on April 19, 2021. Aside from surface scatter consisting of Mid-20th century household refuse, there are two refuse dumps, a rock alignment, two dugout features, and a tent pad (Attachment 3). The tree adjacent to the tent pad feature appears to be obscuring what could be a third dugout feature (not recorded).

The proposed borehole (Attachment 1 & 2) will be located within LA 195467 (Attachment 3) at the approximate center of the proposed tank foundation between Feature 1 (refuse dump) and the juniper tree east of Feature 2 (tent pad). It is this juniper tree that AML believes could be obscuring a potential unrecorded dugout feature. The boring mechanism will be truck mounted and utilize stabilizing legs if necessary. The borehole location will be accessed from a gravel road located ~12 m to the north and restricted to a narrow 10 ft. corridor where the vehicle will enter and exit with no allowances for turning around. AML archaeologist Andrew Zink will be present to monitor the activity to assure none of the dugout, or potential dugout features will be disturbed.

There are current plans for LA 195467 to undergo extensive data recovery activities as the construction of the proposed fire suppression storage tank is anticipated to destroy the site (HPD Log 117635 & HPD Log 118116). Any disturbances from the proposed boring activity will be derived from driving over a small fraction of the site and from the borehole drilling, which will not affect the results of the planned data recovery efforts. AML monitoring will ensure the activity is limited to a narrow corridor avoiding any potential dugout features.

The AML is requesting the SHPO's concurrence to proceed with the proposed activity without further consultation. The exception being the unlikely event the borehole encounters buried cultural materials or human remains, at which time work will cease and the SHPO and/or State Archaeologist will be notified.

If you would like additional information or have any questions, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
AMLP Cultural Resources Manager/
Archaeologist
EMNRD-MMD

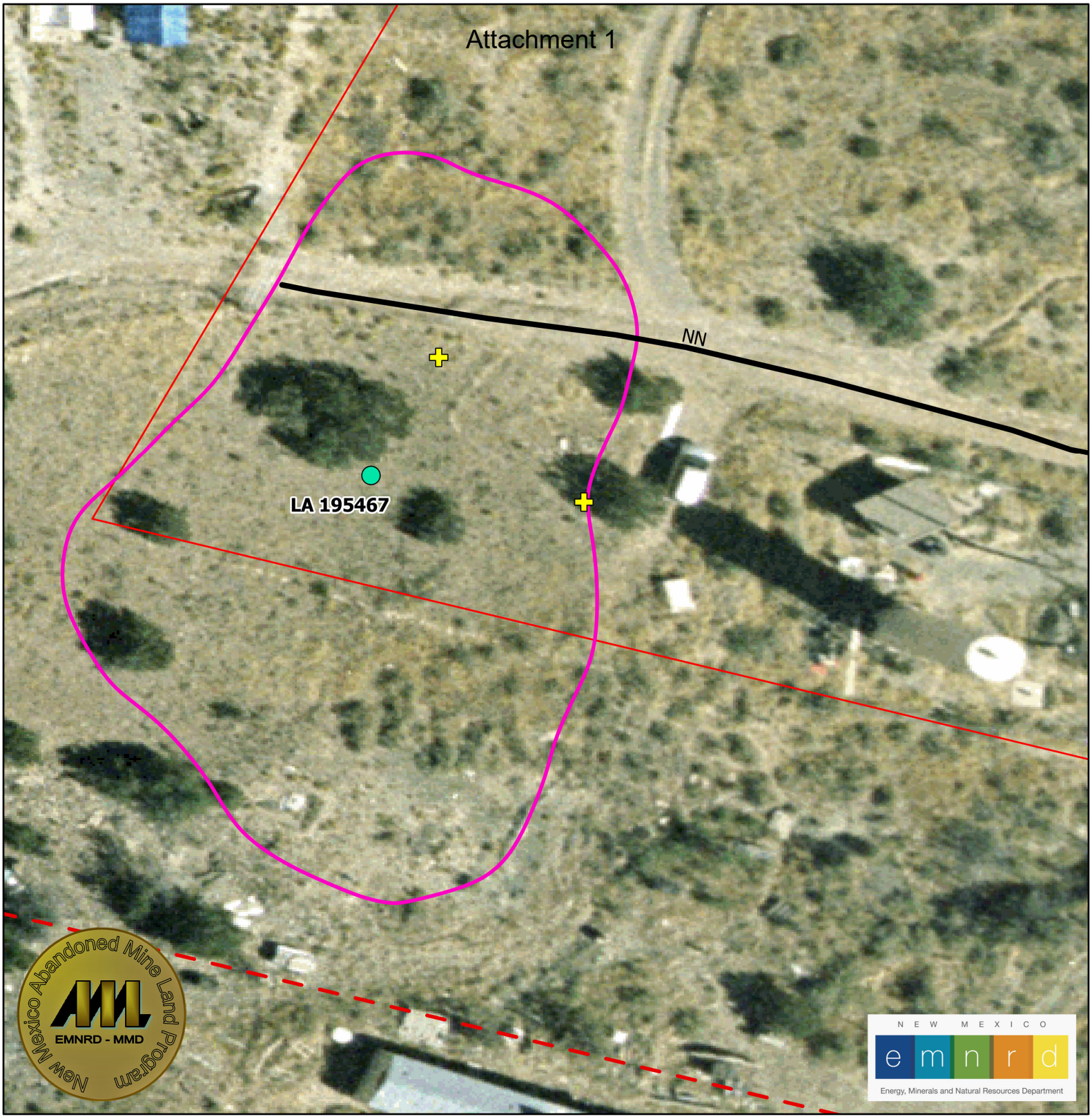
CC: Geoff Cunnar, Ph.D., Archaeological Review

Concurrence: _____ Date: 7/5/2023

For: New Mexico SHPO

Comments: As it could be sometime between now and data recovery, it may be a good idea to update the site record with the bore hole locations at some point.

Attachments: 1.) Map – Proposed Borehole Location w/in LA 195467
2.) Engineering Map for Proposed Foundation
3.) LA 195467 LA Form



Madrid Fire Suppression Water Tank
Proposed Borehole Location

N

0 5 10 Meters

- Borehole
- Previous Borehole Locations (±3m)
- Roads
- Site Boundary
- Area of Potential Effect
- Area of Potential Effect 100 ft Buffer

Date Created: 6/30/2023
Scale: 1:400
Spatial Reference
GCS: GCS WGS 1984
Datum: WGS 1984

EXPLORATION PLAN

New Fire Suppression Water Storage Tank ■ Madrid, New Mexico
April 13, 2021 ■ Terracon Project No. 66205185

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

From: Cunnar, Geoff, DCA
To: Zink, Andrew, EMNRD
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank
Date: Wednesday, July 5, 2023 10:02:20 AM

Absolutely. Sounds good.

Geoff

From: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Sent: Wednesday, July 5, 2023 10:02 AM
To: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Got it, Geoff-

Thanks, We can provide OCA with the GPS coordinates for the borehole locations, and they can add them to the maps used for the DR plan… would that work?

Andrew

From: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Sent: Wednesday, July 5, 2023 9:54 AM
To: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Cc: Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Good Morning Andrew,

Attached please find the stamped consultation letter in regard to the above proposed boring activity at LA195467. Please let us know if you have any questions or concerns.

Regards,

Geoff

Geoffrey Cunnar, PhD RPA
Staff Archaeologist
Dept. of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Phone: 505-476-0530
Email: geoff.cunnar@dca.nm.gov

From: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Sent: Friday, June 30, 2023 3:19 PM
To: SHPO, NM, DCA <NM.SHPO@dca.nm.gov>
Cc: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Subject: Borehole - Madrid Fire Suppression Water Tank

Dr. Pappas-

The AML is seeking to drill an additional 3" to 7" borehole as part of a larger geotechnical analysis for the Madrid Stormwater Erosion and Fire Suppression Project. The proposed borehole is planned to be drilled within LA 195467, an NRHP eligible historic archaeological site. This site is part of the suite of archaeological sites planned to undergo data recovery mitigation due to a previous assessment (HPD Log 117635) that the proposed safeguarding activities will adversely affect several sites, including LA 195467. An MOA (HPD Log 118116) between SHPO, EMNRD/MMD, and the Corps is currently in place and will guide the mitigation process. Because access to the site will be limited, no data bearing features will be disturbed, and the boring will be monitored by an AML Archaeologist, the proposed boring is not anticipated to affect the results of the future data recovery activities. The AML is requesting the SHPO's concurrence to proceed with the proposed boring activity without further consultation. The exception being the unlikely event the borehole encounters buried cultural materials or human remains, at which time work will cease and the SHPO and/or State Archaeologist will be notified. If the SHPO has no objections, please return a signed copy of the attached letter to concur with the AML request as presented.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
(505) 490-7379
andrew.zink@emnrd.nm.gov

From: Cunnar, Geoff, DCA
To: Zink, Andrew, EMNRD
Subject: FW: HPD Log 120057 and HPD Log 120140 : Boreholes - at sites LA195467 and LA117777
Date: Thursday, July 20, 2023 7:39:32 AM
Attachments: image002.png

Good Morning Andrew,

The SHPO concurs with AML's plan to monitor and drill a borehole at both of the above sites.

Regards,

Geoff

Geoffrey Cunnar, PhD RPA
Staff Archaeologist
Dept. of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Phone: 505-476-0530
Email: geoff.cunnar@dca.nm.gov

From: SHPO, NM, DCA <NM.SHPO@dca.nm.gov>
Sent: Tuesday, July 18, 2023 12:18 PM
To: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Cc: Craven, Gail, DCA <Gail.Craven@dca.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Log# 120140

From: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Sent: Tuesday, July 18, 2023 7:55 AM
To: SHPO, NM, DCA <NM.SHPO@dca.nm.gov>
Subject: FW: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Hi Irene,

Could I get a log number for this. It is from the Energy Minerals Natural Resources/Abandoned Mine

Land Program “Request for borehole within LA117777”

Thanks,

Geoff

From: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Sent: Monday, July 17, 2023 3:01 PM
To: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Cc: Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Hi, Geoff-

The AML is seeking to drill an additional 3”to 7” borehole as part of a larger geotechnical analysis within the Madrid project area. A new borehole is requested within LA 117777 (See attached LA Site Form and proposed borehole location map). The location of the proposed borehole within LA 117777 will be along Feature 20, an abandoned railroad grade, just north of features 6 and 7 (collapsed adits). The two adits proceed into the side of the hillslope in a southeastward direction away from the borehole location and will not be encountered during the boring. This portion of the railroad grade is free of remnant railroad ties and spikes and appears situated on bedrock with no potential for buried cultural materials. This additional borehole would provide greater geotechnical information along with an up-to-date geotechnical analysis report to our engineering firm to ensure the proposed water conveyance feature is engineered and built to specifications that ensure its durability and functionality. Like the borehole planned for LA 195467 reviewed under HPD Log 120057, the boring mechanism will be truck mounted and utilize stabilizing legs if necessary. The borehole location will be accessed from a Bethlehem Hill Road located ~50 m to the east and restricted to a narrow <10 ft. corridor where the vehicle will enter and exit with no allowances for turning around. AML archaeologist Andrew Zink will be present to monitor the activity to assure the vehicle used for the activity does not encroach onto any portion of the railroad grade that retains engineered elements of the grade such as railroad ties and spikes.

There are current plans for LA 117777 to undergo data recovery and archaeological monitoring activities (HPD Log 117635 & HPD Log 118116) because the 30%-60% design for the proposed erosion control water conveyance feature is anticipated to destroy a portion of Feature 20, as it will truncate this landing for its route as shown in the attached draft engineering plan. Any disturbances from the proposed boring activity will be derived from driving over a small fraction of the site (railroad grade) and from the borehole drilling, which will not affect the results of the planned data recovery efforts. AML monitoring will ensure the activity is limited to a narrow corridor avoiding any potential intact engineered remnants of the railroad grade such as railroad ties. It is AML’s intention to include the final location of both the borehole for LA 195467 and that for LA 117777 on the site plan maps that will accompany the data recovery plan that will be reviewed by the SHPO and CPRC and guide the mitigation process proceeding construction.

This geotechnical borehole will be dug under the same activity the borehole testing at LA 195467

(Log 120057) will occur. As so, this consultation is being submitted in reference to HPD Log 120057 (letter attached). The AML is requesting the SHPO's concurrence to proceed with the proposed additional activity within LA 117777 without further consultation. The exception being the unlikely event the borehole encounters buried cultural materials or human remains, at which time work will cease and the SHPO and/or State Archaeologist will be notified.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
(505) 490-7379
andrew.zink@emnrd.nm.gov

From: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Sent: Wednesday, July 5, 2023 10:02 AM
To: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Absolutely. Sounds good.

Geoff

From: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Sent: Wednesday, July 5, 2023 10:02 AM
To: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Got it, Geoff-

Thanks, We can provide OCA with the GPS coordinates for the borehole locations, and they can add them to the maps used for the DR plan… would that work?

Andrew

From: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Sent: Wednesday, July 5, 2023 9:54 AM
To: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Cc: Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Subject: RE: HPD Log 120057: Borehole - Madrid Fire Suppression Water Tank

Good Morning Andrew,

Attached please find the stamped consultation letter in regard to the above proposed boring activity at LA195467. Please let us know if you have any questions or concerns.

Regards,

Geoff

Geoffrey Cunnar, PhD RPA
Staff Archaeologist
Dept. of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Phone: 505-476-0530
Email: geoff.cunnar@dca.nm.gov

From: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Sent: Friday, June 30, 2023 3:19 PM
To: SHPO, NM, DCA <NM.SHPO@dca.nm.gov>
Cc: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>; Moiola, Lloyd, EMNRD <lloyd.moiola@emnrd.nm.gov>
Subject: Borehole - Madrid Fire Suppression Water Tank

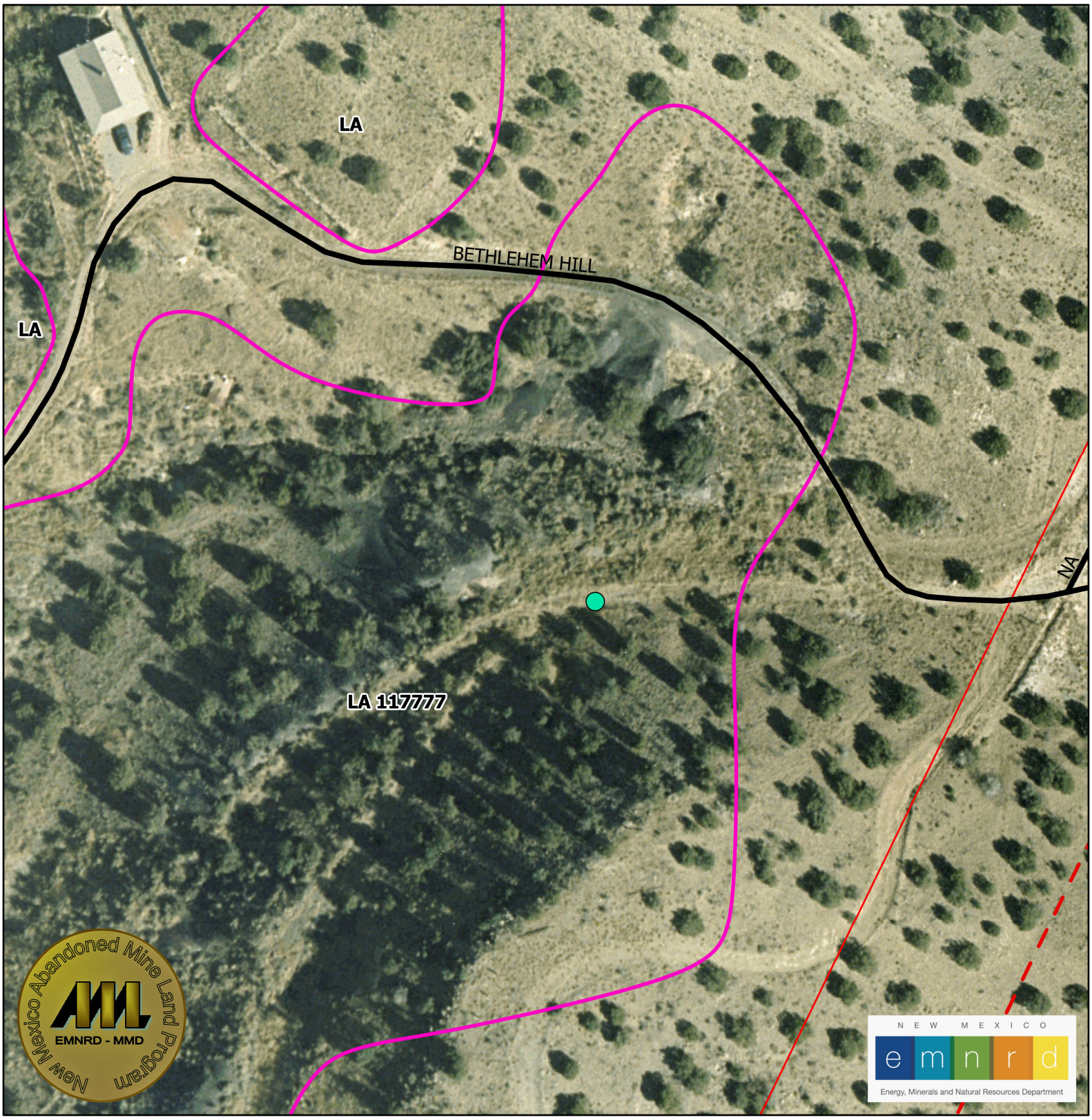
Dr. Pappas-

The AML is seeking to drill an additional 3" to 7" borehole as part of a larger geotechnical analysis for the Madrid Stormwater Erosion and Fire Suppression Project. The proposed borehole is planned to be drilled within LA 195467, an NRHP eligible historic archaeological site. This site is part of the suite of archaeological sites planned to undergo data recovery mitigation due to a previous assessment (HPD Log 117635) that the proposed safeguarding activities will adversely affect several sites, including LA 195467. An MOA (HPD Log 118116) between SHPO, EMNRD/MMD, and the Corps is currently in place and will guide

the mitigation process. Because access to the site will be limited, no data bearing features will be disturbed, and the boring will be monitored by an AML Archaeologist, the proposed boring is not anticipated to affect the results of the future data recovery activities. The AML is requesting the SHPO's concurrence to proceed with the proposed boring activity without further consultation. The exception being the unlikely event the borehole encounters buried cultural materials or human remains, at which time work will cease and the SHPO and/or State Archaeologist will be notified. If the SHPO has no objections, please return a signed copy of the attached letter to concur with the AML request as presented.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
(505) 490-7379
andrew.zink@emnrd.nm.gov



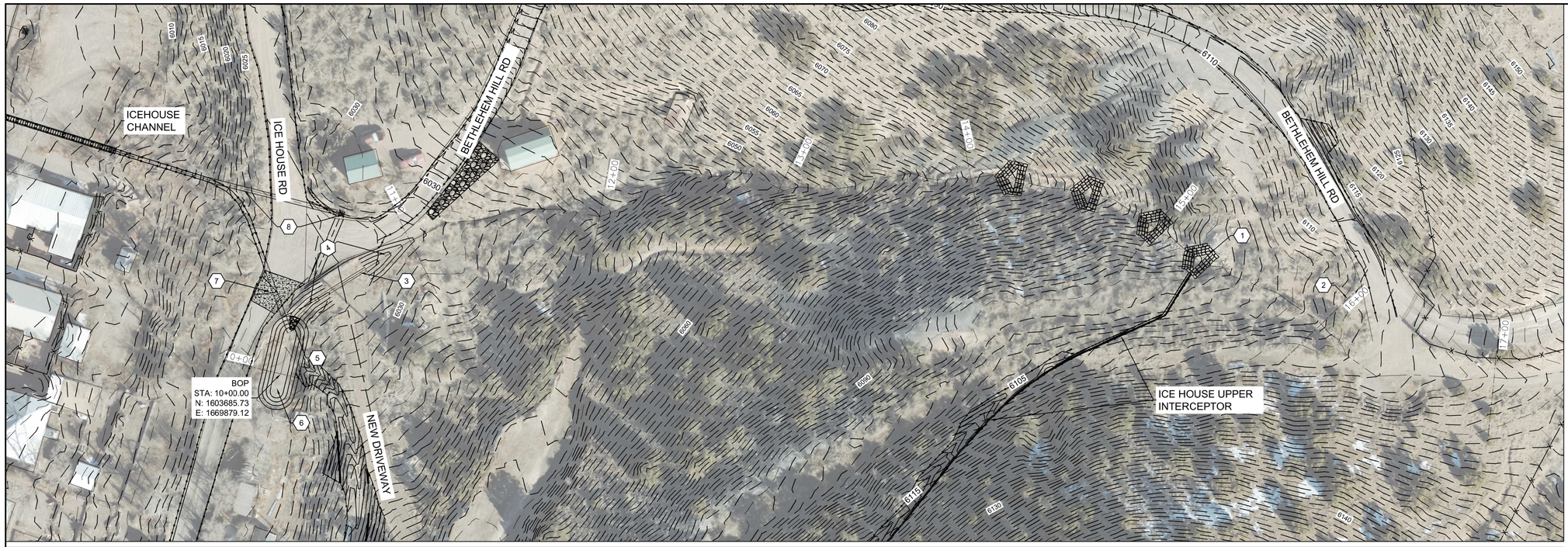
Madrid Stormwater Erosion Control Project
Proposed Borehole Location

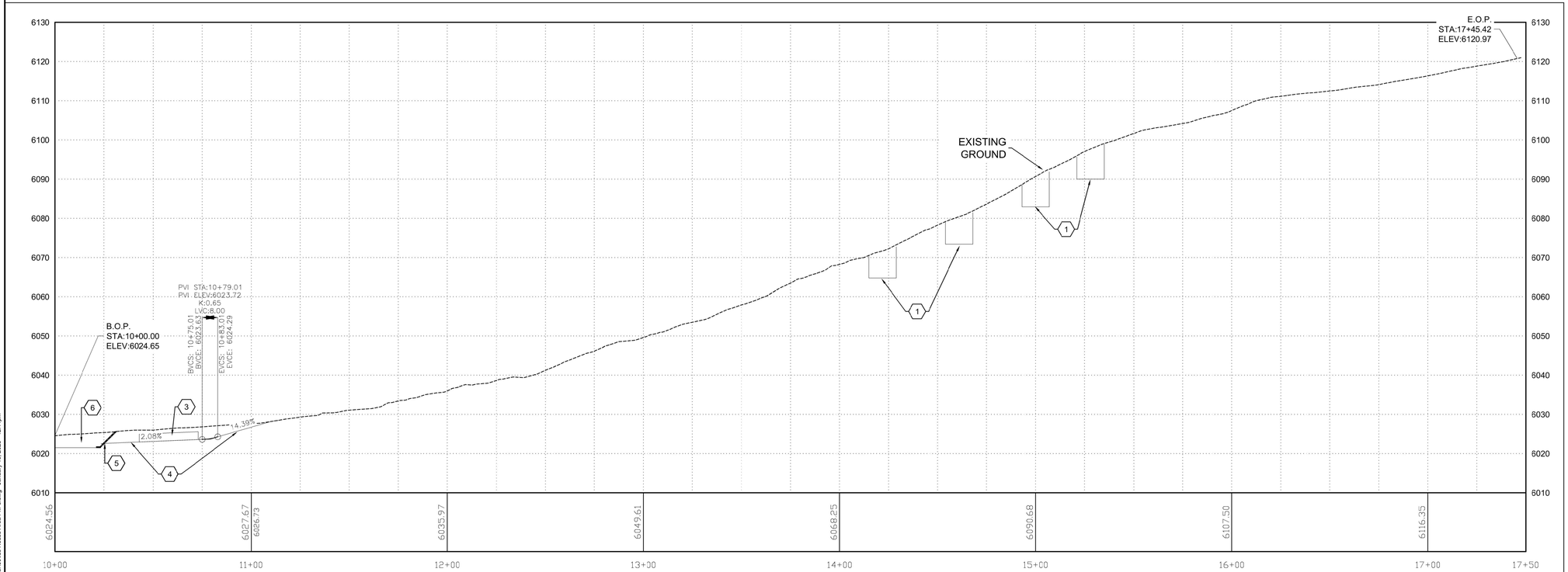
N

0 10 20 Meters

- Borehole
- Roads
- Site Boundary
- Area of Potential Effect
- Area of Potential Effect 100 ft Buffer

Date Created: 7/14/2023
Scale: 1:900
Spatial Reference
PCS: NAD 1983 UTM Zone 13N
GCS: GCS North American 1983
Datum: North American 1983

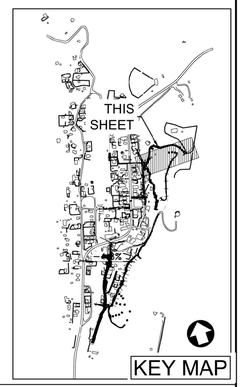




KEYED NOTES

1. SEE SHEET G006 FOR PLUNGE POOL TYPICAL DETAIL
2. SEE BETHLEHEM HILL ARROYO CROSS SECTIONS ON SHEET C101
3. 24-INCH CMP CULVERT WITH END SECTIONS
4. DIVERSION CHANNEL
5. RIPRAP RUNDOWN
6. BETHLEHEM SEDIMENT POND
7. 24-INCH CMP AND CONCRETE DIP SECTION
8. DROP INLET AND 24-INCH CULVERT

CONSTRUCTION NOTES



0 30' 60'
HORIZONTAL
0 15' 30'
VERTICAL

NO.	DATE	APPR.	REVISION
A	9/24/21		ISSUED FOR REVIEW
B	10/26/22		NM EMNRD-AML REVISIONS

VILLAGE OF MADRID, NM
STORM WATER DAMAGE REDUCTION PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	SC	JAN 23	
DES. ENG.	SC/RGE/AMB	JAN 23	
PROJ. ENG.	RGE	JAN 23	
PROJ. MGR.	SC	JAN 23	
APPROVED			
APPROVED			

CLIENT APPROVALS DATE

DRAFT
NOT FOR
CONSTRUCTION

ICE HOUSE ROAD/MADRID ARROYO AREA
BETHLEHEM HILL ARROYO
PLAN AND PROFILE

DRAWN	RW	DATE	JAN 23
SCALE		W.O. NO.	15740.001.003

DWG. NO. C001 REV. NO. B

SHT. 14 OF 62

C:\Users\weston\Documents\Madrid Stormwater\60\Ice House Area PnPs.dwg January 10, 2023 - 12:44pm

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

October 20, 2023

HPD Log 120884
Received 10/20/2023

Mr. Jeff Pappas Ph. D.
State Historic Preservation Officer and Director
Historic Preservation Division
407 Galisteo Street, Suite 236
Bataan Memorial Bldg.
Santa Fe, NM 87501
jeff.pappas@dca.nm.gov

RE: Madrid Stormwater and Fire Suppression Project: Post Consultation Inventory of LA 203027_ *ARCHAEOLOGY OF THE NEW MEXICO ABANDONED MINE LAND PROGRAM SURVEY OF LA 203027 IN MADRID, SANTA FE COUNTY, NEW MEXICO* (NMCRIS Activity No. 153047)

Dear Dr. Pappas,

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is submitting this consultation to the New Mexico State Historic Preservation Officer (SHPO) as part of the AML's ongoing preparation for the Madrid Stormwater and Fire Suppression project (see HPD Logs 110513, 114885, 117635, 118116, 120057, and 120140). As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

The undertaking has been determined to be an adverse effect (HPD Log 117635) for which a memorandum of agreement (MOA) (HPD Log 118116) has been executed, and archaeological data recovery and testing plan will be required to treat and mitigate these adverse effects. The inventory of LA 203027 (Figure 1., and Attachment 2.) by the University of New Mexico's Office of Contract Archaeology's (OCA) occurred in preparation of the treatment plan when during field reconnaissance, OCA observed this location had historic archaeological deposits, and was not recorded during Western Cultural Resource Management's (WCRM) 2019 cultural resource survey (NMCRIS Activity 142838, HPD Log 114885). The above referenced report is currently uploaded to the NMCRIS database as is the associated site form for LA 203027.

LA 203027, an U.S. Territorial to New Mexico Statehood archaeological site dating from ~1870 A.D. to ~1945 A.D., is located on private land within T:14N, R:7E, S:34. OCA recommends LA 203027 eligible for listing to the National Register of Historic Places (NRHP) under Criterion D, as artifacts are actively eroding from the arroyo's west bank (site's east end) showing the potential for significant buried cultural materials. The AML concurs with this recommendation and has determined the site eligible for listing in the NRHP under Criterion D.

Figure 1.) Overview of LA 203027 looking west

As part of the AML's efforts to mitigate stormwater runoff, the valley floor arroyo will be subject to an engineering design to introduce meanders to the arroyo channel, which includes various structures to lessen the impacts to property during high flow events, specifically water deflectors (earth and rock structures, Attachments 1 & 2), that will impact the east (arroyo facing) edge of LA 207023 where intact cultural materials are currently visible eroding from the cut-bank of the arroyo. Consequently, the AML will include LA 203027 among the suite of sites that will be addressed in the treatment plan currently in development by OCA.

The AML is approaching this situation as a 'Discovery' as defined in the MOA, but to be transparent, this discovery occurred before any mitigation activities or construction occurred which is the specific context under how discoveries are discussed in the MOA. LA 203027 is like other types of cultural properties that are planned for mitigation by data recovery and will be treated in accordance with the standards and methods to be developed for the forthcoming treatment plan by OCA.

The AML is requesting the SHPO's concurrence on AML's eligibility determination (eligible, D) and LA 203027's inclusion in the planned treatment plan to, in part, mitigate the undertaking's adverse

effects to cultural properties. The treatment plan, once complete and ready for SHPO and CPRC review, will include plan maps depicting more precise locations within LA 203027, as with all impacted sites, where data recovery activities will occur. The graphics included here are to provide SHPO with a feel for the extent to which LA 203027 will be impacted and that archaeological data recovery/testing will be required.

If you would like additional information or have any questions, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
AMLP Cultural Resources Manager/
Archaeologist
EMNRD-MMD

The SHPO concurs with eligibility assessment and inclusion of LA203027 in the treatment plan.

for the NM SHPO, 10/31/2023

CC: Geoff Cunnar, Ph.D., HPD Archaeological Review

Concurrence: _____ Date: _____

For: New Mexico SHPO

Comments: _____

Attachments:

1.) Plan Map LA 203027 and Vicinity of Proposed Water Deflector
2.) Engineering Map Showing Approximate Location of LA 203027

Uploaded in NMCRIS:

- Report: Activity No. 153047
- LA 203027 LA Site Form and Supporting Documentation (Two Files)

From:	Zink, Andrew, EMNRD
To:	Cunnar, Geoff, DCA
Subject:	RE: Archaeology of the New Mexico Abandoned Mine Land Program: Survey of LA 203027 in Madrid, Santa Fe County, New Mexico.
Date:	Tuesday, October 31, 2023 8:08:00 AM

Thanks, Geoff!

From: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Sent: Tuesday, October 31, 2023 7:35 AM
To: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Subject: FW: Archaeology of the New Mexico Abandoned Mine Land Program: Survey of LA 203027 in Madrid, Santa Fe County, New Mexico.

Good Morning Andrew,
Attached please find the stamped consultation letter in regard to the eligibility assessment of LA203027 and its proposed inclusion in the upcoming treatment plan.

Regards,

geoff

Geoffrey Cunnar, PhD RPA
Staff Archaeologist
Dept. of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Phone: 505-476-0530
Email: geoff.cunnar@dca.nm.gov

From: SHPO, NM, DCA <NM.SHPO@dca.nm.gov>
Sent: Friday, October 20, 2023 4:19 PM
To: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>
Subject: FW: Archaeology of the New Mexico Abandoned Mine Land Program: Survey of LA 203027 in Madrid, Santa Fe County, New Mexico.

Log# 120884

From: Zink, Andrew, EMNRD <Andrew.Zink@emnrd.nm.gov>
Sent: Friday, October 20, 2023 3:15 PM
To: SHPO, NM, DCA <NM.SHPO@dca.nm.gov>
Cc: Cunnar, Geoff, DCA <Geoff.Cunnar@dca.nm.gov>; Moiola, Lloyd, EMNRD

<lloyd.moiola@emnrd.nm.gov>
Subject: Archaeology of the New Mexico Abandoned Mine Land Program: Survey of LA 203027 in Madrid, Santa Fe County, New Mexico.

Dr. Pappas-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is submitting this consultation to the New Mexico State Historic Preservation Officer (SHPO) as part of the AML's ongoing preparation for the Madrid Stormwater and Fire Suppression project (see HPD Logs 110513, 114885, 117635, 118116, 120057, and 120140). Our program is asking for concurrence on site eligibility for LA 203027 and the added of the site to the upcoming archaeological mitigation of adverse effects as a post consultation discovery.

OCA's report, *Archaeology of the New Mexico Abandoned Mine Land Program: Survey of LA 203027 in Madrid, Santa Fe County, New Mexico,* on their recording of LA 203027 and the site form are uploaded to the NMCRIS database and ready for you review.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113
(505) 490-7379
andrew.zink@emnrd.nm.gov

Appendix C.

Water Permits and Water Quality Monitoring Report

ATTACHMENT A

Water Permits and Correspondence

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE, NM 87109

June 5, 2023

Regulatory Division

SUBJECT: Nationwide Permit Verification (SPA-2022-00054)

NM Abandoned Mine Land Program
Attn: Leeland Murray
1220 South St. Francis Drive
Santa Fe, NM 87505
Leeland.Murray@state.nm.us

Dear Mr. Murray:

We are responding to your preconstruction notification (PCN), dated April 18, 2023, submitted to us for verification of authorization under a Nationwide Permit (NWP) for the Madrid Stormwater and Erosion Control Project. The project site is located in the Madrid Arroyo at approximately latitude 35.407551, longitude -106.152763, community of Madrid, Santa Fe County, New Mexico.

Based on the information provided, we have determined that the Madrid Stormwater and Erosion Control Project involves the discharge of dredged or fill material into waters of the United States, subject to Section 404 of the Clean Water Act. The specific activities that require Corps authorization are installation of two concrete box culverts (0.01 acre of impact and 40 cy) to cross the Madrid Arroyo. Re-grading the arroyo (0.41 acre and 1271 cy of fill) and installing rock and soil deflectors (0.02 acre and 128 cy) to prevent lateral erosion and direct the stormwater into the west channel. The arroyo would be reseeded with a native seed mix to stabilize areas disturbed by grading. The project will permanently impact approximately 0.44 acre of ephemeral channel and will be conducted as described in the referenced PCN.

We have determined that activities associated with the project are authorized by 2021 NWP 37 Emergency Watershed Protection and Rehabilitation. A summary of this NWP and the 2021 New Mexico Regional Conditions are available on our website at www.spa.usace.army.mil/reg/nwp. Failure to comply with all terms and conditions of this NWP may result in the suspension or revocation of this authorization. As required by General Condition 30, you shall sign the enclosed Compliance Certification (Enclosure 1) and return it to this office within 30 days after completion of the authorized work. For specific information regarding compliance with water quality certification (WQC) requirements, please refer to our website at www.spa.usace.army.mil/reg/wqc.

Our review of this project also addressed its effects on threatened and endangered species and historic properties in accordance with General Conditions 18 and 20.

Based on the information provided, we have determined that this project will have no effect federally listed species or their critical habitat. Additionally, this undertaking may adversely affect the Madrid Historic District, archaeological sites LA 115534, LA 117777, LA 170805, LA 195467, LA 195468, LA 195469, LA 197066, LA 197068, and LA 197067. To resolve these adverse effects a Memorandum of Agreement has been signed between Office of Surface Mining, New Mexico Department of Energy, Minerals, and Natural Resources, Mining and Minerals Division, Abandoned Mine Land Program, USACE, Advisory Council on Historic Preservation , and State Historic Preservation Officer, agreement No. 23-521-0600-0176. However, these determinations may be invalidated if the project is not completed as authorized or you did not provide accurate information in your PCN.

This permit verification is valid until March 14, 2026, unless the NWP(s) is/are modified, suspended, reissued, or revoked prior to that date. Continued confirmation that an activity complies with the terms and conditions, and any changes to the NWP, is the responsibility of the permittee. Activities that have commenced, or are under contract to commence, in reliance on an NWP will remain authorized provided the activity is completed within 12 months of the date of the NWP's expiration, modification, or revocation.

This letter does not constitute approval of the project design features, nor does it imply that the construction is adequate for its intended purpose. This permit does not authorize any injury to property or invasion of rights or any infringement of federal, state, local, or tribal laws or regulations. The permittee and/or any contractors acting on behalf of the permittee must possess the authority and any other approvals required by law, including property rights, to undertake the proposed work.

The landowner must allow Corps representatives to inspect the authorized activity at any time deemed necessary to ensure that it is being, or has been, accomplished in accordance with the terms and conditions of the permit.

We would appreciate your feedback on this permit action including your interaction with our staff or suggestions for improving our program. For more information about our program or to complete our Regulatory Program national customer service survey, visit our website at https://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/.

Please refer to identification number SPA-2022-00054 in any correspondence concerning this project. If you have any questions, please contact me by email at Forrest.Luna@usace.army.mil, or telephone at (505) 342-3678.

Sincerely,

Forrest Luna
Regulatory Specialist

Enclosure

COMPLIANCE CERTIFICATION

Action Number: SPA-2022-00054

Name of Permittee: NM Abandoned Mine Land Program, Leeland Murray

Nationwide Permit: 37 Emergency Watershed Protection and Rehabilitation

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Regulatory Division
U.S. Army Corps of Engineers, Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109
SPA-RD-NM@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Please enclose photographs showing the completed project (if available).

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Date Work Started _____

Date Work Completed _____

_____ _____
Signature of Permittee Date

Hillary Robbie

From: Truesdell, Zachary M CIV USARMY CESPA (USA) <Zachary.M.Truesdell@usace.army.mil>
Sent: Wednesday, February 28, 2024 4:34 PM
To: Jon Niski
Cc: Ron Bohannan
Subject: [#2023094] Request for Determination for Waters of the Us in Madrid, NM

Good afternoon,

Under our current guidance, jurisdictional determinations are considered a low priority compared to permit verification and issuance. To avoid delays, in situations where an Army Corps permit is unlikely to be necessary, we've been instructed to inform applicants by email.

Based on changes to Corps' jurisdiction under Section 404 of the Clean Water Act (CWA) as a result of the Supreme Court Sackett v. EPA decision and the subsequent revision of the definition of Waters of the U.S. to comply with the ruling, it appears that the project does not require a Section 404 CWA permit. As a result the Corps is withdrawing your application and will take no further action regarding an approved jurisdictional determination or Section 404 CWA permit at this time. However, it is incumbent upon you to remain informed of any changes in the Corps Regulatory Program regulations and policy as they relate to your project. If your plans change such that waters of the U.S. could be impacted by the proposed project, please contact our office for a reevaluation of permit requirements.

Sincerely,
Zac Truesdell
Regulatory Specialist
USACE, Albuquerque District
505-464-0548
zachary.m.truesdell@usace.army.mil

ATTACHMENT B

Water Quality Monitoring Report

GROUSE MOUNTAIN
ENVIRONMENTAL CONSULTANTS

3600 Cerrillos Rd., Ste #407
Santa Fe, NM 87505
Tel: 505-930-5166

June 3, 2019

Abandoned Mine Land Program
Mining and Minerals Division
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Attention: Erin Marynak
Project Development Coordinator

Subject: Final Water Quality Monitoring Report – Task Order 5-Madrid Stormwater and Erosion Safety Project: Water Quality Testing and Analysis

Dear Ms. Marynak,

Per Task Order 5, Grouse Mountain Environmental Consultants (GMEC) has prepared a water quality monitoring report to ensure compliance with New Mexico Water Quality Standards (NMAC 20.6.4) and the New Mexico Water Quality Act (NMAC 74.6.1). Monitoring sites within the Area of Potential Impact (APE) are located on county, and private surface ownership in Madrid, New Mexico and were sampled for the approved list of water contaminants.

For any additional questions or comments, please contact Leeland Murray at (505) 930-5166 or by email: Lmurray@gmecnm.com.

Regards,

Leeland Murray
Environmental Specialist/Project Manager
Grouse Mountain Environmental Consultants

Madrid Stormwater Monitoring Report 2019

Task Order 5 - Water Quality Testing and Analysis

Prepared For:
Abandoned Mine Land Program
Mining and Minerals Division
Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Prepared By:
Suman Chitrakar- Hydrologist
Kole Stewart- Hydrologist
Leeland Murray- Environmental Specialist
Grouse Mountain Environmental Consultants
3600 Cerrillos Rd., Ste #407
Santa Fe, NM 87507

June 3, 2019

GROUSE MOUNTAIN
ENVIRONMENTAL CONSULTANTS

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TABLES

FIGURES

APPENDICES

Introduction

Madrid, New Mexico is the site of historic coal mining activities beginning in the 1890's. Since abandonment of the mine in the 1950's the coal waste gob piles have remained relatively unstable and poorly vegetated, resulting in the movement of large quantities of sediment downslope, especially during precipitation events. This sediment movement has had significant negative impacts on the town of Madrid, located immediately downslope and adjacent to multiple coal gob piles. Over time, sediment has accumulated within the town of Madrid, clogging drainage paths and leading to small scale flooding throughout the town. In recent years the Abandoned Mine Land (AML) Program has sought to stabilize the coal gob piles and establish stormwater conveyances that will reduce the sedimentation and flooding occurring within the town. Prior to installing stormwater conveyances, the AML Program sought to analyze existing stormwater runoff contaminants and compare testing levels to state and federal regulations. As future design plans will divert stormwater into the nearby arroyo, the AML Program wanted to confirm this runoff will not result in additional damage to the environment or pose a threat to human health.

The AML Program contracted Grouse Mountain Environmental Consultants, LLC (GMEC) to collect stormwater from five (5) locations associated with coal gob waste piles in Madrid. GMEC hydrologists were on site to select sampling sites in January 2019, and again in February 2019 to complete the final installations. These sites were selected based on AML Program staff knowledge and recommendations of where significant stormwater flows exist on the gob piles and within the town of Madrid. Stormwater samples were analyzed by Hall Environmental Laboratories in Albuquerque, NM for an approved list of contaminants. These results will be used to guide future reclamation efforts and ensure stormwater entering the unnamed ephemeral drainage through constructed conveyances will not be harmful to the environment or human health.

Methods

Monitoring Objectives

1. Monitor stormwater quality at two locations directly below the coal waste (gob) piles
2. Monitor stormwater quality at two locations near the point of discharge into the ephemeral drainage
3. Monitor a reference site where stormwater quality would have minimal effects from the gob piles and will be unaffected by proposed future actions

Monitoring Site Locations

After the January 31, 2019 preliminary visit attended by GMEC personnel and AML Program staff, a total of five (5) monitoring sites were selected for water quality testing and analysis (Table 1, Figure 1). Monitoring sites were selected based on accessibility and the ability to meet the objectives of monitoring plan. The five monitoring sites consisted of, one (1) reference site, two (2) coal waste drainage sites (one of these sites, CW2, was previously reclaimed), and two (2) discharge point sites. The name, type, geographic location and images of each monitoring site are listed below in Table 1 and depicted in the Figures section of this report.

Table 1. Madrid Water Quality Monitoring Sites

Site Name	Type	Longitude	Latitude
CW1	Coal Waste	-106.15109	35.40672
CW2	Coal Waste	-106.15179	35.40507
DP1	Discharge Point	-106.15158	35.41113
DP2	Discharge Point	-106.15214	35.40839
RF	Reference	-106.14979	35.40637

Coordinates presented in North American Datum 1983 (NAD83)

Each monitoring site was selected to represent stormwater runoff and its associated water quality. Monitoring site CW1 represents stormwater draining directly from a coal waste gob pile (Figure 1, Appendix A). CW2 represents stormwater post AML Program reclamation activities on a coal waste gob pile (Figure 1, Appendix A). Monitoring sites DP1 and DP2 are representative of cumulative stormwater runoff within the APE before discharging into the unnamed ephemeral stream (Reach Code 13020201000765) (Figure 1, Appendix A). The REF site is located on a hillside near the eastern edge of the Madrid APE and does not receive stormwater drainage from gob piles (Figure 1, Appendix A). The reference site was established to compare stormwater water quality from sites immediately below coal waste piles and cumulative sites affected by the watershed level discharge into the arroyo (CW1, CW2, DP1, and DP2).

Sampling Site Installation and Equipment

Sampling site installation occurred over the course of two (2) days on February 12 and 13, 2019. GMEC and AML Program staff constructed collection basins at each of the selected sites by using available rocks and/or digging small depressions for stormwater to accumulate. Each of the constructed collection basins were lined with plastic sheeting to create an impermeable liner. The plastic liners were anchored to the ground using available rocks found within the immediate vicinity. Each monitoring site was equipped with a Global Water WS705 composite automatic sampler with a Global Water sampler stormwater kit installed. The automatic samplers were set up in flow trigger mode, allowing the sampler to intake water when the sensor detected flow. To prevent sediment build-up at the intake, sampling tubes were installed slightly above the bottom of the collection basin. Water sampling stations were removed on May 15, 2019 and each site was rehabilitated to previous conditions by removing plastic liners, filling collection basins and redistributing rocks used to anchor the plastic liners.

Water Sample Collections

At each site, sampling of stormwater was conducted for a maximum of four (4) precipitation events with enough runoff to initiate overland flow. A total of seventeen (17) water samples were collected for analysis. The number of samples collected and the collection date at each site can be found in Table 2. All water samples were collected by on-call GMEC staff within three (3) hours of a precipitation event to prevent sample degradation. GMEC used containers and preservatives supplied by Hall Environmental Analysis Laboratory to store samples prior to transfer to the laboratory. Samples were stored in a cooler, maintained at a temperature between 2° - 6°C by crushed ice, and hand delivered to the laboratory.

Table 2. Number of Samples and Collection Dates by Site

Site	# of Samples	Sample Dates
CW1	4	02/22/2019 03/04/2019 03/11/2019 03/12/2019
CW2	4	03/04/2019 03/11/2019 03/12/2019 03/21/2019
DP1	3	03/12/2019 03/21/2019 04/23/2019
DP2	4	03/11/2019 03/12/2019 03/21/2019 04/22/2019
REF	2	03/11/2019 03/12/2019

Water Quality Constituents

Monitoring constituents were selected by the AML Program in consultation with the New Mexico Environment Department (NMED) from the list of contaminants referenced in NMAC 20.6.139 and 20.6.4.900. The listed constituents in Table 3 were analyzed by Hall Environmental Analysis Laboratory in Albuquerque, NM, a NMED approved laboratory. The laboratory followed methods and analytical techniques described in New Mexico Administrative Code (NMAC) 20.6.4.14 *Sampling and Analysis.* The following constituents are included for the analysis of water quality.

Table 3. Selected Sampling Constituents

Constituents	
Water Properties	**Test Type**
pH	Meter
Total Hardness	Total
Water Quality	**Test Type**
Conductivity	Meter
Acidity/Alkalinity	Meter
Total Suspended Solids (TSS)	Total
Total Dissolved solids (TDS)	Total
Total Organic Carbon (TOC)	Total
Water Pollutants	**Test Type**
Aluminum (Al)	Total/Dissolved
Arsenic (As)	Dissolved
Boron (B)	Dissolved
Cadmium (Cd)	Dissolved
Chlorine residual	Total
Chromium (Cr)	Dissolved
Chromium (Cr) VI	Dissolved
Cobalt (Co)	Dissolved
Copper (Cu)	Dissolved
Cyanide	Total
Lead (Pb)	Dissolved
Manganese (Mn)	Dissolved

Constituents	
Mercury (Hg)	Total/Dissolved
Molybdenum (Mo)	Total
Nitrite + Nitrate	Dissolved
Selenium (Se)	Total/Dissolved
Vanadium (V)	Dissolved
Nickel (Ni)	Dissolved
Silver (Ag)	Dissolved
Zinc (Zn)	Dissolved

Results

Analytical results of water sampling activities are presented in Appendix B, tables A-F for supplemental information. Tables A-F present the analytical results and water quality measurements for water samples collected at each of the five (5) monitoring sites. Due to a lack of four (4) overland flow events at three (3) of the five (5) monitoring sites, only three (3) samples were collected at site DP1 and only two (2) samples were collected at site REF. Four (4) samples were collected at sites: CW1, CW2, and DP2.

Water samples were submitted to the Hall Environmental Analysis Laboratory for chemical analysis. Samples submitted to the Hall Lab were analyzed in accordance with the applicable Environmental Protection Agency (EPA) analytical methods. Analytical results were compared with EPA maximum contaminant levels (MCLs) for drinking water supplies (U.S. Environmental Protection Agency, 2009) or NMED maximum allowable concentrations (MACs) (NMWQCC, 2018) for human health, domestic water supply and irrigation use standards (Subsections A, B, and C in Section of 20.6.2.3109 NMAC).

Table A summarizes the analytical results for monitoring site **CW1**. Most of the analytes at this site were either at a non-detection (ND) reporting limit or below the established EPA MCLs/NMED MACs standards. The analyte concentrations collected at CW1 that exceeded the EPA MCL/NMED MAC standards are:

- Total dissolved solids (TDS), 760 mg/L in the water sample collected on 3/12/2019 exceeded EPA MCLs standard of 500 mg/L, but was below NMED MACs standard of 1000 mg/L
- Dissolved Aluminum (Al), 44 mg/L in the water sample collected on 3/12/2019 exceeded both EPA MCLs standard of 0.05-0.2 mg/L and NMED MACs standard of 5 mg/L

Table B summarizes the analytical results for monitoring site **CW2**. Results from this site indicated only dissolved Aluminum (Al), **0.07 mg/L** in the water sample collected on 3/12/2019 exceeded EPA MCLs standard of **0.05-0.2 mg/L**, but was below NMED MACs standard. All other analytes were either at ND limit or below the established EPA MCLs/NMED MACs standards.

Table C summarizes the analytical results for monitoring site **DP1**. Most of the analytes were either at non-detection (ND) reporting limit or below the established EPA MCLs/NMED MACs standards. The analyte concentrations collected at DP1 that exceeded the EPA MCLs/NMED MACs standards are:

- Total dissolved solids (TDS), **1100 mg/L** and **1110 mg/L** in the water samples collected on 3/12/2019 and 3/21/2019 respectively, exceeded EPA MCLs standard of **500 mg/L** and NMED MACs standard of **1000 mg/L**

- Dissolved Aluminum (Al), **4.5 mg/L** and **3.9 mg/L** in the water sample collected on 3/12/2019 and 3/21/2019 respectively, exceeded EPA MCLs standard of **0.05-0.2 mg/L**, whereas dissolved Aluminum of **8.6 mg/L** in water sample collected on 4/23/2019 exceeded both EPA MCLs standard of **0.05-0.2 mg/L** and NMED MACs standard of **5 mg/L**

- Dissolved Manganese (Mn), **0.25mg/L and 0.13 mg/L** in water samples collected on 3/12/2019 and 4/23/2019 respectively, exceeded both EPA MCLs standard of **0.05 mg/L** and NMED MACs standard of **0.2 mg/L,** whereas dissolved Manganese (Mn), **0.062 mg/L** in water sample collected on 3/21/2019 exceeded only EPA MCLs standards

- Dissolved Lead (Pb), **0.062 mg/L** in water sample collected on 3/12/2019 exceeded both EPA MCLs and NMED MACs standards of **0.05 mg/L**

Table D summarizes the analytical results for monitoring site **DP2**. Most of the analytes were either at non-detection (ND) reporting limits or below the established EPA MCLs/NMED MACs standards. The analyte concentrations in the water samples collected at DP2 exceeding the EPA MCLs/NMED MACs standards are:

- Total dissolved solids (TDS), **650 mg/L, 960 mg/L**, and **1040 mg/L** in the water samples collected on 3/11/2019, 3/12/2019, and 3/21/2019 respectively, exceeded both EPA MCLs standard of **500 mg/L** and NMED MACs standard of **1000 mg/L**

- Dissolved Aluminum (Al), **17 mg/L** in the water sample collected on 3/12/2019 exceeded both EPA MCLs standard of **0.05-0.2 mg/L** and NMED MACs standard of **5 mg/L,** whereas dissolved Aluminum (Al) **1.6mg/L, 0.78 mg/L**, and **0.31 mg/L** collected on 3/11/2019, 3/21/2019, and 4/22/2019 respectively, exceeded EPA MCLs, but were below NMED MACs standard

- Dissolved Manganese (Mn), **0.13 mg/L and 0.17 mg/L** in water samples collected on 3/11/2019 and 4/12/2019 respectively, exceeded EPA MCLs standard of **0.05 mg/L**, but were below NMED MACs standard of **0.2 mg/L**

Table E summarizes the analytical results for monitoring site **REF**. At this site, all the analytes were either at ND levels or below the established EPA MCLs/NMED MACs standards, except for the following analyte:

- Dissolved Aluminum (AL), **0.064 gm/L** and **0.13 mg/L** collected on 3/11/2019 and 3/21/2019 respectively, exceeded EPA MCLs standard of **0.05-0.2 mg/L**, but were below NMED MACs standards.

Table F summarizes the average values of analytical results for all five (5) monitoring sites. Based on the average values, all the analytes in water samples collected at monitoring sites CW2 and REF were either at ND levels or below the established EPA MCLs and NMED MACs standards. At site CW1, only dissolved Aluminum **11.19 mg/L** exceeded both EPA MCLs and NMED MACs standards. At monitoring sites DP1 and DP2, TDS levels of **986.67 mg/L** and **775 mg/L** respectively**,** and dissolved Manganese (Mn) of **0.15 mg/L** and **0.09 mg/L** respectively exceeded EPA MCLs standards while remaining below NMED MCAs standards.

Summary and Conclusions

Storm water sampling was conducted in Madrid, New Mexico between 2/14/2019 and 5/15/2019 for four (4) different rainfall events in support of Madrid Stormwater and Erosion Safety Project. Water sampling was conducted at five (5) monitoring sites located within the APE. The average analytical results for water samples collected from the monitoring sites indicated:

- Most of the analytes in water samples from all monitoring sites were either at the non-detection (ND) reporting limit or below the established EPA MCLs or NMED MACs standards
- All the analytes in water samples from sites **CW2** and **REF** were either at the non-detection (ND) reporting limit or below the established EPA MCLs or NMED MACs standards
- TDS level was above established MCLs or MACs standards at monitoring sites **DP1** and **DP2**
- Dissolved Manganese was detected above established MCLs, but below MACs standards at monitoring sites **DP1** and **DP2**
- Dissolved Aluminum was above established MCLs or MACs standards at monitoring sites **CW1** and **DP1,** and above MCLs, but below MACs at **DP2**

Given the instability of the coal waste gob piles and the amount of sediment that is actively eroding from these piles it was expected that some pollutants would exceed MCLs or MACs standards. However, only TDS, dissolved aluminum, and dissolved manganese exceeded these standards at specific sites. These specific sites include **DP1** and **DP2**, which represent cumulative water quality within the APE prior to discharge into Waters of the US (WOUS) and **CW1**, located below an unreclaimed gob waste pile. While the exceedance of dissolved aluminum and manganese may be cause for concern, it is evident that previous reclamation efforts conducted by the AML Program have made a positive impact on the water quality of the stormwater collected at site **CW2**. Prior to the collection basin at site CW2 stormwater flows through a series of Zuni bowls from nearby gob piles previously reinforced with wattles and vegetation matting to slow surface runoff and improve infiltration.

References

New Mexico Water Quality Control Commission (NMWQCC) (2018, August). Ground and Surface Water Protection. (Section 20.6.2 of the New Mexico Administrative Code). Retrieved from https://www.env.nm.gov/gwqb/gw-regulations/

U.S. Environmental Protection Agency, Office of Enforcement and Compliance Assurance. (2009, May). National Primary Drinking Water Regulations. (EPA 816-F-09-004). Retrieved from https://www.epa.gov/sites/production/files/2016-06/documents/npwdr_complete_table.pdf

FIGURES

Figure 1. Madrid, NM Water Sampling Field Locations Map 2019

DP1

14N 7E

DP2

CW1

REF

CW2

0 250 500 1,000 Feet

GROUSE MOUNTAIN
ENVIRONMENTAL CONSULTANTS

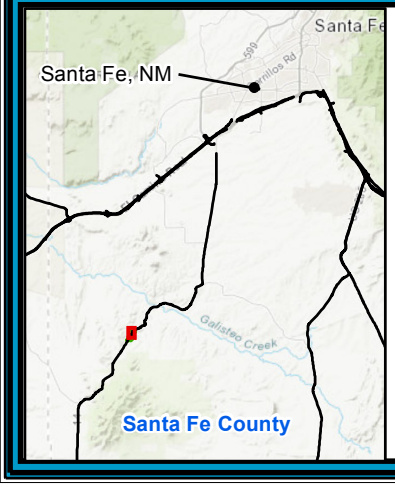

Figure 1. Madrid, New Mexico Water Sampling Field Locations Map 2019

Sample Type

- Coal Waste
- Discharge
- Reference
- Ephemeral streams
- Madrid APE

Land Ownership

- Brian Bodel
- Cathasha Cabrielle
- Santa Fe County
- Clifford and Edith Kitzrow
- You and Me LLC

- Madrid Gob Piles
- Water Conveyance Routes
- Madrid Water System
- Collection Basin
- Stormwater Channels

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

Scale: 1:3,000
Date: 5/29/2019
Created by: lmurray
File Name: NMAML005_FinalWQ sitesMadrid_Map

N W E S

APPENDICES

Appendix A. Monitoring Site Location Photographs

Water Quality Monitoring Site **CW1**, located below an unreclaimed gob waste pile

Water Quality Monitoring Site **CW2**, located below reclaimed gob pile

Water Quality Monitoring Site **DP1**, first discharge point representing cumulative storm runoff within APE before discharging into the unnamed ephemeral stream

Water Quality Monitoring Site **DP2**, second discharge point representing cumulative stormwater runoff within APE before discharging into the unnamed ephemeral stream

Water Quality Monitoring Site **REF** located on a hillside near the eastern edge of the Madrid APE

Appendix B. Analytical Results for Water Samples

Table A. Analytical Results for Water Samples Collected at CW1

Method	Constituents	EPA MCLs/ NMED MACs	Units	Results				
				Sample Collection Dates				
Water Properties				**2/22/2019**	**3/4/2019**	**3/11/2019**	**3/12/2019**	**Average**
SM4500-H+B / 9040C	pH	6-9	s.u.	7.11	7.48	7.94	8.24	7.69
SM2510B	Specific Conductance	--	µmhos/c	120	67	120	90	99.25
SM2340B	Hardness (as CaCO3)	--	mg/L	50	31	83	480	161.00
SM2540C MOD	Total Dissolved Solids (TDS)	500/1000	mg/L	98	66	208	**760**	283.00
SM 2540D	Total Suspended Solids (TSS)	--	mg/L	9	26	160	940	283.75
SM 5310B	Total Organic Carbon (TOC)	--	mg/L	--	3.4	14	3.8	7.07
Alkalinity								
SM2320B	Bicarbonate (as CaCO3)	--	mg/L	36.92	23.92	48.72	181	72.64
SM2320B	Carbonate (as CaCO3)	--	mg/L	ND	ND	ND	ND	ND
SM2320B	Total Alkalinity (as CaCO3)	--	mg/L	36.92	23.92	48.72	181	72.64
Anions								
EPA METHOD 300.0	Nitrogen, Nitrite (as N)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 300.0	Nitrogen, Nitrate (as N)	10	mg/L	2.1	ND	1.2	ND	1.65
Chlorine								
HACH 8167	Total Chlorine	--	mg/L	ND	ND	ND	ND	ND
Metals, Dissolved								
EPA METHOD 200.7	Aluminum (Al)	0.05-0.2/5	mg/L	**0.1**	**0.3**	**0.37**	**44**	**11.19**
EPA 200.8	Arsenic (As)	0.01/0.1	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Boron (B)	0.75	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Cadmium (Cd)	0.05/0.01	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Chromium (Cr)	0.1/0.05	mg/L	ND	ND	ND	ND	ND
SM 3500 Cr C-2011	Chromium (Cr) VI	--	mg/L	--	ND	ND	ND	ND
EPA METHOD 200.7	Cobalt (Co)	0.05	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Copper (Cu)	1	mg/L	0.0027	0.0024	0.0062	0.011	0.006
EPA 200.8	Lead (Pb)	0.05	mg/L	ND	ND	0.00056	0.0084	0.0045
EPA METHOD 200.7	Manganese (Mn)	0.05/0.20	mg/L	0.013	0.0059	0.017	0.053	0.022
EPA METHOD 245.1	Mercury (Hg)	--	mg/L	ND	0.0002	ND	0.0002	0.0002
EPA 200.8	Selenium (Se)	0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Vanadium (V)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.8	Nickel (Ni)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.9	Silver (Ag)	0.1/0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.10	Zinc (Zn)	5/10	mg/L	0.034	0.033	0.041	ND	0.036
Metals, Total								
EPA METHOD 200.7	Aluminum (Al)	--	mg/L	0.86	3.6	6.5	52	15.74
EPA METHOD 335.4	Cyanide (CN)	0.2	mg/L	--	ND	ND	ND	ND
EPA METHOD 245.1	Mercury (Hg)	0.002	mg/L	ND	0.0002	ND	ND	0.0002
EPA METHOD 200.7	Molybdenum (Mo)	--	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Selenium (Se)	--	mg/L	--	0.001	0.001	0.006	0.00266667

Notes:
EPA MCL/NMED MAC= US EPA Maximum Contaminant Level or NMED Maximum Allowable Concentration
Bold=Concentration exceeds EPA (MCL) or NMED MAC
ND= Concentration below detection reporting limit
Average calculation included concentration at or above detection reporting limit

Table B. Analytical Results for Water Samples Collected at CW2

Method	Constituents	EPA MCLs/ NMED MACs	Units	Results				
				Sample Collection Dates				
Water Properties				**3/4/2019**	**3/11/2019**	**3/12/2019**	**3/21/2019**	**Average**
SM4500-H+B / 9040C	pH	6-9	s.u.	7.47	7.23	7.64	7.08	7.4
SM2510B	Specific Conductance	--	µmhos/c	73	80	57	50	65.0
SM2340B	Hardness (as CaCO3)	--	mg/L	31	34	34	22	30.3
SM2540C MOD	Total Dissolved Solids (TDS)	500/1000	mg/L	86	54	74	30	61.0
SM 2540D	Total Suspended Solids (TSS)	--	mg/L	ND	14	90	18	40.7
SM 5310B	Total Organic Carbon (TOC)	--	mg/L	3.1	6.2	2.9	4.1	4.1
Alkalinity								
SM2320B	Bicarbonate (as CaCO3)	--	mg/L	23.84	25.16	ND	ND	24.5
SM2320B	Carbonate (as CaCO3)	--	mg/L	ND	ND	ND	ND	ND
SM2320B	Total Alkalinity (as CaCO3)	--	mg/L	23.84	25.16	ND	ND	24.5
Anions								
EPA METHOD 300.0	Nitrogen, Nitrite (as N)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 300.0	Nitrogen, Nitrate (as N)	10	mg/L	ND	0.64	ND	0.44	0.5
Chlorine								
HACH 8167	Total Chlorine	--	mg/L	ND	ND	ND	ND	ND
Metals, Dissolved								
EPA METHOD 200.7	Aluminum (Al)	0.05-0.2/5	mg/L	0.0017	0.023	**0.07**	ND	0.032
EPA 200.8	Arsenic (As)	0.01/0.1	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Boron (B)	0.75	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Cadmium (Cd)	0.05/0.01	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Chromium (Cr)	0.1/0.05	mg/L	ND	ND	ND	ND	ND
SM 3500 Cr C-2011	Chromium (Cr) VI	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Cobalt (Co)	0.05	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Copper (Cu)	1	mg/L	0.017	0.018	0.12	0.012	0.042
EPA 200.8	Lead (Pb)	0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Manganese (Mn)	0.05/0.20	mg/L	ND	0.0089	0.011	0.0072	0.009
EPA METHOD 245.1	Mercury (Hg)	--	mg/L	0.00021	ND	ND	ND	0.00021
EPA 200.8	Selenium (Se)	0.05	mg/L	0.0017	0.0028	0.012	0.0011	0.004
EPA METHOD 200.7	Vanadium (V)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.8	Nickel (Ni)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.9	Silver (Ag)	0.1/0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.10	Zinc (Zn)	5/10	mg/L	0.023	0.031	0.018	0.025	0.024
Metals, Total								
EPA METHOD 200.7	Aluminum (Al)	--	mg/L	0.36	1.4	3	0.64	1.350
EPA METHOD 335.4	Cyanide (CN)	0.2	mg/L	ND	ND	ND	ND	ND
EPA METHOD 245.1	Mercury (Hg)	0.002	mg/L	0.00021	ND	ND	ND	0.00021
EPA METHOD 200.7	Molybdenum (Mo)	--	mg/L	0.015	0.026	0.015	0.012	0.0170
EPA 200.8	Selenium (Se)	--	mg/L	0.0018	0.0026	0.0014	0.0019	0.0019

Notes:

EPA MCL/NMED MAC= US EPA Maximum Contaminant Level or NMED Maximum Allowable Concentration

Bold= Concentration exceeds EPA (MCL) or NMED MAC

ND= Concentration below detection reporting limit

Average calculation included concentration at or above detection reporting limit

* Groundwater Quality standard

Table C. Analytical Results for Water Samples Collected at DP1

Method	Constituents	EPA MCLs/ NMED MACs	Units	Results			
				Sample Collection Dates			
Water Properties				**3/12/2019**	**3/21/2019**	**4/23/2019**	**Average**
SM4500-H+B / 9040C	pH	6-9	s.u.	7.76	7.82	7.8	7.79
SM2510B	Specific Conductance	--	µmhos/c	350	670	540	520.00
SM2340B	Hardness (as CaCO3)	--	mg/L	494	430	260	394.67
SM2540C MOD	Total Dissolved Solids (TDS)	500/1000	mg/L	**1100**	**1110**	**750**	**986.67**
SM 2540D	Total Suspended Solids (TSS)	--	mg/L	2900	4100	580	2526.67
SM 5310B	Total Organic Carbon (TOC)	--	mg/L	12	11	20	14.33
Alkalinity							
SM2320B	Bicarbonate (as CaCO3)	--	mg/L	69.32	52.4	103	74.91
SM2320B	Carbonate (as CaCO3)	--	mg/L	ND	ND	ND	ND
SM2320B	Total Alkalinity (as CaCO3)	--	mg/L	69.32	52.4	103	74.91
Anions							
EPA METHOD 300.0	Nitrogen, Nitrite (as N)	--	mg/L	ND	ND	ND	ND
EPA METHOD 300.0	Nitrogen, Nitrate (as N)	10	mg/L	1.7	2.3	2.2	2.07
Chlorine							
HACH 8167	Total Chlorine	--	mg/L	ND	ND	ND	ND
Metals, Dissolved							
EPA METHOD 200.7	Aluminum (Al)	0.05-0.2/5	mg/L	**4.5**	**3.9**	**8.6**	**5.67**
EPA 200.8	Arsenic (As)	0.01/0.1	mg/L	ND	0.002	0.0034	0.0027
EPA METHOD 200.7	Boron (B)	0.75	mg/L	0.076	0.062	ND	0.07
EPA METHOD 200.7	Cadmium (Cd)	0.05/0.01	mg/L	ND	ND	ND	ND
EPA METHOD 200.7	Chromium (Cr)	0.1/0.05	mg/L	ND	ND	ND	ND
SM 3500 Cr C-2011	Chromium (Cr) VI	--	mg/L	0.000996	0.000867	--	0.0009
EPA METHOD 200.7	Cobalt (Co)	0.05	mg/L	ND	ND	ND	ND
EPA 200.8	Copper (Cu)	1	mg/L	0.058	0.013	0.025	0.03
EPA 200.8	Lead (Pb)	0.05	mg/L	**0.062**	0.0085	0.018	0.03
EPA METHOD 200.7	Manganese (Mn)	0.05/0.20	mg/L	**0.25**	**0.062**	**0.13**	**0.15**
EPA METHOD 245.1	Mercury (Hg)	--	mg/L	ND	ND	ND	ND
EPA 200.8	Selenium (Se)	0.05	mg/L	ND	ND	ND	ND
EPA METHOD 200.7	Vanadium (V)	--	mg/L	ND	ND	ND	ND
EPA METHOD 200.8	Nickel (Ni)	--	mg/L	ND	ND	ND	ND
EPA METHOD 200.9	Silver (Ag)	0.1/0.05	mg/L	ND	ND	ND	ND
EPA METHOD 200.10	Zinc (Zn)	5/10	mg/L	0.17	0.04	0.067	0.09
Metals, Total							
EPA METHOD 200.7	Aluminum (Al)	--	mg/L	83	110	32	75.00
EPA METHOD 335.4	Cyanide (CN)	0.2	mg/L	ND	ND	--	ND
EPA METHOD 245.1	Mercury (Hg)	0.002	mg/L	ND	ND	ND	ND
EPA METHOD 200.7	Molybdenum (Mo)	--	mg/L	ND	ND	ND	ND
EPA 200.8	Selenium (Se)	--	mg/L	0.0084	0.0089	0.003	0.01

Notes:

EPA MCL/NMED MAC= US EPA Maximum Contaminant Level or NMED Maximum Allowable Concentration

Bold= Concentration exceeds EPA (MCL) or NMED MAC

ND= Concentration below detection reporting limit

Average calculation included concentration at or above detection reporting limit

Table D. Analytical Results for Water Samples Collected at DP2

Method	Constituents	EPA MCLs/ NMED MACs	Units	Results				
				Sample Collection Dates				
Water Properties				**3/11/2019**	**3/12/2019**	**3/21/2019**	**4/22/2019**	**Average**
SM4500-H+B / 9040C	pH	6-9	s.u.	7.61	7.85	7.84	7.44	7.7
SM2510B	Specific Conductance	--	µmhos/c	1300	610	720	530	790.0
SM2340B	Hardness (as CaCO3)	--	mg/L	240	440	240	73	248.3
SM2540C MOD	Total Dissolved Solids (TDS)	500/1000	mg/L	**650**	**960**	**1040**	450	**775.0**
SM 2540D	Total Suspended Solids (TSS)	--	mg/L	300	2000	1000	120	855.0
SM 5310B	Total Organic Carbon (TOC)	--	mg/L	32	13	13	27	21.3
Alkalinity								
SM2320B	Bicarbonate (as CaCO3)	--	mg/L	84.52	89.36	57.44	80.64	78.0
SM2320B	Carbonate (as CaCO3)	--	mg/L	ND	ND	ND	ND	ND
SM2320B	Total Alkalinity (as CaCO3)	--	mg/L	84.52	89.36	57.44	80.64	78.0
Anions								
EPA METHOD 300.0	Nitrogen, Nitrite (as N)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 300.0	Nitrogen, Nitrate (as N)	10	mg/L	3.9	1.7	2.8	2.2	2.7
Chlorine								
HACH 8167	Total Chlorine	--	mg/L	ND	ND	ND	ND	ND
Metals, Dissolved								
EPA METHOD 200.7	Aluminum (Al)	0.05-0.2/5	mg/L	**1.6**	**17**	**0.78**	**0.31**	**4.923**
EPA 200.8	Arsenic (As)	0.01/0.1	mg/L	ND	ND	0.0018	0.002	0.002
EPA METHOD 200.7	Boron (B)	0.75	mg/L	0.12	ND	0.069	0.079	0.089
EPA METHOD 200.7	Cadmium (Cd)	0.05/0.01	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Chromium (Cr)	0.1/0.05	mg/L	0.013	ND	ND	ND	0.013
SM 3500 Cr C-2011	Chromium (Cr) VI	--	mg/L	0.0108	0.00309	0.00157	0.00138	0.004
EPA METHOD 200.7	Cobalt (Co)	0.05	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Copper (Cu)	1	mg/L	0.04	0.04	0.02	0.014	0.029
EPA 200.8	Lead (Pb)	0.05	mg/L	0.019	0.023	0.0046	0.0021	0.012
EPA METHOD 200.7	Manganese (Mn)	0.05/0.20	mg/L	**0.13**	**0.17**	0.041	0.031	**0.093**
EPA METHOD 245.1	Mercury (Hg)	--	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Selenium (Se)	0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Vanadium (V)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.8	Nickel (Ni)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.9	Silver (Ag)	0.1/0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.10	Zinc (Zn)	5/10	mg/L	0.072	0.12	0.029	0.033	0.064
Metals, Total								
EPA METHOD 200.7	Aluminum (Al)	--	mg/L	25	66	30	6.1	31.775
EPA METHOD 335.4	Cyanide (CN)	0.2	mg/L	ND	ND	ND	ND	ND
EPA METHOD 245.1	Mercury (Hg)	0.002	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Molybdenum (Mo)	--	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Selenium (Se)	--	mg/L	0.0012	0.007	0.0059	ND	0.005

Notes:

EPA MCL/NMED MAC= US EPA Maximum Contaminant Level or NMED Maximum Allowable Concentration

Bold= Concentration exceeds EPA (MCL) or NMED MAC

ND= Concentration below detection reporting limit

Average calculation included concentration at or above detection reporting limit

Table E. Analytical Results for Water Samples Collected at REF

Method	Constituents	EPA MCLs/ NMED MACs	Units	Results		
				Sample Collection Dates		
Water Properties				**3/11/2019**	**3/12/2019**	**Average**
SM4500-H+B / 9040C	pH	6-9	s.u.	7.31	7.62	7.465
SM2510B	Specific Conductance	--	µmhos/c	65	79	72
SM2340B	Hardness (as CaCO3)	--	mg/L	27	47	37
SM2540C MOD	Total Dissolved Solids (TDS)	500/1000	mg/L	56	124	90
SM 2540D	Total Suspended Solids (TSS)	--	mg/L	36	110	73
SM 5310B	Total Organic Carbon (TOC)	--	mg/L	8.3	4.5	6.4
Alkalinity						
SM2320B	Bicarbonate (as CaCO3)	--	mg/L	20.6	28.2	24.4
SM2320B	Carbonate (as CaCO3)	--	mg/L	ND	ND	ND
SM2320B	Total Alkalinity (as CaCO3)	--	mg/L	20.6	28.2	24.4
Anions						
EPA METHOD 300.0	Nitrogen, Nitrite (as N)	--	mg/L	ND	ND	ND
EPA METHOD 300.0	Nitrogen, Nitrate (as N)	10	mg/L	0.85	1.1	0.975
Chlorine						
HACH 8167	Total Chlorine	--	mg/L	ND	ND	
Metals, Dissolved						
EPA METHOD 200.7	Aluminum (Al)	0.05-0.2/5	mg/L	**0.064**	**0.13**	**0.097**
EPA 200.8	Arsenic (As)	0.01/0.1	mg/L	ND	ND	ND
EPA METHOD 200.7	Boron (B)	0.75	mg/L	ND	ND	ND
EPA METHOD 200.7	Cadmium (Cd)	0.05/0.01	mg/L	ND	ND	ND
EPA METHOD 200.7	Chromium (Cr)	0.1/0.05	mg/L	ND	ND	ND
SM 3500 Cr C-2011	Chromium (Cr) VI	--	mg/L	ND	ND	ND
EPA METHOD 200.7	Cobalt (Co)	0.05	mg/L	ND	ND	ND
EPA 200.8	Copper (Cu)	1	mg/L	0.0035	0.002	0.00275
EPA 200.8	Lead (Pb)	0.05	mg/L	ND	ND	ND
EPA METHOD 200.7	Manganese (Mn)	0.05/0.20	mg/L	0.016	0.017	0.0165
EPA METHOD 245.1	Mercury (Hg)	--	mg/L	ND	ND	ND
EPA 200.8	Selenium (Se)	0.05	mg/L	ND	ND	ND
EPA METHOD 200.7	Vanadium (V)	--	mg/L	ND	ND	ND
EPA METHOD 200.8	Nickel (Ni)	--	mg/L	ND	ND	ND
EPA METHOD 200.9	Silver (Ag)	0.1/0.05	mg/L	ND	ND	ND
EPA METHOD 200.10	Zinc (Zn)	5/10	mg/L	0.04	0.021	0.0305
Metals, Total						
EPA METHOD 200.7	Aluminum (Al)	--	mg/L	2	6.9	4.45
EPA METHOD 335.4	Cyanide (CN)	0.2	mg/L	ND	ND	ND
EPA METHOD 245.1	Mercury (Hg)	0.002	mg/L	ND	ND	ND
EPA METHOD 200.7	Molybdenum (Mb)	--	mg/L	ND	ND	ND
EPA 200.8	Selenium (Se)	--	mg/L	ND	ND	ND

Notes:

EPA MCL/NMED MAC= US EPA Maximum Contaminant Level or NMED Maximum Allowable Concentration

Bold= Concentration exceeds EPA (MCL) or NMED MAC

ND= Concentration below detection reporting limit

Average calculation included concentration at or above detection reporting limit

Table F. Summary of Analytical Results for Water Samples Collected at Various Water Quality Monitoring Sites

Method	Constituents	EPA MCLs/ NMED MACs	Units	Sites				
Water Properties				**CW1**	**CW2**	**DP1**	**DP2**	**REF**
SM4500-H+B / 9040C	pH	6-9	s.u.	7.69	7.36	7.79	7.69	7.47
SM2510B	Specific Conductance	--	µmhos/c	99.25	65.00	520.00	790.00	72.00
SM2340B	Hardness (as CaCO3)	--	mg/L	161.00	30.25	394.67	248.25	37.00
SM2540C MOD	Total Dissolved Solids (TDS)	500/1000	mg/L	283.00	61.00	**986.67**	**775.00**	90.00
SM 2540D	Total Suspended Solids (TSS)	--	mg/L	283.75	40.67	2526.67	855.00	73.00
SM 5310B	Total Organic Carbon (TOC)	--	mg/L	7.07	4.08	14.33	21.25	6.40
Alkalinity								
SM2320B	Bicarbonate (as CaCO3)	--	mg/L	72.64	24.50	74.91	77.99	24.40
SM2320B	Carbonate (as CaCO3)	--	mg/L	ND	ND	ND	ND	ND
SM2320B	Total Alkalinity (as CaCO3)	--	mg/L	72.64	24.50	74.91	77.99	24.40
Anions								
EPA METHOD 300.0	Nitrogen, Nitrite (as N)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 300.0	Nitrogen, Nitrate (as N)	10	mg/L	1.65	0.54	2.07	2.65	0.98
Chlorine								
HACH 8167	Total Chlorine	--	mg/L	ND	ND	ND	ND	ND
Metals, Dissolved								
EPA METHOD 200.7	Aluminum (Al)	0.05-0.2/5	mg/L	**11.19**	0.032	**5.67**	**4.92**	0.10
EPA 200.8	Arsenic (As)	0.01/0.1	mg/L	ND	ND	0.003	0.002	ND
EPA METHOD 200.7	Boron (B)	0.75	mg/L	ND	ND	0.07	0.09	ND
EPA METHOD 200.7	Cadmium (Cd)	0.05/0.01	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.7	Chromium (Cr)	0.1/0.05	mg/L	ND	ND	ND	0.013	ND
SM 3500 Cr C-2011	Chromium (Cr) VI	--	mg/L	ND	ND	0.001	0.004	ND
EPA METHOD 200.7	Cobalt (Co)	0.05	mg/L	ND	ND	ND	ND	ND
EPA 200.8	Copper (Cu)	1	mg/L	0.006	0.042	0.032	0.029	0.003
EPA 200.8	Lead (Pb)	0.05	mg/L	0.004	ND	0.030	0.012	ND
EPA METHOD 200.7	Manganese (Mn)	0.05/0.20	mg/L	0.02	0.00903	**0.15**	**0.09**	0.02
EPA METHOD 245.1	Mercury (Hg)	--	mg/L	0.00	0.00021	ND	ND	ND
EPA 200.8	Selenium (Se)	0.05	mg/L	ND	0.004	ND	ND	ND
EPA METHOD 200.7	Vanadium (V)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.8	Nickel (Ni)	--	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.9	Silver (Ag)	0.1/0.05	mg/L	ND	ND	ND	ND	ND
EPA METHOD 200.10	Zinc (Zn)	5/10	mg/L	0.04	0.024	0.09	0.06	0.03
Metals, Total								
EPA METHOD 200.7	Aluminum (Al)	--	mg/L	15.74	1.35	75.00	31.78	4.45
EPA METHOD 335.4	Cyanide (CN)	0.2	mg/L	ND	ND	ND	ND	ND
EPA METHOD 245.1	Mercury (Hg)	0.002	mg/L	0.0002	0.0002	ND	ND	ND
EPA METHOD 200.7	Molybdenum (Mb)	--	mg/L	ND	0.02	ND	ND	ND
EPA 200.8	Selenium (Se)	--	mg/L	0.003	0.002	0.007	0.005	ND

Notes:

EPA MCL/NMED MAC= US EPA Maximum Contaminant Level or NMED Maximum Allowable Concentration

Bold= Concentration exceeds EPA (MCL) or NMED MAC

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Average calculation included concentration at or above detection reporting limit

APPENDIX D.

Public Involvement Compendium

PUBLIC INVOLVEMENT COMPENDIUM

MADRID STORMWATER AND EROSION CONTROL PROJECT

Prepared for

ABANDONED MINE LAND PROGRAM

Mining and Minerals Division

New Mexico Energy, Minerals, and Natural Resources Department

8801 Horizon Blvd. NE, Suite 260

Albuquerque, New Mexico 87113

Prepared by

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS, LLC

3600 Cerrillos Road, Suite 407

Santa Fe, New Mexico 87507

July 2022

This Public Meeting Compendium provides a summary of the public outreach processes utilized for the proposed Madrid Road Improvement, Stormwater, Erosion Control, and Fire Suppression Project. The New Mexico Energy, Minerals, and Natural Resources Department Abandoned Mine Land Program (AML), in partnership with the U.S. Department of Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE) and the Bureau of Land Management (BLM), is proposing to establish stormwater conveyances, fire prevention improvements, and erosion control measures within the village of Madrid, New Mexico located approximately 22 miles southwest of Santa Fe, New Mexico along state highway 14 . The project is proposed on 117 acres comprised of:

- 84.18 acres of privately owned land
- 20.65 acres of Santa Fe County owned land
- 6.84 acres of New Mexico Department of Transportation (NMDOT) owned land
- 2.37 acres of Madrid Landowners Association owned land

The project has been designed to protect the public from hazards associated with road insufficiencies, erosion around existing gob piles, flooding in and around Madrid, and improve the fire suppression capabilities while preserving the historical integrity of the village and maintaining its tourism-reliant economy.

In developing the proposed action, AML desired to address mining issues using a more holistic approach and hired a planning team to conduct a community-based planning effort. Objectives of the planning team for community outreach included:

1. Determine the range of stakeholders in developing a community based plan.
2. Meet and begin forming relationships with many of the stakeholders.
3. Understand the community's social and historical context, and the key issues to deal with in the plan.
4. Work jointly with Madrid community members and stakeholders to design an effective planning process.

These objectives were kept in mind and work towards throughout the community outreach process, which included informal interviews with individuals, presentations to civic groups, community meetings, posting projects updates and information on a community story board and website, and consulting members of a community advisory board.

A public meeting was held on December 13, 2017, at the Madrid Fire Station, 5 Firehouse Lane, Madrid, New Mexico. The purpose of the public meeting was to provide an overview of the project and to accept comments and answer questions from the public. Public meeting notices were published in the *Santa Fe New Mexican* on November 29, and December 12, 2017. Public notices were also published in the *Mountain View Telegraph* on November 30, and December 7, 2017. The meeting notice was also mailed to 120 local addresses on November 27, 2017. Seventeen (17) community members and several AML Program representatives attended the public meeting. Due to the number of claimants and public response to the first public meeting, a second public meeting was held on June 20, 2018, at the Madrid Fire Station. Notice was published in the *Mountain View Telegraph* and the *Santa Fe New Mexican* on May 31, and June 14, 2018. Notices were also mailed to 137 addresses. Ten (10) community members attended the public meeting, as well as AML Program representatives.

A final public meeting was held on September 24, 2018, at the Mine Shaft Indoor Theater in Madrid. Public notice was published in the *Santa Fe New Mexican* on September 17, 2018. A notice was also mailed to 161 addresses. Seventeen (17) people attended the meeting, as well as AML Program representatives.

ATTACHMENTS

ATTACHMENT A
Schedule of Planning Process Activities

ATTACHMENT B
Project Area Designs

ATTACHMENT C
Meeting and Workshop Summaries

ATTACHMENT D
Community Comments

ATTACHMENT E
Memos

ATTACHMENT F
January Meeting Summary

ATTACHMENT G
August Meeting Summary

ATTACHMENT A

Schedule of Planning Process Activities

Strategy	*February Task 3 Authorization*	*March Communications Set-up*	*April Community Meetings*	*May Draft Plan*	*June Final Plan*
Community Meetings					
Indiviual Interviews					
Civic Group Reports					
Community Advisory Board					
Community Story Board					
Project Website					

Figure 1.16 Schedule of Planning Activities

ATTACHMENT B

Project Area Designs

MADRID STORMWATER AND EROSION CONTROL PROJECT

60% Design Narrative

August 2021 Draft

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Madrid Stormwater and Erosion Control Project is an Abandoned Mine Land (AML) program that addresses stormwater and erosion associated with the legacy of coal mining in Madrid. This design effort emerged from the Mining Landscape Community based plan where the following two project areas were identified as priorities.

- The East Slope Catchment Area
- Madrid Arroyo Restoration Area.

Over the course of eight years the AML program has progressively addressed Madrid's stormwater and erosion conditions by responding to emergencies involving the most impacted landowners. The Madrid Stormwater and Erosion Control Project represents a private-landowner based design and public outreach effort designed to holistically improve the perennial stormwater and sedimentation issues that impact residents and businesses. The East slope catchment project evolved into two design projects - the Ice House Road area and Firehouse Lane area which address the uncontrolled stormwater runoff and erosion of gob (coal waste) piles from the disturbed east slope that has periodically led to substantial sediment being transported onto residents' property, homes and basements.

Where space allows, the goals of the east slope restoration design effort are to naturalize the channel, restore stormwater flow to the historic valley section, improve flood water conveyance, and protect nearby properties from stormwater damage. Stormwater conveyance structures are designed with sediment collection features.

Additional considerations for Madrid Arroyo include the improvement of the Cave Road vehicle crossing (which has been subject to stormwater damage) to meet Santa Fe County road standards and provide landscape and trail improvements.

The project includes evaluation of improvements to the storage and conveyance capacity of the Madrid fire suppression system. A new system will replace an old leaking concrete tank and an undersized gravity pipeline that crosses the arroyo with a new storage tank and transmission pipeline.

1.2 PROJECT GOALS

Project Goals Include:

- Address the legacy of coal mining in Madrid that has resulted in uncontrolled stormwater runoff and excessive erosion/deposition of sediment on private property.
- Satisfy community and National Environmental Policy Act (NEPA) requirements.

1.3 Conceptual Designs

Conceptual design alternatives for each project area were developed prior to preparation of the 60% design for the Ice House Road/ Madrid Arroyo area, the Firehouse Lane area, and the fire suppression project. Alternative concepts for each of these areas were developed to address the project goals. These concepts were grouped together into two alternatives for both the Ice House/ Madrid Arroyo Road and Firehouse Lane areas. Alternative 1 (Ice House Road and Firehouse Land) represents a more hardened infrastructure approach that includes paved roads and pipeline storm water conveyances. Alternative 2 for both areas represent softer infrastructure characteristic of Madrid such gravel roads and open channel storm water conveyances.

Evaluation by AML and members of Madrid agreed to eliminate most of the features of Alternative 1 ("hardened" infrastructure) except for Madrid Arroyo. Therefore, the Alternative 2 features for Ice House Road and Firehouse Lane area have been advanced for the 60% design. Two of the Alternative 1 Madrid Arroyo/ Cave Road crossing options were included in the 60% design. Note that the fire suppression tank design will be prepared by others.

2. ALTERNATIVES ANALYSIS

The conceptual design alternatives that were developed for each project area were analyzed prior to preparation of the 60% design for the Ice House Road/ Arroyo area, Firehouse Lane, and fire suppression tank project. The following paragraphs summarize the rationale for selection of the preferred alternative that has been advanced.

2.1 ICE HOUSE ROAD AREA

Alternative 1

The stormwater and erosion control features proposed for Alternative 1 are characterized by paved standard and inverted crown road improvements, storm-drain pipes, large detention pond, rock-lined storm water diversions, and Madrid Arroyo improvements that include a primary outlet (Option 1) and overflow weir (Option 2) comprised of four concrete box culverts.

The Alternative 1 improvements will generally provide the highest level of service since maintenance of paved roads and storm drains is expected to occur infrequently.

Alternative 2

The stormwater and erosion control features proposed for Alternative 2 are characterized by improved gravel roads, open channel storm drains, rock-lined storm water diversions, and sediment basins. In the conceptual designs, a diversion channel along Cave Road was the only improvement proposed for Madrid Arroyo.

The Alternative 2 improvements generally provide a medium level of service and will require periodic maintenance to repair gravel roads and channels, especially after large storms.

Alternative 3 – No Action

A no action alternative is presented for consideration whereby none of the improvements proposed for stormwater and erosion control would be implemented. Alternative 3 would provide the lowest level of service whereby flooding and erosion issues would continue to impact properties.

Preferred Alternative

Following review by AML with input from members of the Madrid community, Alternative 2 is the preferred alternative. This conclusion is based upon elimination of the following Alternative 1 concepts from further consideration leaving only Alternative 2 concepts to move forward to the 60% design:

- The paved inverted crown road improvements for Ice House Road, Bridge, and Cave Roads.
- Subsurface storm-drain pipes.

Note: Although the Alternative 2 improvements are the preferred alternative, the improvements to Madrid Arroyo proposed in Alternative 1 were not eliminated from consideration and have been advanced to the 60% design (see Section 5).

2.2 FIREHOUSE LANE AREA

Alternative 1

The stormwater and erosion control features proposed for Alternative 1 are characterized by paved standard and inverted crown road improvements, storm-drain pipes, large detention pond, and rock-lined storm water diversions.

The Alternative 1 improvements will generally provide the highest level of service since maintenance of paved roads and storm drains is expected to occur infrequently.

Alternative 2

The stormwater and erosion control features proposed for Alternative 2 are characterized by improved gravel roads, open channel storm drains, rock-lined storm water diversions, and sediment basins.

The Alternative 2 improvements generally provide a medium level of service and will require periodic maintenance to repair gravel roads and channels, especially after large storms.

Alternative 3 – No Action

A no action alternative is presented for consideration whereby none of the improvements proposed for stormwater and erosion control would be implemented. Alternative 3 would provide the lowest level of service whereby flooding and erosion issues would continue to impact properties.

Preferred Alternative

Following review by AML with input from members of the Madrid community, Alternative 2 is the preferred alternative. This conclusion is based upon elimination of the following Alternative 1 concepts from further consideration leaving only Alternative 2 concepts to move forward to the 60% design:

- The paved inverted crown road improvements for Firehouse Lane.
- Subsurface storm-drain pipes.
- The upper and lower diversion ditches and the detention pond in the Firehouse Lane area.

2.3 FIRE SUPPRESSION SYSTEM

The following alternatives address improvements to the operation of the fire suppression system including water storage and conveyance. Although rehabilitation of the existing concrete water storage tank was considered, it has been eliminated from consideration primarily due to its age, Madrid arroyo bank erosion, and requirements for operation.

Alternative 1 – Southern Crossing

Alternative 1 is characterized by installation of a new 125,000-gallon tank with a transmission pipeline that crosses NM-14 and the Madrid Arroyo south of Madrid and across from the existing potable water tank. The waterline crossing would be placed in a casing installed by horizontal directional drilling under the highway and Madrid Arroyo then routed to a connection to the existing fire suppression pipeline near the fire house. The new pipeline would be placed mostly in Madrid Water and NMDOT land except for one private property crossing. Underground utility interferences are expected to be minimal.

Alternative 2 –Northern Crossing

Alternative 2 is characterized by installation of a new 125,000-gallon tank with a transmission pipeline that is routed on the west side of NM-14 and crosses under highway at the bend. The waterline crossing would be placed in a casing installed by horizontal directional drilling under the highway and routed to a connection to the existing fire suppression pipeline near the Madrid fire house. The new pipeline would be placed entirely in the NM-14 right-of way. Several underground utility interferences are expected.

Preferred Alternative

Alternative 1 that features crossing NM-14 south of Madrid is the preferred alternative for the following reasons:

- Less disruption to Madrid residents and visitors since the construction will occur south of town.
- Less potential for underground utility interference.

3. ICE HOUSE ROAD AREA PREFERED ALTERNATIVE

3.1 BETHLEHEM HILL TREATMENT

Construct earthen rolling dips, cobble rock rundowns and cobble swales.

- Design Strategies – Grade earthen drive to direct stormwater off driveway into cobble swales.
- Design Challenges - Possible rock outcrop Relative Value and Level of Service

  -Comparison to concrete crossings or piped water crossings; rolling dips are efficient though do not last as long. Capital costs for rolling dips are negligible compared to piped crossings and provide a lower level of service because water will flow across the dip during storms. Rolling dips are easier and cheaper to maintain.
- Construction phasing – Not applicable (N/A).
- Maintenance Actions- Inspect rolling dips after significant storm events, regrade/reshape rolling dips every year.

3.2 BETHLEHEM ARROYO TREATMENT

Construct Plunge Pools/Zuni Bowls and one rock dam.

- Design Strategies – Construct erosion control features by hand.
- Design Challenges- Identification of appropriate locations for low impact development (LID) features Identification of rock construction laydown area.
- Relative Value and Level of Service- These LID improvements blend into the landscape compared to other hardened features such as concrete plunge pools. Level of service and longevity of these well-built LID features are similar to concrete construction.
- Construction phasing- N/A.
- Maintenance Actions- Inspect features after significant rain events. Yearly sediment removal with hand-held tools.

3.3 ICE HOUSE ROAD SLOPE TREATMENTS

Construct three channel intercepts (currently labelled as upper, lower, and missing link intercepts, and sediment pond at southeast corner of the intersection of Ice House Road and Bethlehem Hill Road). The upper intercept changes to an underground piped system at the intersection of Yurt Road.

- Design Strategies – Construct intercept channels with a concrete channel that will capture and direct the stormwater away from private property. Intercept channels are upslope from the village and any concrete structures will, therefore, be hidden from view from the village.
- Design Challenges- possible rock outcrops may be encountered in grading operations, significant grading up and down slope needs private landowner coordination and can create hillside scarring. Solution includes retaining structures and concentrated stabilization strategies such as rock armoring, erosion control fabrics or small gravity walls of graded hillsides.

FIGURE 1. ***Potential Improvements to Ice House Road***

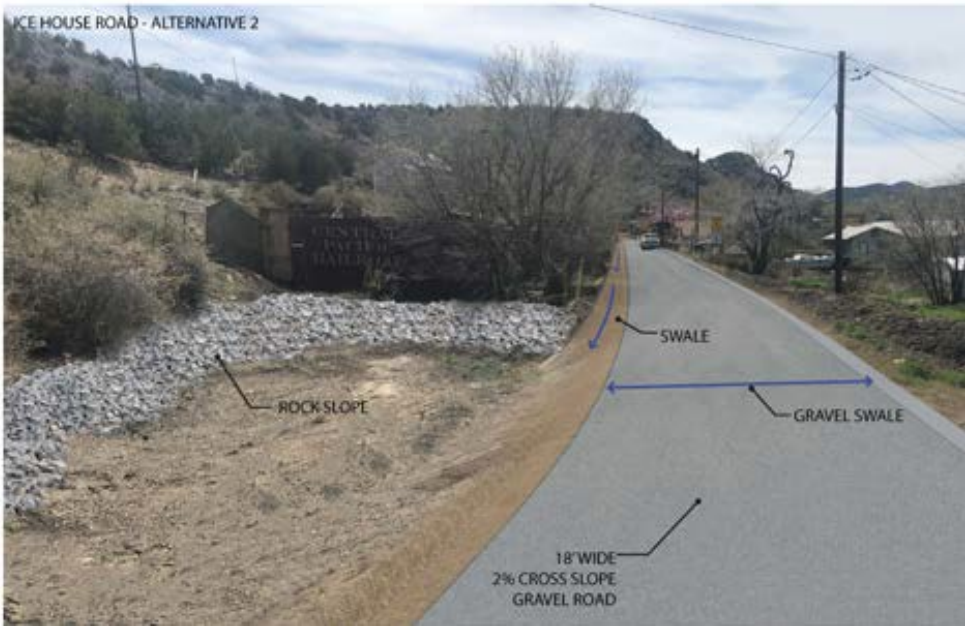


FIGURE 2. ***Ice House Road Before***

- Relative Value and Level of Service- Although rock channels will be more natural, concrete will have longer life, is easier to maintain and will have increased stormwater capacity.

- Construction phasing- If construction of all intercept channels cannot be completed concurrently, it is recommended that the order of priority would be: 1) lower intercept and sediment pond (see next section), 2) upper intercept, and 3) "missing link" channel.

- Maintenance Actions- Regularly inspect channels to assure debris is cleared. Check after significant rain events. Shovel debris from channels and flush debris out of piping as necessary.

3.4 ICE HOUSE ROAD TREATMENT

Regrade roadway to a crowned roadway section, providing for a sediment pond area on the east side of the intersection of Ice House and Bethlehem Hill Roads which accepts stormwater from the lower intercept and from Bethlehem arroyo. Provide a concrete overflow weir adjacent to the sediment settlement pond area for potential stormwater overflow conditions. Provide retaining walls on the west side, and a cobble swale on the east side of Ice House Road.

- Design Strategies – Grade to drain roadway, construct retaining walls to assure positive drainage.
- Design Challenges- Regrading the roadway will require 8' tall retaining walls (see image
- below), coordination with landowners and traffic rerouting.
- Relative Value and Level of Service- Stormwater and sediment will be addressed adequately for residents and emergency vehicles. Roadway capacity will not be diminished, and the longevity of roadway surface will be greatly improved.
- Construction phasing- Access to homes will have to be managed during construction.
- Maintenance Actions- Regrade and shape roadway and swales after significant rain events. Excavate/shovel debris and sediment from conveyance structures and settlement pond. Patch/bring to grade potholes with base course materials.

3.5 ICE HOUSE ROAD TO ARROYO ALIGNMENT/ TREATMENT

Construct a rectangular channel with drop structures west from Ice House Road- through private property to the NM-14 right of way. Construct a piped underground crossing under NM-14 and return the flow to a rectangular channel. Stormwater will travel through a drainage easement between two private properties to Cave Road.

- Design Strategies – Convey stormwater from Ice House Road to Cave Road in an open rectangular channel. Convey water underneath NM-14 with a piped storm drain system.
- Design Challenges- Coordination of improvements and easements with New Mexico Department of Transportation (NMDOT) and private landowners. Construction of the open channel between landowner properties will require the moving/replacement/modification of existing storage structures and fencing. Drop structures or a chute will need to be designed on private property to convey water from the elevation of Ice House Road down to the elevation of NM-14.
- Relative Value and Level of Service- The rectangular conveyance structure approximates the historic conveyance structures of Madrid without sacrificing a high level of service.
- Comparison to a piped conveyance between the properties requires a long length of costly stormwater piping.
- Construction phasing-Coordination is required with residents and NMDOT to close and construct the storm drain under NM-14.
- Maintenance Actions- Inspect channel often (1 mo.) and after large rain events to assure channel is free of debris. Shovel or flush debris from the channel and piping as necessary.

FIGURE 3. *Potential Retaining Wall Aesthetic*

FIGURE 4. ***Channel to the Arroyo***

ROCK LINED DRAINAGE CHANNEL TO MATCH LOCAL GEOLOGY

BEFORE PHOTO

4. FIREHOUSE LANE AREA PREFERED ALTERNATIVE

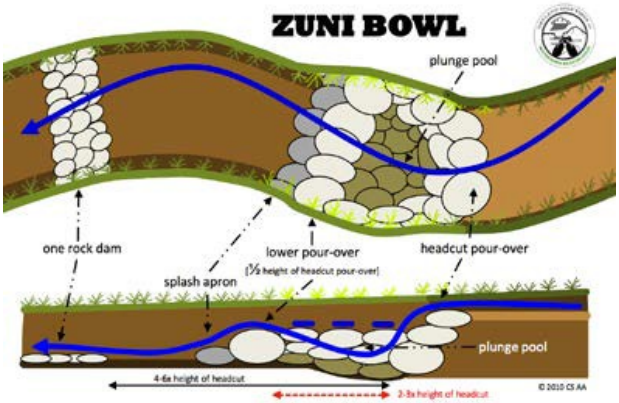
4.1 FIREHOUSE LANE/ RED DOG ROAD AREAS

- Design Strategies – Regrade Firehouse Lane and Red Dog Road to drain into Madrid Arroyo.
- Design Challenges- Firehouse Lane and Red Dog Road may be closed to traffic during grading operations. Coordination of improvements and easements with private landowners.
- Relative Value and Level of Service- Stormwater and sediment will be addressed adequately for residents and emergency vehicles. Roadway capacity will not be diminished, and the longevity of roadway surface will be greatly improved.
- Construction phasing- Manage access to homes during grading and construction operations.
- Maintenance Actions- Regrade and shape roadway after significant rain events. Patch/ bring to grade potholes with base course materials.

4.2 EAST GOB PILE AREAS

- Design Strategies – Construct Zuni Bowls/ plunge pools, one rock dams and rock rundowns in the higher elevations of the drainages. Construct trapezoidal channels at the toes of gob piles to capture and convey stormwater and sediment.
- Design Challenges- Significant grading up and down slope needs private landowner coordination and can create hillside scarring.

FIGURE 5. *Zuni Bowl Concept*



- Coordination of improvements and easements with NMDOT and private landowners.
- Relative Value and Level of Service - LID constructs have proven to be resilient and, though labor intensive, are cost effective. Although rock channels will be more natural, concrete will have longer life than rock and will have more stormwater capacity.

  Construction phasing-To provide a conveyance path for drainage to safely reach Madrid Arroyo, before any intercept channels are constructed, the water crossing of Firehouse Lane and discharge channel to the arroyo will need to be constructed. Beyond that, construction phasing of each of the individual features is not required.
- Maintenance Actions- Inspect channel often (1 month) and after large rain events to assure channel is free of debris. Shovel or flush debris from the channel as necessary.

FIGURE 6. *Water Restoration Features*

5. MADRID ARROYO PREFERRED OPTIONS

The following paragraphs describe the options that have been advanced to the 60% design for Madrid Arroyo and the related Cave Road drainage system. The conceptual designs presented these actions in Alternative 1, however, the 60% designs present two options for the Cave Road/Madrid Arroyo crossing which have been advance as Alternative 2.

5.1 OPTION 1 – BASE DESIGN

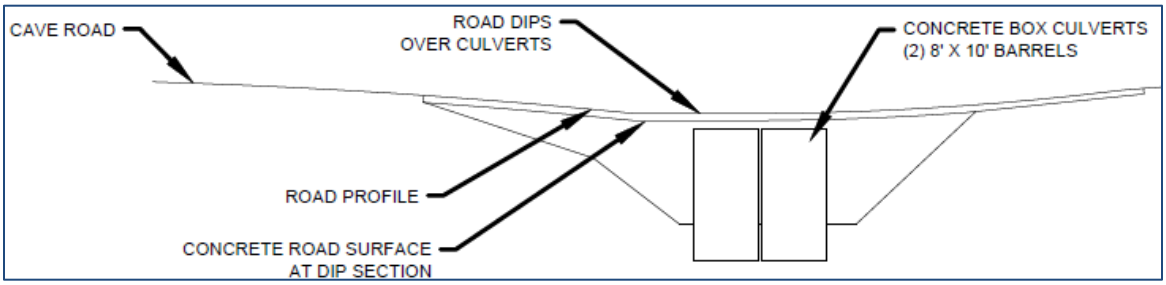
CAVEROAD

- Design Strategies– Regrade Cave Road and construct a rock lined swale gravel roadway to convey stormwater. Add of fill on top of the old railroad grade between Cave Road and arroyo to prevent Madrid Arroyo from flooding homes along Cave Road. Construct arroyo crossing comprised of two concrete box culverts designed to county standards for public safety and emergency access. Seed arroyo with native seed mix to stabilize areas disturbed by grading.
- Design Challenges- Finish grade of homes on the east side of Cave Road are lower than arroyo grade, requiring arroyo channel regrading and lowering.
- Relative Value and Level of Service-The proposed actions reduce flood hazards and increase public safety.
- Construction phasing-Cave Road must be closed to traffic during construction. Temporary arroyo crossing may have to be constructed during construction.
- Maintenance Actions- Monitor berms and swales for erosion and debris accumulation. Repair berms and remove debris from swales with hand tools after large rain events.

MADRID ARROYO

- Design Strategies – Regrade floodplain and provide rock and soil deflectors preventing lateral erosion and direct stormwater into the west channel. Note that the west channel is not the original Madrid Arroyo.
- Design Challenges- Largest challenge is to remove sediment from the channel to improve arroyo stormwater capacity.
- Relative Value and Level of Service- Designed level of service will pass the 100-year (1% chance) flood event under Cave Road, provided that flood debris does not plug the box culverts. Arroyo crossing is designed in the most efficient fashion to maximize safety and minimize cost. Arroyo alignment and minimal seed stabilization does not create significant habitat opportunity.
- Construction phasing- Access to homes along Cave Road must be managed, traffic to the west side of Madrid Arroyo will be periodically disrupted.
- Maintenance Actions- Monitor and remove debris after large rain events. Monitor arroyo crossing for erosion and water damage regularly.

FIGURE 6. Option 1 - Cave Road Arroyo Crossing



5.2 OPTION 2 – DESIGN ADDITIVE ALTERNATE

CAVE ROAD

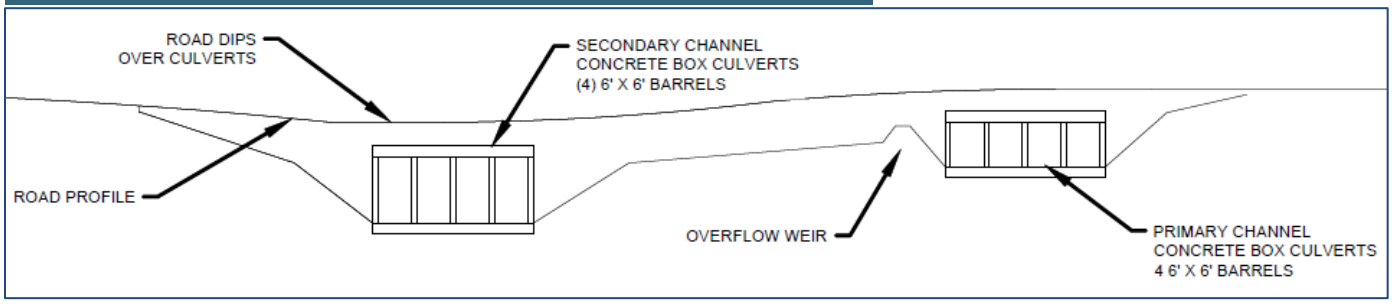
- Design Strategies– Regrade and construct Cave Road to county standards. Realign Cave Road into two bifurcated roadways (east and west). Construct low berm on old railroad grade.
- Construct a piped drainage system on north Cave Road to enter the Madrid arroyo to the north of proposed Cave Road crossing.
- Design Challenges- Largest challenge is to remove sediment from the channel to improve arroyo stormwater capacity.
- Relative Value and Level of Service- Cave Road will be constructed to Santa Fe County standards providing a higher level of service than Alternative 1.
- Construction phasing-Cave Road must be closed to traffic during construction. Temporary arroyo crossing may have to be constructed during construction.
- Maintenance Actions- Monitor berms and swales for erosion and debris accumulation. Repair berms and remove debris from swales with hand tools after large rain events. Flush drainage piping as necessary.

FIGURE 7. Proposed *Madrid Arroyo Debris Feature*

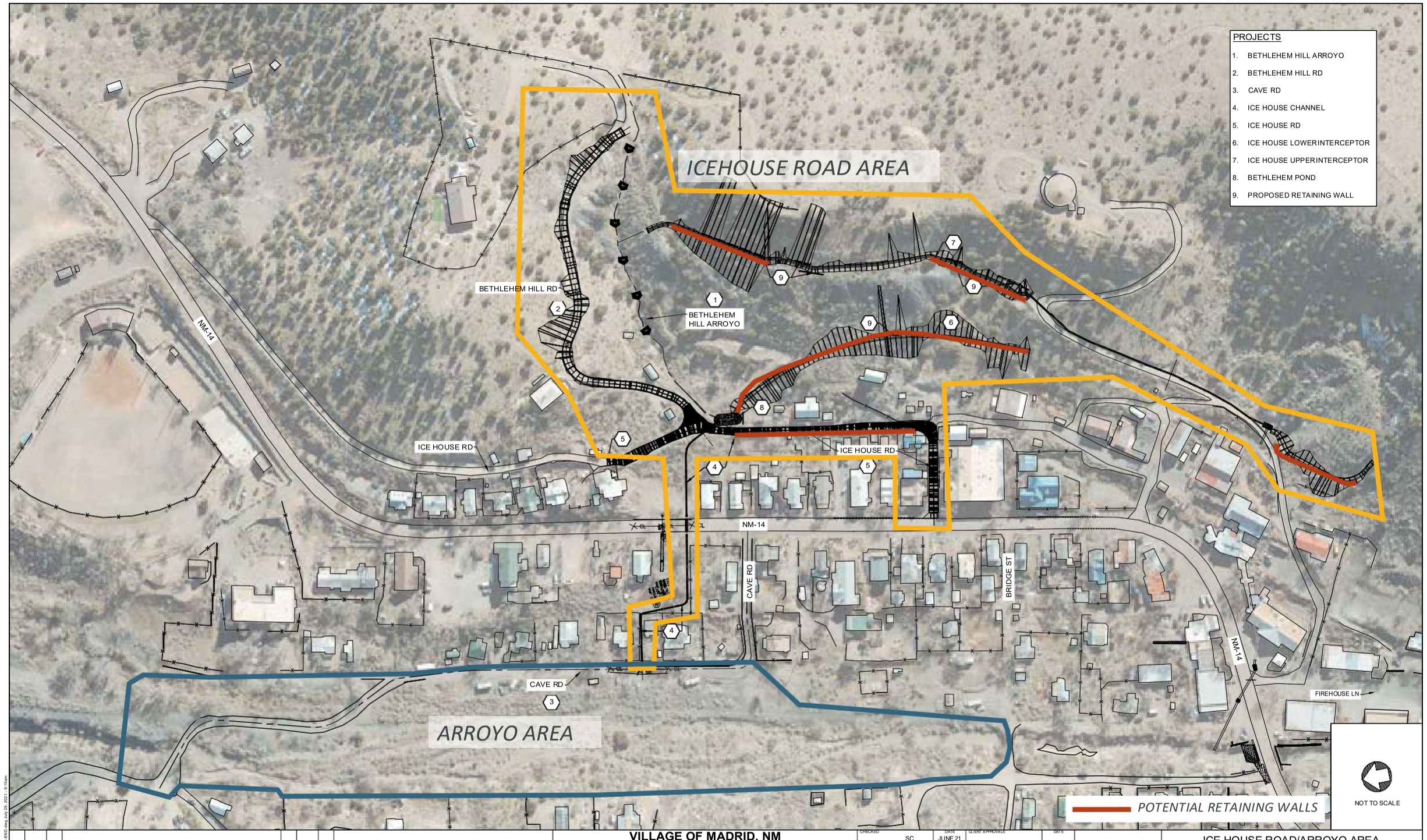
MADRID ARROYO

- Design Strategies – Regrade floodplain with boulder deflectors, weirs and debris catchment. Construct two channels with box culverts at Cave Road crossing to direct small stormwater flows to the original Madrid Arroyo alignment and, secondarily, to direct higher flows into the west channel. Landscape and irrigate plantings in the arroyo to better stabilize the soils and create habitat.
- Design Challenges- Finish grade of homes on the east side of Cave Road are lower than arroyo grade, requiring significant sediment removal from the arroyo and berm construction.
- Relative Value and Level of Service- Relative to Alternative 1, Alternate 2 provides more arroyo capacity and ecological restoration. Maintenance of debris can occur in multiple locations.
- Construction phasing- Access to homes along Cave Road must be managed, traffic to the west side of Madrid Arroyo will be periodically disrupted.
- Maintenance Actions- Monitor debris accumulation and remove debris after large storm events.

FIGURE 6. Option 2 (Additive Alternate) - Cave Road Arroyo Crossing



6. GRAPHICS APPENDIX



NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

VILLAGE OF MADRID, NM
STORM WATER DAMAGE REDUCTION PROJECT
MADRID NEW MEXICO

WESTON
ALBUQUERQUE NEW MEXICO

CHECKED	SC	JUNE 21	CLIENT APPROVALS	DATE
DES. ENG.	SC/RGE	JUNE 21		
PROJ. ENG.	RGE	JUNE 21		
PROJ. MGR.	SC	JUNE 21		
APPROVED				
APPROVED				

DRAFT
NOT FOR CONSTRUCTION

ICE HOUSE ROAD/ARROYO AREA
SITE LAYOUT

DRAWN	DATE	DWG. NO.	REV. NO.
RW	JUNE 21	G004	A
SCALE	W.O. NO. 15740.001.003	SHT 4 51	

D:\Madrid Stormwater\ISR\MBS FRONT.DND Wed, July 28, 2021 - 9:15am

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

VILLAGE OF MADRID, NM
STORM WATER DAMAGE REDUCTION PROJECT
MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

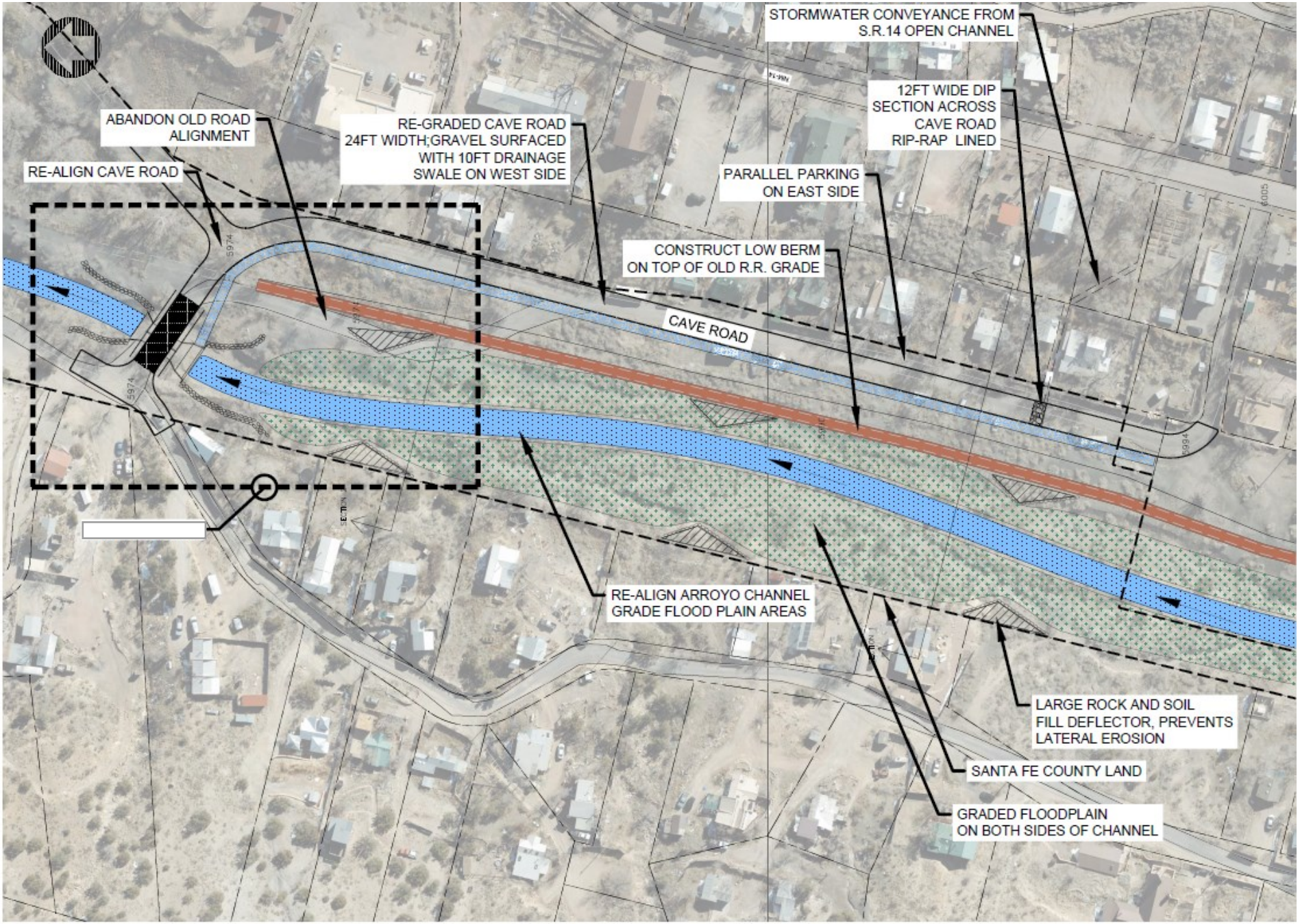
CHECKED	SC	JUNE 21	CLIENT APPROVALS	DATE
DES. ENG.	SC/RGE	JUNE 21		
PROJ. ENG.	RGE	JUNE 21		
PROJ. MGR.	SC	JUNE 21		
APPROVED				
APPROVED				

DRAFT
NOT FOR CONSTRUCTION

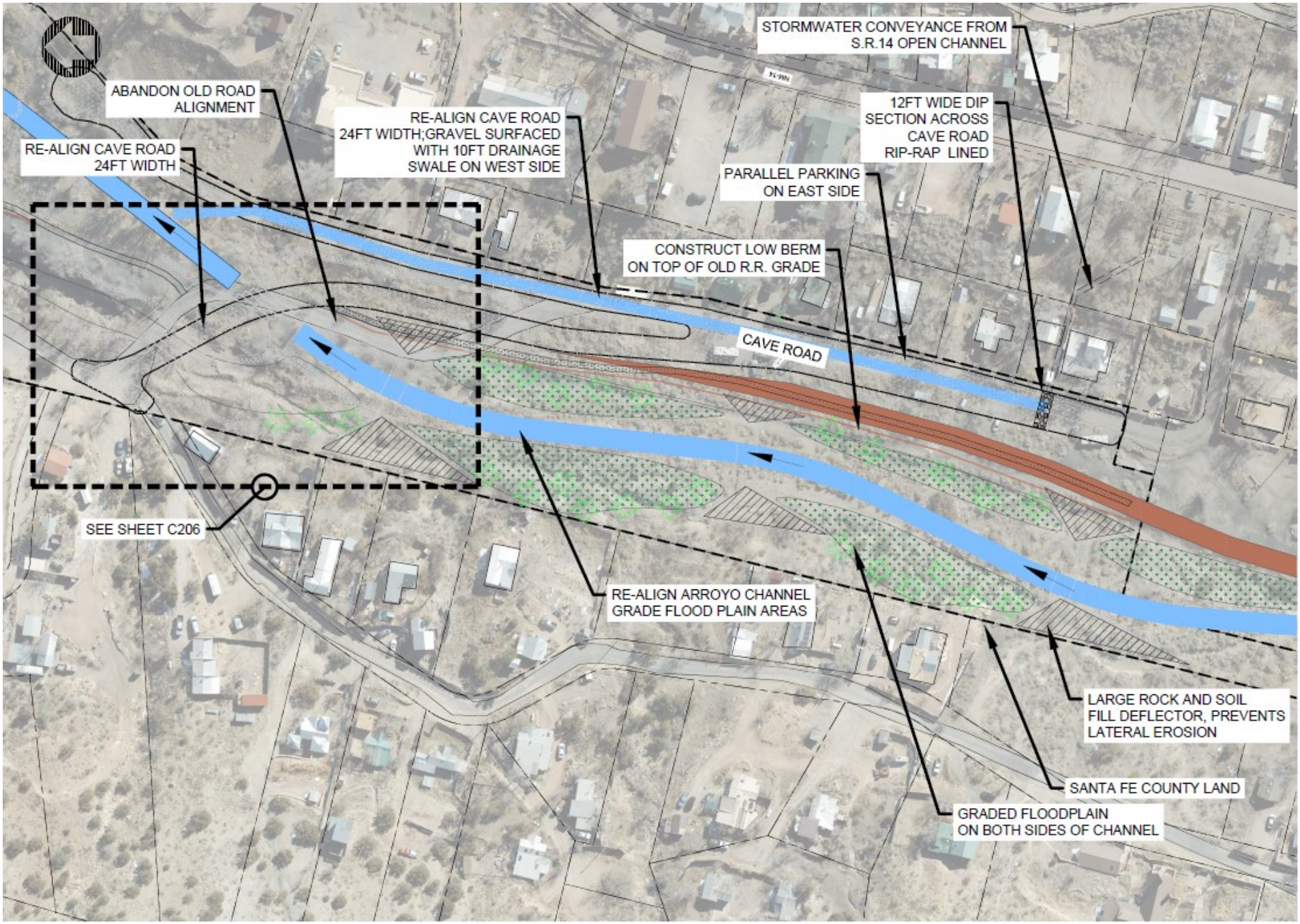
FIREHOUSE LANE/RED DOG ROAD AREA
(EAST SLOPE SOUTH)
SITE LAYOUT

DRAWN	DATE	DWG. NO.	REV. NO.
RW	JUNE 21	G005	A
SCALE	W.O. NO.	SHT. 5 51	
	15740.001.003		

MADRID ARROYO/ CAVE ROAD—OPTION 1 BASE DESIGN



MADRID ARROYO/ CAVE ROAD—OPTION 2. DESIGN ADDITIVE ALTERNATIVE



ATTACHMENT C

Meeting and Workshop Summaries

Public Information Meeting Summary
New Mexico Abandoned Mine Land (AML) Program
Bethlehem Hill Adit and Gob Reclamation Project
December 13, 2017
Madrid Fire Station, Madrid NM

Meeting Announced in: Santa Fe New Mexican (Legal ad) 11/29/17 & 12/12/17
Mountain View Telegraph (Legal ad) 11/30/17 & 12/7/17
Mail outs sent: November 27, 2017 to 120 addresses

Meeting Attendees

Seventeen people attended the meeting:

	Name	Address
1	Clinton Anderson	PO Box 872, Madrid, NM 87010 clint.anderson.10622@gmail.com
2	Rudy Garcia	2 Ya Callete Ln, Santa Fe, NM 87507 rgarcia@santafecountynm.gov
3	Maria Lohmann	malohmann@santafecountynm.gov
4	Jacob Stock	jlstock@santafecountynm.gov
5	Gavin Strathdee	2857 St. Hwy 14N, Madrid, NM 87010
6	Gwendolyn Zuxus	PO Box 4, Cerrillos, NM 87010 zaxusg@gmail.com
7	Diana Johnson	
8	Trevor Burrowes	
9	Erik Johnson	2843 Turquoise Trail, Madrid, NM 87010
10	Rebecca	PO Box 622, Cerrillos, NM 87010 areba51@gmail.com
11	Ellen Dietrich	51 Goldmine Rd., Cerrillos, NM 87010 dietrichej@gmail.com
12	Jean Pike	PO Box 218, Cerrillos, NM 87010 jp@jeanpike.com
13	Mark Bremer	3 Opera House Road, Madrid, NM 87010 markdb_2001@yahoo.com
14	Peter Christensen	PO Box 29, Cerrillos, NM 87010 prc6955@gmail.com
15	Lisa Conley	PO Box 147, Cerrillos, NM 87010 lisaconley@q.com
16	Andrea Fiegel	14 Opera House Rd. Madrid, NM 87010 andrea@Fiegel.org
17	Matt French	24 Bethlehem Hill Road, Madrid, NM 87505

The following project team member were present:

- Jacob Pederson, New Mexico AML Program
- Erin Marynak, New Mexico AML Program
- John Kretzmann, New Mexico AML Program
- Lloyd Moiola, New Mexico AML Program
- Richard Wessel, New Mexico AML Program
- Eric Johnson, NV5 Marron and Associates

Presentation

Eric Johnson gave the meeting purpose and introduced AML Program representatives. Eric discussed AML priorities, Madrid community, project purpose, project location, project activities, and project commitments.

Question and Answer Session
(Project team responses are in italics)

Anonymous: It doesn't have a good reputation, does it?

It is really inert. It doesn't decompose.

Ellen Dietrich: Are you hauling in soil?

No, there will be no brought in fill material.

Ellen Dietrich: So, you're going to try to use what's there?

Yes, we will be seeding the disturbed soils.

Andrea Fiegel: When you talk about mulching, seeding, and developing the gob piles, is that primarily for storm water control? You keep calling them eyesores, and they are our landscape. So, if the purpose of doing that is to make them disappear, I'm not interested. I am interested in controlling the water runoff. Growing things on it to facilitate that, great.

That is the storm water management. If you have a mulch in the soil, vegetation is going to hold on. Now the rain just splashes on down.

Anonymous: Did you on this other project bring in soil?

Rebecca: You're just doing the adits? You're not slowing the water down? You're not putting in any features to slow the water down?

No, this isn't flood control.

Peter Christensen: What is the starting date on the project?

Late winter, early spring.

Peter Christensen: I have the archival papers from AML dated 2013, Madrid Storm water Improvement Project. It has maps and diagrams of features that were to be installed, mission statement, and other information. Could some of the money been used on check dams or something? Nothing has happened. The town has allocated $2,000 to work at the junction where all the water pours out. That's where the town could really benefit. It floods the whole town. Something could be done.

Erik Johnson: Last time funding just didn't happen. Do we have to worry about that this time?

The AML programs funding has gone down in the past three years. However, Madrid is a high priority. We are funded primarily to take care of coal-related problems, and we are moving forward to address some of the larger scale issues. We have environmental and cultural

resources clearance at this point to work on this project. To do a larger, more community-scaled projects elsewhere in the community, because we are federally funded program, will take additional cultural and environmental studies.

Anonymous: So there's more projects coming up?

That's the plan.

Anonymous: For storm water, you don't have any funding for it yet though?

Yes, we have lower funding levels, but we still have money.

Erik Johnson: It looks like at least two of those adits are relatively low elevation. It looks to me like they are taking drain water off the hill, if you plug them up, that will just make more of a problem.

Anonymous: Exactly!

Is there a way that this polyurethane foam can be designed to be permeable?

I think we want to increase infiltration with the mulch and everything. I don't think we want the adit designed as an infiltration device, because it could get contaminated.

Erik Johnson: It's contaminated now, so it wouldn't get worse.

That's not a good practice.

Erik Johnson: I can't take that on your authority. It seems like a way to get rid of extra water.

To my knowledge, no storm water runoff is going into those adits.

Erik Johnson: It's not? But you could make it go in. Use them as dumping hole.

We would have to get a permit for that. And it would be hard to explain to New Mexico Environment Department why we are using these as an infiltration device.

Erik Johnson: Where are the gobs that you are talking about?

At the bottom side of Bethlehem road is the gob seeding area.

Erik Johnson: Are you planning to break the surface of those gobs when you reseed them?

Yes, in order to get plant material to grow, they need to be rendered. Bringing the ph level down so seeds can grow in them.

Erik Johnson: My dad read it is important to seal the gob piles, so that what toxins are in there don't get out.

We have studied the gob piles in Madrid, and there are no high levels of toxic material in them.

Erik Johnson: The studies of our air quality shows that there is an enormous amount of stuff just in the air from their current state.

I am sure there are high levels of dust in Madrid because of these waste piles. However, getting vegetation to grow on them should help reduce that.

Peter Chistensen: My feeling on the gob piles is they are historic. They are not an eyesore to the town, and over all the years of weather, they have formed their own crust. And they are pretty stable. Loosening them up, to plant on there in the chance they will take, the crust will be loosened and cause more erosion.

We agree it's stable. We are trying to get more water to be held in there and vegetation.

Peter Christensen: If you spray seed, it will wash away. But it you do raking, then the rains are going to come, and the crust will be gone. And then the erosion will happen.

Trevor Burrows: This gentleman lives right there. I would like to thank you for what you are doing. The entire east hill is bit of history. The gob piles are cultural history. I don't think we know enough about a plan. I think you need to include the mine shaft, preserve the piles in some way.

The history is important. There are surveys for historic to pre-historic.

Preserving the historic landscape is one of the goals. The bulk of the community does not want us to disturb the gob piles. We were planning on working on just the toes of the gob piles. This is a follow-up of what was done in 2014. This issue has not gone away, and most people want to keep the gob piles intact. Hydroseeding will cause a brown discoloration for a few years, but the gob formations will still be there. Madrid is on the National Register of Historic Places, so we must be careful about changing the shape.

Hydroseeding has a very low chance of success because it only addresses the surface. Amendments addresses the lace of vegetation at the root. This is experimental, one of the reasons we are thinking it in this location is because it is the least visible from the town, so it is like a pilot project. And will give us an idea of what is possible, or not possible for the other gob piles.

Erik Johnson: Your idea of distinguishing between the toes and the rest is a very good idea, but I think the majority of the people would prefer to keep the gob piles, except for the toes, in as close to the current condition as possible.

Rudy Garcia: I am Rudy, I have worked in Santa Fe county for 26 years. Is this public or private land?

Private.

Rudy Garcia: What is the budget for the project? Has it been budgeted for?

Approximately $70,000.00. It has already been budgeted.

Rebecca: Why are you even considering this when you left us in the lurch several years ago without finishing the Zuni bowls? You ran out of money or something? What is the motivation?

We do have clearance to work on this site. There are federally required clearances to work on this site. We are still in the process of gaining the clearances that are outlined in earlier meetings for the conceptual plans.

Rebecca: We were really looking forward to that two years ago. And instead we are getting this, which may help in the flooding. Where did this come from? Why fix the adits again when they've already been fixed?

They've only been sort of fixed. We want to put a permanent closure in there. They erode, and open up again. We have closed them about two or three times over the years. That is the motivation for this project.

Rebecca: So, it really doesn't effect what we are really concerned about, which is storm water erosion and storm water damage?

It addresses it in one way. If we can use this as a gob pile pilot project, we can see what's possible. That may or may not be important to you but may be important in the long run.

Andrea Fiegel: I am skeptical of what you are saying. You are calling the gob piles eyesores. We are all telling you that we like the gob piles. You are talking about revegetating them, but they've never been vegetated, they are gob piles.

Jean Pike: Why is the urethane a better material for filling the adits than the material used before?

One is bringing earth in heavy trucks is what we are trying to avoid, to minimize damage.

Jean Pike: Is there already erosion going through the gob piles? Is it possible to do drainage work in the areas already eroded?

Lisa Conley: The gob piles are not a problem with us. The problem is the drainage. Las Vegas and other locations got the money that was allocated for Madrid. Our money went to investigating what could happen in our town. Did you ask for this project? Why are we doing this now? Why mess with it at all? We don't get much rain here. If you are trying to reseed stuff, it won't go well.

Matt French: I've had dreams of doing development and improving the town. Most of the ideas are not going to happen. This is like an eighth of what was talked about at previous meetings. Whatever is best for the gob piles, and getting those adits plugged, is a positive thing for me.

Gwendolyn Zaxus: I hope the AML doesn't disappoint again. What's important to use is our storm water. That is an issue. When you come back again, come back dealing with storm water. That is a priority.

Ellen Dietrich: The way to handle storm water is to start at the top. This is just a start.

Rebecca: I'll bet in most towns around the country, the legacy of irresponsible mining was adit holes, eyesores. Our legacy is drainage that is completely screwed up. That's what we inherited from the mining company. They worked to maintain the drainage so the mines wouldn't flood, and when they left, all that work left with them.

Gavin Strathdee: We need to recognize the fact that closing the adits is a safety factor. The primary reason to do that work is so that no one else falls down there and joins the skeletons that are currently there. There should be no question about the adits being closed. Maybe question the material, but it is not going to be coming out like an ice cream cone. It will be in the hole. Putting a plug in the hole low enough to get them safe. The money from AML comes from taxes on the coal mine. Weather the state decides to give the money to the towns, it is up to the politicians to decide. With the seeding on the gob pile, I would ask how the work done above the mine shop tavern has succeeded? Is this similar to that? If so, then it has already been accepted by the community.

If AML is going to do the storm water remediation, what's the project that is going to do that? Mine period storm water drains, they were done and effective. Reclaim them, put them back in place. The old drain is buried. That is all in the 2013 projection, which was based on the fact that we do not want them to get rid of the gob piles.

Jean Pike: What we understood about the AML is when we had our flood, everyone around the state had their floods, and that's why the money got diverted, not that you dropped the ball. Is that true?

That's not true as far as AML.

Jean Pike: We had our flood. You guys were gone, and half the people quit their jobs is what we understood. All the people working on the project disappeared. If that's not true that the money didn't get spent anywhere else, then why did the ball drop on our projects?

We did have a lot of people leave the AML, retired, etc.

Jean Pike: Then why are we back on the gob piles, when we have said for years no.

This would be an experiment, if it's possible, and what reclamation would look like. We have had some success behind the tavern. The idea is not to erase the gob pile, but to reclaim. We can take it out of the specifications, and I am hearing it loud and clear that is not wanted. The landscape and drainage are intimately connected.

Mark Bremer: On the gobs, what is the runoff coefficient now, and what is the runoff expected? How much reduction we are expected to see? What are those values.

I am a civil engineer, and my guess is about 70-80 percent now, and I think we can lower that to 40-50 percent.

Mark Bremer: So we should see a significant change?

I think that is possible. Once again, this is experimental. I can't guarantee.

Mark Bremer: So if it works, I am in full support of these gob seeding areas.

Gwendolyn Zaxus: I am for the adits being filled.

Trevor Burrowes: Maintaining the gob piles is important to the town. That the tourist don't see it, maybe it can change. That has been missing, an economic opportunity that has been missing. There is a value to using the gob piles for drainage but also the cultural aspect of the gob piles.

Peter Christensen: The toes of the piles, are not visible from the town, but is a popular area for recreation. The trail is right up against the toes. When you work on the toes, be aware that it is a popular trail.

Matt French: I am encouraged that they can decrease the rainwater runoff and that you feel they are on the right track. As far as tourists coming back and hiking through our gob piles? I think there is plenty for them to do in our town without worrying what they think of that area back there. I would suggest us not going in the direction of highlighting a trailhead.

Erik Johnson: We are not all complaining. We appreciate you coming down and putting in the work.

Written Comments

Comment 1: Erik Johnson

A casual opinion that using adit as a storm drain is a bad idea simply isn't adequate. If anything is to be an experiment in Madrid, trying out adit-drains would be the best thing to find out about.

The notion of experimentation with the "toes" of the gob piles seems reasonable, but any other alteration of the piles is reasonable only as a last resort.

The appearance of the gob piles is important.

Public Involvement Workshop Summary
Madrid Stormwater Improvement Project
Date: June 20, 2018
Location: Madrid Fire Station
Meeting Announced in: Mountain View Telegraph and Santa Fe New Mexican
Dates announced: Both publications ran on 05/31/18 and 6/14/18
Mailouts sent: June 5, 2018 to 167 addresses
Banner sent: Two banners hung on the north and south sides of Madrid on NM 14

Meeting Attendees

Ten people attended the meeting

	Name	Address
1	Maria Lohmann	102 Grant Ave., Santa Fe, NM 87504 melohmann@santafecountynm.gov
2	Chris Philips	cphilips@riverrestoration.com
3	Gavin Strathdee	2857 St. Hwy 14N., Madrid, NM 87010
4	Clinton Anderson	PO Box 872, Madrid, NM 87010 clint.anderson.10622@gmail.com
5	Glen Bawden	
6	Clifford Kitzrow	02 B Firehouse Ln., Madrid, NM 87010 cliffkitzrow@gmail.com
7	Carl Hansen	57 Tipple Way, Madrid, NM 87010 solarwks@cybermesa.com
8	Matt French	24 Bethlehem, Madrid, NM 87010
9	Anonymous	
10	Anonymous	

The following project team member were present:

- Lloyd Moiola, Abandoned Mine Land Program
- Erin Marynak, Abandoned Mine Land Program
- Rick Wessel, Abandoned Mine Land Program
- Jacob Pederson, Abandoned Mine Land Program
- Yeny Maestas, Abandoned Mine Land Program
- Linda Delay, Abandoned Mine Land Program
- Mark Murphy, NV5
- Eric Johnson, Marron - NV5

Presentation

Jacob Peterson, Rick Wessel, and Eric Johnson gave a presentation on the Madrid Stormwater Project. The presentation covered workshop purpose, overall workshop organization, project history, stormwater design concepts review, National Environmental Policy Act (NEPA), cultural and historic resources, and stormwater design concepts for the Slope Drainage Zone, Icehouse Drainage Zone, Firehouse Drainage Zone, North Drainage Zone, and Arroyo Drainage Zone. AML spending guidelines were discussed. After the presentation, instructions were provided on the table activity.

Flip-chart Comments

The following comments were recorded on the flip charts.

General Comments:

- Do you have Ice House easement – Town and Water Coop
- Way too much engineering and not enough construction
- 100,000-gallon storage tank – need improvements in area, rip-rap
- Has work been completed behind Mineshaft?
- Need to clean out culvert: discussion with NMDOT; culvert is caved in
- In Ice House drainage, pattern affected by resurfacing
- Ice House Road – need to lower areas to get drainage
- Ice House area is a priority in community
- Ice House area has flooding
- Upper part of stone drain open
- Lower part of stone drain buried
- Serranin Drainage needs to be moved over
- Ice Road – priority problem
- Cave Road crossing – priority problem
- It would be good for county open space and town to coordinate on Cave Road
- County Open Space is looking at large and small projects
- Arroyo lost bank along Cave Road
- Consider lot for wastewater near concept drainage pond
- How do you prevent retention pond from silting up?
- Bodei lots – potential for drainage
- Water coop and MLA easements go through Brian's property

Ice House Drainage Zone:

1. Height of road – too high
2. How will 3 retention ponds work if silted up?
3. Water line and height of road cause water to overtop retaining walls at houses
4. Drainage needs to kept along road, ideally west side
5. There is standing water in blue areas (on map)
6. Mud and silt clogs structures
7. Either infiltrate water upstream or get water to exit
8. Looking for upslope solutions

Firehouse Drainage:

1. Good idea – rolling dips and divert water to arroyo

North Drainage Zone:

1. Flooding in gallery – 2891 Hwy. 14
2. Drain is a good idea
3. Watch out for drainage across driveways

4. Instead of rolling dips – consider a cattleguard that can be cleaned out, but people with dogs may object
5. Need to control silt and runoff on slope

Slope Zone:

1. Consider mulch logs
2. Good with projects in this area
3. Jail area floods and other area to south
4. Just a headache
5. Large storms can cause blowouts and slumping down the hill

Arroyo:

1. Pond near wastewater treatment and silt is a concern

We have good intentions to do something better

Workshop Discussion Session
(Project team responses are in italics)

What about the firehouse drainage area, the icehouse drainage area and the north drainage area?

Yeah, and the slope zone, and the arroyo zone. I wanted to simplify. Knowing that some people will be concerned primarily about what is happening on the slope.

I'm good with all of it. I just wanted to add my little part.

Why don't we spend some time getting our thoughts down, on the record? Then we can have a discussion about it.

The raising of K road two feet. From Highway 14 down to the corner. How can you raise that two feet? That's why I wrote a sticky, people are living along that. Do you raise their driveways two feet?

It would have to be raised on one end, and sloped. The idea originally was to get water running. There's two old stone drop inlets. With no slope on the road, without raising it, you're not going to guide the water. We don't have an engineering design for that road yet, but those are just some of the preliminary ideas.

We've talked to the highway department about cleaning out this box culvert. It looks like it's plugged.

It is. We'll be hoping to partner with the highway department and county when we can, on parts of these projects. Really that culvert needs to be replaced. The culvert is very damaged as well and it just needs to be replaced.

We've brought up the situation with the tank (see written comment below) You said to get in touch with US Army Corps of Engineers because it's an arroyo. We contacted the US Army Corps of Engineers. They wanted $150,000.00 to do a study and for us to pay $75,000.00. What I want you to do is put together a little rip-rap. The dirt was removed from the floods. The arroyo cut into it. It wasn't the arroyo originally. It was our property. So, view it as our property. Get the US Army Corps of Engineers to do a rip-rap repair. There have been other homeowners on the same arroyo that have had rip-rap put in, and it's still there today. There is concern for the integrity of the concrete tank, which provides 100,000-gallons of non-potable water for fire protection, which is critical for the town. They need to revisit their "no" that they gave us awhile back, and see our point of view.

Near Icehouse Road and Cave, there is a tremendous amount of water that comes off here, right where the culvert is. The water co-op owns water right away, and storm drain easement owns right of way. The right of way is roughly on the property line. The drainage is messed up largely because over the years it has been resurfaced, and the road is higher than it was originally. That creates a problem for the people below it. Even with the retaining walls some people have built.

Have you guys gotten in and dug out around the culverts near Icehouse Road?

We weren't able to get them cleared out. It is like concrete. We got the sediment pond done, and went back in and did some hand touch up to it.

Conflict on "proposed retention pond location" with area allotted to waste water retention area.

With the one rain we had this year, it filled the one retention pond that we have.

Easements for the MLA and the water company goes through the Brian Bodei property.

Problem with Icehouse is the height of the road, and it needs to be grated. The concept of having those three retention ponds is how are they going to work if they get silted up? The problem with the waterline/utilities going through there, and the height of the present road. It is already overtopping retaining walls built to hold it back from the houses below.

Would you say that if we grated Icehouse road? We would end up with some older retaining walls that would be impacted by that construction, and probably the need to construct new ones to keep water on the road.

Yes, it has to be kept on the road, and it has to be brought all the way down here. Right-now, pretty much all the drainage is on the east side. Ideally, it should be on the west side, but that creates more of a problem for the people down below.

I have the same concerns. Where it is blue now (on the map) is where we get standing water if there is an inch of rain. Muck and silt comes with it, which clogs any of the facilities now standing. I am concerned about keeping all this water there with an emphasis on slowing it down, and maybe having it infiltrating it up into here? Maybe have some of these structures up in the Mayat Arroyo area? Coming around Madra, when this is all soaking in. It gets full of

mosquitos, and it mucks up quick. I feel the water should exit and go into there. And if we want to slow down more of it, move these ponds up away from the driving area.

The original drain was on the other side of the road. I agree this is better done up the gully.

So, you are looking for upslope solutions?

Yes, it makes David Baca's land unusable at this point, and I think expanding the pond on his property is going to be a hard ask. As it stands now, it is a continual maintenance problem. The little rain we had this year was enough to fill that pond.

And now Firehouse drainage zone:

When it rains heavily there is quite a bit of water. Diverting the water and getting it to the arroyo before it comes to the roadway is a good idea.

North drainage zone:

You need to watch for driveway drainage when thinking of where to put the rolling dips. Can you do a cattle guard/drainage instead of a culvert? Something to easily pull off the grate and clean out when the run off builds up. We have one that has bars, and it is totally full.

Cattle guard would be difficult for people walking pets.

The idea of having a rolling dip is that you are working with the grade. As opposed to a drop structure that is cutting into the grade, by installing a channel, it will accumulate, and you will have to clean it out.

These concept locations are not exact. We would have people out to locate these ponds in more strategic areas.

The section near the jail area gets really washed out, and over by the Tavern.

Here was the blowout. This dark area at the top is what slumped off and went down the hill. That was from a storm and there is a steeper slope, with more watershed.

I would suggest getting right to work on properties affected, and not seek town-wide consensus. As a hurdle, that's go or no go for the project. You're never going to get full agreement from everyone. Don't let that stop you.

The message I am working on is we have landowners that agree we should move them out (blowouts). We are going to do the work, to minimize individual impact, and still eliminate the danger of the blowout.

Was that ever a thought to just remove all of it?

Yes, to take it back to a natural slope essentially. It would be difficult to pull off. But reclaiming in places, getting to grow vegetation, re grading. We've learned a lot about reclamation, so there is a good chance treatment would be more effective.

Written Comments

Comment 1: Glen "Jethro" Bawden

I am commenting as President of the Madrid Water Cooperative. Across the arroyo from our 30,000-gallon, tan colored, above ground, potable, water tank on the south end of Madrid, is a 100,000-gallon underground concrete fire protection water storage tank. In the 30's, 40's, and 50's the tank was used for potable water, but is now only for fire protection water and is piped to fire hydrants.

During the "flood" in 2013 the arroyo eroded 10 to 15 feet of dirt away from the west side of the underground tank, as well as exposing the 8" main. The main was relocated back into dirt, but the concreted tank itself has only about 10 feet of dirt left between the west side of the tank and air. The tank contains approximately 360 tons of water. One more gully-washer storm may take the remaining dirt and the west side of the tank may blow-out with a major leak, leaving Madrid with no fire protection. We are requesting the AML construct rip-rap and backfill on our community property to replace the eroded 15 feet of dirt.

Comment 2: Trevor Burrowes

I am not sure yet whether I can attend the June 20 meeting, so I'll share some thoughts about the Stormwater Improvement Project. Fortunately, there are people in town with much better technical knowledge than mine about stormwater hazard and opportunity throughout the village of Madrid. My entire interest, despite very little factual information, is broadly in the material cultural heritage of coal mining in Madrid. For this reason, it is centered on the Mineshaft, yard and structures.

The Mineshaft owner has pointed to the very severe damage caused by mud damage from the eastern hillside. She has pointed to what seems like feet of sediment burying foundations and lower sections of buildings. I am almost certain that this damage has not been documented in writing or recorded in photographs or drawings. Given the importance of the Mineshaft to the industrial heritage of the Southwest, I almost wonder if it could qualify as some sort of monument that garners oversight from some higher, more appropriate organization.

The original sin in the Mineshaft was the former owners' selling it to a private interest with no museum experience, and whose main concern is the Mineshaft Tavern that is a source of tourism, taxes and employment.

As can be expected, the Mineshaft is very popular, especially among the younger and more dominant segment of the local population. There are therefore social pressures to overlook the Mineshaft grounds and how it is managed. The level of historical sensibility and exposure is also not very advanced in Madrid.

I should add that there is the possibility (if not certainty) that a very large water catchment tank, 100,000-gallon capacity, is buried on the grounds. If help can be offered to the owner to assist with an investigation into its existence or condition, it would open up the possibility for a more public role for the Mineshaft in as how it can serve water catchment and storage to help the village.

It isn't a good use of my very limited time and energy to be single handedly pushing against the tide of public indifference to rescue the Mineshaft from what I interpret as mishandling. I hope you can use your experience, information and public regard to help nudge the needling in regard to better Mineshaft management.

Less emphasis than I would like, private ownership is inappropriate, given the site's importance to industrial culture of the Southwest.

Public Information Meeting Summary
Madrid Stormwater Improvement Project
Date: September 24, 2018
Location: Mine Shaft Indoor Theater
Meeting Announced in: Legal ad placed in Santa Fe New Mexican
Dates announced: September 17, 2018
Mail outs sent: September 12, 2018 to 161 addresses

Meeting Attendees

Seventeen people attended the meeting.

	Name	Address
1	Cliff Kitzrow	2B Firehouse Ln., Madrid, NM 87010 cliffkitzrow@gmail.com
2	Clinton Anderson	PO Box 872, Madrid, NM 87010 clint.anderson.10622@gmail.com
3	Ellen Dietrich	51 Gold Mine Rd., Cerrillos, NM 87010 dietrichej@gmail.com
4	Rebecca Nafey	PO Box 622, Cerrillos, NM 87010 areba51@gmail.com
5	Maria Lohmann	melohmann@santafecountynm.gov
6	William Hogrebe	2 Ice House Rd., Cerrillos, NM 871010
7	Amanda Branbe	PO Box 773, Cerrillos, NM 87010 amanda@amperssandproject.org
8	Dave Heath	
9	Sue Nordman	2878 Highway 14, Madrid, NM 87010 email@weaselandfitz.com
10	Jethro Bawden	129 Camino Los Abuelos, Santa Fe, NM 87508
11	Cathasha Cabrille	2851 St. Hwy 14, Madrid, NM 87010 cathasha@earthlink.net
12	Mike Hogrebe	2868 Hwy 14, Madrid, NM 87010
13	Patty McPhillips	2874 Hwy 14, Madrid, NM 87010 10pmstudio@gmail.com
14	Rebecca “Gertie” Perry-Piper	PO Box 27172, Albuquerque, NM 87125 rebeccaperrypiper@yahoo.com
15	Lori Lindson	2865/2846 Hwy 14, Madrid, NM 87010 lori@themineshafttavern.com
16	Mark Bremer	3 Opera House Rd., Madrid, NM 87010 markdb_2001@yahoo.com
17	Stella Linder Byrne	PO Box 196, Cerrillos, NM 87010 stellalinderbyrne@gmail.com

The following project team members were present:

- Lloyd Moiola, Abandoned Mine Land Program
- Erin Marynak, Abandoned Mine Land Program
- Richard Wessel, Abandoned Mine Land Program
- Jacob Pederson, Abandoned Mine Land Program
- Eric Johnson, NV5 Company

Presentation

The meeting began with a presentation. Topics covered included workshop purpose, history, current conditions, and scope-of-work. Discussion then focused on goals and potential alternatives for the Water Storage Area, Firehouse Area, and Ice House Area.

Flip Chart Notes

- Keep water from creating erosion.
- Make water beneficial.

- Rolling dips on firehouse lane were somewhat successful, but now dried out. Berms not feasible for getting up or down, or for diverting water.
- Gob is unstable material.
- Who is maintaining Firehouse Arroyo?
- Was forested several years above pile, but has not slowed runoff.
- Where will diverted water go?
- Some people are attached to gob piles, but it is ok to remove coal to have a better functioning drainage and infiltration.
- In 2013, lightning strikes on gob pile and rain destabilized gob pile. It cost me $300,000 to deal with storm.
- Coal piles OK if not destabilized.
- Gob makes good cover for roads.
- We just gravel landslide instead of removing material. The road gets higher. Need to remove erosion.
- I built retaining wall in 1986, but now road is higher than retaining wall.
- Hillside and roads repeatedly filled-in at some locations.
- Old railroad is below street level now.
- Input could provide other alternatives.
- Can we have separate meetings for separate areas?
- How long will process take? Need to expedite.
- Direct flow off mountain, through community, to arroyo.
- 100,000-gallon tank, much research has been done on new tank across Nm 14 and higher up. We would like new tank.
- Landowner association is already doing maintenance.
- If you do something on our property, we will maintain it.
- Within gobs, have stormwater infiltration. I want more green spaces, carbon sequestration, and water in soil.
- I am downstream and do restoration, but high up in watershed is best.
- I am putting channels on my property, already considering that.
- My house has retaining wall (14).
- Patty's house has dirt pile.
- Are we going to lower road? Or accept current elevation?
- Preserving visual state of gob pile, but if we keep gob piles unprotected, we will spend time taking eroded gob pile and stick it somewhere-will take forever.
- Removing gob sediment downstream not preferred. Best to reclaim gob piles-better to revegetate and reclaim gob piles.
- Need to develop cost estimate to not reclaim versus reclaim gob piles.

Question and Answer Session
(Project team responses are in italics)

Anonymous: I think you were saying this is a funded project once you get passed the permit process. I just want to be clear, that this is something that is project ready? We are going to move forward, correct?

Once everything gets through the compliance phase, what you are seeing now is the preliminary, proposed project. We are going to have alternatives, we are going to be able to flush out what it really becomes. Once we get the OK from OSM (Office of Surface Mining) that we have authorization to proceed, and we can spend federal dollars

on this, then we will go to construction. But, what you're seeing right now, right here, might not be what you see.

OSM approval is a big thing for us. That is the only way we can spend any money. When we get into this process a little more, and I have already met with Madrid landowner association and started this conversation. We need to be full partners on this project at the detail level. Because our program is not going to be here forever. We can project ourselves out maybe ten years, beyond that; it gets more uncertain for us. We are hoping the storm water systems that we install for you, are infrastructure that can exist sustainably in Madrid. We know that OSM also wants, they are aware of that risk, and so they want to know that to be true as well. We are talking about this process. This is our guidebook, together we want to get to the point where nobody is surprised by anything, everybody understands what the designs are, and how they need to be maintained? And how much investment it's going to take long term to maintain them? We are here for as long as we exist as a program to help you with the construction. Those are details that need to be figured out and will really increase the certainty of yes. It will get built.

Cliff Kitzrow: I have a problem that there seems to be a lack of communication and coordination with DOT and BLM. Everybody gets their hand into the pot and nobody gets anything done properly. We just had a wonderful drain put in, just above the low point on Highway 14, Wesel and 5th. The storm drain, they cleaned it out. However, it has nothing to do with the low point in the highway that when we get the runoff there's a nice little lake we could stock with trout. What I am asking is, is there any coordination? Between the three departments?

Yes there is. BLM is not involved with this project. The highway department, we've worked well with them in the past. They are the ones who did the construction for the drop in lid in front of the tavern that takes the water under the highway. They will be involved in construction if we get to that point.

Anonymous: If we get to..?

Maria Lohmann from the county is also here today. She is very consistent about attending our meetings. So there is coordination with the county.

Anonymous: I think that is what Cliff is bringing up, is the state, county, federal coordination so we're all on the same page. It sounds like you guys are covering that as well.

We are doing our best. Through this process, we will try to keep you with us.

Just want to point out the OSM is US Department of the Interior Office of Service Mining.

Amanda Branbe: On the last slide, it said stormwater collection basins.

That was just a concept that, coming down the arroyo there is a draw there, and top Gob area. Those are areas we are calling stormwater basins, and actually the town has already dug one out. That is a concept that existed before, and it's one way to slow water down, and try to trap some sediment before it gets in the system.

Amanda Branbe: I understand the need to get the water from a place that's flooding to a place that's safer. A lot of time, these ideas are brought from places where its more wet, and it's on the east coast for example, you want to get it out because you have a lot of rain already, but it is a newer way of doing things, but adopted in many places, and instead of just treating it like a waste product. Actually, use that storm water and get it in the ground before it gets to it's final, getting out of town place, so that we can have more green, and have more shade, and have a livelier environment.

That is a great comment. That is one of those ideas that I expect will be represented in the alternatives development process. Also, the designs that we currently have here, aren't just about getting the water through town. Infiltration is a big part of that soaking into the soil. That can only go so far when it's raining really hard and so water's got to have a place to go. So, we are trying to figure out solutions for both. And those collection basins are a way for it to settle, it also takes energy out of the water before it gets down to the next spot. Which takes the erosive force out of the water. And hopefully makes it a little more free of sediment. Once the water gets into town, if it's carrying sediment, it's going to end up in culverts, and the ditches.

Amanda Branbe: Yes, it has to have a way out of town, but along the way, it could water a lot of things that is beneficial to our town.

Lora Lindsey: I think the important thing is, keep the water from creating the erosion. Slow it down, which is what you have been talking to us about, and try to create it so there are green spaces. Let the water be beneficial. Instead of just pushing it out of town. And if it's not rushing fast, the higher you go, if you start slowing the water down, we can actually use it.

Cliff Kitzrow: I am at the top of Firehouse Lane. The rolling dips down my access road have been somewhat successful. In fact, we haven't had a really heavy rain since they were put in. However, now that everything has dried out, the berms aren't feasible to get up and down Firehouse Lane, let alone diverting any water that would be coming down there. I'm looking at all your programs are just outside of Icehouse Road. My house is just on the outside corner of Ice House Road situation. All the gob piles are unstable material. Any heavy rain is washing right across everything. At the lower corner is the box culvert drain under the Mine Shaft Tavern, and the arroyo, who's maintaining that? Right now I see cardboard boxes, weed piles, blocking that particular drain.

Maintenance, we will get to this conversation, once we get to the next part of our discussion. But maintenance of anything will build is a serious concern to us, not just because we think it's smart to have a stable plan on how these things will be preserved and functioning in the future, beyond our program. But also because that is also important to the people who can determine whether or not this program, these plans actually get money funded. We do want to work those details out, and talk about how we want to do that.

Cliff Kitzrow: The coal pile above that particular drain was forested several years ago. It has not really slowed down any heavy rain coming down. Its a 30 percent grade. Its coming down no matter what. What I am wondering is, where are the diversions actually going to happen, and where's when we have one like we had in 2007? Which flooded everything downtown.

Lori Lindsey: I think we are talking about different things guys. Talking about different scenarios. Just to be clear, Cliff, are you talking about the location that is on the road? Or are you talking about, Icehouse Road is one thing. Firehouse lane goes to the firehouse, and your road is a driveway.

I would like to raise that question with everybody. We've got some areas with very loose gob. Low visibility from the town. And where we might just want to really reclaim that and make sure that it's not going to fall downhill. Especially, if it's right below a road that could be in water. That is something we are willing to address in all our alternatives. We are also aware that doing this full scale reclamation of gob isn't the most popular option in the town. We are trying to balance this, and help everybody balance perspective on this issue.

Lori Lindsey: Do you want to have this discussion now?

This is one of the things that will come up in developing the alternatives.

Amanda Branbe: I hear people are very attached to the gob pile, and I don't live there so I am just speaking ecologically, logistically, practically. I think that I am not the only one that thinks it is ok to remove some of the coal in order to have a better functioning drainage. Not just drainage, but infiltration to create green spaces.

William Hogrebe: He said 2007 for the flood. Wasn't it 2013? So in 2013 there was a gob pile that was left from the 1980's reclamation. We had a huge series of lightning strikes on that gob pile, and the amount of water that rained at the time, was enough to make it move. It was destabilized. So that gob pile that was left for posterity became, and is still in building number 2. It has cost me over $300,000.00 to try to fill from the storm of that time period. I don't think you realize that, but that's ok. But I think the real issue is, the coal piles are really great it they are not destabilized. Once they are destabilized, they are rocks coming down the mountain. When we are talking about the areas that still have piles is what you are wanting to work on, I just want to make sure that we all understand that those people who want to hold on to gob piles are creating a futuristic issue.

Cathasha Cabrille: To add to the ecological, it's been my experience that stuff makes fabulous coverings for our road. Crushed down into the asphalt, so we could actually put it to some use.

In general, any comments about the scope of work as a whole?

Mike Hogrebe: One of the things I've noticed through the years, when everybody is cleaning, is unlike other places like California, when mudslides come down. They are getting a loader, a dump truck, they clear the roads and everything. Here, it seems we just gravel it. It just keeps going up, and up and up. We need to do something to establish a base of the roads, maintain that level. Even Highway 14, if you look at the pavement, and you look at old pictures, the pavement is like 6 feet above where the old picture was. We just keep paving and graveling erosion. We should think about just removing erosion like California does.

William Hogrebe: I have a suggestion, Mike, can you tell them where you live, and your relationship to Icehouse Road, because I think that is really important. I was talking to Jacob, I was saying that you keep raising your retaining walls.

Mike Hogrebe: Well somebody suggested making them 40-60 feet tall. Well then the road would be that high, too. I just think we need to stop, and if it would be ok with you, I would like to present something right now that you could look at. In about 1986, the MLA decided to level the road behind my house. And of course, about a week later, we had one of those washes, and it all ended up in my garage. I built this in 1986. Now the road is about 2 to 2.5 feet above my retaining wall and people say, just make your retaining wall higher.

So he's got a photo of Icehouse Road as it was in 1986.

William Hogrebe: Is it possible to dig it down? To dig it back to it's natural level?

Mike Hogrebe: I'd love my retaining wall to be a fence. That would be wonderful. The locomotive right here came right past my garage about 6 foot further down. When Baca came and dug it out to make the retaining wall, you could see this road, and this road.

When we get into all the alternatives, what I hear you saying is that we need to start maintaining things differently. One of the things we've discussed internally as a program is if we can build a storm water system that is connecting the hill slope to the roads to the culverts. Command channels to get through town, can we hand them a document that it's a maintenance manual for that entire thing. That specifies levels of maintenance. Even triggers, when it gets this much siltation, you do this treatment on it. Every time you see this is exceeded, you perform this treatment. We can do that as a program. We can develop a document with you that reflects our preferred plan, for all of our alternatives. So we are able to judge between the alternatives what we think will be a maintainable system. And together we can present our preferred alternative that represents both the system we think will balance what's possible and the benefit it can provide. But also be the thing that you can long term handle and maintain.

William Hogrebe: The thing Mike is bringing up that I totally agree with in this particular area, we are talking about a hillside erosion, but also the hillsides been filled in, and filled in. And Icehouse Road has been filled in, to the point now, where my property ends, and his brothers property ends and other properties, and it's like you doing, shew, and it shouldn't be like that. Because the road level is always like 4 feet above the ground level. And the railroad level, is below the street level. I'm not sure we want the road leveled 6 feet, 8 feet down, I'm not sure we want that at this point. My point is we need to find some kind of medium at this point. There is a real issue in both things, the fill coming up the road, and the fill still coming down from the hillside. So to figure those two things out, obviously that's what you are trying to do, but there should be a balance in those two things.

Ellen Dietrich: It might be worth pointing out, and it's a process, you are presenting a scope of work. It is essentially covering what your proposal is in these three areas, and that is one alternative. Then the input from everybody here, this meeting and maybe others could potentially be other alternatives. So, if you could go further up, I could

process, because people are jumping into the details now and it might be easier if they understood the process.

You are almost spot on. Right now, we talking about things, in a general sense, Jacob is identifying areas with problems we've all discussed over the years. Throughout this NEPA process, National Environmental Policy Act, we discuss and flush out alternatives we can throw as many against the wall as we can, but ultimately we come down to one better for the people. If we go down 6 feet, how do we address another part? It might not be the most feasible option, at the end of the process, we all agree, this is the best option, let's take that to the federal government, and say, this is what we propose, and if they agree, then they will give us the authorization to proceed, then we get funding, we spend money, and we go to construction. But right now, Jacob is identifying areas, we are trying to get your support that these are the ideas that we move forward with. Then the program will expend funds to really study these alternatives with the community.

Ellen Dietrich: Based on that, I will save my comments for a separate meeting. But are we able to have separate meetings to discuss the alternatives? I am one of the main key players here.

I love to hear comments from people as to what is the process that you want us to do to make sure we are giving to weight to your input. And I will do my best to accommodate those. If you are an individual landowner in the project area, then it is your right to give us opposition, you also have a lot of power. If we are not on the right side of your needs as a landowner, then you can stop us from doing it.

Ellen Dietrich: My comment was I'll table all my comments for now, if we can make another time when this neighborhood can get together.

That is definitely in the plan. We are always going to have meetings like this because it is a required part of the process. We're always going to go full public. There will be a lot of review, landowners, going through the details. It's also going to be important to work with the Madrid Landowners Association to develop it. Same thing with the coop as it relates to the water. There will definitely be smaller focus meetings.

Cliff Kitzrow: How long is this process going to take at this rate? How long has it been from the last one, discussing the same thing? We need to expedite, move forward with the programs. We are going at a snail's pace.

We would really like confirmation from you that these are three good project areas to be looking at. That we've got the right issues we are trying to solve in these areas, let's go do it. Once we feel good there, I am going to be out talking to lots of landowners. To set up how we are going to be working together once we have designs for each alternative. Our goal is to do that next year and then 2020 at some point be ready for construction.

Clinton Anderson: I hope you're aware with the Firehouse Road project, and saving that 100,000 gallon water tank that considerable research and some work has already been done on putting a new one at a higher altitude on the other side of Highway 14, to increase the pressure in the pipes to the fire hydrants, as well as provide a new water supply. In fact, Madrid Water Coop recently purchased a parcel of land to put a new tank

on when the time comes. Not that preserving the old one isn't a bad idea, but if you could help us with the process of putting up a new one, we would be very happy.

We were aware of the engineering document that was put together. It's great, it provides costs, proposed actions, really helpful.

Clinton Anderson: I just want to make sure anything you put on our property we will maintain.

Yes, it does not mean the MLA will maintain everything we do, but they are a really important link in the chain, and we don't want it to break.

Amanda Branbe: So you want agreement on the areas and the goals you have for those areas?

Yes.

Amanda Branbe: Is there a slide that says specifically what they goals are? What I would really like to see is to have stormwater infiltration be actually put in there. I realize there are limitations and all kinds of details. You have to deal with sedimentation and space issues, but I would like to see it within the goals. Partly it is because I am interested in more green spaces, more carbon sequestration, more water in our soil, so we can have garden's or wildlife areas. This year, we had not even 2" inches of rain, between the end of October last year, until July. So, whatever we can get in the soil, the soil could absorb a lot of water, and it could really help our land over those periods of drought. The other reason is because I am downstream. I do watershed restoration at place, and I know that when you are looking at watershed restoration as high up in the landscape as you can go is really the place to start. We're talking about high up in my watershed, and so I would like to see infiltration. My watershed happens as high up as it can go, that's here, within this project. This water comes down into the arroyo, I understand there would be a lot less coal and sediment when it gets to the arroyo, but once it gets to the arroyo then it carves through these big gob piles that are in the arroyo on the way to my place. It just takes that all to my place and the water is completely black. These are the reasons I would like to have that be an explicit part of the project.

William Hogrebe: I am independently already wrestling with this on my own property making channels that will filter water, because I am in an area where most of that water comes down and affects everybody down the line. I am already considering.

Mike Hogrebe: My house has retaining walls to hold back the 5 feet of new dirt next to my garage door that's not there any longer. Patty's house on the other hand if you go behind Patty's house, you'll see five-six feet of dirt above where the gate used to be. Other things you see all over town, is one-two feet extenders on the water meters. I think there is one meter where you have to have a miner go down and read it, it's pretty deep. Are we going to build retaining walls along these places with five feet of dirt with nowhere to go? Or are we going to lower the road down to where it used to be?

We need to figure out what is sustainable. We need to figure out which options are going to address specific goals. Road passage is one of our goals. Reducing sedimentation is one of our goals. That is what the alternative development is all about. The answer to

"what are we going to do"? We have to figure that out. There is work to be done this coming year.

Would you say in 30 years you could raise the soil five feet?

Mike Hogrebe: Once upon a time, the MLA actually raised the soil five feet to the level of the road, and that was a big mistake. They did not think it out before they did it. Now when you go down the road, back behind 14 is almost like a cliff. You can look down, for example behind Patty, you can see into the trees that would be right next to the road. Now the road is five feet taller. There has just been no engineering at all. It has just been graveling the roads.

There are no culverts under the road?

Anonymous: There is one.

Mark Bremer: I understand that the people at the last meeting, maybe the meeting before that, were talking about preserving the visual state of the gob pile. It is hard for me to understand that if we keep them unprotected, if we don't do anything about those gob piles, then maybe this plan will be funded by the MLA to slowly remove everything that comes off those every time we have rain. So, every year, when it rains, we are going to take a little bit of that gob pile that got eroded, and we are going to stick it somewhere. And we are going to do that forever. If we hold to the idea that the visual of that black has, it is worth the cost is what it comes down to. Because the consequence of keeping those things exposed, is that dedicated that has to go into every year moving it out of these sediment basins, out of the culverts, out of the downstream areas. And what happened? Every year we lose a little bit of that gob pile. So if we really want to preserve those gob piles, the best thing to do is reclaim them. Then when people come to town, they will see those reclaimed, smoothed areas on hillsides, you can say those are our gob piles, those are our coal piles, now they are covered in wildflowers, native grasses. We create a habitat up there. You can still see the gob pile; still see the smooth effect, not a rough landslide of rock. So, I am thinking the best thing we can do to those gob piles is reclaim them. That way, we preserve that indefinitely for future generations. And we drastically reduce the cost of maintenance of this complex system that we're proposing. I think reclamation of the gob piles needs to come back up. And a cost estimate for the maintenance needs to be developed with the two alternatives. People could see what they are actually purchasing when they say no, don't touch my gob piles. They need to know what the cost is going to be for not touching them. For not reclaiming them, for not protecting them. And the cost of eventually losing it over 10, 20, 30 years. Because eventually that is what will happen. If we do not reclaim them, the gob piles will be gone.

Thank you, very well said.

Public Meeting Summary- January 25th, 2024

MADRID STORMWATER AND EROSION CONTROL PROJECT

Santa Fe County, New Mexico

Coal Problem Area: Madrid Coal Breaker - NM935060

Prepared For:

ABANDONED MINE LAND PROGRAM
Mining and Minerals Division
New Mexico Energy, Minerals, and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Prepared By:

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS, LLC
3600 Cerrillos Road, Suite 407
Santa Fe, New Mexico 87507

June 2024

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Table of Contents

List of Figures

1 Introduction

The New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Abandoned Mine Land (AML) Program, in partnership with the United States Department of Interior (DOI) Office of Surface Mining Reclamation and Enforcement (OSMRE), are proposing to establish stormwater conveyances, erosion control measures, and fire prevention improvements within the town of Madrid, New Mexico, located in Santa Fe County, approximately 22 miles southwest of Santa Fe (Figure 1). These measures are proposed on 125 acres comprised of private, state and county owned land.

The Proposed Action (PA) is designed to help address on-going coal mining legacy hazards including stormwater flooding in and around Madrid, erosion on existing gob piles and roadways, improving the town's fire suppression capabilities, and closing a re-opened adit feature. Madrid's identity is rooted in its coal mining history and its economy relies heavily on tourism. It is important for the New Mexico AML Program to preserve the historical integrity of the town while safeguarding against environmental hazards.

1.1 Purpose and Need for the Project

The need for the PA is to address human health and safety concerns from hazards associated with the remnants of mining activities, including excessive erosion, flooding, and open mine features, as well as address fire suppression insufficiencies in Madrid. The purpose of the PA is to safeguard the public from these hazards while preserving the historical mining landscape.

2. Project Overview

2.1 Project Background

The town of Madrid was developed as a mining community in the 1890s. As a company town, the area grew to include housing, churches, a school, and local businesses which continued to expand through the 1930s to support miners and their families. Mining activities slowed after World War II with the last active mine in Madrid closing in 1962. During the 1960s and early 1970s, the town was mostly empty and efforts to sell it as a whole unit failed. In the late 1970s, the town was sold as individual properties and purchased in large by eclectic individuals seeking personal freedoms. Today, Madrid is a tourist destination known for its artists who wish to preserve and embrace the rich mining history of the town (WCRM 2021).

The AML Program's work in Madrid began in the 1980s and has included adit closures, asbestos removal, water tank abatement, drainage repairs and reclamation, structure demolition, and various maintenance activities. These projects have been met with varying levels of success and public approval. Recent water quality monitoring results indicate past reclamation efforts performed by the AML Program have made a positive impact on stormwater quality (GMEC 2019a). A detailed description of past projects and results can be found in the Madrid Compendium (NM AML 2009).

In 2011, Madrid Mining Landscape community outreach identified two main reclamation projects in the town of Madrid: The East Slope Catchment project and the Arroyo Restoration project (Dekker/Perich/Sabatini 2011). Since abandonment of the mines, existing coal waste piles, known

as gob piles, have remained relatively unstable and poorly vegetated. This, combined with modified natural drainages and deteriorated manmade drainage structures, has resulted in the movement of large quantities of sediment downslope and downstream flooding, especially during high precipitation events. The sediment movement has had significant negative impacts on the town of Madrid, located immediately downslope and adjacent to multiple coal gob piles. Over time, sediment has accumulated within the area, clogging drainage paths, and leading to episodic flooding throughout the town (WCRM 2021). Recently, fugitive stormwater and resulting erosion has exposed and reopened a mine adit feature that was previously backfilled by AML in 2011.

In recent years, the AML Program has increased public involvement throughout the planning process. The AML Program met numerous times with the local community and landowners. One of the main issues repeated during these communications was to determine a way to address these severe stormwater concerns without complete reclamation of the gob piles that celebrate the historical mining of the town. In addition, community members expressed concerns to update the town's fire suppression system as the current water storage tank is outdated, undersized, and has severely eroded (NM AML 2009). The AML Program strongly considered these public concerns during development of the PA. For a collection of documents regarding the history and development of this project, please see the NM AML Program's website: <https://www.emnrd.nm.gov/mmd/abandoned-mine-land-program/projects/award-winning-work/madrid-stormwater-erosion-control-project/madrid-stormwater-erosion-control-project-documents/>.

2.2 Project Location

The Area of Potential Effect (APE), containing the town of Madrid, is approximately 22 miles southwest of Santa Fe in Santa Fe County, NM. The APE is located within section 35 of Township 14 North, Range 7 East (T14N-R7E), as depicted in United States Geological Survey (USGS) New Mexico Principal Meridian (NMPM), and on unplatted land in the Mesita de Juana Lopez and Ortiz Mine Grants, as depicted in United States Geological Survey (USGS) New Mexico Principal Meridian (NMPM) Madrid 7.5' topographic quadrangles (Figure 2).

The APE is a combination of private, state and county-owned land that makes up approximately 125 acres (Figure 2). The percentage of surface ownership within the APE includes: 84 acres (67%) private, 27 acres (22%) Santa Fe County, 7 acres (6%) New Mexico Department of Transportation (NMDOT), 3 acres (2%) Madrid Water Cooperative, and 4 acres (3%) Madrid Landowners Association.

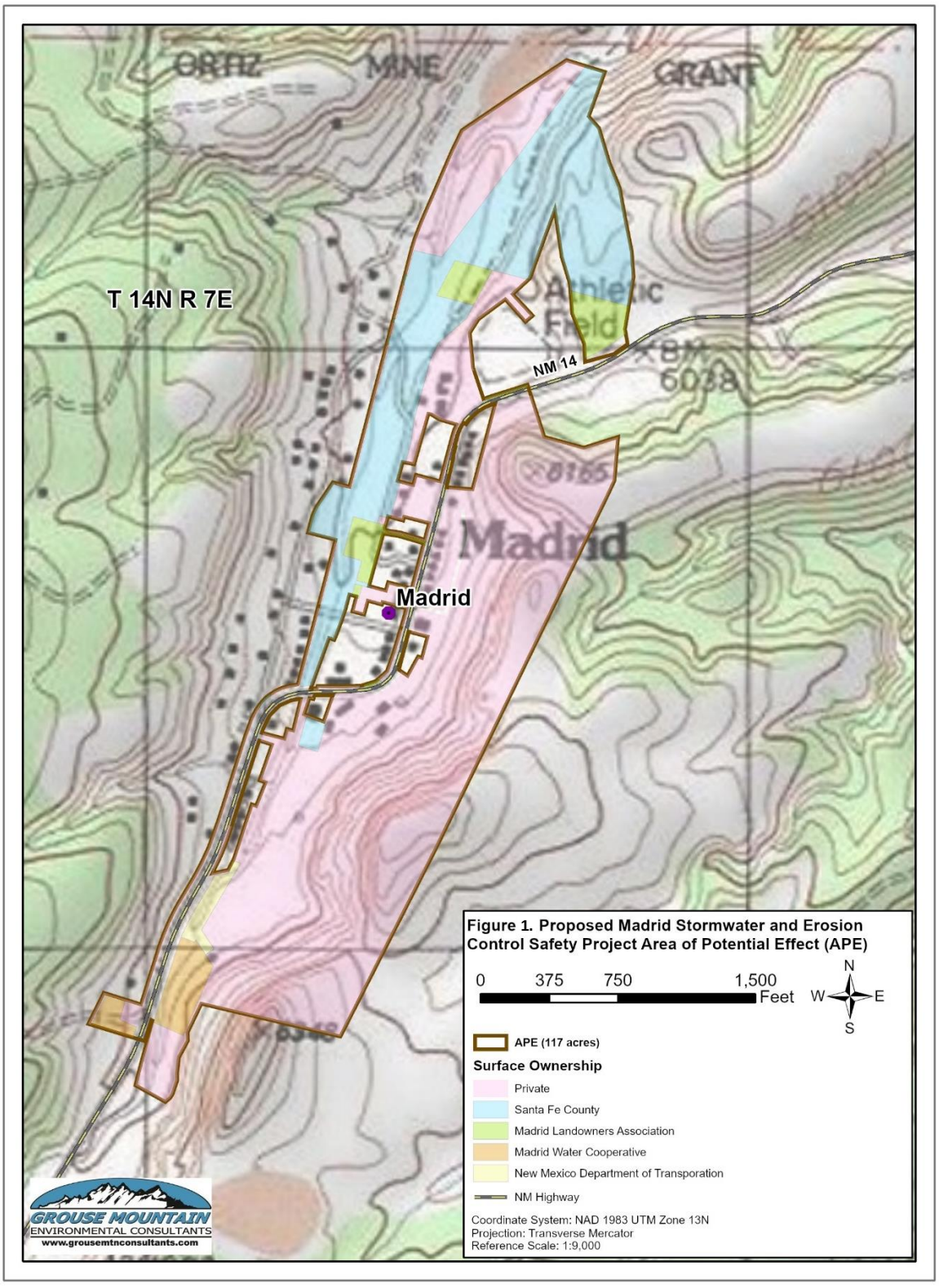


Figure 1. Proposed Madrid Stormwater and Erosion Control Safety Project Area of Potential Effect (APE)

3. Alternatives

For further details regarding each Alternative described below, please see the full description within the Environmental Assessment.

3.1 Alternative A: Proposed Action Alternative

The PA as described below was designed to address issues related to legacy mining operations, including stormwater control, erosion, and open mine features, as well as improve fire suppression capabilities, while being visually unobtrusive in the historical setting of Madrid. The stormwater improvements proposed would provide a medium level of service and would require periodic maintenance to repair gravel roads, channels, and rolling dips, and to remove sediment and debris, especially after large precipitation events. Reclamation and revegetation work would be completed in Madrid Arroyo (details to be provided in upcoming Engineering Designs and Revegetation Plan).

3.2 Alternative B

Alternative B is a selection of actions similar to the PA with alterations for each project area as described below. In general, Alternative B includes more intensive stormwater management actions that would also be more visually obtrusive in Madrid's historical setting. The stormwater improvements proposed would provide a high level of service and would require less maintenance than the PA. Alternative B would include the same mine adit closure as discussed in the PA.

3.3 Alternative C: No Action Alternative

The NAA would take no measures to reduce hazards associated with past mining activity. This alternative provides the lowest level of service, as no stormwater or erosion structures would be constructed in the discussed project areas and fire suppression capabilities would remain at the current level. The NAA does not satisfy the purpose and need of the PA based on AML Program reclamation priorities (PL 95-87, 30 USC 1240[a] 2006).

4. Public Meeting

A legal notice was prepared in both English and Spanish to describe the project background, preliminary alternatives, how to comment, and meeting time and location (Appendix A). The notice was advertised in the *Santa Fe New Mexican* and *Albuquerque Journal* on January 8, 2024. Copies of the public notices were posted on the public information boards at the Mercantile Store, Java Junction, and Village Grocer. A public service announcement was aired on KMRD for a few weeks and a posting on the Madrid Landowners Association Facebook Group page in mid-December. Notices were also mailed to approximately 340 local residential and business addresses on the week of January 8, 2024, using the U.S Postal Office Every Door Direct Mail service.

The EA was released for a 30-day comment period between January 8, 2024, and February 7, 2024.

During the comment period, the public and interested parties were invited to provide comments related to the Madrid Stormwater and Erosion Control Project Environmental Assessment. The

methods by which the public could submit comments or suggestions were:

- Over the phone, by calling 505-930-5166
- Email to Madrid_EA_Comments@gmecnm.com
- In person at the public meeting)
- Traditional mail delivery of written comments to Grouse Mountain Environmental Consultants:

  3600 Cerrillos Road, Suite 407
  Santa Fe, New Mexico 87507

5. Public Meeting Summary

An in-person public meeting was held at the at the Madrid Fire Station, 5 Firehouse Lane, Madrid, New Mexico on January 25th, 2024, from 6pm to 8pm. The purpose of this meeting was to provide an overview of the proposed project and associated environmental assessment and provide an opportunity for the public, area neighbors, and businesses to ask questions and provide input. A PowerPoint presentation was prepared and presented at the meeting jointly by Grouse Mountain Environmental Consultants (Appendix B). AML representatives and associated contractors were available for questions. There were approximately 27 people in attendance for the meeting (In Person Sign in Sheet, Appendix C).

6. Public Meeting Comments

During the 30-day comment period, comments were provided by 61 different parties. Most comments were from individuals with a select few people providing input on behalf of or as representation of a group or a group giving the feedback (Comments Response Report, Appendix D). Many of the commentors gave input on multiple aspects of the proposed action or the analysis within the EA; in total 287 comments/issues were recorded during the comment period. Comments were received during the meeting question and answer session, via phone, and via email.

The main topics brought up in the comment period were:

- A large percentage of comments were against bulldozing Madrid arroyo.
- Many commenters against the Madrid Arroyo portion of the plan, or those who understood work may be necessary in the arroyo, requested more detailed engineering designs and revegetation plan.
- Comments regarding the water tank and stormwater features outside Madrid Arroyo were primarily positive.
- A desire for more information on downstream impacts.
- Clarification of the ballpark addition of the APE, which was a portion of the proposed action that was added after the EA was posted for review.

APPENDIX A. PUBLIC OUTREACH DOCUMENTATION

Newspaper Notice

SANTA FE NEW MEXICAN

Founded 1849

GROUSE MOUNTAIN
ENVIRINMENTAL CONSULTANT
3600 Cerrillos Rd Ste 407
Santa Fe, NM 87507-2653

ACCOUNT:	S31584	
AD NUMBER:	65806	
LEGAL NO	93013	P.O.#:
1 TIME(S)	160.65	
AFFIDAVIT	0.00	
TAX	13.15	
TOTAL	173.80	

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, Veronica Gonzalez, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe, Rio Arriba, San Miguel, and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the Legal No 93013 a copy of which is hereto attached was published in said newspaper 1 day(s) between 01/08/2024 and 01/08/2024 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 08th day of January, 2024 and that the undersigned has personal knowledge of the matter and thngs set forth in this affidavit.

ISI _____
LEGAL ADVERTISEMENT RESPRESENTATIVE

Subscribed and sworn to before me on this 9th day of January, 2024

Notary _____

Commission Expires: March 14, 2027

NATHANIEL CRISTOFER MARTINEZ
Notary Public - State of New Mexico
Commission # 1139927
My Comm. Expires Mar 14, 2027

SANTA FE NEW MEXICAN

Founded 1849

GROUSE MOUNTAIN
ENVIRINMENTAL CONSULTANT
3600 Cerrillos Rd Ste 407
Santa Fe, NM 87507-2653

ACCOUNT:	S31584	
AD NUMBER:	65807	
LEGAL NO	93014	P.O.#:
1 TIME(S)	178.50	
AFFIDAVIT	0.00	
TAX	14.61	
TOTAL	193.11	

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, Veronica Gonzalez, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe, Rio Arriba, San Miguel, and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the Legal No 93014 a copy of which is hereto attached was published in said newspaper 1 day(s) between 01/08/2024 and 01/08/2024 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 08th day of January, 2024 and that the undersigned has personal knowledge of the matter and thngs set forth in this affidavit.

ISI _____
LEGAL ADVERTISEMENT RESPRESENTATIVE

Subscribed and sworn to before me on this 9th day of January, 2024

Notary _____

Commission Expires: March 14, 2027

NATHANIEL CRISTOFER MARTINEZ
Notary Public - State of New Mexico
Commission # 1139927
My Comm. Expires Mar 14, 2027

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO

County of Bernalillo SS

Wayne Barnard, the undersigned, authorized Representative of the Albuquerque Journal, on oath states that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, that payment therefore has been made of assessed as court cost; and that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

01/08/2024

AUDREY RAYLEENE CRESPIN
Notary Public - State of New Mexico
Commission # 1140072
My Comm. Expires Apr 6, 2027

Audrey Rayleene Crespin

Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this

8 day of January of 2024

PRICE $360.89

Statement to come at the end of month.

ACCOUNT NUMBER 1086021

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO

County of Bernalillo *SS*

Wayne Barnard, the undersigned, authorized Representative of the Albuquerque Journal, on oath states that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, that payment therefore has been made of assessed as court cost; and that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

01/08/2024

Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this 8 day of January of 2024

PRICE $387.41

Statement to come at the end of month.

ACCOUNT NUMBER 1086021

AUDREY RAYLEENE CRESPIN
Notary Public - State of New Mexico
Commission # 1140072
My Comm. Expires Apr 6, 2027

Audrey Rayleene Crespin

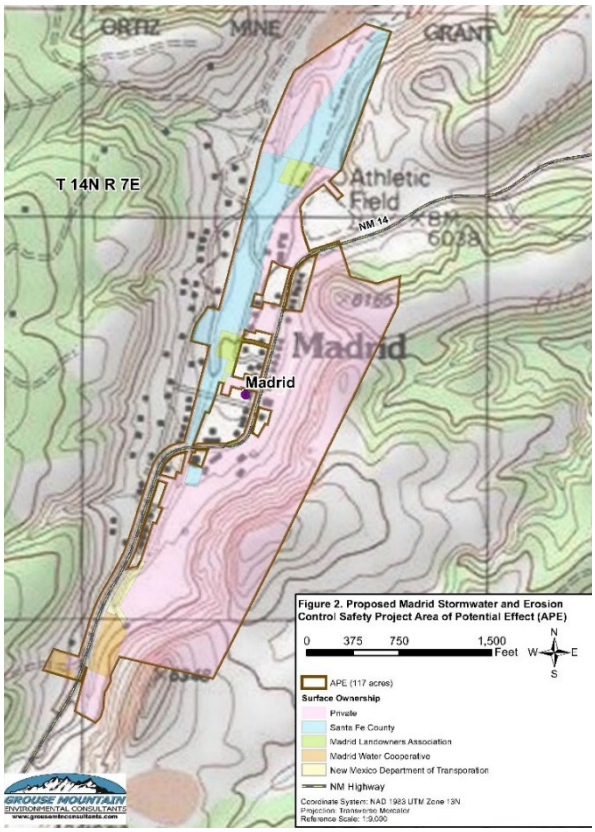
Public Meeting Notice Flyer

PUBLIC INFORMATION MEETING

Madrid Stormwater and Erosion Control Project in Madrid, NM

Public Meeting:
January 25, 2024, 6:00pm-8:00pm
at Madrid Firehouse
5 Firehouse Ln, Madrid, NM
Presentation and Feedback

Environmental Assessment Comment Period:
January 8, 2024, through February 7, 2024
Environmental Assessment available online at:
https://www.emnrd.nm.gov/mmd/public-notices/



Invitation on behalf of: The New Mexico Energy, Minerals, and Natural Resources Department, Abandoned Mine Land Program (AML), in partnership with the U.S. Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE).

Meeting Purpose: (1) To provide an overview of the proposed project and associated environmental assessment; (2) to provide an opportunity for the public, area neighbors, and businesses to ask questions and provide input.

Comments: Comments will be accepted and recorded at the public meeting or they may be emailed to Madrid_EA_Comments@gmecnm.com; mailed to Grouse Mountain Environmental Consultants, 3600 Cerrillos Rd, Ste 407, Santa Fe, NM 87507; or provided over the phone by calling Hillary Robbie at 505-930-5166. Please submit comments before February 7, 2024.

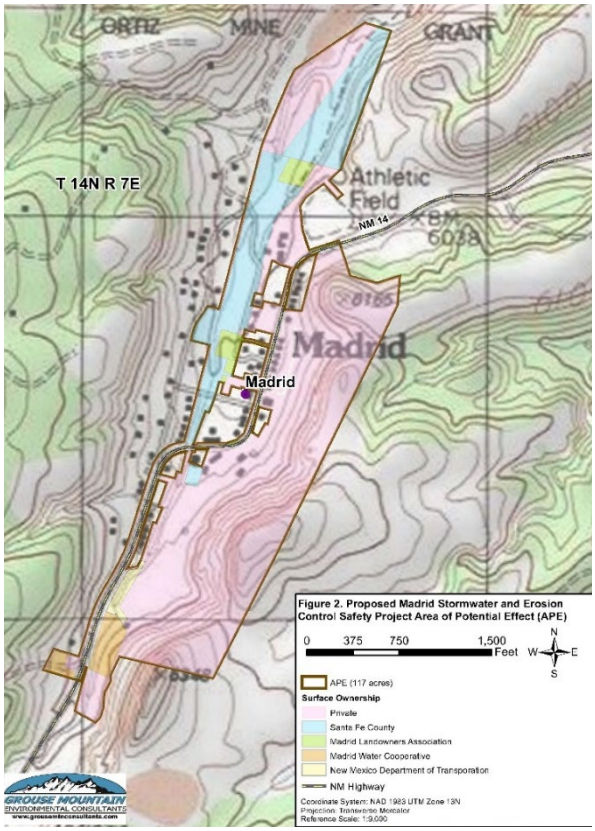
ADA: To request Americans with Disabilities Act (ADA)-related accommodations for this meeting, or should you require an interpreter, contact Hillary Robbie with Grouse Mountain Environmental Consultants at 505-930-5166 or Madrid_EA_Comments@gmecnm.com by January 18, 2024.

REUNIÓN DE INFORMACIÓN PÚBLICA

Proyecto de Control de Aguas Pluviales y Erosión en Madrid, NM

Reunión Pública:
El 25 de enero del 2024, 6:00pm-8:00pm
en Madrid Estación de Bomberos
5 Firehouse Ln, Madrid, NM
Presentación y comentarios

Período de tiempo para comentarios de la evaluación ambiental:
del 8 de enero del 2024 al 7 de febrero del 2024.
La evaluación ambiental está disponible en el siguiente enlace:
https://www.emnrd.nm.gov/mmd/public-notices/



Invitación en nombre de: El Programa de Minas Abandonadas del El Departamento de Energía, Minerales y Recursos Naturales de Nuevo México (AML, por sus siglas en inglés), en alianza con la Oficina de Recuperación y Ejecución de Minería a Superficie (OSMRE, por sus siglas en inglés).

Propósito de la Reunión: (1) Presentar una descripción general del proyecto propuesto y la evaluación ambiental asociada; y (2) darle la oportunidad al público, vecinos del área, y negocios a hacer preguntas y ofrecer sus aportaciones.

Comentarios: Se aceptarán comentarios y estos serán registrados en la reunión pública, pero también pueden mandar comentarios por correo electrónico: Madrid_EA_Comments@gmecnm.com; o por correo regular: Grouse Mountain Environmental Consultants, 3600 Cerrillos Rd, Ste 407, Santa Fe, NM 87507; o por teléfono a Cristina Marciales al: 505-930-5166 ext. 202. Favor de entregar comentarios antes del 7 febrero del 2024.

Ley de Estadounidenses con Discapacidades (ADA, por sus siglas en inglés): Para pedir asistencia por el ADA para esta reunión, o si requiere un traductor, por favor llamar a Cristina Marciales con Grouse Mountain Environmental Consultants: 505-930-5166 ext. 202, o enviar correo electrónico: Madrid_EA_Comments@gmecnm.com antes del 18 de Enero del 2024.

APPENDIX B. PUBLIC MEETING PRESENTATION

PUBLIC INFORMATION MEETING

Madrid Stormwater and Erosion Control Project

Thursday, January 25th, 2024

Madrid Firehouse – Madrid, NM

Public Information Meeting - Purpose

Gob pile above Madrid, NM
– Photo courtesy of AML

- Introduce Team Members from Agencies and Contractors
- Provide Overview of Madrid Stormwater and Erosion Control Project
- Public Involvement: Comment session & Question/Answers with project representatives

Project Team & Responsibilities

NEW MEXICO ABANDONED MINE LAND (AML) PROGRAM – Project Lead; project development, coordination, management, & construction oversight

OFFICE of SURFACE MINING RECLAMATION & ENFORCEMENT (OSMRE) – co-federal project funding source

SANTA FE COUNTY- water tank engineering design, assistance with permit acquisition on county property, landowner

Project Team & Responsibilities

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS– prepared Environmental Assessment (EA); public outreach; natural resources surveys; prepared Biological Evaluation; water quality studies; and Preconstruction Notice for USACE; sub-contracted cultural resource studies

WESTON SOLUTIONS– designed stormwater features for the east hillside and Firehouse Lane

RIVERBEND ENGINEERING– designed arroyo improvements and other stormwater features on Cave Road

TIERRA WEST, LLC– designed water tank and pipeline boring locations

Team Members

AML Team Members:

- Leeland Murray: AML Project Manager
- Lloyd Moiola: AML Environmental Manager
- Andrew Zink: AML Cultural Resource Manager
- James Hollen: AML NEPA Coordinator
- Mike Tompson: AML Program Manager, P.E.

Santa Fe County:

- Curt Temple: Public Works Projects Section Manager
- Adeline Murthy: Open Space and Trails Planning Team Leader
- Monica Harmon: Open Space Resource Management Specialist

Grouse Mountain Environmental Consultants:

- Hillary Robbie: NEPA Coordinator
- Cristina Marciales: Project Assistant

Weston Solutions:

- Rob Ederer, P.E.

Riverbend Engineering:

- Chris Phillips, P.E.

Madrid Overview
– Photo Courtesy of Grouse Mountain

Project Area: Madrid, NM

- Coal mining community from 1890s
- Developed as a company town
- Last active mine closed in 1962
- Late 1970s town sold as individual private properties
- Present day tourist destination

Madrid Overview
– Photo Courtesy of AML

AML History in Madrid

1980s through Today

- Adit closures
- Asbestos removal
- Water tank abatement
- Drainage repairs and reclamation
- Structure demolition
- Maintenance

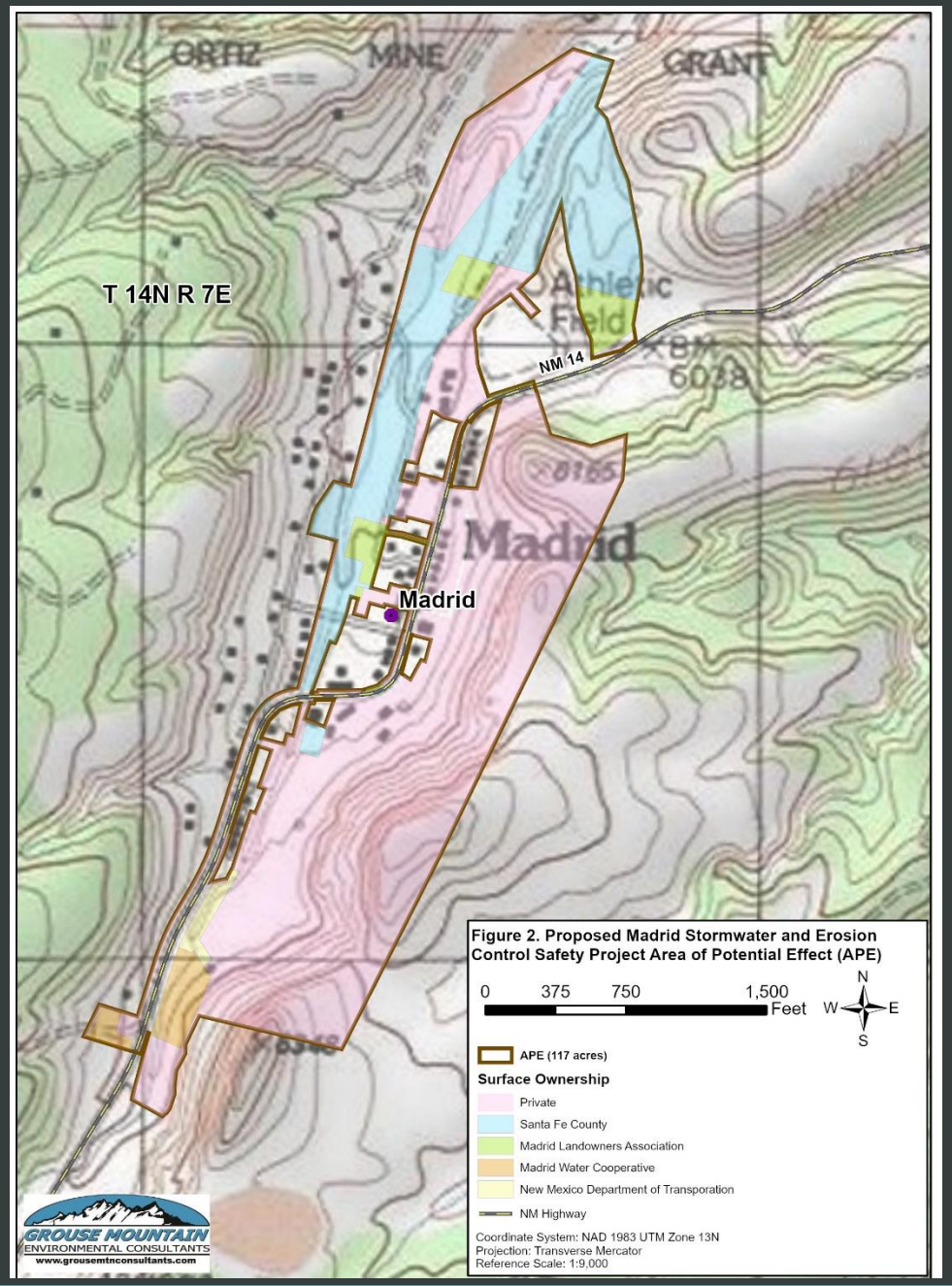
Project Development

Gob piles
– Photo Courtesy of WCRM

AML Program Public Involvement

- Gob piles, modified drainages, deteriorated drainage structures causing severe sedimentation and flooding
- Address stormwater concerns
- Maintain the historic integrity- no complete gob pile reclamation
- Update fire suppression system
- Project engineers and AML developed 30/60/90% plans with community input at each step

Recently reopened mine adit feature a safety concern



Madrid Stormwater and Erosion Control Project Area

125-acre Area of Potential Effect (APE)

- Private Land: 84 acres (67%)
- Santa Fe County: 27 acres (22%)
- New Mexico Department of Transportation (NMDOT): 7 acres (6%)
- Madrid Landowners Association: 4 acres (3%)
- Madrid Water Cooperative: 3 acres (2%)

RESOURCE SURVEYS

- Wildlife
- Hydrology
- Water Quality
- Cultural Resources
- Historical Resources

Arroyo
– Photo Courtesy of Grouse Mountain

Natural Resources Surveys

Desktop analysis

Surveys 2019

- No threatened or endangered species habitat or presence
- No rare plants located
- 1 active Cooper's hawk nest
- No wetlands
- All drainages ephemeral

Biological Evaluation

Plant Survey
– Photo Courtesy of Grouse Mountain

Water Quality

Sampling in 2019

- 2 sites below gob piles
- 2 sites at discharge points
- 1 site away from mining effects (reference site)

New Mexico Water Quality Standards

- Properties, quality, pollutants

Results

- Total Dissolved Solids, dissolved manganese, dissolved aluminum above threshold
- Reference site and sample site below Zuni bowls all below thresholds

Water Quality Analysis
– Photo Courtesy of Grouse Mountain

Cultural Resources

- National Historic Preservation Act, National Cultural Properties Act, New Mexico Prehistoric and Historic Sites Preservation Act, and New Mexico Cultural Properties Act
- Madrid Historic District (downtown, ballpark, mining museum, railroad segments, etc.)
- Western Cultural Resource Management, Inc. conducted surveys 2019-2020
  - 164-acre inventory
  - 15 historic archaeological sites
  - 1 isolated occurrence
  - 2 historical structures
  - 109 historic buildings

ENVIRONMENTAL ASSESSMENT (EA)

National Environmental Policy Act (NEPA)

Requires public involvement

Addresses a Purpose and Need

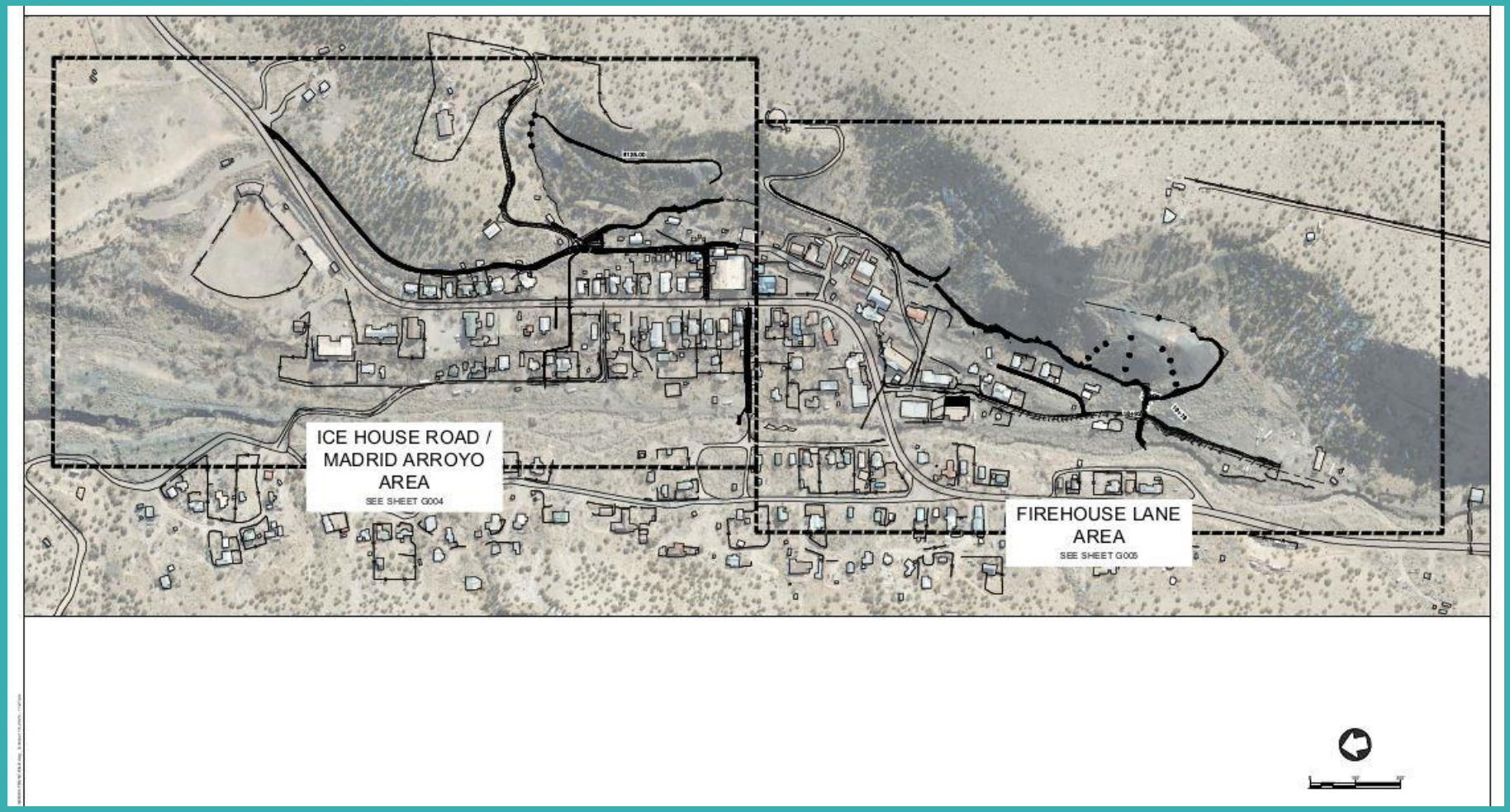
- *Need:* Address human health and safety concerns from hazards associated with the remnants of mining activities, including excessive erosion, flooding, and open mine features, as well as address fire suppression insufficiencies in Madrid.
- *Purpose:* To safeguard the public from these hazards while preserving the historic mining landscape.

Requires assessing environmental impacts from a range of alternatives that meet the Purpose and Need and a No Action Alternative:

- *No Action Alternative*- no work would be done, acts as a baseline
- *Proposed Action Alternative*- AML Program and public preferred alternative
- *Alternative B*- similar but more intensive stormwater management actions

PROPOSED ACTION

- Close mine adit feature
- Water tank and fire suppression system
- Stormwater improvements



Proposed Action Overview
– Photo Courtesy of Weston

Proposed Action- Mine Closure

Stormwater and erosion have opened a previously backfilled feature. Proposed Action would close by:

- Manual or mechanical filling with soil and rock, waste material, and/or polyurethane foam
- Structural barrier

Open Mine Feature
– Photo Courtesy of AML

Proposed Action- Mine Closure

Stormwater and erosion have opened a previously backfilled feature. Proposed Action would close by:

- Manual or mechanical filling with soil and rock, waste material, and/or polyurethane foam
- Structural barrier

Polyurethane foam closure with drainage cap – *Photo Courtesy of AML*

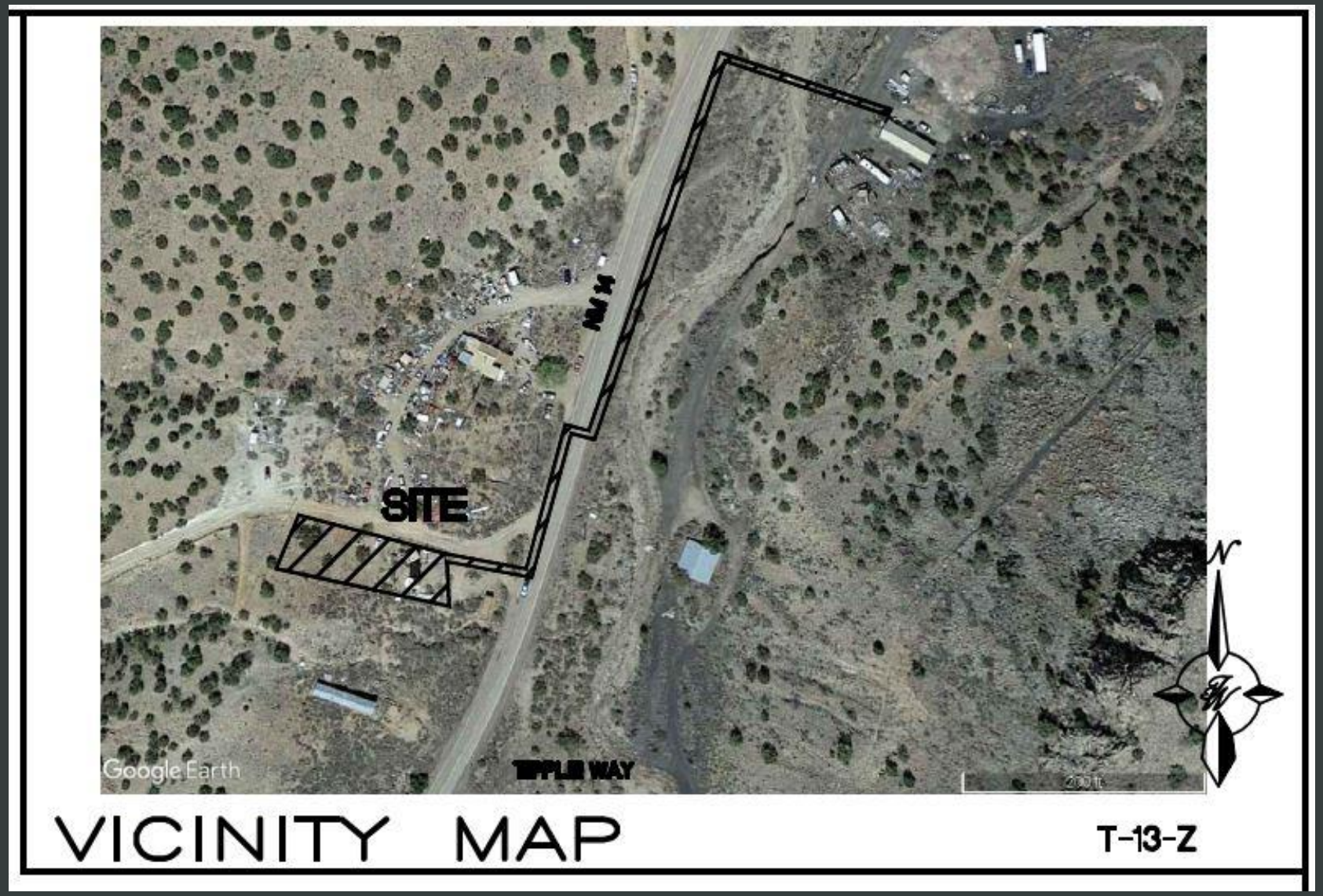
Proposed Action- Fire Suppression System

- Purpose: to meet Santa Fe County code requirements for fire suppression water volume and pressure
- New 125,000 gallon water tank
- Transmission pipeline- crosses south of Madrid and connects to existing pipeline near fire house

- Less disruptive
- Less potential for underground utility interference

Current Water Tank
– Photo Courtesy of AML

Proposed Action- Fire Suppression System



Water Tank Project Area – *Image from Tierra West plans*

Proposed Action- Stormwater Controls

ICE HOUSE ROAD

Bethlehem Hill Road

- earthen rolling dips, cobble rock rundowns, cobble swales directing into a stormwater conveyance channel

Bethlehem Hill Arroyo

- Zuni bowls, plunge pools, one-rock dams decrease erosion

Proposed Action- Stormwater Controls

ICE HOUSE ROAD

Ice House Road

- Re-graded with crowned gravel cross-section
- Sediment pond for stormwater
- Three channel intercepts with rock-lined channel to capture and directs stormwater away from private property (hidden from village view)

Soil Disposal Area

- Regrade gob piles, cover with excess material from Arroyo improvements, revegetate
- Add drainage and gob toe treatment

NO.	DATE	APVD.	REVISION
A	8/24/21		ISSUED FOR REVIEW
B	10/26/22		NM EMNRD-AML REVISIONS

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	SC	AUG 23	
DES. ENG.	SC/RGE/AMB	AUG 23	
PROJ. ENG.	RGE	AUG 23	
PROJ. MGR.	SC	AUG 23	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

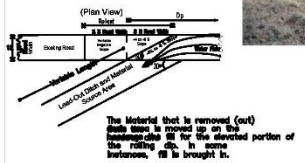
DRAFT
NOT FOR
CONSTRUCTION

ICE HOUSE ROAD/MADRID ARROYO AREA
SITE LAYOUT

DRAWN	RW	DATE	AUG 23
SCALE		W.O. NO.	15740.001.003

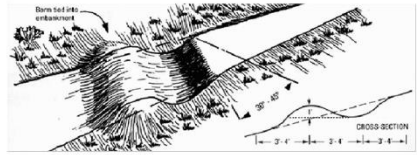
DWG. NO. G004 REV. NO. B
SHT. 4 OF 48

ROLLING DIP

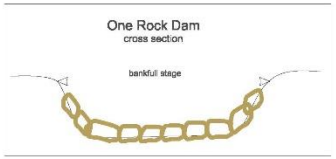


ROCK RUNDOWN

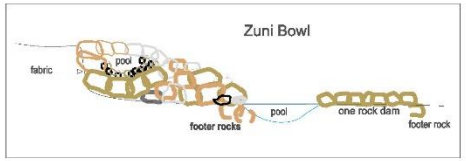
WATER BAR



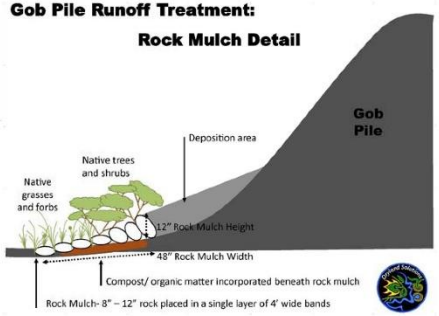
ONE ROCK DAM



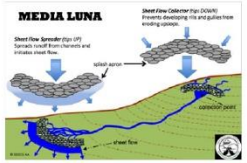
ZUNI BOWL



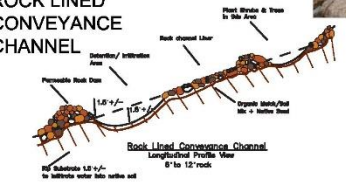
GOB TOE TREATMENT



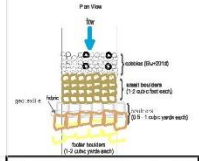
MEDIA LUNA

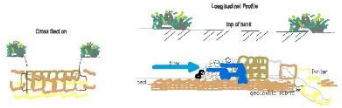


ROCK LINED CONVEYANCE CHANNEL



DROP STRUCTURE





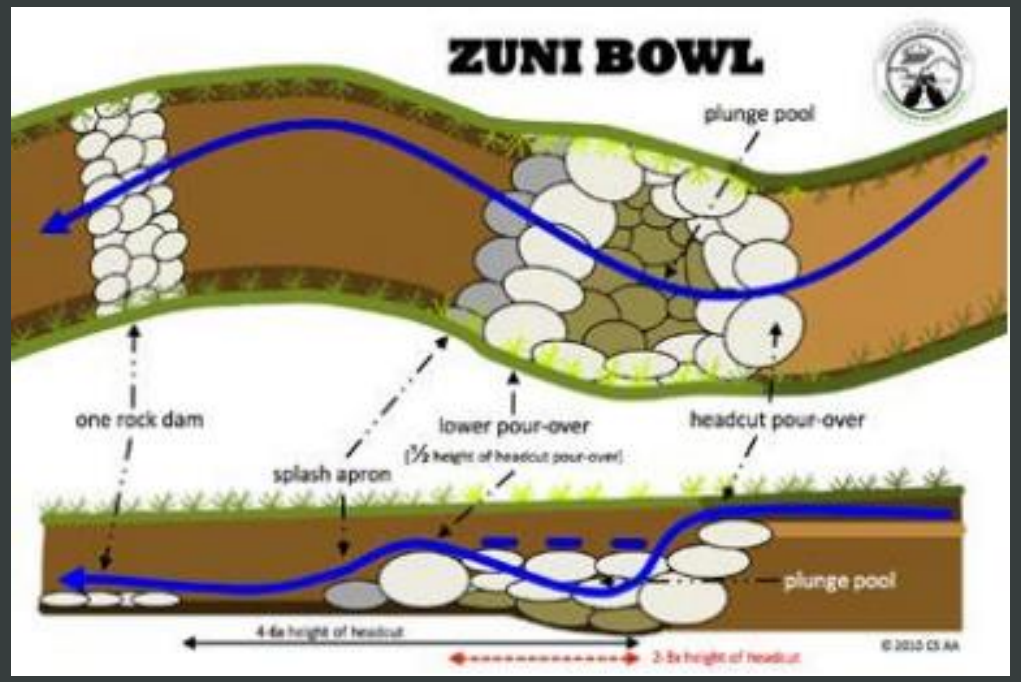
Dekker/Perich/Sabatini

Rangeland Hearts, LLC

Riverbend Engineering, LLC

MADRID NEW MEXICO	SHEET
MADRID STORM WATER IMPROVEMENT PROJECT	4 OF 5
TREATMENT LEGEND	8/28/13

Proposed Action- Stormwater Controls



Proposed Action- Stormwater Controls

MADRID ARROYO AND CAVE ROAD

Cave Road

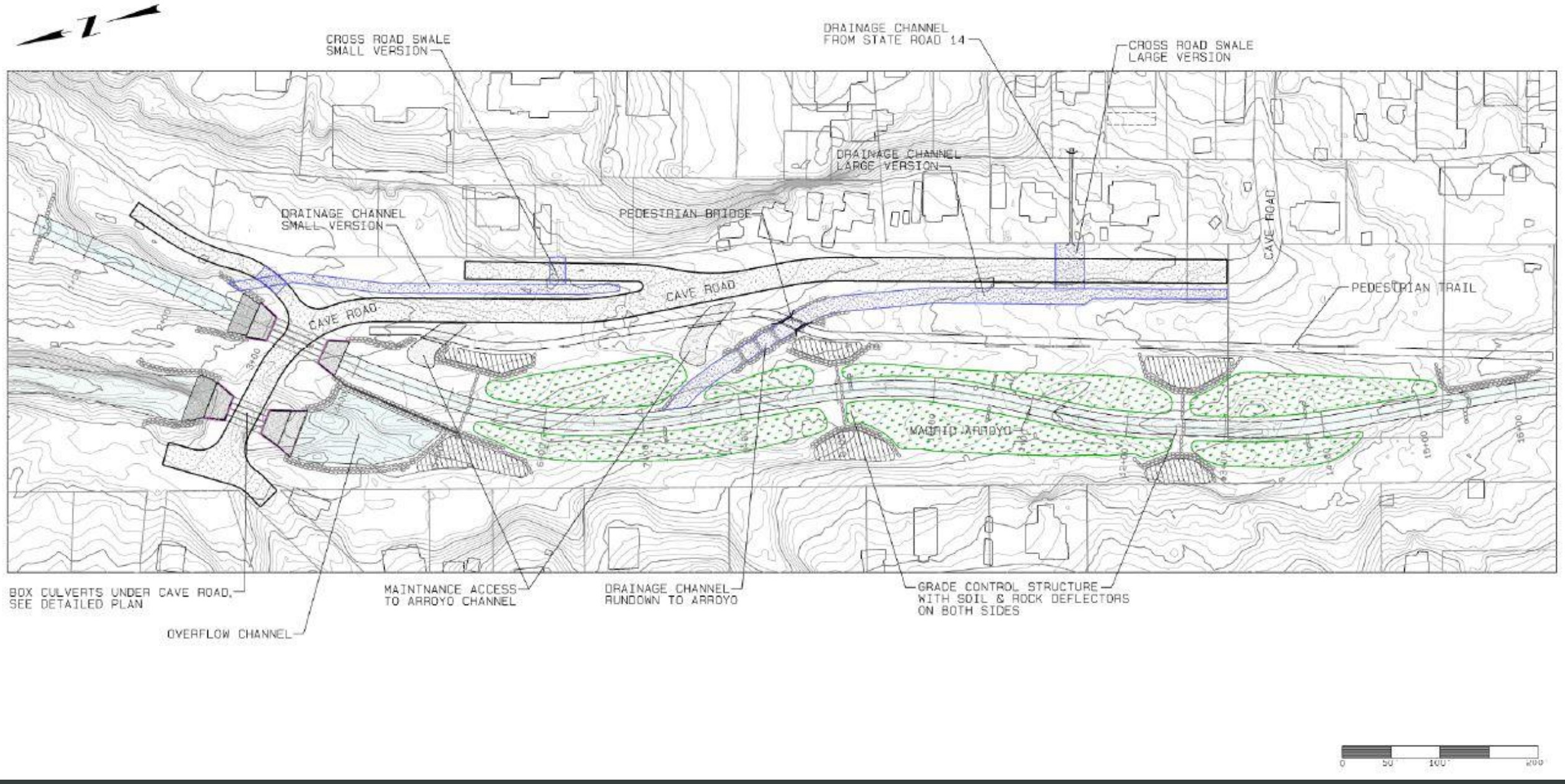
- re-grade with rock-lined swale and gravel roadway
- two bifurcated roadways (east and west) for local access and Arroyo crossing
- Excess fill from Arroyo added to old railroad grade between Cave Rd and Arroyo to prevent flooding
- Two channels with box culverts installed at Arroyo crossing

Bridge Street

- re-graded with additional base coarse material
- install center valley gutter and drainage inlet drop structure into Madrid Arroyo

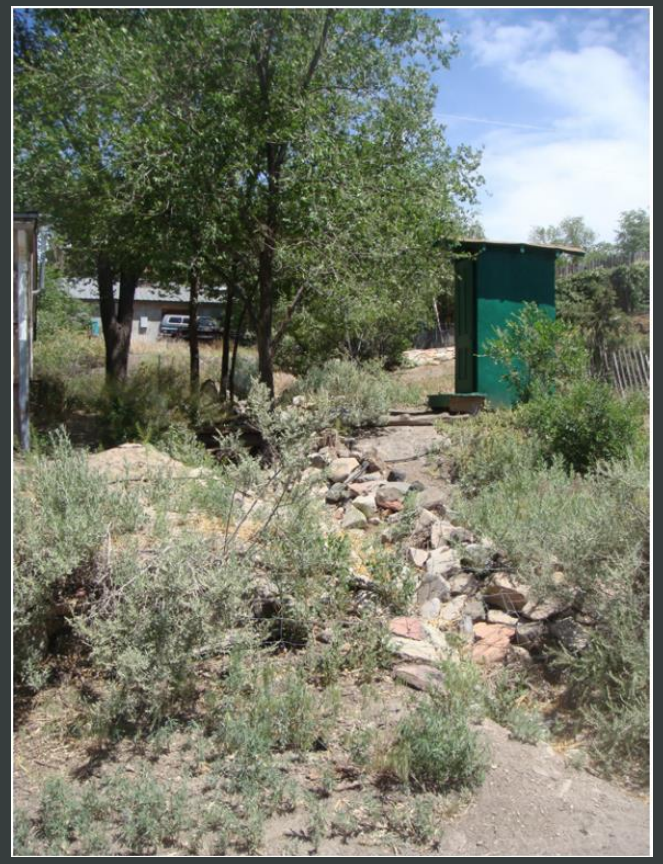
Madrid Arroyo

- main channel would be re-graded, with rock and soil deflectors installed within channel
- native seed mix and plantings to stabilize soils


CROSS ROAD SWALE
SMALL VERSION
DRAINAGE CHANNEL
FROM STATE ROAD 14
CROSS ROAD SWALE
LARGE VERSION
DRAINAGE CHANNEL
LARGE VERSION
DRAINAGE CHANNEL
SMALL VERSION
PEDESTRIAN BRIDGE
CAVE ROAD
CAVE ROAD
CAVE ROAD
PEDESTRIAN TRAIL
MADRID ARROYO
BOX CULVERTS UNDER CAVE ROAD,
SEE DETAILED PLAN
MAINTNANCE ACCESS
TO ARROYO CHANNEL
DRAINAGE CHANNEL
RUNDOWN TO ARROYO
GRADE CONTROL STRUCTURE
WITH SOIL & ROCK DEFLECTORS
ON BOTH SIDES
OVERFLOW CHANNEL
0
50
100
200

Proposed Action- Stormwater Controls

MADRID ARROYO AND CAVE ROAD



Rock-lined Swale

Channel with box culverts

Rock Deflector

Proposed Action- Stormwater Controls

FIREHOUSE LANE

Firehouse Lane

- Rock-lined gravel roadway channels water into Arroyo and existing drop inlet structure
- Add drainage structure midway
- North of drainage structure, re-grade to inverted crown gravel roadway

East Gob Piles

- Zuni bowls, plunge pools, one rock dams, and rock rundowns in higher elevations
- Trapezoidal channels at toes

Red Dog Road

- Re-graded with more base coarse material
- Rock-lined ditch above road to channel stormwater into existing culvert under Firehouse Ln

NO.	DATE	APVD.	REVISION
A	9/24/21		ISSUED FOR REVIEW
B	10/28/22		NM EMNRD-AML REVISIONS

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	SC	AUG 23	
DES. ENG.	SC/RGE/AMB	AUG 23	
PROJ. ENG.	RGE	AUG 23	
PROJ. MGR.	SC	AUG 23	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

DRAFT
NOT FOR
CONSTRUCTION

FIREHOUSE LANE AREA
SITE LAYOUT

DRAWN	DATE	DWG. NO.	REV. NO.
RW	AUG 23	G005	B
DES'R	W.O. NO.	SHT. 5 OF 48	
	15740.001.003		

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Alternative B

- Close mine adit feature
  - No difference from Proposed Action
- Water tank and fire suppression system
  - Same 125,000-gallon water tank
  - Pipeline along west side of highway and crosses under at bend
- Stormwater improvements
  - Intensive level of service needing less maintenance
  - More visually obtrusive in Madrid's historical setting

Alternative B- Stormwater Controls

ICE HOUSE ROAD

- Paved standard and inverted crown road improvements
- Storm drain pipes
- Large detention pond
- Rock-lined stormwater diversions

➢ **Soil Disposal area**

- **Reclaim/ cover gob piles**
- **Revegetate**
- **Add drainage and gob toe treatment**

Alternative B- Stormwater Controls

MADRID ARROYO AND CAVE ROAD

Cave Road

- Re-grade with rock-lined swale and gravel roadway
- Excess fill from Arroyo added to old railroad grade between Cave Rd and Arroyo to prevent flooding
- Two channels with box culverts installed at Arroyo crossing

Bridge Street

- Paved
- Install center valley gutter and drainage inlet drop structure into Madrid Arroyo

Madrid Arroyo

- Main channel would be re-graded with rock and soil deflectors installed within channel
- Native seed mix and plantings to stabilize soils

Alternative B- Stormwater Controls

FIREHOUSE LANE

- Paved standard roads
- Storm drain pipes
- Rock-lined stormwater diversions
- Sediment basins

Red Dog Road

- Paved
- Rock-lined ditch above road to channel stormwater into existing culvert under Firehouse Ln

Madrid Stormwater and Erosion Control Alternative Comparisons

PROPOSED ACTION

- Close mine adit feature
- Water tank and fire suppression system
- Stormwater improvements: medium level of service needing periodic maintenance

ALTERNATIVE B

- Close mine adit feature (same as PA)
- Water tank and fire suppression system (different pipeline route)
- Stormwater improvements: intensive level of service needing less maintenance

NO ACTION ALTERNATIVE

- Leave mine adit feature open
- No new water tank and fire suppression system improvements
- No stormwater improvements

Effects Comparisons- Cultural Resources

PROPOSED ACTION

Beneficial Effects

- Historical features protected from stormwater, erosion, and fire

Adverse Effects

- May disturb sites physically and/or visually
- Memorandum of Agreement (MOA)- Describes in detail effects from proposed action activities and data recovery and alternative mitigations
- Mitigation measures may include monitoring, 50 feet avoidance buffer, barrier fencing, color blending, reducing visuals

ALTERNATIVE B

Beneficial Effects

- Historical features *better* protected from stormwater and erosion (same fire benefit)

Adverse Effects

- *Greater* adverse impact- more disturbance, more visual impact
- Similar mitigation measures

NO ACTION ALTERNATIVE

Beneficial Effects

- No change from the current historical setting (except continual damage from stormwater/erosion)

Adverse Effects

- No increased protection from stormwater, erosion, or fire improvements

Effects Comparisons- Visual Resources

PROPOSED ACTION

Beneficial Effects

- Decrease deterioration

Adverse Effects

- Construction visuals
- Stormwater features visible though natural looking

ALTERNATIVE B

Beneficial Effects

- Decrease deterioration

Adverse Effects

- *Greater* construction visuals
- Stormwater features *more* visible

NO ACTION ALTERNATIVE

Beneficial Effects

- No change from the current historical setting

Adverse Effects

- Stormwater/erosion issue continue to degrade area

Effects Comparisons- Water Resources

PROPOSED ACTION

Beneficial Effects

- Redirect arroyo to historic channel
- Reduced runoff and sedimentation
- Improved water quality

Adverse Effects

- Short-term construction

ALTERNATIVE B

Beneficial Effects

- Redirect arroyo to historic channel
- *Greater* reduced runoff and sedimentation
- *Greater* improved water quality

Adverse Effects

- *Greater* short-term construction

NO ACTION ALTERNATIVE

Beneficial Effects

- none

Adverse Effects

- No channel improvements
- No runoff/sedimentation prevention
- No improved water quality

Effects Comparisons- Wildlife

PROPOSED ACTION

Beneficial Effects

- Remove entrapment hazard (mine)
- Reduced habitat degradation from stormwater/erosion

Adverse Effects

- Limited habitat disturbance
- Short-term avoidance/entrapment potential

ALTERNATIVE B

Beneficial Effects

- Remove entrapment hazard (mine)
- *Greater* reduced habitat degradation from stormwater/erosion

Adverse Effects

- Limited habitat disturbance
- *Greater* short-term avoidance/entrapment potential

NO ACTION ALTERNATIVE

Beneficial Effects

- None

Adverse Effects

- Mine entrapment hazard remains
- Habitat degradation continues

Effects Comparisons- Vegetation & Soils

PROPOSED ACTION

Beneficial Effects

- Soil disposal reclamation area; the revegetation will improve drainage and erosion control
- Native seeding/plantings within Madrid Arroyo
- Reduced erosion

Adverse Effects

- Limited construction impacts
- Potential for weeds

ALTERNATIVE B

Beneficial Effects

- *More* native seeding/plantings within Madrid Arroyo
- *More* reduced erosion

Adverse Effects

- Limited construction impacts
- Potential for weeds

NO ACTION ALTERNATIVE

Beneficial Effects

- None

Adverse Effects

- Continued erosion

Effects Comparisons- Human Health and Safety

PROPOSED ACTION

Beneficial Effects

- Reduce flooding conditions
- Improved traffic, residence, and business safety
- Remove mine hazard

Adverse Effects

- None

ALTERNATIVE B

Beneficial Effects

- *Greater* reduced flooding conditions
- *Greater* improved traffic, residence, and business safety
- Remove mine hazard

Adverse Effects

- None

NO ACTION ALTERNATIVE

Beneficial Effects

- None

Adverse Effects

- Continued flooding and erosion threats
- Continued fire suppression inadequacy
- Mine hazard remains

Effects Comparisons- Socioeconomic Conditions & Environmental Justice

PROPOSED ACTION

Beneficial Effects

- Reduced risk of property damage
- Decreased insurance rates
- In line with Madrid community input

Adverse Effects

- Temporary construction impacts

ALTERNATIVE B

Beneficial Effects

- *Greater* reduced risk of property damage
- Decreased insurance rates

Adverse Effects

- Temporary construction impacts
- Potential economic impact from more visual improvements
- Less favorable alternative from Madrid community input

NO ACTION ALTERNATIVE

Beneficial Effects

- None

Adverse Effects

- Continued risk of property damage
- Not favorable to Madrid community

Effects Comparisons- Transportation & Recreation

PROPOSED ACTION

Beneficial Effects

- Improved road conditions
- Improved recreation conditions

Adverse Effects

- Temporary closures/limited access

ALTERNATIVE B

Beneficial Effects

- *Greater* improved road and recreation conditions with *less maintenance*

Adverse Effects

- *Longer* temporary closures/limited access

NO ACTION ALTERNATIVE

Beneficial Effects

- None

Adverse Effects

- Continued road and recreation area degradation

Madrid Stormwater and Erosion Control Project Schedule

January 8 - February 7:	**Open Comment Period On Environmental Assessment**
February:	**Analyze Comments Received**
February:	**Conduct Additional Cultural Survey On Added APE**
March - April:	**Finalize Environmental Assessment**
April - May:	**Post Final EA, Finding Of No Significant Impact, And Decision Record Followed By 30-day Objection Period**
Begin Work –	
Late Summer:	**Water Tank Installation**
Winter 2024/2025:	**Hillside And Arroyo Work Following Bid Procurement**

Question/Answer & Comment Session

PLEASE SUBMIT ADDITIONAL COMMENTS OR QUESTIONS BY FEBRUARY 7, 2024 TO:

Hillary Robbie
Grouse Mountain Environmental Consultants
3600 Cerrillos Road, Suite 407
Santa Fe, NM 87507
Phone – 505.930.5166
Email – Madrid_EA_Comments@gmecnm.com

Thank you for participating!

APPENDIX C. PUBLIC MEETING SIGN-IN SHEET

Public Information Meeting
Madrid Stormwater and Erosion Control Project

Santa Fe County, New Mexico
Madrid Firehouse
5 Firehouse Ln Madrid, NM 87010
Thursday, January 25th, 2024

PLEASE SIGN IN & PRINT LEGIBLY

NAME	AFFILIATION	ADDRESS	PHONE	EMAIL
Clinton Anderson	Madrid Landowners' Association	P.O. Box 872 Madrid, NM 87010		Clint.Anderson.10622@gmail.com
Adeline Murthy	Santa Fe County	100 Catron St. Santa Fe, 87501	505-995-2774	amurthy@santafecountynm.gov
Monica Harmon	Santa Fe County	100 Catron St Santa Fe, 87501	505-992 9825	mharmon@santafecountynm.gov
James Hollen	MMD AML	1220 S. St. Francis SAF 87505	505 231 8332	james.hollen@emnrd.nm.gov
PAUL Dickson	Landowner	PO Box 40634 ABQ 87196	505 350 6785	PWeaselDickson@gmail.com
MATT LEIMBACH	Water Operator	PO BOX 715 Cerrillos NM 87010	505 206 2388	Sunwatermatt@gmail.com
Meghan McDonald	MMD AML	1220 S. St. Francis Dr. Santa Fe, NM 87110	505-629-9872	meghan.mcdonald@emnrd.nm.gov
Lloyd Moiola	MMD-AML	" " " "	505-629-3757	
ELLEN DIETRICH	MCP	51 Goldmine Rd Cerrillos 87010	505-474-6535	dietrichej@gmail.com
Andrew Zink	AMLP			andrew.zink@emnrd.gov

NAME	AFFILIATION	ADDRESS	PHONE	EMAIL
Jethro Bowden	Madrid Water	129 Camino Los Abuelos, SF 87508	505-473 7160	—
Gavin Strathdee		2857 NM 14 MADRID 87010-9752	(505)	471-7296
Robert Edorer	Wastan Solns	Albq. NM	505-331-12	rob.edorer@wastan solutions.com
Chris Phillips	Riverbend Eng	Albq, NM	—	—
Leland Murray	AML	& ABQ. NM	505-629-6977	
Curt Temple	Santa Fe County	SF	505-490 2691	CTemple@SantaFeCountyNM.gov
Mike BACA	MADRID	2878 NM 14	505 501 2502	COYOTETECH @YAHOO.COM
Sue Nordman	MLA	2 Camino No Es, Madrid	734-696-7291	susan.nordman@att.net
Kiera Quinn	MCP	07 Backroad, 2843 Hwy 14	214-288-0139	kierark@gmail.com
Mark Bremer	MLA, MCP	3 Opera House Road, Madrid	—	markdb_2001@yahoo.com
JOSE I DOMINGUEZ	MLA & MCP	2B FIREHOUSE LANE	on file	"
REBECCA NAFEY	MADRID MW MLA	2876 NM 14		
CHRISTIN BOYD	SF COUNTY	31 WHITE WOLF RD., CERRILLOS	505.570 4700	FLYGIRLIRON@GMAIL
DENISE GRAY	LAND OWNER	10 FIREHOUSE LANE	801 699 1090	DGRAY85@GMAIL.COM
STEFF EITER	OWNER	24, 28 Backroad 5 Bridge Rd	202-285 8350	STEFFEITER@YAHOO

NAME	AFFILIATION	ADDRESS	PHONE	EMAIL
Amanda Bramble	Ampersand Sustainable Learning Center	PO BOX 773 Cerrillos 87010	780-0535	amanda@ampersandproject.org
STEVA BYRNE	MLA / KMRD	PO BOX 196 CERRILLOS, NM 87010	471-3195	HOWDY@KMRD-FM

APPENDIX D. COMMENTS RESPONSE REPORT

Comment No.	Name	Issue/Comment	Date	Response
1	Stephane Lara	Request not to include the destruction of the arroyo.	1/29/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
2	Nick Sekunda	Against the "Arroyo Demolition Project". Not opposed to stormwater features but does not want to have the Greenbelt bulldozed.	1/30/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
3	Amanda Bramble	I'm concerned about where the water is getting redirected to and the fact that a lot of erosion is going to happen in the area if it's not prepared for that extra water. I live right downstream of that area so I'm very concerned; I just walked out there this morning took a bunch of pictures so please call me back	1/26/2024	Stormwater is directed to the arroyo at three locations – Bridge Street, Cave Road drainage way, and Firehouse Lane south of Red Dog Lane. No extra water will be managed. Hydrologic and hydraulic modeling has been completed for the Madrid arroyo reach by URS in 2011. The purpose of the design features is to slow the water down before discharging to the arroyo. A detention pond is planned for Ice House road area which will also “slow the water” and reduce sedimentation. We have not designed any stormwater infiltration infrastructure. Water directed to County parcel No. 1 will be limited in quantity due to the limited capacity of the box culverts under Cave Rd. Only about 10% of the 100-yr flood will flow NE to the County parcel. We plan to construct multiple small rock grade control structures in this NE reach of the arroyo, to prevent erosion. Also, a larger grade control structure will be built at the north end of this parcel to prevent headcutting.
4	Michael Lancaster	The area known as Greenbelt must not be dozed, scraped clean, or otherwise destroyed. It is an environmental and community asset and this would be a major mistake. We are asking that it be left alone and the project should study other ways to allow water to pass through. Please offer the community an alternative approach.	1/29/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
5	Mark Bremer	I found a “Save the Arroyo” flyer in my mailbox this morning and was immediately dismayed by the complete one-sided portrayal of the issues related to the modification of the arroyo. Not to mention the misplacement of the “Footbridge” arrow some 200 feet closer to the north than in reality. The “Limits for Clearing, Grubbing and Removal” do not extend to the footbridge some 200 feet upstream of drawing edge. The flyer presents the Madrid Arroyo Demolition Plan with the following added statements: *EVERYTHING INSIDE THIS BOUNDARY WILL DIE *AML/Santa Fe County want to BULLDOZE the arroyo. *The StormWater & Erosion Project does NOT have to include the destruction of the ecosystem. *CALL OR EMAIL AND TELL THEM TO DROP THE "MADRID ARROYO DEMOLITION PLAN" FROM THE PROJECT I took a stand and sent the following e-mail to Amanda Bramble who apparently has influence in the community and will be hosting a radio show tonight on KMRD.fm (96.9 FM Radio), Tuesday, January 30 at 5:00 pm according to their on-line schedule, to discuss this issue. Here are my concerns: No mention was made of the vastly improved sediment transport in the arroyo with the proposed action. This increased transport of sediment will reduce the flooding to neighboring homes, three of which are at-risk due to the 100-year flood now and will be outside that benchmark floodplain with the proposed action. Without a mature and full plant succession riverbed cross-section to properly function and convey sediment, protect vegetated soils, trees and large shrubs in the proposed floodplains, the floods for the community will only expand as the sediment continues to build. The constant disturbance of this area, by constantly being subjected to increased and deposited sediment, is evidenced by the profusion of first succession plants that initially colonize disturbed soils namely tumbleweed and rag weed (Kochia). There are large areas of weed infestations. Also there are few large trees and widely disbursed. When the 2013 mega-storm came and went so did most of the vegetation saving only the large Siberian elms and large sage/rabbit/saltbush brush. With a dedicated incised riverbed and dedicated and stabilized floodplain in the proposed action, more trees and shrubs will be able to survive as the water velocities will be minimized in a floodplain to the survival of more plants.	1/30/2024	Comment is noted.

Comment No.	Name	Issue/Comment	Date	Response
		I fully expect the forest density on the proposed floodplains will not only increase in numbers, but exponentially increase the diversity of surrounding plant life. This is in addition to an expanded number of bird habitats and nesting opportunities. I also see profound improvement of the downstream arroyo which will receive additional moisture from the return of a historical low-flow storm flows as planned. Without seeing both sides - and there are many other issues than just sediment transport as mentioned above, then the one-time only opportunity to return this arroyo to its pre-developed condition may be lost forever. And without seeing both sides, the increased diversity, abundance, soil stabilization, and flood protection for our neighbors will be lost. The flyer just might do the trick.		
6	Jane Butler	I live in Madrid New Mexico I wanted to ask you to drop the Madrid Arroyo Demolition Plan from the project here in Madrid	1/29/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
7	Molly Dietze	Please drop the arroyo destruction portion of the project.	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
8	Andrew Wice	I would like to express my opposition, in the strongest possible terms, to the aspect of this project called "Madrid Arroyo Demolition Plan." This destructive plan will have no positive impact on erosion or flood control. The negative impact is obvious: complete destruction of a functioning open natural ecosystem. The demolition of the arroyo is a terrible idea, and it must be stopped. I have lived next to the arroyo for 25 years and I enjoy walking through it every single day. I strongly oppose the demolition of the arroyo. The rest of the project is fine.	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
9	Ryan Dorais	Drop the Madrid Arroyo Demolition Plan.	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
10	Lori Ottino	Hi, My name is Lori Ottino and I am a business owner, resident and landowner in Madrid NM. I am writing to request that the Madrid arroyo demolition plan be dropped from the project. There is a very delicate ecosystem that has rebuilt itself and would be destroyed by bulldozing the arroyo.	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
11	Barbara Harnack	I wanted to let the committee know I feel this design proposed is heavy handed. The Madrid Green Belt has been in the making for many years and is part of the village for many reasons, garden, walks, nature. I am hoping something can be designed that can preserve this Green Belt as much as possible. Thank you for reading my comment	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
12	Sue Nordman	As I'm sure you realize by now, many Madrid residents are up in arms about the proposed plans for rerouting the arroyo and removing decades of sediment. Would you consider planning a trip to Madrid on a specific day and time where you would lead us local residents on a walk through the arroyo with you and educate us as to the reasons and whys the arroyo will be rerouted and the vegetation uprooted? I personally find it hard to ultimately visualize the plans on paper and would welcome the opportunity to walk the land with the engineers and to be able to ask direct questions about specific places. I think it would go a long way to help ease the animosity that is being voiced.	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

Comment No.	Name	Issue/Comment	Date	Response
13	Betsy Burke	I am distressed by the proposed plan to destroy the ecosystem of the Madrid arroyo, namely, to bulldoze it. There is much wildlife here!: - ground and tree nesting BIRDS - SQUIRRELS, FIELD MICE, and other SMALL MAMMALS - GRASSES, CHAMISA, TREES and MANY OTHER PLANTS - INSECTS including ground nesting BEES Plus it is a wildlife corridor for BOBCATS, COYOTE, DEER and MORE. You will also be destroying NATURAL BEAUTY, the element that inspires artists and every citizen here. Also, it cuts through the HEART of the village. It connects us. Many of us walk there, walk our children and our dogs there every day. Can you please not destroy this important natural space we know, cherish, and utilize daily? I am a filmmaker living in Madrid, and have lived here for almost 20 years. To annihilate the natural beauty here, to annihilate the home for so much life, chills me to the bone. PLEASE PLEASE PLEASE drop the "Madrid Arroyo Demolition Plan" from your project. Thank you! Below is the link to the feature film I recently shot in Madrid. It employed many New Mexicans. If you bulldoze the arroyo, Madrid will cease to be a usable location for filming. Hence: lost revenue for the state. Many films have been shot here. https://www.imdb.com/title/tt28106043/	1/31/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
14	Amanda Bramble	Redirected water to new/old stream channel. Has railroad bed going through her land so has done work and USACE permit to bring water where it used to go. Draft EA says it would not need a USACE, but there are concerns having stormwater going there. Redirected over 100 years ago. Covered with coal, big head cut will just wear away and destroy the area. By redirecting it there will just increase the water/sediment dropping there. She's going to need to stabilize her access this year. If more water/coal after the greenbelt and downstream issues. Next proposal more acceptable if better reclamation plan- taking out the middle but not affecting the banks, even though there may be less capacity for holding water, less disturbance = community acceptance.	2/1/2024	Regarding the USACE permit, this was an error during the presentation. AML has an approved Nationwide Permit from the USACE for the portion of the project in the Madrid Arroyo. This is described in the EA (Section 3.4.2) and the permit is included in Appendix D. Prior to the NWP 37 approval, the AML program conducted a walk-through with the USACE Albuquerque District Archaeologist and Regulatory Specialist on March 22, 2023. As a result of this meeting the USACE also signed our Memorandum of Agreement (Appendix C) as a concurring party, indicating they agree with the proposed mitigation effects to cultural resources. In addition, the AML Program has received confirmation from the NM Environmental Department that our Pre-Construction Notification provided to the USACE is consistent with the 2021 Clean Water Act Section 401 Water Quality Certification (WQC) for the 41 Nationwide Permits, pursuant to WQC Condition 1. As our project will be disturbing more than one acre, our program will also be applying for a Section 402 (NPDES) permit from the EPA prior to construction. The AML Program does not have permission to work on Elizabeth Davis property north of the project area. No work is currently planned for this area. Stormwater is directed to the arroyo at three locations – Bridge Street, Cave Road drainage way, and Firehouse Lane south of Red Dog Lane. No extra water will be managed. Hydrologic and hydraulic modeling has been completed for the Madrid arroyo reach by URS in 2011. The purpose of the design features is to slow the water down before discharging to the arroyo. A detention pond is planned for Ice House road area which will also "slow the water" and reduce sedimentation. We have not designed any stormwater infiltration infrastructure. Water directed to County parcel No. 1 will be limited in quantity due to the limited capacity of the box culverts under Cave Rd. Only about 10% of the 100-yr flood will flow NE to the County parcel. We plan to construct multiple small rock grade control structures in this NE reach of the arroyo, to prevent erosion. Also, a larger grade control structure will be built at the north end of this parcel to prevent headcutting.
14	Amanda Bramble	There's no plan for revegetation in the EA. – Just one sentence isn't enough. Alt B says more extensive plantings. Would be more confidence if less vague. Is watering regime part of this. More detailed reclamation plan needed. Want actual plants. Raked and mulched? Time of year? What species planted and watered.	2/1/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
14	Amanda Bramble	Design not to affect Arroyo Channel bank slope; design to confine Firehouse Channel disturbance to channel bottom; design match capping materials to existing railroad grade material Engineered plan- doesn't show this	2/1/2024	Grading in the arroyo channel area will not affect the west side slope of the arroyo and will not disturb the known cultural sites in this area. The old railroad grade in the middle of the arroyo open space will have a limited amount of soil placed on top to achieve the flood protection needed on the east side of Cave Road. The railroad grade (plus soil cap) will become the pedestrian trail through the middle of the open space and will be surfaced with a crushed gravel.

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14	Amanda Bramble	Want to see lots of material in the middle removed even though it will be destructive at first.	2/1/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
14	Amanda Bramble	I want to see it happen but probably needs less impact for it to be more acceptable.	2/1/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
15	Paula Zima	I'm writing to beg you to rethink a very bad idea. The arroyo which is right next the very center of the tiny town of Madrid, south of Santa Fe, NM has been functioning just fine. There are lots of other places that need cleaning up in a thoughtful manner. However bulldozing a quiet, beautiful area, home to the residents and wildlife in the area is NOT one of them. Madrid is struggling to remain a viable town, the people there rely on tourism. If you visit the town on a non-tourist day you would understand this. To bulldoze the arroyo right next to the little town, would be ruining the look of the town, a place enjoyed by the people as well as the wildlife. The arroyo is causing no problems, no one there can remember a time when it has. You may have future plans? Perhaps a bypass highway? That might be one reason for doing this, if so let us know so we can protest that as well.	2/1/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
16	Unknown	He said he has lived on Cave Road for the past 10 years. He completely disagrees with the whole premise of the Madrid Stormwater project Concerns: Trying to address a need that no one feels is an issue. No one in this town is asking for what is being proposed, He has never heard one person in Madrid ask to be saved from stormwater, He feels it is misspent money, "Don't know why anyone feels they need to manage this section of the world with heavy equipment", He and his friends love walking the arroyo the way it is. Its natural, they don't need a trail, it is a trail , Yes during heavy precipitation events traffic can be blocked, but it goes away quickly, A two lane road on Cave Road is the dumbest thing ever, he very rarely if ever needs to wait for someone to pass on the road, The improvements will drive rent and land prices up for the residents, These projects take all the cool funkiness out of the town, The improvements are one more step that makes it easier for rich people to make Madrid an extension of South Santa Fe, He sees all the construction going on in Santa Fe and it is gross, he doesn't want it in Madrid, Again, one more little way of ruining a funky part of New Mexico, Madrid has a lot more problems that the money would be better spent on. Spend it on meth programs, helping drug addicts, or save an endangered species.	2/1/2024	The Madrid Stormwater and Erosion Control project has been developed with input from the Madrid community for years- this includes the need for stormwater and erosion control as well as the desire for the new water tank for fire suppression. As for the Arroyo, the AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The AML Program's proposed designs to Cave Road would increase the width of Cave Road to 24', which would allow for two lane traffic; however, the AML only intends to improve the roadway, but will not be applying road striping. Expanding Cave Road to 24' would also allow for greater emergency and service vehicle access to homes along Cave Road and on Back Road compared to its current state. These improvements are designed to blend in with the Madrid environment. They are not designed to raise costs for residents and should decrease insurance rates. The money for this project comes from a fee levied on active coal mines as well as funds from the Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act, and must be used for projects involving abandoned mine reclamation.
17	Paula Zima	I live just north of Madrid in Santa Fe and we the people in Madrid are really concerned. Apparently AML and Santa Fe county wants to bulldoze the Arroyo that is right there in the middle of town, not on the street but it's right behind the main building. The effect of doing that is not good. You have wildlife that lives there at the corridor, you have a small town that's struggling to survive, and it survives on tourism. Anytime you do something like that it creates more problems, it's a really dumb idea so whoever has that idea I hope that they can just let that be and go on and do something that really needs to be done like Ice road that they have there in in Madrid. It definitely needs to some help but that that little Arroyo does not; it would ruin the look of the town and it would ruin the town for the people that live around it with a very hideous and awful looking scar, out of place, for basically no purpose at all. So I'm just really urging you, whoever you know that can stop the work, put it towards something important not this. This is not a good thing to do, it's a dumb thing to do. Okay we're smart people and we want to be doing smart things with our time and our money.	2/1/2024	Improvements are planned on Ice House Road as well. Updates to the Arroyo are for the purpose of removing sedimentation from previous precipitation events and to improve the arroyo's ability to withstand future events. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
18	Brad Walston	No, no, no! Please! The Madrid Arroyo Demolition Plan is a terrible idea. The Storm Water & Erosion Project does NOT have to include the destruction of the eco system. I'm sure there is a better way.	2/1/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

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19	Myka Rykuny	To my shock it has been announced that there are plans to bulldoze the arroyo behind the old school house. What plans are in place to replant trees once you are done? What plans are in place to rehabilitate the area once the arroyo and all of its inhabitants, plant and animal, have been killed by your bulldozer? In what way are your actions making the area better rather than just destroying and already barren and stressed environment? Have you in any way consulted advice from environmental experts who can assure the citizens of Marid that what you are doing is the right thing? Do you know you are doing the right thing and not causing more harm than good?	2/2/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The Environmental Assessment document informs on the impacts from the project on the human environment and natural resources. It will be updated in more depth and will include the new revegetation plan.
19	Myka Rykuny	Are there any plans in place for picking up trash collecting all along Highway 14? What are you doing to make things better?	2/2/2024	Picking up trash within the Arroyo where work is planned will be completed and is described on the engineering designs. Picking up trash outside of this area is beyond the scope of the project and the function of the AML Program. Beneficial impacts from the project on other needs are described in Chapter 4.
19	Myka Rykuny	I live part time in the old school house. How would you feel if someone came to bulldoze the area behind your property and you had no idea if it was a good idea or not?	2/2/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The Environmental Assessment document informs us on the impacts from the project on the human environment and natural resources. It will be updated in more depth and will include the new revegetation plan.
20	Patty Phillips	Against the project. Walks dogs there everyday. In fact, several of them are against the project.	2/1/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
21	Geoffrey Stewart	I am distressed by the proposed plan to destroy the ecosystem of the Madrid arroyo, namely, to bulldoze it. There is much wildlife here: ground and tree nesting BIRDS, SQUIRRELS, FIELD MICE, and other SMALL MAMMALS, GRASSES, CHAMISA, TREES and MANY OTHER PLANTS, INSECTS including ground nesting BEES. Plus it is a wildlife corridor for BOBCATS, COYOTE, DEER and MORE. You will also be destroying NATURAL BEAUTY, the element that inspires artists and every citizen here. Also, it cuts through the HEART of the village. It connects us. Many of us walk there, walk our children and our dogs there every day. Can you please not destroy this important natural space we know, cherish, and utilize daily? PLEASE PLEASE PLEASE I am a filmmaker living in Madrid, and have lived here for almost 20 years. To annihilate the natural beauty here, to annihilate the home for so much life, chills me to the bone. PLEASE PLEASE PLEASE drop the "Madrid Arroyo Demolition Plan" from your project. Thank you! Betsy Burke Below is the link to the feature film I recently shot in Madrid. It employed many New Mexicans. If you bulldoze the arroyo, Madrid will cease to be a usable location for filming. Hence: lost revenue for the state. Many films have been shot here.	2/2/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
22	Mindy McClung	I'm a resident of Madrid, NM, and live on Cave Road. I'm opposed to the Arroyo demolition plan due to the harmful impact on the ecosystem/environment.	2/2/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
23	Mark Schilkey	Would like more details isntead of just bulldozing. understand we need drainage and so some may need cleared out so the water has somewhere to go. So I would like more details and would not like to see the area stripped.	2/2/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
24	Gwendolyn Zaxus	I'm writing to ask yall to not strip the arroyo in Madrid. It would be good to see the large trees and chamisas left alone. It take years for them to get that big. Isn't it time to do construction differently these days? Time to listen to nature and what it needs, and what the people of Madrid are asking for? Please don't scrape our greenbelt clear, just look at the newbies south of Madrid, on hwy 14, and what they did. Don't do that to us. We know how long things take to grow back.	2/3/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
25	Rachel Fredell	While I am not a resident of Madrid, I live several miles outside of the town and visit frequently. I enjoy walking in the arroyo, lovingly called 'the green belt' by residents who enjoy the flora and fauna that has developed over the years. I am writing to comment on the proposed Erosion Project in Madrid. I am opposed to any version of the project that would involve the demolition of the arroyo. This would destroy a thriving ecosystem and ruin an area where many residents like to walk and enjoy nature in the town. It is unnecessarily destructive and will not do anything positive for flood control. I am really hoping the county reconsiders the proposed action and takes the time and	2/3/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

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		thought required to gather input from residents who live and work in the town to ensure any action taken would impact the quality of their lives.		
26	Jeff Helgeson, Anne Halsey, and Sadie, Charlie, and Jesse	I am writing regarding the storm water and erosion project being planned for Madrid, NM. I write to request, with the greatest urgency, that the project NOT include the bulldozing of Madrid's magical arroyo. Over development is, hopefully, not the future. I urge you not to try to implement a "solution" to the challenges of erosion and flooding that will create new problems. Let the water run free below the town and you don't need bulldozers up the line where a whole community of your citizens finds joy in the uneven erosion, the progression of ecological change in their yard, and history the arroyo holds, and, yes, the magic it inspires. Even if you're approaching this from a position of seeking narrow profit, the arroyo is yours. Let it be. Good things will come from it. We know we will be back, and we hope we can walk the arroyo again. We hope you will make the wise, preservationist choice in this matter. Save the arroyo.	2/4/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
27	Charles Helgeson	Please do not bulldoze the arroyo. I love that place because it has wonderful perks to it and a great place for the community thank you very much.	2/4/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
28	Marissa Aurora	First, the proposal to remove all trees and shrubs in a 4.5 or so acre area in the arroyo that runs through town seems extreme and unnecessary. While I understand that some vegetation will indeed need to be removed in order to excavate sediment from the channel, it seems a more selective and limited removal would be beneficial to the community, wildlife, and water quality. I was also surprised to find no plan for revegetation of this area included with the 90% design. I honestly thought I was missing pages from the plan. While I understand that this project is focused on erosion control and not riparian restoration, it strikes me as unusual that tree canopy preservation, wildlife habitat, and our community use and enjoyment of the space would not be a consideration. A plan for revegetating (and watering) portions of this area with native trees and shrubs to enhance the habitat and maintain/improve riparian health would be a relatively simple and inexpensive addition to the project.	2/4/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
28	Marissa Aurora	My other concern is that the portion of the environmental assessment regarding this area and vegetation there contains a significant inaccuracy and has a general feel of not truly relating to the project designs. The EA notes that the dominant species in the arroyo is cottonwood, when in fact there are no cottonwood trees (though that might be a great species to include in the revegetation plan to replace the invasive elm trees currently present there!). The assessment concludes that denuding a 4.5+ area of riparian area would have no impact because it is "temporary" in nature. I suppose if we are talking about geological time, everything is temporary, but waiting for trees and shrubs to regrow naturally in this area will take generations.	2/4/2024	The cottonwood species is an error and will be corrected in the next release of the EA. More details for the Arroyo plan and subsequent impacts will be provided in the next release of the EA as well. The main dominant species within the arroyo is Siberian Elm (*Ulmus pumila*), which is classified as a "Class C" noxious weed species. While there may be an immediate impact to the project area, the AML Program is planning a revegetation plan with plantings of both native grass, shrubs, and trees. This system may also include a drip system and/or hydro mulching depending on feasibility. The AML Program is working collaboratively with our engineers and Santa Fe County Open Space to create a preferred planting palette able to withstand both climate change and the ephemeral nature of the Madrid Arroyo. Due to the ephemeral nature and depth to ground water, cottonwoods are not being considered in the revegetation plan.
28	Marissa Aurora	I have nearly a decade of experience working in riparian restoration and I have never seen a plan like this. In my experience, it is highly unusual to have literally no revegetation plan included in 90% drawings with this level of excavation and earth work. In some places, removing this much tree canopy without replacing (to the same diameter at breast height) every tree removed, would actually violate laws designed to prevent further climate change and protect water, wildlife, and people.	2/4/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
28	Marissa Aurora	While I support and appreciate this project taking place in our community, I think support for the project from residents of Madrid would significantly increase with a more thoughtful design and comprehensive reveg plan for the portion of the project that impacts the arroyo.	2/4/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

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29	Susan Fischer	I live in Madrid New Mexico and wanted to voice my opinion that I did not want to bulldoze the arroyo and ruin all the plants and animals and everything there so am I vote against the bulldoze.	2/3/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
30	Lori Swartz	This is a letter that my wife and I wrote to our Madrid neighbors expressing our support and concerns for the project. We live at 7 Cave Road and believe that this project is important for the well being of our homes and community. We have been following the discussion surrounding the proposed AML project closely. Not only are we invested in the best outcomes for Madrid and the surrounding area, but we also have a personal interest as our property is affected every year with flooding and we will be directly impacted by the proposed implementation of the project on Cave Road. We walk the arroyo on an almost daily basis, and love the flora and fauna there on a deep, connected level. We also see how tenuous and at risk many of our community members' homes are. We have been in contact with different members of the project over the years as our property is encompassed within the proposed work. What is clear is that if nothing is done, it is probable that some members within our community may lose their homes in the future due to water damage and flooding. We have the opportunity to avoid this fate with no financial burden to our community. We have also been told that if there is enough resistance from the community, then the AML may take those funds to other communities that desperately want the help, but are not on the current list to get it. The money for this project is coming from a federal grant to be used for communities affected by a history of mining. There are other communities, scrambling to get this money, and the people running the project could choose to allocate the money elsewhere. If that happens, our community will most likely be OK for a while, but with more severe weather events, and the damage caused from our mining past, (the center of town, mostly Cave Road and the area where the houses line the Greenbelt) will be at risk. 1) Cave Road being made into two lanes. Is it possible that it could remain one lane so that the traffic remains slowed through a dense residential area? 2) Will parking on Cave Road be removed for all the residents of Cave Road and their visitors. This area has been residential parking for over 50 years. Can it be grandfathered in? Several houses have both house and guesthouse and there is nowhere else to park.	2/5/2024	The AML Project Manager, Leeland Murray, spoke with Lori Swartz on February 8, 2024, regarding parking. The AML Program stated that Cave Road will be updated to a 24ft road width and a proposed parking area of 18ft. Though the AML Program cannot grandfather in parking, no striping will be applied to the roadway, so residents can park along the road if they choose. The AML Program also spoke with multiple landowners on Cave Road and they have indicated the need for speed bumps. Our program cannot add in traffic control features; however, we have expressed this concern to the MLA as they will be taking over maintenance once the construction is complete. We have requested our engineers take a second look at which trees may or may not need to be removed for construction. Some trees will have to removed as some they compromise the integrity of the project designs. This will be described in the more detailed site plan in the next set of engineering designs and revegetation plan.
30	Lori Swartz	What are the downstream effects of the Arroyo Project?	2/5/2024	Hydrologic and hydraulic modeling has been completed for the Madrid arroyo reach by URS in 2011. The purpose of the design features is to slow the water down before discharging to the arroyo. A detention pond is planned for Ice House road area which will also “slow the water” and reduce sedimentation. We have not designed any stormwater infiltration infrastructure. Downstream of Cave Road, small flows in the arroyo will be directed NE into County land parcel No. 1. This will allow for some water harvesting into established riparian areas, fulfilling the project design goals first envisioned by Santa Fe County in 2018. Larger flood flows, up to and including the 100-yr flood event, will be directed under Cave Road and down the flood control channel where water now goes. Water directed to County parcel No. 1 will be limited in quantity due to the limited capacity of the box culverts under Cave Rd. Only about 10% of the 100-yr flood will flow NE to the County parcel. We plan to construct multiple small rock grade control structures in this NE reach of the arroyo, to prevent erosion. Also, a larger grade control structure will be built at the north end of this parcel to prevent headcutting.
30	Lori Swartz	We would love more specific details of the arroyo planned to go through our property at 7 Cave Road from Highway 14 to the greenbelt arroyo. (We are totally in support of this arroyo on our property happening!)	2/5/2024	Currently our draft revegetation plan includes installing a 2" PVC drip irrigation system with a 1000-gallon temporary holding container. This is one option we are considering in addition to the option of hydro mulch. The AML Program is working collaboratively with Santa Fe County Open Space and our engineers to design a planting palate that is best suited for this type of ecosystem and climate.

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30	Lori Swartz	We also need a way for the water from above Icehouse Road, etc. to safely cross Main Street and be diverted from homes. As it stands, each year properties on Cave Road, ours included, are flooded when the rains come. The flood a number of years ago that affected many properties in town was one of the worst in my 20 years of living here, but those weather events are not ending, and may start becoming more frequent.	2/5/2024	On Drawing G004- Project-4 (Legend in upper right-hand corner of sheet) “Ice House Channel" would divert flow from the upper section of Ice House Road into a detention pond near Bethlehem Hill. This water would then go underneath Ice House Road, down a conveyance channel, underneath NM14 and enter a new conveyance channel to funnel water into the arroyo. Leeland Murray conducted a walk through with Lori Schwartz on February 8, 2024, and discussed this proposed plan. This channel, coupled with the road /drainage improvements, will divert flow and reduce the flooding hazard.
30	Lori Swartz	It seems that most are in agreement that we need the water suppression tank. Ours is a town with a legacy of mining which has caused land destruction. We need to look at our present and future based on the reality of what has contributed to these difficulties. Let’s figure out what’s best for our community. We are all on the same side. Honestly, I am nervous about anyone stepping into Madrid with bulldozers. I am also nervous about flooding, severely damaging our homes. We are living with the after effects of mining, what can we do to repair the situation with minimal destruction to the current way of being? I think it is also important to remember that Madrid does not own the Greenbelt and the Arroyo. Talk of having locals work to shape the area is an amazing idea! But the realities of that are difficult. This is a multi-million dollar project and our town does not have the funds to support it. We are We are being offered an opportunity that may save some of our homes down the line. We would love to work to find the least disruptive way to do this… for all of the living beings!	2/5/2024	Comment is noted.
31	Drew Wise	I live next to arroyo for 25 years. Walk through arroyo daily. For the project in general, but strongly opposed to the arroyo demolition plan. We'll lose the perennials and pollinators, leaving us more vulnerable to future floods and invasive species. There are trees in arroyo that have survived floods, and it handled that historic flood beautifully. Those trees kept the banks and dirt from flowing away. Strong condemnation of the plan to do this part but in favor of the rest of the plan.	2/5/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
32	Jethro Bawden	The need for drainage is self-evident. The mining company abandoned the town and did not provide drainage or reclamation. In the 1980’s the AML sealed some mine adits and made the drainage worse. After every rain or snow melt there is standing water on NM 14 and the gob piles erode a little more. Sometimes buildings flood. There is also a great need for a new fire-prevention storage tank. The current one is 100 years old and was damaged beyond what is economically feasible to repair, in the flood of 2013. There is overwhelming support by property owners to complete the project. Now there seems to be a big cry for no-build. This is coming from the lowest socio=economic group in town. Where were these people since 2009? The didn’t attend and complain at any MLA meetings which are held 4 times a year. They didn’t attend and complain at any Madrid Water meetings, held every month. They didn’t vote no-build when the MLA was presented with 3 options, one of which was no-build. The time for them to complain is past. It just isn’t fair to everyone else who did participate. The majority of people now crying for no-build are renters, not property owners. They have no economic vested interest in Madrid and could move tomorrow. They are a vocal minority who haven’t educated themselves or participated in the least up until now. They have presented no alternatives for fire prevention. On the other hand there are approx. 80 landowners who have understood this project for years, who have signed a right-to-enter contract with the AML, and held endless negotiations with the AML. This proves that the majority, the landowners who have a vested economic interest, want the project to be completed. Also, Santa Fe County, the property owner of the greenbelt, wants the project to be completed.	2/5/2024	Comment is noted.

Comment No.	Name	Issue/Comment	Date	Response
33	Jenny Lapetina	i've lived in & around madrid for over 20 years, all of them on dirt side roads, & know all too well the results of nothing being done to mitigate water damage. i've read through most of the printed plans, & i've spoken with various people involved in the project over the past few years. i'm by no means an expert, but i do have some understanding of how water flows, the damage it can create, how to redirect it, etc. &, even though i'm an environmental advocate, i get that there will be unavoidable disruptions to the flora & fauna in the area. which brings me to the only real concern that i have with this undertaking. Most of the wording is a bit vague when it comes to the extent of damage/"demolition" that will occur in the arroyo, both within the confines of the project & downstream, as well as the reseeding/planting of vegetation afterwards. that said, i do not want those concerns to be a reason to halt the project, but perhaps a closer look at minimizing the environmental impact, both long- & short-term, would ease the concerns [i'm sure you've heard them all, some at highly emotional top volume.] that many of the residents have. i, for one, can accept some well-researched collateral damage for the overall benefits that the plan will bring to our community.	2/5/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
34	Jill Shwaiko Bentz	I own the building of Indigo Gallery on the corner of Hwy 14 and Ice House road. I have two areas of concern: Ice House Road and the Arroyo. So first with Ice House Road—The proposal looks very good with the grating, crowning and gravel and with some piping to take away the water also. My concern is that it will require re-grating and graveling periodically—will this project come back and do that when needed—and if so, how would we go about letting you know when it is needed?	2/5/2024	During initial scoping meetings in 2010-2011 and 2018 the town voted for gravel roadways instead of pavement through town. As a result of this, the AML Program entered into a Cooperative Agreement with the Madrid Landowners Association (MLA) in 2018. The MLA agreed to accept the responsibility for permanent post-construction monitoring and maintenance responsibilities on properties not owned and managed by local or state agencies. As a result of this Cooperative Agreement, the AML Program will provide the MLA with a specifications and maintenance manual for any new infrastructure to be maintained and monitored by the MLA upon completion of construction (including maintenance intervals). As the MLA also maintains a roadway easement through the Santa Fe County Greenbelt parcel, the MLA would be responsible for any maintenance. The AML would conduct repairs of stormwater features on private property if a design were not functioning effectively and any repairs that may be needed to the arroyo project.
34	Jill Shwaiko Bentz	And with the Arroyo, I think the plan looks beautiful, but I would like to make sure that our large trees in that area would not be removed unless absolutely required. I noticed that in your write ups and introduction you spoke about working with the village to keep as much in its natural state as possible. I appreciate that regard and hope that it will extend to keeping the arroyo trees happy and healthy in that area as much as you can! Extending that care would make all the difference.	2/5/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
35	Tina Rodriguez	I have lived in Madrid for 15 yrs. I will not address the details of why the demolition of our arroyo must stop, because the many, many residents of Madrid have already made you aware of them. But only to say that this is quite a distressing situation for our village! You are proposing to affect THE HEART OF MADRID! Please hear our pleas.	2/5/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
36	Susan Nordman	I am a Madrid Landowner writing to make sure you are aware that I am fully in support of the project going forward in Madrid, even though there are a few tweaks I would to see in regards to the arroyo. There were always going to be naysayers in Madrid, but I would like to say that I bet a huge majority of landowners would like the project to go ahead so as to protect our properties from future flooding events. And we desperately need the new water tank!	2/5/2024	Comment is noted.
37	Robert Bond	Please do not destroy the arroyo with The Storm Water and Erosion Project. All of the natural features of Madrid make it the wonderful place that it is. Destroying the Arroyo would be an environmental and cultural tragedy.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
38	Carl Hansen, Madrid VFD Fire Chief / Madrid Water Board of Directors	Fully supportive of this project, The AML proposed action plan is a good plan, the team are good listeners and easy to work with. The ball park parking lot getting used for construction material and equipment will have to be on of those cooperation situations where if the town has an event equipment will need to be moved over onto Santa Fe County property . I've discussed the Fee for use of the lot with the MLA board of directors, I didn't feel like a Fee is warranted given the amount of beneficial work that the AML is doing for the town at no cost. It was pointed out to me that it was the AML that offered a fee to use the parking lot. I hope the space can be used in a way that leaves the area available for parking also otherwise a fee would be warranted.	2/6/2024	The AML Program has spoken with the Water Board and the MLA about the use of this lot. The Madrid Water Board recently passed a vote stating no fee would be applied for the AML Program's use of this lot as the AML Program is constructing these features and infrastructure improvements at no cost to the public. The AML Program will work with the town to ensure parking is still available during certain festivals and events requiring additional parking.

Comment No.	Name	Issue/Comment	Date	Response
38	Carl Hansen, Madrid VFD Fire Chief / Madrid Water Board of Directors	The future Madrid waste water plant was planned for the old arroyo area behind the ball field, I can't visualize where it can be relocated to in a land swap with Santa Fe County, its going to be difficult to find a new location for the waste water plant.	2/6/2024	It is the understanding of the AML Program that the Madrid Water Board is currently in talks with Santa Fe County for a parcel swap, though we do not know the full details. Currently water flows down the proposed new arroyo alignment, so any engineering designs would have to account for this variable.
39	Andrea Fiegel	The Madrid Greenbelt was sold by the Madrid Landowners Association to Santa Fe COLTPAC after a series of votes of the membership, which ended nearly evenly split for and against the sale. The primary concerns of those against the sale described the feeling of losing a communal back yard, the acreage of open space and arroyo running through the center of our little village in the gulch. Nearly two decades ago, the community feared development and intrusion, and was reassured by COLTPAC that they understood, respected, and held our interests, and would protect the space—and that improvements would come with our involvement and approval. For almost twenty years since, we have continued to enjoy the open space in the center of our community as always—with the added benefit of its protection by COLTPAC. The plan delivered very recently by the AML, with the title and description of “Madrid Greenbelt Demolition”, has hit hard: For several years, Abandoned Mine Lands representatives have presented updates and news to the community at nearly every quarterly meeting of the Madrid Landowners Association. The work the AML is prepared to do to mitigate mining remnants and gob piles, improving the drainage and roadways, is all but unanimously welcomed and appreciated. Our roads need improvement we could never afford ourselves. Following our experience with a once-in-a-lifetime flood in 2013—which we recovered from by crowdfunding—we understand well what work will be required at the greenbelt’s south end, at Arroyo Crossing. And every one of us wants a new water tank for fire suppression. No AML presentation to date has described anything remotely like this plan for the demolition of the greenbelt acreage. After years of work and diligent meetings with the community, developing a foundation of trust that began two decades ago with the work of COLTPAC, the last-minute delivery of this demolition plan by the AML's demolition contractor has shaken the community, and we are again as divided as we were at the time the sale of our Greenbelt was approved. The feeling of goodwill and appreciation between the Madrid community and the AML & COLTPAC has soured. We feel blindsided—after so many years of meetings, presentations, and conversations!—by this plan for the demolition of the greenbelt. We want help, but don’t want to be steamrolled into losing the things that mean so much to us as a community. Please halt this demolition plan in favor of allowing more community involvement and communication. More time. This is a huge (surprise!) piece of the bigger picture and it was delivered with so little time to consider and respond.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
40	Jack Jamison	Please drop the Madrid Arroyo Demolition Plan from the Storm Water & Erosion Project. I live in Madrid and hike the greenbelt area most days with my dogs. I would hate to see the destruction of the natural ecosystem that's already grown in the arroyo by bulldozing it.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

Comment No.	Name	Issue/Comment	Date	Response
41	Joshua Gannon	I have lived in Madrid since October of 1997. I have been a gallery owner since April of 2001. I have supported this community in many ways through the years. I DO support the reworking of the arroyo. I witnessed the flood of September 2013 ravage that arroyo and many parts of our village. Our home was flooded from that rain in '13. Several old timers stated to me they had not seen one like that in their 40+ years in Madrid. Climate change seems to be just showing us what may come. I'm of the opinion some folks in the village just need something to sink their teeth into from time to time, a reason to bitch frankly. I can't urge you enough to help us with this issue, as I know flooding will come yet again and may be worse than I've seen thus far.	2/6/2024	Comment is noted.
42	Kathleen Casey	I just want to say thank you for doing this project. It's desperately needed. My name is Kathleen Casey, address 1 Harvey Rd, Madrid NM and 2863 Highway 14, Madrid NM. I have a house and gallery here in town. We have so many drainage issues, this being the big one all the others drain into. Please do this project and please please remove the toxic pile of coal processing biproduct in the middle of it that is poisoning our lungs when we hike back there. Whoever desires it to remain should not be able to prevail as it negatively affects the health of all of us. That is true for the other projects on the hills around town as well. Whoever wants to keep the toxic black dust are causing health problems for others. That is not ok.	2/6/2024	Removal of the gob piles is not within the scope of this project. Earlier proposals by AML to remove and reclaim the gob piles were strongly opposed by residents during the community planning and project development process over the past ten plus years.
43	Clinton Anderson	As a landowner and resident of Madrid, I am writing to express my support for the planned work by the Abandoned Mine Land program in Madrid. I understand that the work is intended to prevent a repetition of the damage and disruption caused by the flood of Sept. 15, 2013, as well as mitigate the impacts of the lesser rains that make a mess in Madrid at least once a year.	2/6/2024	Comment is noted.
44	Cathasha Cabrielle	I am a multiple property owner and Main Street Gallery owner in Madrid, and have lived in this village for almost 20 years. Although I am grateful and excited about the country being willing to help us with the constant erosion and water run-off problems that we have suffered over the years, it concerns me greatly that you wish to destroy our beautiful and PERFECTLY FUNCTIONAL arroyo in the process, by bulldozing. It has been doing its job as an arroyo for hundreds of years and does not need our help or need to be "Improved". The existing arroyo as is, even in the most extreme weather conditions, has done its job very efficiently. Bulldozing, may seem like a logical and necessary part of the county erosion plan, but that is NOT necessarily true! The existing arroyo – just the way it is – is a vital and esthetic part of this village, and I (many and most of us) do NOT wish it to be destroyed. We call it our "Green-Belt" and it serves as a vital part of our small community. It is where we walk every morning, walk the dogs, and meet and enjoy friendships and conversations, sit in the treehouse that someone built, play music and dance. There is NO WAY we wish to have it bulldozed! Sacred, may be a grandiose word – but important for sure. Plus it is VITAL to the eco-system of this town. Even the local animals – the coyote, the hawks, the owls, the small rodents, tarantulas, and snakes use our "green belt" arroyo as home and a place to hunt and find food. Please consider excluding the bulldozing of our land in the county's erosion proposal. It is not necessary, and will also save the county the cost of doing so. The issue is getting the water run-off TO the arroyo, not the arroyo itself, as mentioned – it already functions very well, and has done so for centuries! Just one more very important thought: The soil in Madrid is very softy, rocky and sandy. It has been our experience as a community to noticed that during heavy weather, the soil and sand washes down-stream and clogs the arroyo and makes passage to Rogersville's Road difficult or unpassable. If the soil in the arroyo in Madrid is churned up and disturbed, it may in fact ADD to that problem, NOT improve it. The soil in our arroyo is firm and well packed. Disturbing that will only cause more problems down river, due to lose soil washing away. The trees and shrubs that grow there, that now hold that soil in place will be gone, also adding to the problem. Not good! Please leave it that way. Mud is already a huge problem here – we don't need more! I hope you will take some of what I have addressed into consideration and STOP the bulldozing of Madrid's Arroyo, our playground and our ecosystem.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

Comment No.	Name	Issue/Comment	Date	Response
45	Jim Brulet	Presently, and for the past 17+ years, my home is on Rogersville Road in Cerrillos. Many of my neighbors, as well as myself, cross the Madrid Arroyo on a daily basis about 1-1/2 to 2 miles downstream of the APE. This low water crossing washes out during storm events, requiring constant maintenance by residents of that private road. I would not want the Madrid project to have a negative affect on this area. Although located far outside of the Madrid Stormwater project, downstream impacts MUST be taken into account. More on this below.	2/6/2024	The proposed improvements to Madrid Arroyo within the town of Madrid will not increase the total volume of stormwater flowing north from town and should help to reduce the peak flow rates that leave town. The proposed arroyo improvements will not add more sediment to the flow going north, so we do not anticipate that this project would make this road crossing discussed here any worse. Hydrologic and hydraulic modeling has been completed for the Madrid arroyo reach by URS in 2011. The purpose of the design features is to slow the water down before discharging to the arroyo. A detention pond is planned for Ice House road area which will also “slow the water” and reduce sedimentation. We have not designed any stormwater infiltration infrastructure.
45	Jim Brulet	Excess fill from the arroyo will be used; Does this refer to the existing sediment which has collected over the years? Is there an actual estimate of how much is there, how much can be utilized, and how much might remain upon project completion? What would be done with any remaining material? If allowed to wash downstream I feel the additional scouring and sedimentation would have a negative impact along that route. Additional deposition of coal tailings would also occur.	2/6/2024	The proposed improvements include the removal of excess sediment from Madrid Arroyo within the County Open Space (Parcel #2) in the middle of town. This is material that has accumulated over many decades. The removed material will be trucked up to a stable soil disposal area above the ballfield where it cannot erode back into the arroyo. The design will trap some future sediment flowing in the County Open Space but is not intended to capture all upstream derived sediment.
45	Jim Brulet	Direct small stormwater flows to the original Madrid Arroyo; This stream bed is presently a gentle, broad, U shaped cross section. The hiking trails are along this pathway. Could additional sediment flow cause damage to this area? This original alignment joins back into the present (west) channel about 1/2 - 3/4 mile downstream, where there is now forming a 6+ foot deep head cut. This damage is at the end of an incised channel which begins approximately 200 yards upstream of it. The natural tendency of head cuts is to move upstream due to the erosional action of continued/increased water flows. How long before this effect ruins the stream bed and hiking trails, reaching all the way to the Cave Road box culvert? Any existing vegetation would also suffer due to the lowering of groundwater which would flow to the ever deepening channel. Although I'm not opposed to this redirection of flow, again, downstream impacts must be taken into account. I'm aware this is beyond the project area, but it needs to be considered.	2/6/2024	Hydrologic and hydraulic modeling has been completed for the Madrid arroyo reach by URS in 2011. The purpose of the design features is to slow the water down before discharging to the arroyo. A detention pond is planned for Ice House road area which will also “slow the water” and reduce sedimentation. We have not designed any stormwater infiltration infrastructure. Water directed to County parcel No. 1 will be limited in quantity due to the limited capacity of the box culverts under Cave Rd. Only about 10% of the 100-yr flood will flow NE to the County parcel. We plan to construct multiple small rock grade control structures in this NE reach of the arroyo, to prevent erosion. Also, a larger grade control structure will be built at the north end of this parcel to prevent headcutting. Downstream of Cave Road, small flows in the arroyo will be directed NE into County land parcel No. 1. This will allow for some water harvesting into established riparian areas, fulfilling the project design goals first envisioned by Santa Fe County in 2018. Larger flood flows, up to and including the 100-yr flood event, will be directed under Cave Road and down the flood control channel where water now goes.
45	Jim Brulet	A native seed mix and plantings; Will there be good, solid technique used to prevent wind and water from washing seeds away before the plantings arefirmly established? Will there be initial maintenance in the form of watering and weed removal to aid growth? By whom? Have the meander, grading, and planting plans taken into consideration the possible retention of the existing trees? Can trees removed be replaced with suitable species of equal size? Given the difficulty of mature trees surviving transplant, would there be a maintenance regimen to help with establishment? Large, mature trees will benefit soil retention and wildlife as well as adding to the pleasing aesthetic of a natural environment (Visual Resources). I would agree that work done outside of avian breeding season would be beneficial.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
45	Jim Brulet	Drawing C-203: The drawing appears to show planting in the bottom of the stream bed adjacent to the meander. Would there be benefit to establishing planting of shrubs and grasses on the newly graded banks as well? Could it be anticipated that such plantings would help hold soil in place on these banks during times of higher than normal water flow? Drawing C - 203 shows major section lines 1 thru 9 cut through the arroyo. I'm unable to locate those details in the plan drawings, perhaps my question would be answered there.	2/6/2024	A more detailed revegetation plan is forthcoming. The project does intend to establish some shrubs and native grasses within the arroyo area, both on the constructed floodplain surfaces and on the adjacent side slopes.
46	Kristen Jensen, DVM	I am a resident of 1 Opera House Road in Madrid, NM. I live along the arroyo and was both distressed and upset to learn that there were plans to bulldoze and remove vegetation in the arroyo. I feel the arroyo flora and fauna will be greatly disrupted by this plan. The arroyo is an important part of our community here, and I am very against doing anything that will disrupt this small ecosystem. I walk in the arroyo daily, and feel this plan should be reconsidered. Thank you for your time.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
47	TK Ryn	Support the project. Go for it. Have the best in mind for our community. I know there will be difficulties with machines, but last time it flooded it cause many difficutlures. I accept the fact that if there's an improvement that there might be some difficulties.	2/6/2024	Comment is noted.

Comment No.	Name	Issue/Comment	Date	Response
48	Paula Zima	This pdf was sent to me, from a 10 year old project undertaken in Madrid: https://www.emnrd.nm.gov/mmd/wp-content/uploads/sites/5/OSMREReclamationNomination-MadridLowImpact.pdf I'm wondering: 1-Is the project is related to this one? 2- If so, or even if not, it might be beneficial to read it, particularly the comments about how working with the residents was crucial to the success of the project. And Lastly, there is an online magazine called Reasons To Be Cheerful. They locate such things worldwide, and the link below goes to a story regarding re-wilding for flood protection. It seems to me that digging out the arroyo in Madrid, goes pretty much against this idea. As usual, humans messing up nature.	2/6/2024	Dealing with stormwater and erosion control issues within the town of Madrid has been a priority of the AML Program for many years. The project mentioned in the provided PDF was a past project conducted by AML, though it was not completed due to landowner realty issues. The current project utilizes many of the same low-impact features for stormwater control and similarly, has been developed though comment with the Madrid community for multiple years. To develop these plans, the AML program has conducted two public scoping meetings in 2018 and has performed over 70 in person meetings with landowners over the years to identify where stormwater features could be placed. The Arroyo has been significantly impacted over the past 100 years since the mining company straightened the arroyo channel. This straightening has caused further sediment build-up and increased velocity compared to a natural meander. The purpose of the proposed arroyo work is to restore some of its historical function to better handle future episodic precipitation events.
49	Andrew Bramble	I am in favor of almost all of the proposed AML work in Madrid. The only part I'm not 100% for, I'm not necessarily against, but I am concerned with some elements of the greenbelt work proposed. I am concerned with the lack of specificity with the revegetation aspect. Is there a plan for watering, monitoring progress, other maintenance as needed after seeding?	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
49	Andrew Bramble	I am also concerned that the plan shows one single rock structure on the northernmost side of the greenbelt. The head cuts there are over 6 feet deep. I've done some land restoration work and this seems inadequate to me.	2/6/2024	A serious grade control structure is planned for the north end of the County land NE of the Cave Rd crossing (County Parcel No. 1). The next iteration of the design drawings will show this structure in detail. Ms. Bramble was present in the field for a discussion of plans for this location. More work is limited in this area due to restricted private property access.
49	Andrew Bramble	I live just downstream of this project and I'm concerned about the impacts more heavily sedimented storm water will have on my property and road if the northern end of the greenbelt project is not adequately designed, constructed, and managed. What I've seen so far does not inspire confidence.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
49	Andrew Bramble	I'm also concerned to hear that the AML may consider pulling out of Madrid altogether based on some comments received. The Landowners are not the only stakeholders here and many folks are only now getting details about the greenbelt project (I have not heard anyone yet voice concern or opposition to the rest of the plan - everyone seems on the same page with Ice House Road and the Fire Suppression tank). Public comment is part of the process. Some people are alarmed, scared even, about possibly losing the public greenspace in the center of their community. This is the only say they may have for a place they love dearly. Please don't be put off by their passion. Just because they don't own land, doesn't mean they don't have a stake in what happens in the greenbelt. They enjoy the trees in the north end and they've listened to the owls that nest there for decades.	2/6/2024	Comment is noted.
50	Montana Standish	I am a resident of Madrid and would like to voice my support for finding alternative plans for handling the erosion around the arroyo that would involve minimal environmental impact, and not making Cave Road into two lanes. As I'm sure many residents have noted, the arroyo as a natural space the way it stands today is of huge value to our community, and we do not want to see it demolished or destroyed in any way-- if permaculture techniques could first be employed to address the erosion. That being said, I also acknowledge the need for other very helpful aspects of the plan such as the water tank, and the general need to address the erosion that will continue to cause flooding and residential damage if not addressed.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The AML Program's proposed designs to Cave Road would increase the width to 24 ft, which would allow for two lane traffic; however, the AML only intends to improve the roadway but will not be applying road striping. Expanding Cave Road to 24 ft would also allow for greater emergency and service vehicle access to homes along Cave Road and on Back Road compared to its current state.
51	J. Konold	I do not want to see the arroyo in Madrid bulldozed. I am a resident of Madrid and I love the arroyo as it is.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.

Comment No.	Name	Issue/Comment	Date	Response
52	Stella Byrne	As a longtime resident of Madrid, I see a clear need for stormwater and erosion control and I am supportive of the use of these dedicated funds and expertise to address ongoing issues caused by the mining legacy in this area. I'm writing to address community outreach endeavors as part of the Madrid Stormwater and Erosion Control Project. It is clear following last week's public meeting that more specific and accessible renderings of the final plans for the arroyo portion of the project in particular are needed to ensure clarity and community buy-in. I encourage the AML and partner organizations to consider a follow-up meeting to address areas of concern for local residents, clear up possible misinformation, and review the overview of timeline and stakeholders. I know that this has been done in an ongoing way for many years, but I believe that finalizing the plans means we need community outreach on a deeper level than landowner-by-landowner. This is a community whose cultural resources include a strong sense of community responsibility for shared (sometimes public) physical spaces, interdependence among a socioeconomically and culturally diverse community, and a history of creative rural resilience.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will be held to present these updated plans. When a public meeting date is confirmed, the AML Program will send flyers, mailings, advertise on KMRD, and the MLA Facebook Page. This meeting will be a design panel style with our design engineers for residents to ask follow-up questions. The design meeting is tentatively planned for late summer.
53	Renea Roberts & Gardeners of The Madrid Community Garden	As members of the Madrid Community Garden, we are a diverse group, with varying perspectives on any given matter. We do find a common bond in our garden that's not far from the arroyo streambanks of our little town. While there may be varying viewpoints on the erosion control project, we are in favor of the project as a whole, acknowledging many benefits to homeowners that experience flooding as well as townwide benefits with the improvement of the fire suppression system. One area that weighs heavy on the minds of many is the potential denuding of the stream bed and banks and the apparent lack of a revegetation plan for riparian and upland areas disturbed. Our concern is not only for the animal, bird and insect habitat in this delicate ecosystem, (all those pollinators included), but also for what is the heart of our human habitat as well. We kindly request reconsideration of the design for the arroyo project to include more selective removal of trees/shrubs and a revegetation plan for the areas disturbed.	2/6/2024	Comment is noted. The AML Program is planning to provided a more detailed site plan in the next set of engineering plans. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
54	Julian Winter	I don't see a post-project maintenance plan. Does this project anticipate the need for ongoing maintenance and if so, what entity is responsible for managing this maintenance? If no maintenance is anticipated what recourse exists for damage caused by subsequent rains and water runoff?	2/6/2024	The AML Program entered into a Cooperative Agreement with the Madrid Landowners Association (MLA) in 2018. The MLA agreed to accept the responsibility for permanent post-construction monitoring and maintenance responsibilities on properties not owned and managed by local or state agencies. As a result of this Cooperative Agreement, the AML Program will provide the MLA with a specifications and maintenance manual for any new infrastructure to be maintenance and monitored by the MLA upon completion of construction (including maintenance intervals). As the MLA also maintains a roadway easement through the Santa Fe County Greenbelt parcel, the MLA would be responsible for any maintenance. If stormwater designs in the arroyo are damaged by heavy rains, the AML will repair these features. Additionally, the AML Program has designed the Madrid Stormwater and Erosion Project to best accommodate the historic landscape, drainage problems, and landowner's requests. At the request of multiple landowners and the community, the types of designs used in this project are as low maintenance as possible while balancing the critical needs to convey stormwater away from residences and buildings.
54	Julian Winter	I note that it's been a few years since the last draft EA was released publicly. The current 90% complete EA was completed in Dec. 2023 with an anticipated start date of summer 2024. The January 25th, 2023 Madrid meeting was sparsely populated. I've asked various residents if they were aware of the status of the Stormwater Project and none were. I strongly suggest that a better publicized presentation be scheduled which uses not just the easily overlooked mailer but PSA on WMRD, flyers at the Mineshaft, the Mercantile store, Java Junction and businesses frequented by locals. It's imperative that a significant portion of Madrid be aware of and weigh in on the ramifications of this project otherwise you'll have a very shocked citizenry when the heavy equipment starts tearing up land.	2/6/2024	Notifications of the meeting were sent by Every Door Direct Mail from the USPS which should have provided the meeting information to everyone within Madrid and Cerrillos. The AML Program also had a PSA aired on KMRD (aired for a few weeks) and posted on the MLA Facebook Group page (Mid-December). A public notice was published in the Santa Fe New Mexican and the Albuquerque Journal. Additionally, public notice copies (in Spanish and English) were posted on the public information boards at the Mercantile Store, Java Junction, and Village Grocer. To reach more residents, additional notices can be posted at the locations mentioned here as well as a longer running PSA on KMRD for the next scheduled public meeting and any future notices. The AML Program is currently working with 25 active landowners in Madrid with design features on their property, and we will aim to provide better outreach for the next public meeting event.

Comment No.	Name	Issue/Comment	Date	Response
54	Julian Winter	I understand there is a re-vegetation/seeding component to the plan. What entity is responsible for post-project care of the seeding before it establishes itself?	2/6/2024	As a result of this Cooperative Agreement, the AML Program will provide the MLA with a specifications and maintenance manual for any new infrastructure to be maintenance and monitored by the MLA upon completion of construction (including maintenance intervals). As the MLA also maintains a roadway easement through the Santa Fe County greenbelt Parcel, the MLA would be responsible for any maintenance. The AML would conduct repairs of stormwater features on private property if a design were not working effectively and any repairs that may be needed to the arroyo rehabilitation project. The AML Program will be providing an updated revegetation plan and may be responsible for providing post-project plant care up to two years after the project has been completed. Further details will be released with the revegetation plan.
55	Stephan Eiter	I am specifically writing in opposition to the full scale bulldozing and grading of the Arroyo between Bridge Rd and Cave Rd. The remainder of the project proposal seems warranted, especially the fire management aspects and town water tank. I have properties on 5 Bridge Rd and 24 Backroad. Susan (stepmother) owns the property at 28 Backroad. Both of our Backroad properties lie directly on the Arroyo. I am sure by this point you have gotten a lot of feedback around the proposed Alternative B and please take into consideration that keeping the arroyo as close to its current visual appearance is a highly desired outcome for almost all of us who live on it. While I recognize that some mitigation efforts are needed, based on the plans provided and what I saw at the most recent meeting, I think it is imperative that we look at an alternative blend of flood control with retaining the natural characteristic of the space. I don't think anyone is arguing against the rebuild of the culverts under Cave Rd. That is needed in some form.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
55	Stephan Eiter	The spill way plan looks fine, however, can we make it aesthetically pleasing? There was also a sectional drawing of the foot bridge at Bridge Rd. Please don't rebuild this bridge and make it 10' wide. People will want to drive over it and the current bridge is adequate as a pedestrian walkthrough. I have personally helped maintain the treads. It is historic to the mining days and visually amazing. A new steel and pressure treated decked bridge will destroy that historic nature and should not be on the table. Further - the natural channels in the arroyo are there. Does some sediment need to be removed, indeed. No argument. But regrading a wide swath of that floodplain all the way from the Bridge to Cave Rd will have adverse and negative effects on the historic nature and visual nature of that area. Tourists and townspeople alike enjoy that space and it should be preserved as is.	2/7/2024	The AML Program currently has no plans to work on the foot bridge at Bridge Street. We will work to clarify this on the designs. A new foot bridge will be constructed further to the north where a proposed drainage channel will cut through the historic railroad grade to channel water from the east hillside into the arroyo. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
55	Stephan Eiter	Lastly - I am personally asking that the trees not be removed. Especially the one mature tree closest to my property at 24 Backroad. It has the remains of a tree fort that all of the now teenaged kids in town and I built when they were 7-10. All of their names are listed on it and it needs to remain.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The AML Program will work to ensure large trees remain whenever possible. If the treehouse is located on Santa Fe County property, it may need to be removed as part of this construction project.
55	Stephan Eiter	One other thing I think is important to understand - the arroyo is not just a floodplain that needs to be fixed. It is often the heart and soul of the town. During covid, when all of us were in lockdown and nervous. My partner and I would send music out from my patio at 24 Backroad and all of our neighbors would come to the arroyo, socially distance and dance for an Hour every night. They would populate the small rises and trees and open space and we could all see each other and feel a sense of normalcy. We did this for the entire lockdown (55 nights in a row) as it gave some sense of community and normalcy to a harrowing time. If you have received a lot of negative comments about the arroyo (and I am sure you have heard a lot from my old friend Andrew Wice) please understand that this area of town means a lot to so many of us who live here. It is not something that we can express in words some time. While we need to make sure there is safety and protection for the entire community, we also need to preserve the integrity of the community space and what it means to all of us.	2/7/2024	Comment is noted. Efforts will be made to update the EA to reflect the importance of the Arroyo to the community.

Comment No.	Name	Issue/Comment	Date	Response
55	Stephan Eiter	I know this has been a long process and years in planning. I don't actually recall receiving and mailings regarding the plans which has surprised me and I have had to rely on my neighbors to relay time and dates of meetings and other information. I have chatted with Leelend Murray at the recent meeting and I know everyone involved is working hard to do what is needed. But is full demolition of the arroyo actually needed? Yes it is probably easy to just bulldoze it, but you will destroy an integral "community member" by doing so. Hopefully there is some comprise alternative that can be designed. In summary: We are fully opposed to Alternative A (section 2.1.2) which includes the bulldozing and full grading of the Arroyo. I am also opposed to Alternative B (section 2.2.2) as it would need to be more fully examined and designed before we could agree to it. The sections concerning the culverts under Cave Rd are necessary and we do not oppose that aspect. For Alternative B - would that just mean the deepening of the existing channel? It just says "sediment removal" - if that is the case then would it be possible to see a better plan or some renders of the idea other than just engineering drawings. We don't want to jeopardize any of the flood mitigation plans developed that help Cave Rd residents, Ice House Rd etc. We are also 100% supportive of the road grading, water tank, fire suppression parts of the project. Please make sure we get those parts done. Really just hoping to see if we can arrive at an Arroyo plan that preserves a bit more of the current natural feel and aesthetics. If it comes to an all or nothing on Plan A - it would be unfortunate, but I would fight for the tree fort. :)	2/7/2024	Comment is noted. It seems there was a misunderstanding of the term "Demolition Plan", which has since been revised in the plan sets. This term was meant to only describe the disturbance extents for the project. The Madrid Arroyo has undergone significant human-caused disturbances since the mining-era. The large accumulation of sediment in the arroyo and unnatural straightening caused by the mining company, has made this arroyo project a critical yet very challenging engineering design. In its current state if the arroyo were to flood similar to 2013 during a high episodic precipitation event with the arroyo bed elevation higher than Cave Road, this would likely cause significant flooding to the residents along Cave Road. In order to accomplish the goal of rechanneling stormwater and bringing the arroyo back to a more natural system, large scale sediment removal is needed to bring the elevation of the arroyo down. We understand many residents are for the water tank and fire suppression system. However, we are not separating out projects and will either be constructing the entire project or none. The AML Program added the water tank as a complimentary part of the larger mining legacy hazard project.
56	Linda Heitkamp	My son and I have lived in Madrid for over 40 years. There hasn't been enough time to think through and comment on this project. I couldn't attend the public meeting. I need more detailed information; postcard isn't helpful in understanding the project. There hasn't been adequate information informing residents. Main concern there hasn't been enough time to review information and respond. I love the arroyo don't want to see it changed by engineers channelizing. The arroyo isn't harming anyone's property in Madrid. As you know we don't receive a lot of rain in the area. I'm right across from the arroyo and enjoy taking walks. Worried about channelizing and bulldozing the arroyo. Love our small town.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. Notifications of the meeting were sent by Every Door Direct Mail from the USPS which should have provided the meeting information to everyone within Madrid and Cerrillos. The AML Program also had a PSA aired on KMRD (aired for a few weeks) and posted on the MLA Facebook Group page (Mid-December). A public notice was published in the Santa Fe New Mexican and the Albuquerque Journal. Additionally, public notice copies (in Spanish and English) were posted on the public information boards at the Mercantile Store, Java Junction, and Village Grocer. All project information can be found at the link provided below: https://www.emnrd.nm.gov/mmd/public-notices/ For the next public meeting, additional notices will be posted at more locations as well as a longer running PSA on KMRD.
57	Rebecca Nafey, Madrid Water Board, MLA Board	There may need to be some tweaking, but overall, it is a fine plan. I'm sure you have had an earful from naysayers. Mostly these people do not even own anything in Madrid and are just sticking their nose in where it doesn't belong. I hope you can take their negativity with a grain of salt or water off a duck. I apologize for them. I look forward to the work commencing and protecting my and all my neighbors, homes and businesses.	2/7/2024	Comment is noted.
58	Cole Roberts	As a Madrid land owner, I would ask that we bias toward alignment with natural drainage patterns, established international and national best management practice for stormwater management, complemented by guidance features that do not harden the water flow, unless in exceptional circumstances needed to protect roads or lot lines. As an engineer, working with stormwater engineers and environmental consultants regularly, I'm happy to contribute further input in support of the efforts to sustainably and appropriately manage storm flow in the Madrid area.	2/7/2024	Comment is noted.

Comment No.	Name	Issue/Comment	Date	Response
59	Sage Stock	As a community member who uses Cave Road and enjoys the arroyo on a daily basis, I have some concerns about the arroyo demolition section of the proposal. We definitely need the erosion and water management on Ice House Road, Fire House Lane and the gob piles etc., along with the fire suppression tank improvements. My comments are in no way intended to deny the need for work, or to block the work. However, along with other community members, I feel the proposed plan for demolition and reconstruction of the Arroyo can be, and should be improved. It seems the proposal as it now stands is incomplete.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
60	Sage Stock	At completion of this project we need to have an attractive arroyo filled with life, that functions to move major stormwater runoff safely past our buildings and roads while slowing the water to protect downstream landscapes and waterways. I believe this can be achieved in an ecologically sensitive and community friendly way. Minimize arroyo demolition to preserve the existing vegetation along the arroyo's sloped banks as much as possible. It is essential to reduce future erosion by preserving and working around existing trees and routing the water based on the current evolution of its flow [Edited to add: I support investigating the recently proposed new idea of maintaining the braided channels] rather than the historical paths that have been replaced over time. Couple this with a much more comprehensive plan for revegetation of the area. Further erosion mitigation measures to stabilize the disturbed areas with non-obtrusive structural measures and a comprehensive revegetation plan are required. Alternative A's plan to seed the arroyo with native seeds seems like a small effort at revegetation. Alternative B's plan for "more landscaping and plantings …. resulting in a greater long-term beneficial impact on vegetation" as noted on page 24 is a little better, but the other aspects of Plan B such as paving Bridge Street go too far. An improved revegetation section is needed to complete this planned action. A comprehensive revegetation plan following the construction work is not yet in place. The plan should be specific as to who will do what, for how long, and if and when the vegetation can be left to its own devices after it is established. The area has the potential to be a beautiful green belt/open space area, with diverse native perennials that prevent erosion and support the area's wildlife. This requires a thoughtful, original, locally sensitive reconstruction of the waterway. This isn't an arroyo behind the block backyard walls in Rio Rancho. Our visual environment is not the same. Beyond that, an initially intensive, and then ongoing regimen of seeding, planting, mulching and watering should be put in place. Simply spreading seed and hoping for the best is certain to have noxious weeds, bare soil and erosion prevailing in the end. The drawings included in the current plan are detailed as to construction materials and methods, and placement of the man-made components. To complete this plan we need similarly detailed plans and drawings that specify materials, methods, and placement for the revegetation as well.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
60	Sage Stock	2. Consider adding either some simple preparation or remediation to Back Road as it will be handling all the through traffic to Waldo Mesa and Miller Gulch while Cave Road is closed. It is already in rough shape and will be negatively impacted. There will be some neighbors who won't want this because the bad road slows traffic.	2/7/2024	The AML acknowledges additional traffic is likely on Back Road as the project commences. After discussing this issue with some residents, the AML Program will perform some minor regarding and gravel addition when the project is completed.
60	Sage Stock	3. On page 5, Cave Road improvements are described as grading it into "2 bifurcated roadways, one east and one west…" I understand this was clarified in the information meeting to simply mean a two lane road. This section (2.1.2) does not say in writing what has been described verbally. I ask the wording be cleared up. I would argue against a bifurcated road as it has been described in writing. This would require too much space be dedicated to roadway and too little to pedestrian trails and vegetation.	2/7/2024	The next release of the EA will include an update to clarify that Cave Road would be regraded to a width of 24 feet which will allow vehicles to pass one another, but not create a formal two-lane road. Bifurcation will be removed.
60	Sage Stock	4. On pages 3 and 4 (section 1.3) Madrid residents are described historically as being "eclectic individuals seeking personal freedoms." While today's resident are described as "artists who wish to preserve and embrace the rich mining history of the town." I would argue it should be stated we also strongly wish to preserve our personal freedoms. Overlooking or omitting that trait does the residents and the reader a disservice.	2/7/2024	Will attempt to clarify in the next release of the EA that the second statement is in addition to the first historical statement.
60	Sage Stock	5. Finally, I'd like to encourage engineers and other plan developers to engage with Amanda Bramble. She has worked this land for 20 years and is an expert in our little ecosystem here. She teaches at community college and at her sustainable living education center just downstream to the project. She is a calm presence, an original thinker, and a peacemaker.	2/7/2024	Comment is noted. Amanda Bramble has submitted extensive comments for this project and been an active part of the public meetings.

Comment No.	Name	Issue/Comment	Date	Response
61	Kiera Quinn	There has been some hype lately here in Madrid regarding this project. Everyone has the best interests of the town at heart. But there has been some misinformation floating around, and as a result, there may have been some overzealous comments that want to drop the whole project. From what I have seen, as these people get a more holistic view, they all seem to agree that there are some aspects that are incontrovercial, like the water tank. We all want that, but many people may not have known it was part of the project when writing in.	2/7/2024	Comment is noted.
61	Kiera Quinn	They may not been informed about why there would be bulldozers in the arroyo, just that they would be there. And this concerns people. We are very connected to the place where we live. As someone who grew up here, and remembers the arroyo before the big flood, I am nervous about the changes. I am also very nervous about how much the bulldozers are going to do. It seems like every time big equipment comes to town, things are worse than before. However, the flooding that people are experiencing is very harmful, and needs to be dealt with. 1) I 100% support the water tank part of the project.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
61	Kiera Quinn	2) I would very much like to see the native vegetation anchoring the gob piles. Every time we get a heavy rain, from my gallery we can see the difference in the black water coming from the gob piles and the brown water coming from the west side of town. This topic was glossed over in the meeting, and as such, I'm not really sure how much is being planned, nor which gob heaps would be affected, but they really need to be brought back in to the natural ecosystem and stabilized to prevent further damage.	2/7/2024	In the past, gob revegetation ideas have been met with significant public resistance, so the AML Program will not be revegetating the gob piles as part of this project. Additionally, nearly all gob piles in Madrid are owned by private landowners. To date, we haven't received any inquiries to revegetate the gob piles beyond discussing plantings at the bases to help slow sediment runoff in addition to the drainage channels.
61	Kiera Quinn	3) I would like to see the arroyo become a more native environment as well. Being that this is a desert, we need to have ways to slow down the water, so it can refill the aquifer. I would like to see some small interventions to make the arroyo more functional and sustainable. I like the idea of the arroyo going into the natural growth area on the other side of Cave road, but I am nervous about how that work will impact the residents. I would like to see the rest of the arroyo become more like that area. This will not happen if the water is funneled away as fast as possible, it needs to stick around to after the plants and soak in, and then the places can help slow the water down in turn. I don't see how the bulldozer will help with this, but I see how it could harm it. No matter what work gets done, the plants are absolutely essential. I am hesitant about the area downstream of that natural growth area. There is a lot of coal residue there that could be sent downstream if it is not stabilized. There is a very deep cut that will just get deeper, if the plants are not extended the whole way and the path of the water considered very carefully. This section of the plan also seemed rather under developed. While the area was once the natural path of the arroyo, the area has been changed drastically since then and the natural path will not be what it once was. 4) I understand that we also need to plan for the large influxes of water that needs a place to go. I like having a backup system for this reason, and I get the bulldozing will help with this, but we cannot just leave it bare. Those massive influxes really need the established root systems to support the arroyo walls, or they will not be able to handle the torrent of water. For context, when I was young, I got to see the terrifying power of water in the desert firsthand. Standing on the banks of one of the local arroyos, I watched a 20 foot high wall of water barrel down the canyon faster than a car could drive, reaching nearly the bank where I was standing. This water is no joke. Leaving the walls of the arroyo as they are is asking for trouble. We need native plants to support and protect this fragile structure.	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The current AML design for Madrid Arroyo (and the earlier Santa Fe County design) seeks to re-establish a functional arroyo and floodplain system. This is the most effective way to limit erosion and encourage water infiltration. Anthropogenic alterations in Madrid Arroyo over many decades have channelized the stormwater path and prevented the development of an active floodplain. Currently there is a have a rocky bottomed channel and no place for water to soak in. The current design includes a small arroyo channel and adjacent floodplain areas to the left and right, just 18" higher than the bottom of the channel. Small flow events will just pass on through, but anything larger will spread out and soak in. Like all arroyos, we expect the channel will meander around and cause some erosion areas, which is to be expected unless we want to armor the channel, which we do not. There are three locations where we force the arroyo channel to go back towards the middle and where a rock structure controls the vertical grade of the channel. This system provides some external boundaries within which the arroyo system can evolve and at the same time prevent it from incising too deeply or meandering into adjacent private properties. In the Santa Fe County parcel #1 (NE of Cave Rd crossing), we have an area that has not seen much stormwater since the mining company built a tipple there and dug a ditch on the west side of the valley to manage floodwater. The design drawings for this area are being expanded from the previous edition to show a shallow, small meandering channel that will connect with the existing floodplain and be vertically controlled with small rock grade control structures. Most importantly, there will be a large grade control structure at the north end of this parcel to prevent headcutting. We do not expect the new arroyo flows will erode any existing gob piles.

Comment No.	Name	Issue/Comment	Date	Response
61	Kiera Quinn	5) I get that some people are not comfortable with this work on their properties, but this seems like it will result in only a partial result. This town is very used to doing our own work, and we have several individuals who are trained in these types of things. I would very much request that as part of this process, the town is looped in. I would love for education in the maintenance of these structures be part of the plan. I would hope that as people see the positive effects of the structures and plantings, that some of these people who were hesitant will see the value. By the point the effects are seen, it would be up to the local community. The community needs the tools to continue to make improvements in the future. There has been significant interest in having a local group take this on. I think this project is, on the whole, necessary. But I would like the project be done in as low- impact type way as possible. And I would like to make sure that the environment is left in a better state. I understand that the environmental study focused on endangered species, and that is clearly very important, however, this whole ecosystem is very fragile and needs to be handled delicately. This town has already seen an enormous amount of devastation, from mining, railroad, flooding, etc. But this project has the potential to be either more devastating or part of the healing process. I would much rather see it be the latter. I know they have also sent in comments, but I would highly recommend listening to this podcast that some of our local experts did. The last 2 episodes are about this project, and they dive into a lot of the debate that the town is having, and a lot of the nuance that the designers need to understand about our community. https://www.mixcloud.com/andybramble/bramble-on-dancing-through-the-apocalypse-112/	2/7/2024	The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo. The AML Program signed a Cooperative Agreement with the MLA in 2018 to establish post-construction maintenance procedures and responsibilities. The MLA will be responsible for maintaining these features and if requested can provide additional training to a local community group on how to maintain these structures. The Madrid Stormwater Project has been designed to be as minimal and low-impact as possible while also working effectively to convey stormwater away from properties.
62	David Decker	I have a house on 37 Back Road in Madrid New Mexico and I'm not cool with the project you're doing. I have an easement that goes into my driveway and you're blocking my easement. If you have any questions please call me back. I am not cool with the project you're doing and I own property on 38 Back Road NM.	2/6/2024	Based on our search of property and conversations with the Madrid Landowners Association and Santa Fe County, there are no easements crossing the County Open Space or what was previously owned by the MLA for 37/38 Back Road. There are some utility easements along the perimeter of this area.
63	Unknown	My comment on the Madrid Arroyo Demolition Plan and ask that it not be bulldozed. I I live here and hike the Arroyo all the time and I don't think the ecosystem should be destoryed by bulldozing. I hope there could be another way of addressing whatever issues that they have without bulldozing and that's very important to me and would like to be in the strongest terms possible say please don't do it.	2/6/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. An additional public meeting will occur to present these updated plans for the Arroyo.
56	Ellen Dietrich	General- Throughout the DEA, there is an inconsistent use of the terms "historic" and "historical". Please check to determine which term is correct in each section	2/7/2024	Will review and update this as needed for the next release of the EA.
56	Ellen Dietrich	Section 1 and 1.1 Please insert the figures into the EA on pages immediately following the callouts in the text. When the DEA was first made available, these figures were not included in the hard copies or through online links. It is easiest to read if the figures are inserted as close to the text callout as possible.	2/7/2024	The figure (map) is referenced in multiple locations, so it could only be inserted after the first mention and would then need to be referenced back for other mentions. The Engineering Plan figures are too large to be within the EA document which is why they are included separately. Therefore, these items are likely to remain separate. However, the AML program will be sure to post all Appendices and Figures when first posting the next release of the EA.

Comment No.	Name	Issue/Comment	Date	Response
56	Ellen Dietrich	Section 1.1 At the January 25 public meeting, it was stated by the AML Project Manager that the APE was epanded after the DEA was finalized. Without knowing how much acreage was added or where, it is impossible to understand the potential effects of this added acreage. Unless this additional area only comprises a few acres and has characteristics and uses that are adjacent and the same as locations already analyzed in the DEA, a supplemental EA must be prepared that displays the location of this additional area and facilitates the disclosure of the potential effects of actions proposed within it. According to Section 5.4 of the NEPA Handbook, a supplemental DEA must be prepared if, after circulation but before implementing the federal action, "substantial changes are made to the proposed action that are relevant to environmental concerns." This is in keeping with the NEPA purpose of disclosure of potential effects to decision-makers and the public. It further states in Section 5.4.1 of the NEPA Handbook that "'Substantial changes' in the proposed action may include changes in the design, location, or timing of a proposed action that are relevant to environmental concerns." It goes on to state that a supplemental DEA is needed if "the changes would result in significant effects outside of the range of effects analyzed in the EA..." The only way to determine whether there would be significant effects is to analyze the potential actions and effects of the entire APE in the EA.	2/7/2024	Yes, AML is planning to update the EA to include the addition to the Proposed Action. Unfortunately, the need for the addition to the Proposed Action came up after the public meeting was planned, so it was decided to go through with the public meeting anyway to receive feedback on the other portions of the Proposed Action.
56	Ellen Dietrich	Section 1.5 In the first sentence, it states that the PA is required to conform and comply with the listed regulations and statutes. In reality, all action alternatives, including Alternative B, are required to conform and comply, not just the Proposed Action.	2/7/2024	Will update this in next release of EA.
56	Ellen Dietrich	Section 2.1 This section (4-6) would benefit from some figures that display typical drawings of the proposed stormwater control structures. It would also benefit from a reference to the engineering designs to help readers understand what is proposed.	2/7/2024	Depending on the arrangement of the EA, will include typical drawings within the document or references to such in engineering designs. Overall, the revised EA will add better references to all appropriate engineering designs.
56	Ellen Dietrich	Section 2.1 The engineering designs include "Exclusion Zones" on sheet G006. There is no explanation of these exclusion zones in the DEA. The engineering design sheet does not include a legend so it is difficult to understand the purpose of the exclusion zones and how they fit into the PA. Please add an explanation in the EA and a legend to the engineering design sheet.	2/7/2024	The term exclusion area was utilized during the planning stage to identify sensitive locations. The areas within these zones that could not be avoided will be addressed through a process outlined in a Memorandum of Agreement (MOA) between the EMNRD, SHPO, and OSMRE. The term “exclusion zone” will be removed from the engineer drawings and the EA to reduce confusion as it is not appliable to the current designs.
56	Ellen Dietrich	Section 2.1 The location of the staging area for equipment and other storage should be included in the description of the PA. It isn't clear if this is included in the APE but it should be included so that impacts to it are considered.	2/7/2024	Will include this in the next release of the EA.
56	Ellen Dietrich	Section 2.1.2 Some background on why the Madrid Arroyo needs to be "re-graded" would be helpful here for the public to understand why this is needed. I recommend explaining, either here or in Chapter 3 that there is accumulated sediment deposition, debris, and trash in the arroyo that constrains water flow, and which should be removed to increase capacity for the arroyo to safely transport stormwater and limit overbank flooding. It appears that this additional channel capacity would be needed to handle the increased stormwater that would be directed to the main channel after being diverted from the proposed sites upstream. This increased flow is an assumption on my part at this time based on the design proposal but needs to be considered and discussed in Chapter 4 if engineering designs show this to be correct. If, in fact, stormwater flows would be decreased due to better surface water infiltration under the PA, then that should be presented and may affect the need for proposed channel changes in the Madrid Arroyo.	2/7/2024	Comment is noted. More detail will be provided in the next release of the EA to include this background information and as well as the detailed arroyo plan.
56	Ellen Dietrich	Section 2.1.2 In the description it is stated that deflectors "would be installed in the channel to prevent lateral erosion." This terminology of "preventing" erosion also is used in subsequent sections of the EA. In reality, the erosion, lateral or otherwise, would not be prevented but would be minimized. Please correct this throughout the EA to be more accurate and to avoid misconceptions by the public.	2/7/2024	Will update this in next release of EA.
56	Ellen Dietrich	Section 2.1.2 Would the excess fill added to the existing railroad grade be stabilized in some way to minimize erosion? If not, it would eventually end up back in the arroyo.	2/7/2024	There will be gravel surfacing on the top. This area will be addressed in the new engineering designs and revegetation plan.
56	Ellen Dietrich	Section 2.1.3 This section describes a "rock-lined gravel roadway" at Firehouse Lane "to convey stormwater ..." This description doesn't correspond to the engineering drawings, which show a slightly sloped gravel road alongside a channel that would convey the stormwater. Note that the notes on engineering design sheet C011 describe a crowned gravel road, not a road with a 2% grade angled towards the conveyance channel as displayed in the Construction Notes. Also, the DEA	2/7/2024	Firehouse Lane is currently designed as a crowned road south of Red Dog Road and an inverted crown with valley gutters to the fire house. The roadside channel has been eliminated except to a “bar” ditch to convey local flow.

Comment No.	Name	Issue/Comment	Date	Response
		describes "an inverted crown gravel roadway" which is not what is presented on the engineering sheet. Please clarify the proposed design of the road in the EA and on the engineering sheets.		
56	Ellen Dietrich	Section 2.1.3 In this paragraph, it describes "A drainage structure placed midway along the Firehouse Lane would pass the gravel road through a buried concrete storm drain system and feed into Madrid Arroyo." It seems that this sentence is either incomplete or in error. I assume it is referring to stormwater that would be carried through the concrete storm drain system and into the arroyo, not the road itself. Please clarify.	2/7/2024	Stormwater will be collected via two 24” concrete culverts and conveyed to the arroyo in a channel.
56	Ellen Dietrich	Section 2.1.5 If the mine adit reopened due to stormwater and resulting erosion, what is being proposed to reduce the risk of this occurring again in the future?	2/7/2024	To our knowledge this mine adit was backfilled with nearby fill material in the mid 1980s. Our program has noticed that over the years, particularly with coal mine closures, backfills commonly fail and open back up. Our initial plan is to use a small excavator to open back up the mine feature to identify the condition of the mine workings below. If the workings are still in good condition, we will likely build a grouted rock bulkhead at the entrance and then backfill the feature. If the mine workings are not in good condition, we will likely use polyurethane foam (PUF) to plug the enclosure and then cap it with nearby fill. Both these remediation methods have shown high closure success rates.
56	Ellen Dietrich	Section 2.1.6 A section describing mitigation measures and associated BMPs designed to minimize adverse impacts under the action alternatives should be added for the PA or in a separate section in Chapter 2. Some of these proposed mitigation measures are displayed and noted on the engineering drawings but not incorporated into the DEA. In the DEA, it states that BMPs and mitigation measures would be implemented without explaining what they would be and where. Right now, it requires the public to trust that these would be implemented and would work without providing a way to evaluate their effectiveness. Including this section might help explain to those residents concerned about destroying the Madrid Arroyo that, while some vegetation and deposition removal are planned, the arroyo would be sufficiently revegetated and result in beneficial effects over the long term. Monitoring activities should be included in this section, as well as a way to evaluate when mitigation measures such as reseeding are considered successfully completed. There are areas of previous revegetation efforts completed during past AML projects that were unsuccessful, possibly due to a lack of monitoring before turning over the project to local maintenance. This has been used by those objecting to this new proposed project to demonstrate that the arroyo and other disturbed areas would not be stabilized, despite AML descriptions in the DEA. According to the NEPA Handbook on page 9-7, "Mitigation measures and environmental commitments needed to reduce impacts below significance should be incorporated into the alternatives, where appropriate. These mitigation measures then become an integral part of the alternative. In other words, if mitigation measures are needed to implement the alternative, the alternative needs to describe the mitigation measures."	2/7/2024	The construction contractors will be responsible for preparing erosion and sediment control plans and applying for required permitting (Construction NPDES and notice of intent). However, typical best management practices (BMPs) could include silt fencing, rock check dams, and straw wattles. During construction – the construction contractor will be required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP). AML will reserve the right to review and approve this plan prior to implementation, and AML will provide construction inspectors to verify continued compliance with the plan during construction. Per USEPA requirements, the SWPPP will include various stormwater BMPs. However, the exact method and location will be determined in the early phase of construction, not now, in the design phase. We do not specify the means and methods a contractor must use on a project, and we do not necessarily know the sequence of work areas and disturbances in advance. After Construction – A comprehensive revegetation plan is currently under development and will be available for review. AML plans to invest much more than the minimum EPA BMP of seed & mulch for disturbed soil areas. The revegetation plan will include aggressive methods of re-establishing native grasses, some shrubs, and limited drip irrigation to help with plant establishment. The goal is to achieve a sustainable level of site-adapted vegetation to control surface soil erosion and re-establish the native plant vernacular of the Madrid area. A formal park-like landscape is not proposed.
56	Ellen Dietrich	Section 2.2.2 Overbank flooding would be reduced or minimized, not prevented, by adding the excess fill to the railroad grade. Please correct.	2/7/2024	Comment is noted. Will update in the next release of EA.
56	Ellen Dietrich	Section 3.2 Table 1 is missing any totals for Property Type 5.	2/7/2024	Comment is noted. Will update in the next release of EA.
56	Ellen Dietrich	Section 3.2 Table 2 should be inserted immediately following the callout and not in the middle of Section 3.3.	2/7/2024	Will work on layout to see what's possible.
56	Ellen Dietrich	Section 3.4.2 The last two sentences referring to the need for a nationwide permit for the PA are more appropriate for Section 2.1.2 as part of the description of the PA. Also, note that a permit would be required, not just "is likely required" and change "will" to "would" because the project is not yet approved.	2/7/2024	Yes, section 2.1.2 will be updated regarding the permit. The EA was originally prepared prior to the permit being finalized and will be updated appropriately.
56	Ellen Dietrich	Section 3.4.3 A map of the drainages, discharge points, and sample locations would be very helpful here.	2/7/2024	The water quality report will be added as an additional appendix. This level of detail will not be included in the EA itself.
56	Ellen Dietrich	Section 3.4.3 There should be some discussion of existing surface water quantity and groundwater quality.	2/7/2024	The next release of the EA will include some additional surface water quality information. However, this project is not expected to impact ground water, and this will not be discussed further.
56	Ellen Dietrich	Section 3.6 The BISON-M reference should include a date and be added to the Reference List (Section 9.)	2/7/2024	Comment is noted. Will update in the next release of EA.

Comment No.	Name	Issue/Comment	Date	Response
56	Ellen Dietrich	Section 3.6.1 The BA/BE should be identified as Appendix E.	2/7/2024	Comment is noted. Will update in the next release of EA.
56	Ellen Dietrich	Section 3.8 The primary source for the soils data (NRCS soil survey) should be shown, rather than crediting GMEC 2019b unless you mapped the soils as part of the BA/BE preparation (doubtful.)	2/7/2024	Comment is noted. Will update in the next release of EA.
56	Ellen Dietrich	Section 3.8 While the soil survey descriptions are somewhat useful especially where characteristics like soil drainage, depth to water table, runoff classification, and flooding frequency are included, it would be much more useful to the reader's understanding if you include information related to land capability classes and limitations for use. Including that kind of information, especially with a map showing severe limitations for erosion and surface stabilization, would help the reader evaluate the potential success of the proposed erosion controls and other mitigation measures. As noted on page 9-8 of the NEPA Handbook, "the discussion of the affected environment should not simply be an inventory of resources."	2/7/2024	A review of further existing data will be completed to assess what is available to be included in the EA.
56	Ellen Dietrich	Section 3.8 I understand that core sampling was performed at key sites within the APE. The information on soil and geologic characteristics would be helpful to present here to better describe the affected environment.	2/7/2024	A review of the geotechnical report will be completed to assess pertinent information to include in the EA.
56	Ellen Dietrich	No Section- Add a section on existing air quality because there is a potential for adverse short-term impacts during construction (equipment emissions and wind-blown sediment from disturbed areas) and for air quality benefits following stabilization of disturbed areas.	2/7/2024	Will include either an air quality section or a discussion in the human health and safety section for the next release of the EA.
56	Ellen Dietrich	Section 3.9 There should be some discussion of noise levels included in this section to facilitate disclosure of short-term, temporary increased noise levels due to construction equipment, vehicle traffic, and construction workers.	2/7/2024	Will include a noise section in the next release of the EA.
56	Ellen Dietrich	Section 3.10 Add Census references to Section 9.	2/7/2024	Will update in next release of EA.
56	Ellen Dietrich	Section 3.10.3 There needs to be an explanation of why EJ is considered. Right now, the DEA presents some data but doesn't explain why it is there. Also, please add some narrative to describe the indices presented from the EJScreen such as what they are, why there are included, and how they contribute to the effects analyses. If that is not done, then I recommend deleting Table 3 and its preceding discussion because it adds nothing to the analysis. As stated in Section 9.4 on page 9-4 of the NEPA Handbook, "Only those factors of the existing environment that might influence or be significantly affected by the proposed action needs discussion."	2/7/2024	Will update this section in the next release of the EA.
56	Ellen Dietrich	Section 3.10.3 The last paragraph of this section should be moved to Section 1.6 Public Involvement	2/7/2024	Will add the reference to CEQ in Section 1.6 but Section 3.10.3 will remain as is or be updated as needed for EJ issues.
56	Ellen Dietrich	Section 4 A brief explanation of terms would be helpful in the introduction to this section For example, it would be useful to explain that potential beneficial and adverse impacts must be considered and are described in terms (to be defined) like short- and long-term, direct and indirect, and irreversible and irretrievable commitments of resources, per page 9-8 of the NEPA Handbook.	2/7/2024	Will update for the next release of the EA.
56	Ellen Dietrich	Section 4 The impacts to the human environment described in this chapter should include the acreage added to the APE as well as the staging area, if that is not included in the additional APE acreage.	2/7/2024	Will update for the next release of the EA.
56	Ellen Dietrich	Section 4 Throughout this chapter, the narrative should use the term "would" and not "will" where the impacts to resources are described because the project has not yet been approved and the impacts described are potential impacts to be disclosed, not ensured at this point. Please correct	2/7/2024	Will update for the next release of the EA.

Comment No.	Name	Issue/Comment	Date	Response
56	Ellen Dietrich	Section 4.2 This is the first time the term viewshed is introduced (4.2). However, it is not defined. A brief description of the viewshed, or at least introduction of the term, should be included in Section 3.3	2/7/2024	Will update terms and definitions in the next release of the EA.
56	Ellen Dietrich	Section 4.3 Given that there would be increased infiltration of stormwater runoff following installation of the structures proposed under the PA, there would most likely be changes to surface water quantity during runoff events, as well as to water quality. Also, what would be the effects to water quantity (stormwater runoff) from diverting the water through proposed constructed channels and other structures to the arroyo? Would flows in the Madrid Arroyo increase, which is why the removal of sediment and debris in the channel is warranted to minimize overbank flooding? Please add a discussion of the potential effects to water quantity to facilitate an understanding of the reasons behind the proposed engineering changes in the arroyos.	2/7/2024	Net increase in upland flow is zero, water is simply being channeled. Removal of some sediment from Madrid Arroyo within the County Open Space is necessary to control floodwaters and thereby protect several homes on the east side of Cave Road from flooding in a 100-yr event. The primary water quality impairment in Madrid Arroyo is sediment. The proposed arroyo channel and floodplain grading will result in some sediment deposition, but there will still be some sediment through-put in larger flood events, which should be closer to the natural flux in sediment concentrations. Concentrations of other pollutants in stormwater runoff from the developed areas of Madrid are not expected to be significant. Nonetheless, an active floodplain next to the arroyo channel (as designed) provides a passive means of trapping some of these sediments in shallow flow across vegetated floodplain areas.
56	Ellen Dietrich	Section 4.3.2 It seems that there would be higher rates of stormwater runoff due to increased acreage of hardscape (concrete channels, paved roads, for example.) Add some information related to how the runoff would be increased under Alternative B and what the potential impacts would be to downstream channels.	2/7/2024	The next release of the EA will include this additional comparison of water runoff/infiltration.
56	Ellen Dietrich	Section 4.6 This section is very cursory and doesn't clearly explain the potential effects of implementing the alternatives. For example, it states that "Existing roads would be utilized to the extent possible..." Used for what? Just for access or for other purposes like installation of pipelines and other structures? It also refers to "erosional features" being proposed. Is this referring to erosion controls or something else? This term was not used anywhere else in the DEA and is too vague. It also states that "Tree removal may occur in localized areas..." but that conflicts with the PA description in Section 2.1.2 that describes plans to grade the Madrid Arroyo as well as Sheet C-202, Madrid Arroyo Demolition Plan, that states all shrubs and trees would be removed.	2/7/2024	This section will be updated and expanded with the new revegetation plan with the next release of the EA.
56	Ellen Dietrich	Section 4.6 The DEA should describe potential impacts to vegetation from the staging area, which was identified at the public meeting (but not in the DEA) as being located within the county open space area above the ballpark and may expand into the parking lot owned by the MLA. If heavy equipment and materials are stockpiled there, the vegetation and soils there would be disturbed and would need to be stabilized.	2/7/2024	This will be updated in the next release of the EA. This was an addition to the PA after the public meeting was planned and therefore discussed but not included so AML could still receive comments on other portions of the project.
56	Ellen Dietrich	Section 4.6.3 Under the NAA, there would be continuing water and wind erosion from bare or sparsely covered areas, so adverse impacts to vegetation would continue to occur, contrary to the statement in the DEA that states there would be no adverse effects.	2/7/2024	Will update in next release of EA.
56	Ellen Dietrich	Section 4.7 This section could make use of information from the core samples and soil survey to describe the effects of disturbing the soils during construction and how they would most effectively be stabilized post-construction. Currently, the DEA just sends the reader to Section 6.7 and states that the mitigation strategies would reduce or eliminate adverse effects. However, Section 6.7 skims over what mitigation measures would be used so the conclusion that stabilized soils would provide beneficial effects is unsupported.	2/7/2024	Will review the existing information to assess what additional pertinent data can be added for the analysis.
56	Ellen Dietrich	Section 4.7 Wind erosion of soils (4.7) is also a factor, especially when soils are bare during construction. This needs to be presented as a potential impact that must be mitigated.	2/7/2024	Will update in next release of EA.

Comment No.	Name	Issue/Comment	Date	Response
56	Ellen Dietrich	Section 4.7 What would the potential effects to soils be in the staging area? With equipment and materials stored there, these erodible soils would be disturbed but no plan for how this water and wind erosion would be minimized is evaluated. At the public meeting, Leeland stated that they might consider adding mulch to the soils to stabilize the area. However, this is not presented in the DEA and should be considered completely inadequate, given the broad expanse of bare ground that would be subject to frequent wind erosion and the relatively high erosion potential of these soils. There is already a problem of stormwater and sediment from water and wind erosion being directed from a portion of the upper parking lot towards the historical stone walls at the northern end of the ballpark. Leaving the soils bare in the staging area would contribute to that problem. How would mud and dirt be prevented from being dragged onto NM-14 from the staging area? Often at construction sites outletting onto paved roads, there are stone and gravel patches installed at the entrances/exits to knock off some of the dirt from tires before exiting onto the road. This is a temporary fix that would need to be maintained.	2/7/2024	A discrete area for excess soil placement is planned adjacent to the parking area above the ballfield (see forthcoming design drawings). The placement, compaction, grading, and drainage of this new soil area is planned to minimize erosion potential and impacts to adjacent land areas. AML and MLA have reached an agreement on allowing the construction contractor to use this parking area for temporary staging during construction and includes a provision that the site will be graded after the term of construction. It is a large enough area that stormwater BMPs will be required and will likely include some form of sediment detention/filtration at the NE corner of the site where the natural drainage goes. Regarding mud being dragged onto SR 14 – The SWPPP will address this with the inclusion of a mud tracking pad and a requirement to periodically clean any mud from the public road. A more pervasive problem which is not mentioned in this comment is dust. The project specifications and bidding documents will address dust mitigation directly, by mandating certain mitigation measures and creating a pay item for that work.
56	Ellen Dietrich	Section 4.8 Increased ambient noise levels and emissions from heavy equipment and workers throughout the APE should be discussed. While this would involve relatively short-term, temporary impacts, it would be significant to residents living near project construction sites and needs to be disclosed in the EA.	2/7/2024	A noise section will be added to the next release of the EA.
56	Ellen Dietrich	Section 4.11 Blocking off the upper parking lot for staging and storage of equipment and workers throughout the APE should be discussed. While this would involve relatively short-term, temporary impacts, it would be significant to residents living near project construction sites and needs to be disclosed in the EA.	2/7/2024	The EA was released prior to the addition of this portion of the proposed action. The next release of the EA will include this type of information in the transportation sections.
56	Ellen Dietrich	Section 6 In general, the description of mitigation measures needs to be much more clearly described and should include details that can then be spelled out in the FONSI.	2/7/2024	Comment is noted. The next release of the EA will include more detailed mitigation measures in Section 6.
56	Ellen Dietrich	Section 6.3 Rather than leaving the mitigation measures and appropriate BMPs necessary to minimize adverse impacts up to the construction contractor to determine in the SWPPP and the Corps of Engineers under their permit, the mitigation measures should be described here so there is disclosure to the decision-makers and the public: Also, what kind of monitoring would there be and for how long? How will AML determine when an area is successfully stabilized and adequate to turn over to the local owners or authorities for maintenance?	2/7/2024	The construction contractors will be responsible for preparing erosion and sediment control plans and applying for required permitting (Construction NPDES and notice of intent). However, typical best management practices (BMPs) could include silt fencing, rock check dams, and straw wattles. During construction – the construction contractor will be required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP). AML will reserve the right to review and approve this plan prior to implementation, and AML will provide construction inspectors to verify continued compliance with the plan during construction. Per USEPA requirements, the SWPPP will include various stormwater BMPs. However, the exact method and location will be determined in the early phase of construction, not now, in the design phase. We do not specify the means and methods a contractor must use on a project, and we do not necessarily know the sequence of work areas and disturbances in advance. After Construction – A comprehensive revegetation plan is currently under development and will be available for review. AML plans to invest much more than the minimum EPA BMP of seed & mulch for disturbed soil areas. The revegetation plan will include aggressive methods of re-establishing native grasses, some shrubs, and limited drip irrigation to help with plant establishment. The goal is to achieve a sustainable level of site-adapted vegetation to control surface soil erosion and re-establish the native plant vernacular of the Madrid area. The SWPPP/NOI would determine the length of monitoring and duration until stabilization, but often it is 1-year.
56	Ellen Dietrich	Section 6.6 & 6.7 More detail on the mitigation measures that would be required to establish vegetation and stabilize soils in disturbed areas is needed. Also, what BMPs are likely to be implemented? What kind of monitoring would there be and for how long? How will AML determine when an area is successfully stabilized and adequate to turn over to the local owners of authorities for maintenance?	2/7/2024	Comment is noted. The AML Program is planning to provide a more detailed site plan in the next set of engineering designs. A revegetation plan will also be created. The revegetation plan should include specifications that define the plant survival requirements. An additional public meeting will occur to present these updated plans for the Arroyo.
56	Ellen Dietrich	Section 6.8 What is planned to minimize disturbance to residents and visitors during construction? Would equipment operation be limited to certain hours of the day to reduce noise levels from equipment? Would heavy equipment have any requirements for the reduction of emissions and noise?	2/7/2024	Further discussions regarding timing will take place and be incorporated into the EA. Likely, the majority of work would be conducted during winter months (January to April) to lessen the impacts to businesses, the community, and tourism. Work on the water tank area and gob piles (drainage channels) are less impactful and may be completed throughout the year as needed. The Contractor shall assure that all equipment used in the contract work is fitted with standard noise suppression devices.

Comment No.	Name	Issue/Comment	Date	Response
57	J. Sanchez	I know I'm a bit late to the table on this but still wanted to share some points... • First and foremost... DO IT! It's blithe and a major fire hazard! • Don't be fooled by the 'vocal minority', the vast majority of us want Madrid cleaned up and this project is the perfect way to jump start that effort. Sadly, the vast majority of us are also just really busy and don't have to luxury of time to rattle cages and beat on drums. • Vocal Minority... keep count and you'll realize these are just a handful of folks hell bent on keeping the tax table and property values low to discourage others from moving here. They bitched to no end and kill the cell tower project every time it comes up- a tower none of them would see its so far back. They do this because week mobile and internet discourages new folks from moving in. But that too, the vast majority want. • Shanty Town... daily I see folks on Facebook complaining how tourism has steadily dropped. Yes those same folks don't want to change anything. Shanty Town look isn't selling any more, again the vast majority of us want it cleaned up, and to be honest, so do the tourists. • Not a damn one of them care about the 'natural vegetation' and clump of trees. It's just an excuse to scare the county and development off. 90% of the 'natural vegetation' is an atrocity of weeds, 5% are invasive trees and plants, the other 5% is literal garbage/trash. I lost count of the times I've seen the same vocal minority dump their weeds, cuttings, and rubbish in that same arroyo. • Lastly, an idea & suggestion. Shut them up by planting a few native trees. Suggestion, that arroyo diagram passed around is shaped damn near like a running track. So after its plowed down and trees planted, why not just lay on top of the arroyo path, some of the ever-growing mountains of crushed asphalt that keeps piling up on county property? Make it a walkable path... if you did that, I guarantee those very same loudmouths will absolutely be the first to use it. That's it, I'm speaking on behalf of many of my neighbors who don't want to tussle with the 15 at best, townies that gripe about anything, and I do mean anything, that hints at progress and development. Feel free to call me anytime. Of our group, I'm finally taking to time to communicate OUR thoughts.		Comment is noted. The AML Program is planning a revegetation plan with plantings of both native grass, shrubs, and trees.

Public Meeting Summary- August 15th, 2024

MADRID STORMWATER AND EROSION CONTROL PROJECT

Santa Fe County, New Mexico

Coal Problem Area: Madrid Coal Breaker - NM935060

Prepared For:

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August 2024

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1 Introduction

The New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Abandoned Mine Land (AML) Program, in partnership with the United States Department of Interior (DOI) Office of Surface Mining Reclamation and Enforcement (OSMRE), are proposing to establish stormwater conveyances, erosion control measures, and fire prevention improvements within the town of Madrid, New Mexico, located in Santa Fe County, approximately 22 miles southwest of Santa Fe (Figure 1). These measures are proposed on 125 acres comprised of private, state and county owned land.

The Proposed Action (PA) is designed to help address on-going coal mining legacy hazards including stormwater flooding in and around Madrid, erosion on existing gob piles and roadways, improving the town's fire suppression capabilities, and closing a re-opened adit feature. Madrid's identity is rooted in its coal mining history and its economy relies heavily on tourism. It is important for the New Mexico AML Program to preserve the historical integrity of the town while safeguarding against environmental hazards.

1.1 Purpose and Need for the Project

The need for the PA is to address human health and safety concerns from hazards associated with the remnants of mining activities, including excessive erosion, flooding, and open mine features, as well as address fire suppression insufficiencies in Madrid. The purpose of the PA is to safeguard the public from these hazards while preserving the historical mining landscape.

2. Project Overview

2.1 Project Background

The town of Madrid was developed as a mining community in the 1890s. As a company town, the area grew to include housing, churches, a school, and local businesses which continued to expand through the 1930s to support miners and their families. Mining activities slowed after World War II with the last active mine in Madrid closing in 1962. During the 1960s and early 1970s, the town was mostly empty and efforts to sell it as a whole unit failed. In the late 1970s, the town was sold as individual properties and purchased in large by eclectic individuals seeking personal freedoms. Today, Madrid is a tourist destination known for its artists who wish to preserve and embrace the rich mining history of the town (WCRM 2021).

The AML Program's work in Madrid began in the 1980s and has included adit closures, asbestos removal, water tank abatement, drainage repairs and reclamation, structure demolition, and various maintenance activities. These projects have been met with varying levels of success and public approval. Recent water quality monitoring results indicate past reclamation efforts performed by the AML Program have made a positive impact on stormwater quality (GMEC 2019a). A detailed description of past projects and results can be found in the Madrid Compendium (NM AML 2009).

In 2011, Madrid Mining Landscape community outreach identified two main reclamation projects in the town of Madrid: The East Slope Catchment project and the Arroyo Restoration project (Dekker/Perich/Sabatini 2011). Since abandonment of the mines, existing coal waste piles, known

as gob piles, have remained relatively unstable and poorly vegetated. This, combined with modified natural drainages and deteriorated manmade drainage structures, has resulted in the movement of large quantities of sediment downslope and downstream flooding, especially during high precipitation events. The sediment movement has had significant negative impacts on the town of Madrid, located immediately downslope and adjacent to multiple coal gob piles. Over time, sediment has accumulated within the area, clogging drainage paths, and leading to episodic flooding throughout the town (WCRM 2021). Recently, fugitive stormwater and resulting erosion has exposed and reopened a mine adit feature that was previously backfilled by AML in 2011.

In recent years, the AML Program has increased public involvement throughout the planning process. The AML Program met numerous times with the local community and landowners. One of the main issues repeated during these communications was to determine a way to address these severe stormwater concerns without complete reclamation of the gob piles that celebrate the historical mining of the town. Community members expressed concerns to update the town's fire suppression system as the current water storage tank is outdated, undersized, and has severely eroded (NM AML 2009). Following a January 2024 public meeting, revisions were made to address additional concerns regarding plans in Madrid Arroyo. The AML Program strongly considered these public concerns during development of the PA. For a collection of documents regarding the history and development of this project, please see the NM AML Program's website: <https://www.emnrd.nm.gov/mmd/abandoned-mine-land-program/projects/award-winning-work/madrid-stormwater-erosion-control-project/madrid-stormwater-erosion-control-project-documents/>.

2.2 Project Location

The Area of Potential Effect (APE), containing the town of Madrid, is approximately 22 miles southwest of Santa Fe in Santa Fe County, NM. The APE is located within section 35 of Township 14 North, Range 7 East (T14N-R7E), as depicted in United States Geological Survey (USGS) New Mexico Principal Meridian (NMPM), and on unplatted land in the Mesita de Juana Lopez and Ortiz Mine Grants, as depicted in United States Geological Survey (USGS) New Mexico Principal Meridian (NMPM) Madrid 7.5' topographic quadrangles (Figure 2).

The APE is a combination of private, state and county-owned land that makes up approximately 125 acres (Figure 2). The percentage of surface ownership within the APE includes: 84 acres (67%) private, 27 acres (22%) Santa Fe County, 7 acres (6%) New Mexico Department of Transportation (NMDOT), 3 acres (2%) Madrid Water Cooperative, and 4 acres (3%) Madrid Landowners Association.

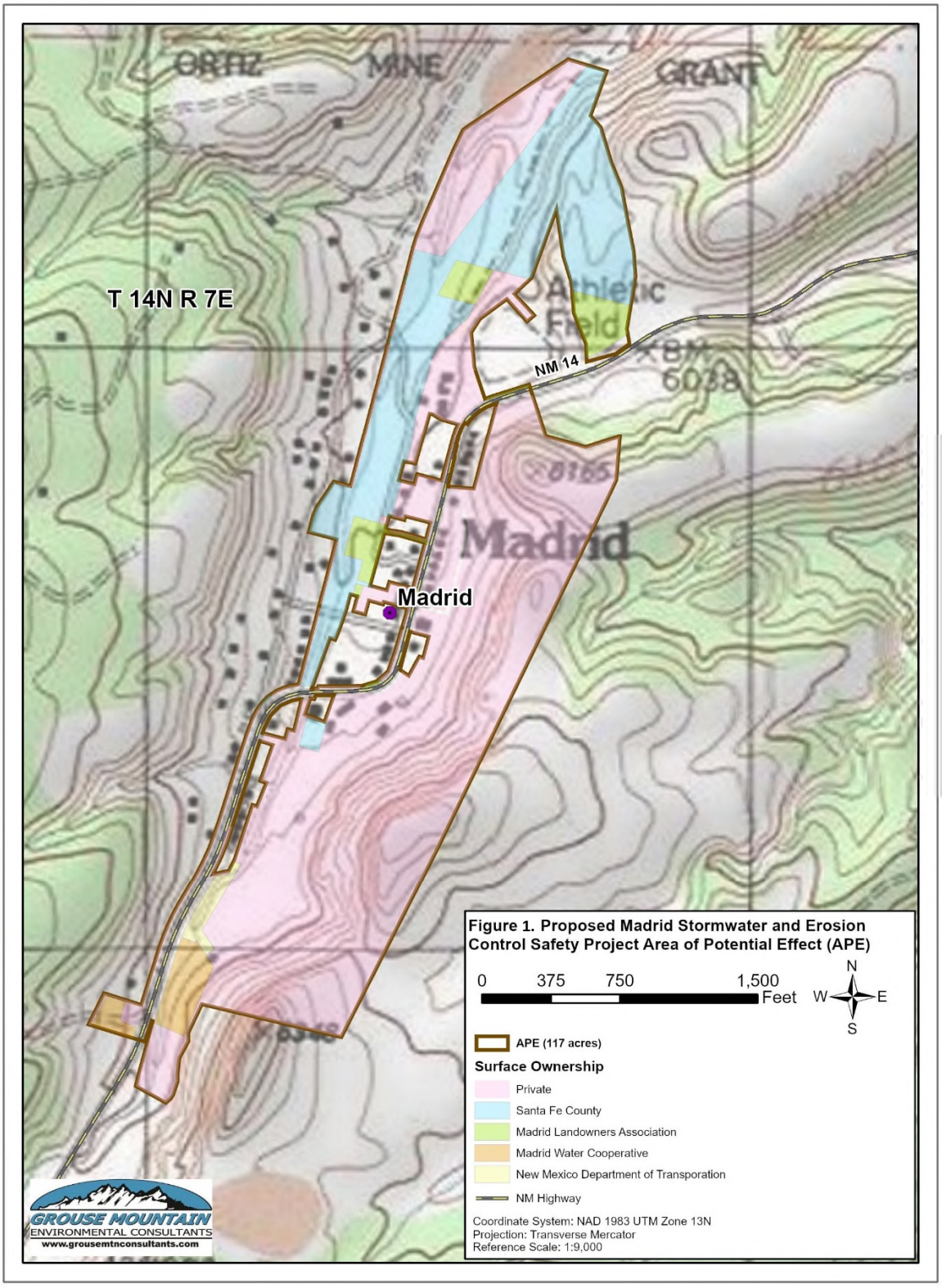


Figure 1. Proposed Madrid Stormwater and Erosion Control Safety Project Area of Potential Effect (APE)

3. Alternatives

For further details regarding each Alternative described below, please see the full description within the Environmental Assessment.

3.1 Alternative A: Proposed Action Alternative

The PA as described below was designed to address issues related to legacy mining operations, including stormwater control, erosion, and open mine features, as well as improve fire suppression capabilities, while being visually unobtrusive in the historical setting of Madrid. The stormwater improvements proposed would provide a medium level of service and would require periodic maintenance to repair gravel roads, channels, and rolling dips, and to remove sediment and debris, especially after large precipitation events. Reclamation and revegetation work would be completed in Madrid Arroyo (details provided in final Engineering Designs and Revegetation Plan).

3.2 Alternative B

Alternative B is a selection of actions similar to the PA with alterations for each project area as described below. In general, Alternative B includes more intensive stormwater management actions that would also be more visually obtrusive in Madrid's historical setting. The stormwater improvements proposed would provide a high level of service and would require less maintenance than the PA. Alternative B would include the same mine adit closure as discussed in the PA.

3.3 Alternative C: No Action Alternative

The NAA would take no measures to reduce hazards associated with past mining activity. This alternative provides the lowest level of service, as no stormwater or erosion structures would be constructed in the discussed project areas and fire suppression capabilities would remain at the current level. The NAA does not satisfy the purpose and need of the PA based on AML Program reclamation priorities (PL 95-87, 30 USC 1240[a] 2006).

4. Public Meeting

A legal notice was prepared in both English and Spanish to describe the project background, meeting time, and location (Appendix A). The notice was advertised in the *Santa Fe New Mexican* and *Albuquerque Journal* on August 1, 2024. Copies of the public notices were posted on the public information boards at the Mercantile Store, Java Junction, The Mineshaft and Village Grocer. Notices were also mailed to approximately 329 local residential and business addresses on the week of August 5, 2024, using the U.S Postal Office Every Door Direct Mail service. Due to extensive previous public input, there was no comment period following the meeting.

5. Public Meeting Summary

An in-person public meeting was held at the at the Madrid Fire Station, 5 Firehouse Lane, Madrid, New Mexico on August 15th, 2024, from 6pm to 7:15pm. The purpose of this meeting was to provide an overview of the proposed project and provide an opportunity for the public, area neighbors, and businesses to ask questions regarding the revised engineering designs and revegetation plan. A PowerPoint presentation was prepared and presented at the meeting along with

visual aids of the revised engineering designs and revegetation plan (Appendix B). AML representatives and associated contractors were available for questions. There were approximately 26 people in attendance for the meeting (In Person Sign in Sheet, Appendix C).

6. Public Meeting Questions

Questions and comments were received during the meeting question and answer session and are outlined below.

The main topics brought up in the question and answer session were:

- Concern over the number and species of trees being cut down
- The revegetation plan and how it will be maintained and monitored
- The effectiveness of the foam plugs for the mine closure
- The ability of the plan to successfully protect the town from floods, like the one in 2013

The full question and answer session was recording and is included in Appendix D.

APPENDIX A. PUBLIC OUTREACH DOCUMENTATION

Newspaper Notice

Affidavit of Publication

STATE OF NEW MEXICO } SS
COUNTY OF BERNALILLO }

Ad Cost:	$512.19
Ad Number:	79440
Account Number:	1110947
Classification:	NON-GOVERNMENT LEGALS

I, Bernadette Gonzales, the undersigned, Legal Representative of the Albuquerque Journal, on oath, state that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, chapter 167, Session Laws of 1937, and payment of fees has been made of assessed and a copy of which is hereto attached, was published in said publication in the daily edition, 1 times(s) on the following date(s):

August 1, 2024

That said newspaper was regularly issued and circulated on those dates.
SIGNED:

Legal Representative

Subscribed to and sworn to me this 1st day of August 2024.

David Lindsey Montoya
Notary Public

_____ County Bernalillo
ID#: 1140229
My commission expires: 04-26-2027

STATE OF NEW MEXICO
NOTARY PUBLIC
DAVID LINDSEY MONTOYA
COMMISSION NUMBER 1140229
EXPIRATION DATE 04-26-2027

Grouse Mountain Environmental Consultant
3600 Cerillos Road
Suite 407
Santa Fe, NM 87507

NEW MEXICO emnrd
Energy, Minerals and Natural Resources Department

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS

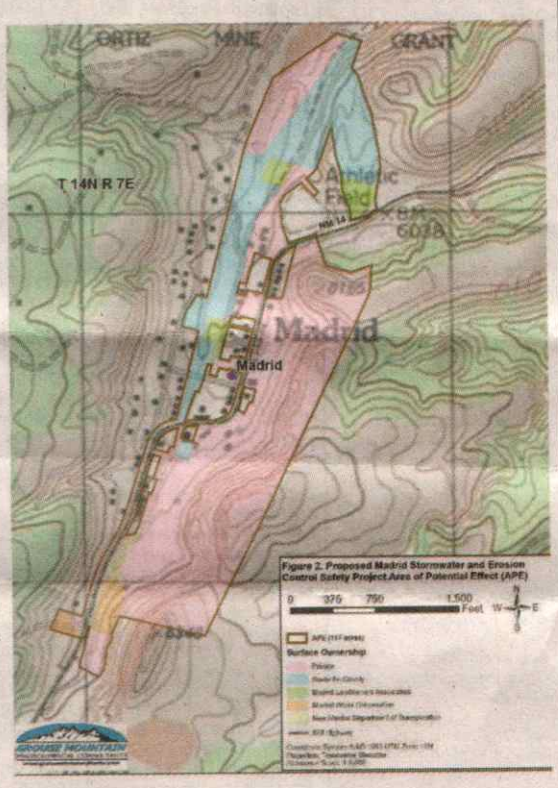
PUBLIC INFORMATION MEETING

Madrid Stormwater and Erosion Control Project in Madrid, NM

Public Meeting:
August 15, 2024, 6:00pm-8:00pm
at Madrid Firehouse
5 Firehouse Ln, Madrid, NM
Presentation and Discussion

Updated Engineering Designs and Revegetation Plan will be available August 8th online at:
https://www.emnrd.nm.gov/mmd/public-notices/

Hard copies available by request by contacting Leeland Murray (AML Project Manager) at:
Leeland.Murray@emnrd.nm.gov or 505-629-9677



Final Environmental Assessment (EA) is in progress. Notice of availability will be provided at a later date.

Invitation on behalf of: The New Mexico Energy, Minerals, and Natural Resources Department, Abandoned Mine Land Program (AML), in partnership with the U.S. Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE).

Meeting Purpose: (1) To provide an overview of the updated engineering designs for the proposed project; (2) to provide an overview of the revegetation plan; (3) question and answer session between the public and AML Program and contractors.

ADA: To request Americans with Disabilities Act (ADA)-related accommodations for this meeting, or should you require an interpreter, contact Hillary Robbie with Grouse Mountain Environmental Consultants at 505-930-5166 or Madrid_EA_Comments@gmecnm.com by August 9, 2024.

NEW MEXICO emnrd
Energy, Minerals and Natural Resources Department

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS

REUNIÓN DE INFORMACIÓN PÚBLICA

Proyecto de Control de Aguas Pluviales y Erosión en Madrid, NM

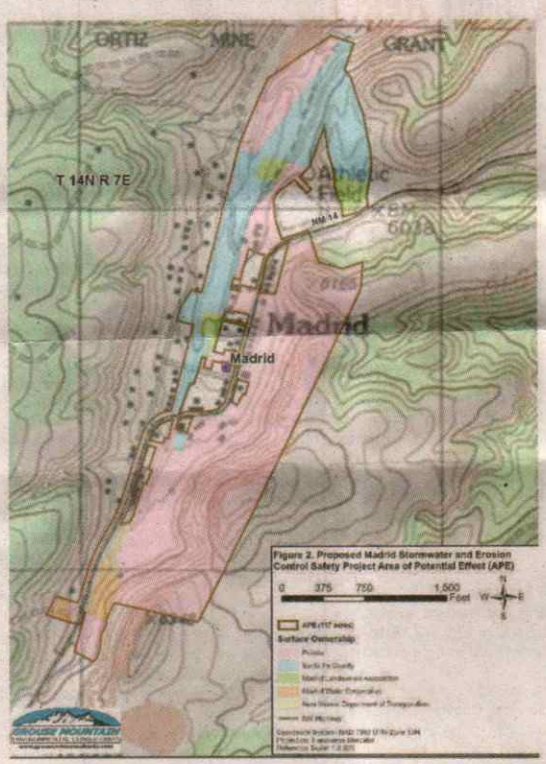
Reunión Pública:
El 15 de agosto del 2024, 6:00pm-8:00pm

en la Madrid Estación de Bomberos
5 Firehouse Ln, Madrid, NM
Presentación y discusión

Diseños de ingeniería actualizados disponible en el siguiente enlace:
https://www.emnrd.nm.gov/mmd/public-notices/

Copias impresas disponibles por solicitud con Leeland Murray (AML gerente de proyecto) a: Leeland.Murray@emnrd.nm.gov o (505)629-9677.

La evaluación ambiental está en progreso. Noticia de disponibilidad se proporcionará en una fecha posterior.



Invitación en nombre de: El Programa de Minas Abandonadas del El Departamento de Energía, Minerales y Recursos Naturales de Nuevo México (AML, por sus siglas en inglés), en alianza con la Oficina de Recuperación y Ejecución de Minería a Superficie (OSMRE, por sus siglas en inglés).

Propósito de la Reunión: (1) Presentar una descripción general de los diseños de ingeniería actualizados del proyecto; (2) presentar una descripción del plan de revegetación; y (3) tener una sesión de preguntas y respuestas entre el público y los representantes del programa AML y contratistas.

Ley de Estadounidenses con Discapacidades (ADA, por sus siglas en inglés): Para pedir asistencia por el ADA para esta reunión, o si requiere un traductor, por favor llamar a Cristina Marciales con Grouse Mountain Environmental Consultants: 505-930-5166 ext. 202, o enviar correo electrónico: Madrid_EA_Comments@gmecnm.com antes del 9 de agosto del 2024.

SANTA FE NEW MEXICAN

Founded 1849

GROUSE MOUNTAIN ENVIRINMENTAL
CONSULTANT
3600 Cerrillos Rd Ste 407
Santa Fe, NM 87507-2653

ACCOUNT:	S31584	
AD NUMBER:	77780	
LEGAL NO	92885	P.O.#:
1 TIME(S)	$171.36	
AFFIDAVIT	0.00	
TAX	14.03	
TOTAL	185.39	

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, Veronica Gonzalez, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe, Rio Arriba, San Miguel, and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the Legal No 92885 a copy of which is hereto attached was published in said newspaper 1 day(s) between 08/01/2024 and 08/01/2024 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 01st day of August, 2024 and that the undersigned has personal knowledge of the matter and thngs set forth in this affidavit.

ISI _____
LEGAL ADVERTISEMENT RESPRESENTATIVE

Subscribed and sworn to before me on this 1st day of August, 2024

Notary _____

Commission Expires: March 14, 2027

NATHANIEL CRISTOFER MARTINEZ
Notary Public - State of New Mexico
Commission # 1139927
My Comm. Expires Mar 14, 2027

SANTA FE NEW MEXICAN

Founded 1849

GROUSE MOUNTAIN ENVIRINMENTAL
CONSULTANT
3600 Cerrillos Rd Ste 407
Santa Fe, NM 87507-2653

ACCOUNT:	S31584	
AD NUMBER:	77782	
LEGAL NO	92886	P.O.#:
1 TIME(S)	$191.10	
AFFIDAVIT	0.00	
TAX	15.65	
TOTAL	206.75	

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

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Public Meeting Notice Flyer

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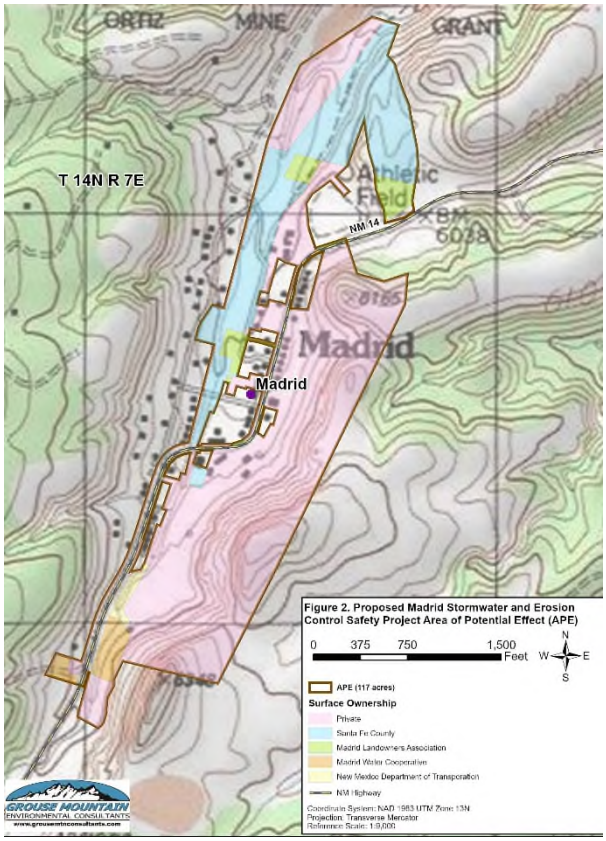

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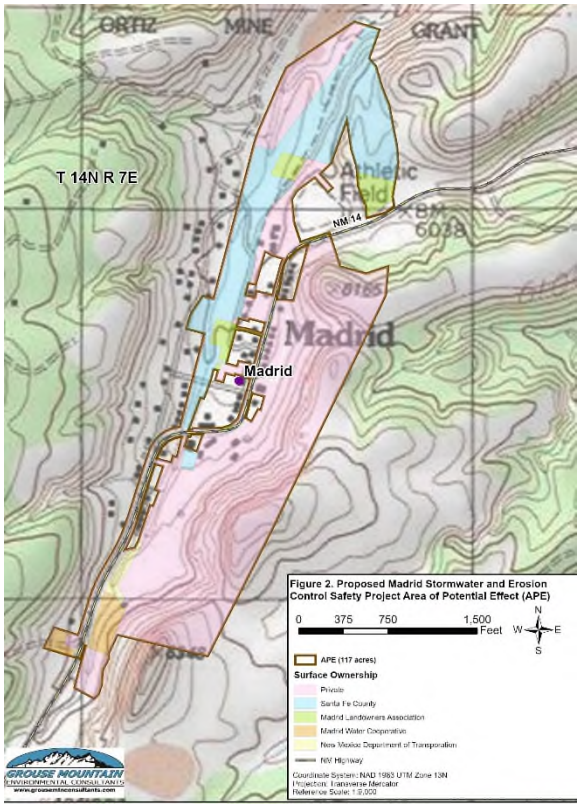

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APPENDIX B. PUBLIC MEETING PRESENTATION

PUBLIC INFORMATION MEETING

Madrid Stormwater and Erosion Control Project

Thursday, August 15th, 2024

Madrid Firehouse – Madrid, NM

Public Information Meeting - Purpose

Gob pile above Madrid, NM
– Photo courtesy of AML

- Reintroduce team members from agencies and contractors
- Provide project update and what has happened since the last meeting
- Discuss the updated engineering designs and revegetation plans, with a Q&A session

Project Team & Responsibilities

NEW MEXICO ABANDONED MINE LAND (AML) PROGRAM – Project Lead; project development, coordination, management, & construction oversight

OFFICE of SURFACE MINING RECLAMATION & ENFORCEMENT (OSMRE) – project funding source

SANTA FE COUNTY- water tank engineering design, assistance with permit acquisition on county property, landowner

Project Team & Responsibilities

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS– National Environmental Policy Act (NEPA) compliance; public outreach facilitation

WESTON SOLUTIONS– oversight of Madrid stormwater designs for the project; lead engineering

RIVERBEND ENGINEERING– oversight of Madrid Arroyo engineering designs

DANIEL B. STEVENS AND ASSOCIATES– prepared revegetation plan for Madrid Arroyo

Team Members

Abandoned Mine Lands Program (AML):
Oversight of Entire Madrid Stormwater Project & Funding Source

- Leeland Murray: AML Project Manager
- Andrew Zink: AML Cultural Resource Manager
- James Hollen: AML NEPA Coordinator

Grouse Mountain Environmental Consultants:
Public Meeting Facilitation and Environmental Compliance

- Hillary Robbie: NEPA Coordinator
- Cristina Marciales: Project Assistant

Weston Solutions:
Oversight of all Madrid Stormwater Designs

- Rob Ederer, P.E.: Lead Engineer

Riverbend Engineering:
Oversight of Madrid Arroyo Engineering Designs

- Chris Philips, P.E.

Daniel B. Stevens and Associates:
Prepared Revegetation Plan for Madrid Arroyo

- Julie Kutz: Biologist

Previous Public Meeting (Jan 25) Results

Comment Period: Jan 8 – Feb 7

- Limited comments regarding water tank and mine feature safeguarding
- Plans for stormwater control generally accepted
- Substantial concern over plans in the Madrid Arroyo

Response:

- Engineering designs have been updated to provide more detail
- Some arroyo work has been modified in response to comments
- Revegetation Plan created to describe the planting, species, and monitoring efforts
- Environmental Assessment [IN PROGRESS] to incorporate the updated engineering designs, revegetation plans, and other comments

Madrid Stormwater and Erosion Control Project Schedule

August 15:	**Public Meeting**
August/September:	**Finalize Environmental Assessment**
September:	**Submit EA to OSMRE**
October-November:	**OSMRE provides NM AML with Authorization to Proceed (ATP)**
Begin Work – January/February 2025:	**Water Tank Installation** **Hillside And Arroyo Work Following Bid Procurement**

Q&A Session

For electronic copies of the Revegetation Plan, updated Engineering Designs, and future posting of the Environmental Assessment, please visit:

www.emnrd.nm.gov/mmd/public-notices/

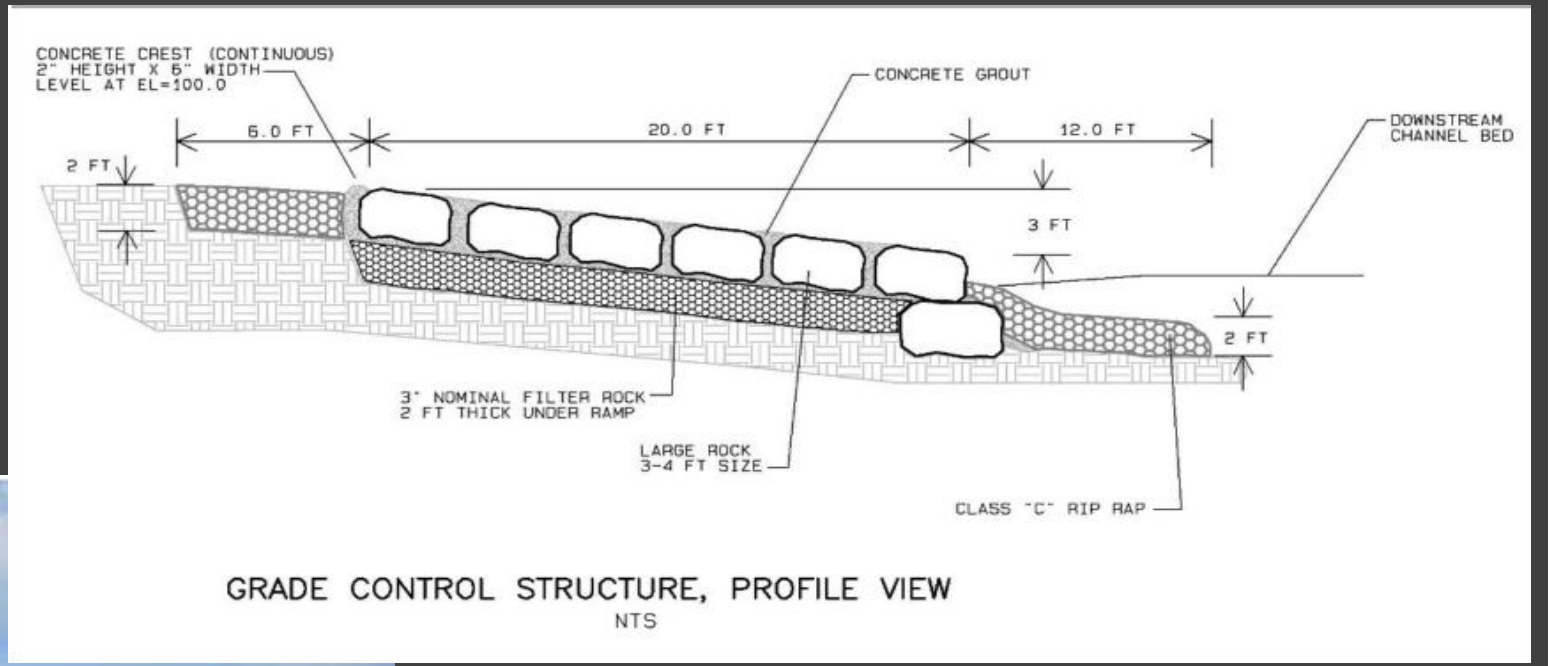
Thank you for participating!

Bridge Example

Mesh and Pedestrian Bridge Installation

MADRID ARROYO RESTORATION:

Examples of proposed restoration elements



Grouted boulder grade control structure, Type 1

Grouted Boulder Grade Control Structure, Type 2

Stacked boulder deflectors, control lateral channel migration and erosion.

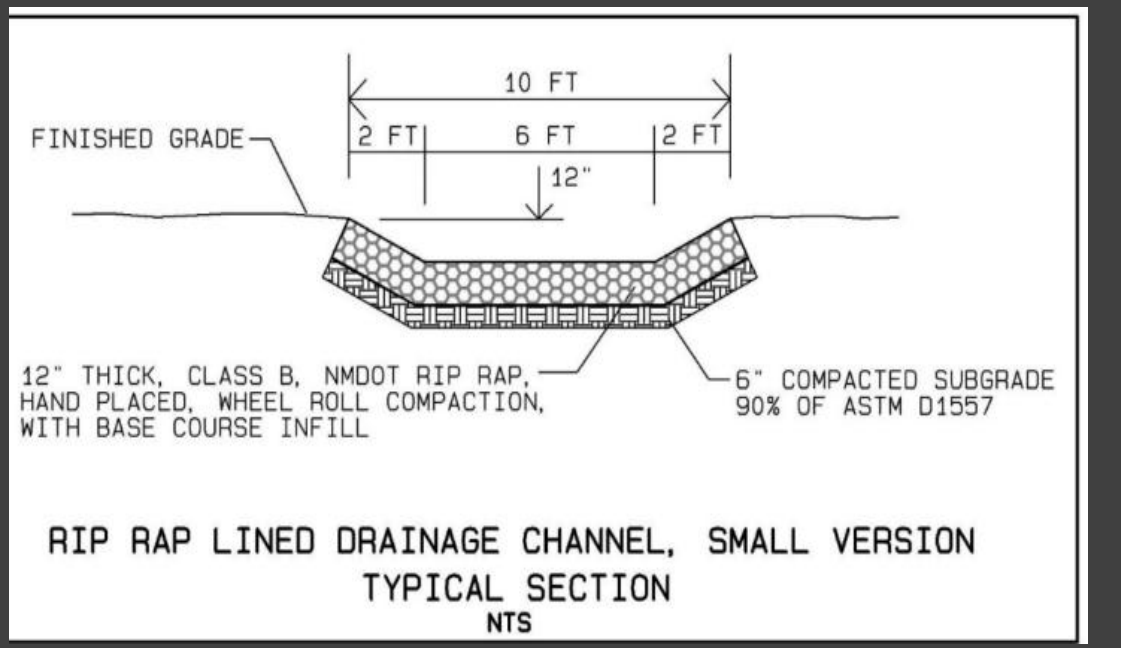
Stacked boulder wall, or rock and soil deflector.

Arroyo and floodplain grading: meandering low-flow channel with adjacent floodplain, infrequent stacked boulder deflectors to manage channel migration and grouted boulder grade control structures to control channel bed elevations.

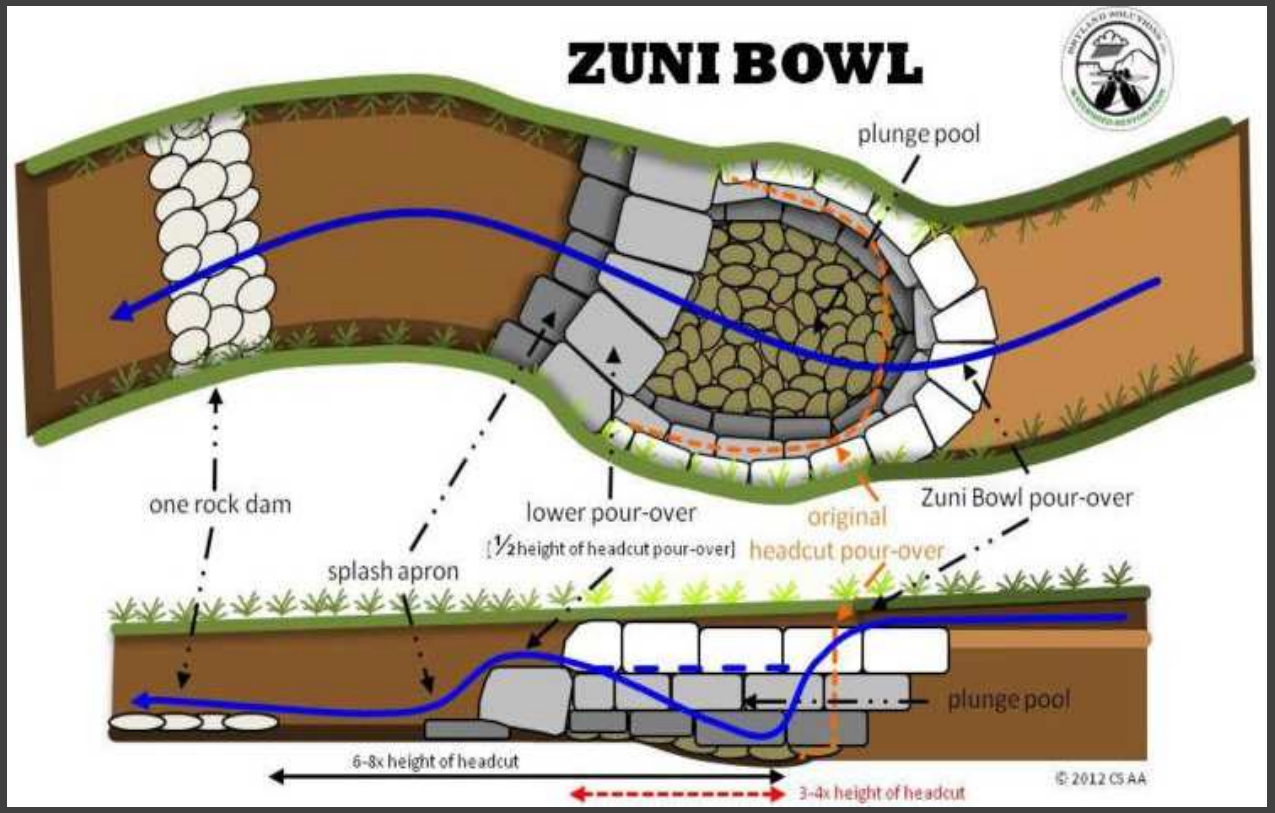
Arroyo and floodplain grading: meandering low-flow channel with adjacent floodplain, emergent willows at bankfull elevation.

Arroyo morphology is laterally managed with rock structures and riparian vegetation.

Sideslope grading at 3:1 or 4:1 allows for grasses/forbs/weeds to establish. Plant palette for Madrid will lean towards more drought tolerant species including chamisa shrubs and bunch grasses.



Rock lined drainage channel.



Zuni bowl grade control structure.

Revegetation Plan – Species to be Hydroseeded & Live Planted

Table 1. Seed Quantities

Plant Name	Scientific name	Live Planting - Each	Seeding (Pure Live Seed) recommended lbs/acre**	Total Area (A, B, C) in acres	Total Quantity (pounds)
WOODY PLANTS - seed mix					
Four-winged saltbush	*Atriplex canescens*		1.20	5.83	6.996
HERBACEOUS PLANTS - wildflower seed mix					
Scarlet globemallow	*Sphaeralcea coccinea*		0.90	5.83	5.247
Evening primrose	*Oenothera pallida*		0.30	5.83	1.749
Winterfat	*Krascheninnikovia lanata*		0.60	5.83	3.498
Butterfly-weed (showy milkweed)	*Asclepias speciosa*		2.10	8.88	18.648
Palmer's Penstemon	*Penstemon palmeri*		0.60	8.88	5.328
Scarlet penstamon	*Penstemon barbatus ssp. torreyi*		0.60	9.31	5.586
Scarlet gilia	*Ipomopsis aggregata*		0.60	9.31	5.586
Desert marigold	*Baileya multiradiata*		0.30	8.88	2.664
Sand verbana	*Abronia villosa*		0.30	8.88	2.664
Common hoptree	*Ptelea trifoliata*		1.00	0.32	0.32
Utah juneberry	*Amelanchier utahensis*		0.50	1.12	0.56
Datura	*Datura wrightii*		0.50	3.37	1.685
Desert four o'clock	*Mirabolis multiflora*		0.60	0.32	0.192
GRASSES PLANTS					
Alkali sacaton grass	*Sporobolus airoides*		0.70	8.88	6.216
Sideoats grama	*Bouteloua curtipendula*		1.75	8.88	15.54
Blue grama	*Bouteloua gracilis*		1.75	8.88	15.54
Western wheatgrass	*Agropyron smithii*		3.75	9.31	34.9125
sand dropseed	*Sporobolus cryptandrus*		0.28	8.88	2.4864
James galleta	*Pleuraphis jamesii*		3.50	9.31	32.585
WOODY					
Chamisa	*Ericameria nauseosa*		0.20	3.37	0.674
Apache plume	*Fallugia paradoxa*		0.20	3.37	0.674
New Mexico locust	*Robinia neomexicana*		1.00	0.36	0.36
Mahonia/desert holly	*Mahonia haematocarpa*		0.75	1.12	0.84
HERBACEOUS PLANTS					
Broadleaf milkweed	*Asclepias latifoliav*		1.50	1.12	1.68
Antelope horns milkweed	*Asclepias asperula*		1.50	8.88	13.32

Plant Name	Scientific name	Live Planting - Each	Seeding (Pure Live Seed) recommended lbs/acre**	Total Area (A, B, C) in acres	Total Quantity (pounds)
Sweet sand verbana	*Abronia fragrans*		0.25	3.37	0.8425
Total pounds of all pure live seed/acre			27.23		186.39
No Supplemental Water Required					
Live plantings (plugs)					
Native grasses (see above species)		400			
Shrubs (Chamisa, Apache Plume)		200			
TOTAL		600			
Supplemental Water Required					
Live plantings (10-gallon containers)					
Two-needle pinyon	*Pinus edulis*	5			
NM Locust	*Robinia neomexicana*	9			
Three-leaf sumac	*Rhus trilobata*	11			
Scrub oak - gambel or wavyleaf	*Quercus sp.*	22			
	TOTAL	47			

*NOTE: Quantities based on NMDOT revegetation quantities and USDA

**DBS&A recommended quantities were increased to ensure seedling establishment and bring closer to quantities provided by Plants of the Southwest (2022).

Areas and Calculations

Species Formulas:

Areas in Acres

A - 5.83, B - 1.12, C - 0.32, A/B - 1.93, B/C - 0.11

Formulas for Seed Ratio

A/B = .6 x A + .4 x B, B/C = .6 x B + .4 x C

Suitable for A or B

Then total Area = A, B, A/B, So A + B + A/B, 5.83 + 1.12 + 1.93 = **8.88 Acres**

Suitable for B or C

Then total Area = B, C, B/C, So B + C + B/C, 1.12 + 0.32 + 0.11 = **3.37 Acres**

Suitable for A, B, or C

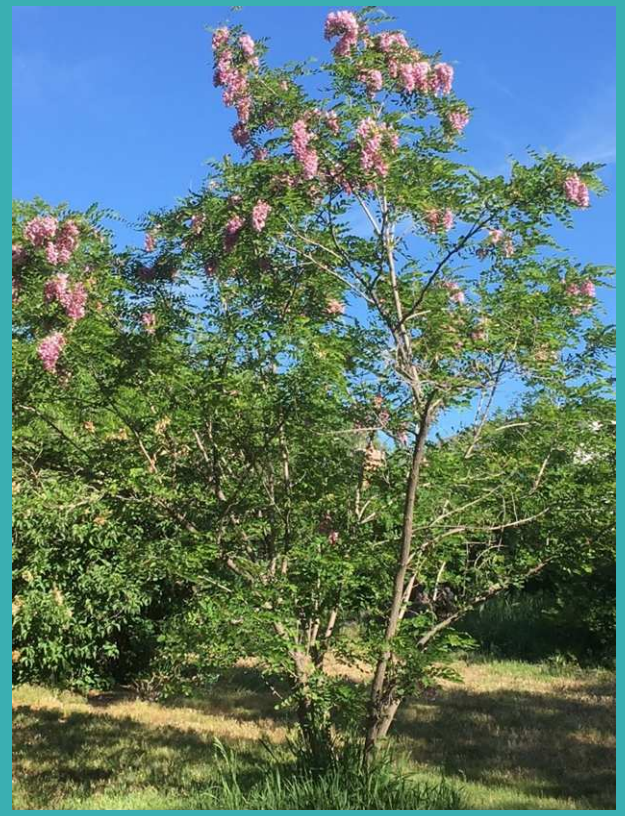
Then total Area = A, B, C, A/B, B/C, So A + B + C + A/B + B/C, 5.83 + 1.12 + 0.32 + 1.93 + 0.11 = **9.31 Acres**

Revegetation Plan Continued

Photos of live planted species to be given supplemental water:

Threeleaf Sumac
Rhus trilobata

Two-needle pinyon
Pinus edulis



New Mexico Locust
Robinia newmexicana

Revegetation Plan Continued

[These species will also be live planted and given supplemental water.]

Wavyleaf oak
Quercus undulata

Scrub oak
Quercus sp.

- Also, a 3,000 gallon water tank will be implemented.

Gambel oak
Quercus gambelii

This plan incorporates input and collaboration with Madrid representative Amanda Bramble, as well as Santa Fe County staff.

Chamisa
Ericameria nauseosa

Apache Plume
Fallugia paradoxa

200 plugs of these two species will be planted

Alkali Sacaton Grass
Sporobolus airoides

Sideoats Grama
Bouteloua curtipendula

Blue Grama
Bouteloua gracilis

400 plugs of the 6 native grasses on this slide and the following slide will be planted

Western Wheatgrass
Agropyron smithii

Sand Dropseed
Sporobolus cryptandrus

James' Galleta
Pleuraphis jamesii

The other 3 of the 6 native grass species that will be planted as grass plugs (400)

Mahonia/ Desert Holly
Mahonia haematocarpa

0.84 total pounds of seed mix

Four-wing Saltbush
Atriplex canescens

6.996 total pounds of seed mix

APPENDIX C. PUBLIC MEETING SIGN-IN SHEET

Public Information Meeting
Madrid Stormwater and Erosion Control Project

Santa Fe County, New Mexico
Madrid Firehouse
5 Firehouse Lane, Madrid, NM 87010
Thursday, August 15th, 2024

PLEASE SIGN IN & PRINT LEGIBLY

NAME	AFFILIATION	ADDRESS	PHONE	EMAIL
Carl Hausen	Madrid Water MWFD		470-0770	
James Hollen	NMO AML	SANTA FE	505 231 8332	james.hollen@emnrd.nm.gov.
JULIE KUTZ	DBS&A	ABQ.	505-715-9140	jkutz@geo-logic.com
JethroBowden	madrid water		473-7160	—
Clinton Anderson	Madrid Landowners' Association	PO Box 872 Madrid, NM 87010	505-424-4411	Clint.Anderson.10622@gmail.com
Leland Murray	NMAML		505-629-9677	Leland.murray@emnrd.nm.gov.
Hillary Robbie	Grouse Mtn		307 684 2112	hrobbie@gmecwy.com
Bob Chappell			949-545 8384	
Rob Edever	weston	Seagull St. Alb NM	505-8746598	rob.edever@westensolutions.com
ELLEN DIETRICH				

NAME	AFFILIATION	ADDRESS	PHONE	EMAIL
Andrew Zink	AMAFCA - CRM			andrew.zink@emnrd.nm.gov
L. Phillips	Riverbend Eng	on file		
STELLA LINDER BYRNE				
Lloyd Maiola	EMNRD			
KASH HEITKAMP FOR COLE ROBERTS	RESIDENT			KASH.HEITKAMP@gmail.com
Miera Quinn	Resident/Business			Rierark@gmail.com
Julian Writer	Resident			
Mary Blasco	Resident			
R NAFEY	MAD WATER			
Ron Thomas Janet Brost		83 Waldo Mesa		brookjslp@gmail.com
Andrew Bamble	resident	36 White Hall Cerrillos		
Richard Thomas	RESIDENT	69 WALDO MESA ROAD		dickthomas202@icloud.com
Chuck Dentino	EMNRD			
Monica Harmon	Santa Fe County	100 Catron St Santa Fe, NM	505-992-9825	mharmon@santafecountynm.gov
Rose Masters	SANTA FE COUNTY	100 CATRON ST., SANTA FE, NM	505 992 9897	rmasters@santafecountynm.gov

NAME	AFFILIATION	ADDRESS	PHONE	EMAIL
Shelby Johnson	Weston	—	701-202-1398	—

APPENDIX D. QUESTION & ANSWER SESSION SUMMARY

Question & Answer Session Summary

August 15, 2024

Start time for Q&A session: 6:21pm

Q1. How sure is the funding for this project?

A1. Funding is secure for this project. We had a budget meeting last week and though costs have risen, we have the money for it.

Q2. The area where the arroyo is being redirected is very green. Is that the area that is going to be taken over by this or is that staying the same?

A2. Showed arroyo plans on overhead screen. Some trees at the Cave Road crossing will be removed but further in they will remain. Significant (in size and/or native) trees will remain. The trees will be receiving much more water after our work is completed.

Q3. Where the arroyo goes to the left at the school house and where there is a glade, are those trees going to be removed?

A3. Some of those trees will be going but some will stay.

Q4. We are not going to be putting elms in their place?

A4. No, we will not be planting any Siberian elms.

Q5. Can you speak to the headcut that is north of the Cave Road crossing?

A5. Where the relic arroyo is joining the mining company bypass channel, there's a 6-8 foot grade change, a grade control structure that will hold the arroyo. This hardened transition will move the water to a lower transitional elevation change in one place. Structures of about a foot grade change encourage additional saturation upstream of them. We however want to hold that water as close to the surface as we can.

Q6. I think there was mention of using a watering truck? What is the mechanism for triggering that?

A6. It has been written into the plan that if the monsoon season does not hit hard enough that year, the watering truck will be brought out. This allows the trucks to assist the seeds and plugs if there isn't enough rain.

Q6 follow-up. What sort of monitoring frequency would be happening? Would there be people coming out at some frequency or will it be dependent on relying on weather reports?

A6 follow-up. AML personnel from Santa Fe will drive through the town to see how the vegetation is doing. Rainfall can vary on weather apps, so there will be more reliance based on first hand accounts. These AML visits will be approximately every 2-3 weeks, depending on how hot it is. The visits can also be anywhere from every week to a month, depending on climatic conditions.

Q6 follow-up. If we (Madrid residents) notice that plants need water who would we contact?

A6 follow-up. If residents notice dryness and that a water truck is needed, contact Leeland Murray. There will be an area where there will be live plantings, pinyon pine, and NM locust. These will be supplementally watered through irrigation lines for up to two years to get them established. These plantings will be placed in area with projected wetter soils, and hopefully they will take off. They should be a hardy enough species. We are optimistic of their success. These are to replace the trees that are being removed. The water truck will be focused on the seeds, hydro mulched areas, and not the live planted species.

Q7. The smaller storm water structures and the larger ones will need maintenance so will the county be taking care of that?

A7. We have a maintenance agreement with MLA. We have to check if those structures are on Santa Fe County Open Space or MLA. If it's on county land than the responsible party for maintenance is questionable. A representative from SF County Open Space was asked if they can help with this, and the rep said they would like to work with AML on this, but resources are limited.

Q8. Madrid resident with a statement from Andrew Wice (See Attached)

A8. I (Leeland Murray, AML Project Manager) talked to Amanda Bramble and she said that she was impressed by the revegetation plan and appreciates the consideration that AML is putting into the project.

Julie Kutz, Contracted Biologist: a lot of the species that are in the plan are ones that are native and have been there before. We are trying to at least revive some of the original vegetation, as well as put drought tolerant, flowering species. I appreciate Andrew Wice's comment.

Q9. It seems like people are really concerned about the trees coming down. How many trees are going to come down in this plan?

A9. We don't know the exact number of trees but this can be counted on the engineering designs. There is only one large tree coming down, right at the crossing of Cave

Rd. All the trees that are coming down are of small diameter, and many of them are Siberian elms. We tried to work with the community to save as many trees as possible and also work with the land owners that do get flooded, to protect their homes from flooding. We are trying to maximize the amount of flood control we can while also retaining as many trees as possible. We found that we do not have to remove as many trees as initially thought, we are finding that compromise while helping this arroyo function properly.

Q10. Is the larger plan going to address the silt coming down the road? There are parts of the road that are below the grade so is the plan going to address those issues?

A10. The plan is to capture water from east side of Ice House Road, funnel it through conveyance channels and capture it in retention ponds, and the water is then distributed throughout the area. We heard from town feedback that they did not want us to mess with the gob piles at all. The NM 14 culvert is in the wrong place, and we have been trying to think about the larger scale and how we can move water across the area. So we are going to cut into NM 14 in the lowest spot, construct a new channel east, send the water through different property landowners and into the arroyo.

Q11. My building gets flooded from the water coming down from behind The Mineshaft and the west side.

A11. On the south side of town, there will be a conveyance channel that will take water from that hillside to this hillside and bring it to the southern end of red dog road and underneath firehouse lane and dump into the arroyo.

Q12. The last big flood we got flooded out my street and the water was coming down from the highway and its outside of anything you are addressing in these plans.

A12. We don't have anything being done about that west side, as we haven't been given permission to work there.

Q13. I heard you say you're going to bring more water from the southside into the arroyo?

A13. There will be channeling on the south side of Firehouse Rd that will push water into the arroyo instead of the NM 14 culvert. We did have plans of detention ponds along Red Dog Rd but landowners did not want it.

> *Q13 follow-up. Something needs to be done about flooding around the five or six mining cabins that are out there behind Firehouse Rd. If we could redirect that water to the arroyo it would help but the access road is being eroded every time it rains. All the property owners on that road would work with you.*
> A13 follow-up. Leeland Murray, AML Program Manager, is planning to meet in person with the concerned to go over this area.

Q14. There was a comment about using foam fill to close up the mines. Would it be possible to use the debris from the baseball fields that is being removed to fill the mine?

A14. The adit that is being filled is a mine that was closed in the 80s, was refilled in the 90s and it has reopened again. Using organic materials causes it to just sink in and erode away with rains and other water, causing it to reopen. Can also use a rock bulkhead, but if the opening is unstable, it's a lot safer to use the foam.

Q15 follow-up. When I think of using that foam at my house or outdoors it degrades, chunks off, and mice eat it. How is that different from using it in the mine? What does it do with the pieces that chunk off and how is the environment affected?

A15 follow-up. The foam wouldn't be exposed to UV so it wouldn't degrade. There is also 2 feet of fill on the top, before the foam, so it won't be exposed to that UV. As long as the foam is not exposed to any UV, the foam will last hundreds of years.

Q15 follow-up. So if you put the dirt on top but you don't want to fill it with dirt because it will erode away so what will happen to the dirt on top? It wont erode away?

A15 follow-up. The foam puff plug will be 6 feet thick under the 4 feet of debris, that puff plug will stabilize the dirt fill.

Q15 follow-up. How old is the oldest one you have already done the puff plugs with?

A15 follow-up. We have been doing these foam fills for 30 years. We've done this in the Ortiz Mountains. The mine opening was as big as this fire station, so it was a 20-foot-thick puff plug filled with scoria and we put drainage pipes in it so water can drain through or the puff plug push up. There have been no issues with the puff plugs so far. You have to pour it slow and let it cure slow.

Q16. You said that you wanted to put in detention ponds but that some land owners did not want them. Can you explain about what they would do?

A16. They are intended to take the water and hold it for some time, and then release or disperse it slowly.

Q16 follow-up. Could the ponds go in other places where you may have people that do want them?

A16 follow-up. Most people in town do not want them, it's rare to find landowners that are okay with sacrificing a part of their land for the benefit of others. There is a smaller confluence pond that a landowner has been helpful to allow us to use

that space, but it wasn't deep enough to function as a detention pond by request of the landowner.

Q17. Part of the issue that we see is that the water comes through really fast. Have terracing and other options of slowing water down been discussed?

A17. We have discussed other features in some areas especially in areas that are difficult to access, such as using zuni bowls. These have been effective behind the tavern. These also work well at Bethlehem Hill because of how steep that hill is.

Q18. Part of the problem also is that our aquifer is filling less and less so having rains be able to infiltrate down would be beneficial also

A18 (provided by local Madrid Water Cooperative member). Aquifer injection – you can capture water on a hillside and inject it through sand or other material where water will seep. The Madrid Water Association is considering these injections and may incorporate it in the future. 9 acre feet was the amount of water used last year, and the last rain event was 7 acre feet, so there really could be a solution here with the aquafer injection.

A18 (AML). As steep as the hillsides are its very difficult to create a catchment of adequate size to make an impact for the community. You need a LOT of space to intercept and infiltrate water. It would be difficult. Grouted boulder grade control structures would prevent head cutting, and it helps retain more of the water when it does show up. Rock lined with concrete in between helps to pass that water effectively without having erosion or head cutting.

Q19. What kind of runoff or rainfall projections are you using? Is that current data? And is that incorporating climate change data?

A19. We are using historical NOAA data, two different agencies are trying to update that data but no it does not take climate change into account.

Q20. Are these the final plans or is there more comment? Or what happens now?

A20. These are the final plans. We have heard from the town to just build it already! These are the final plans, and we have incorporated feedback while still accomplishing our goal of improving stormwater management.

Q21. Do you happen to know if it was a 100yr flood in 2013? That's the one that everyone remembers and that's the one that changed the arroyo dramatically. I heard it was a 500 or 700 year flood.

A21. I have no idea what the exact number was, but I do know that the structures that are a part of this plan would have been able to handle the 2013 flood.

Q22. What is the max CFS that this plan could handle?

A22. 2200 CFS. It's important to note that we are required to design to a theoretical storm event but we also recognize that climate change is happening so we try to, as designers, plan for huge events. Plus at some point you don't want a concrete channel through the town either right? It's a balancing act. We know we need to prevent the east side of Cave Rd from getting flooded.

Q23. Amanda Bramble is going to be leading a hike through the arroyo on August 27th at 6pm for anyone who wants to join. There are flyers on the table.

End time: 7:14

Statement from Andrew Wice:

I have lived in Madrid for over twenty years, and walk through the arroyo daily. As town residents witnessed, the heavy rains earlier this summer flooded down from the east side of the valley. Fixing drainage on Icehouse Road and replacing the culvert at the arroyo crossing on Cave Road are vital infrastructure improvements which clearly have widespread support.

Just as clearly, destroying the adult trees in the arroyo would have no impact on flooding anywhere in town. During every storm, the arroyo has functioned properly, largely thanks to its adult trees which anchored the soil. Many of these trees not only survived the 2013 flood but the 1920 flood as well. Destroying these trees in the name of flood control would be a terrible and irreperable mistake. If destroyed, there will be zero trees in the middle of the valley and they won't grow back in our lifetime. They won't grow back in the *lifetime of any child now living in the valley.*

Efforts to change the arroyo must take the trees into account. Just because it's easier to demolish everything does not mean it's in the best interest of the ecoystem, the community, or the goal of flood control itself. The rehabilition plan must work **around** the trees, just as the flowing water does.

The good news is that it really does seem that Leeland and his team at AML have heard the widespread concerns of the community. I appreciate the time they have taken, with me and many others, to listen. We are lucky that there is an agency willing to help out with the important infrastructure rehabilition that we really do need, and they have my appreciation for their patience and professionalism.

If there was an assumption that the arroyo doesn't matter to anyone, the public outcry of 250+ public comments should have sternly corrected that misapprehension. The trees in the arroyo benefit everybody and every living thing in town. I urge the AML to remember their promise to spare as many trees as possible in our arroyo.

Regarding the **photos**, it must be said that none of the individuals involved in

the upcoming work have anything to do with these ugly failures. But these photos illustrate what I fear with the stated plans for the arroyo: half-baked infrastructure "improvements" with corners cut and zero follow-through. The gabions in the Galisteo River at the Cerrillos bridge fell apart in just a couple years, and are now a dangerous hazard as they continue to collapse. This is unacceptable. The so-called revegetation plan behind the Mineshaft Tavern is even worse. The photos illustrate just how badly this can go. This would be a disastrous result for the Madrid arroyo, taking a functional natural ecosystem and turning it into stunted saplings and deteriorating plastic junk, with no flood control benefit whatsoever.

Thank you everyone for your time, thank you Andy Bramble for conveying my words, as I am out of town temporarily.

ATTACHMENT D

Community Comments

Madrid Stormwater & Erosion Project: Pre-final conceptual designs community feedback

The following comments were sent to jacob.pederson@state.nm.us prior to Aug 26, 2020. In addition to these comments, I also received verbal feedback from several property owners and Amanda Bramble (after we recorded an interview for her radio show). Amanda and a few others asked whether it was possible to design an “Arroyo light” project, that minimized destruction of existing vegetation in the arroyo.

An additional PDF document with extensive comments was received from Ellen Dietrich. This document will be provided in a separate attachment.

-Jacob

Hi Jacob,

The term "walk-down diversion channel" has us a little concerned that it means a footpath down the hill, that would invite anyone to use it as a means to get up and down the hill. We would not be happy about that.

Please note that the septic tank and leach field already exist at 02 Red Dog, and are situated pretty close to the property line with Gig. You would really need to consult with a septic expert on whether your proposed diversion channel / ditch would be a problem, but my gut feeling is that generally one should aim to keep water away from a leach field. The location of the tank is still staked out, so a site survey should inform you of how close it is to the property line. The leach field extends backward away from the road and toward the hill. We do not have a specific location in mind yet for a new house - could be a little way up the hill, or down at the same level as the workshop, we'd just like to keep options open if possible.

Figure 10 seems like the better option of the two here, but we're concerned about the proximity of the ditch to the casita. I understand the drawings are not entirely accurate, but here it looks like the ditch actually cuts in to the structure. I'm sure that's not what is planned, but still the proximity of the ditch to the structure is a concern. Have you considered placing the ditch on the other side of Red Dog? I should point out that there is a water line that runs from the pump house along the west side of Red Dog, up to the 2nd house, with tees that cross the street to both houses. Maybe a channel down the center of the road would be best? Either way, please consider the water lines. I imagine that if the ditches would be shallow enough to cross with a vehicle, they will not be anywhere near the depth of the water lines, but care should be taken during construction so as not to disturb the pipes.

One other consideration with this plan (whatever side of the road the ditch would be on) is that we may decide in the near future to run an underground pipe from our pump house to the casita. I would like to get that done before any improvements are made to the road, or any channel placed that would be difficult to dig through.

On a positive note for Fig 10, we would certainly appreciate improvements to the road surface, and any dips that might have a dual purpose as speed bumps would be great :-) Thanks for all your work on this. If you want to have a socially distant meeting on site some time, let me know. As I'm working from home 4/5 days a week, it would be relatively easy to meet you there any time.

(Matt Zwager)

I assume you know that the arroyo all this water is going into was filled in with silt in the 2013 flood. Are you going to do something about that? Are you going to do any work north of Cave Road? (Elizabeth Davis)

I can see my roof in one of those images. I have the Ice cream parlor on the boardwalk; units A & B. Let me know if your plan will fix the flooding in my back yard. I don't know how i could tell about that. But, I just put new sod down that was destroyed years ago in that last major land-slide flood. (Jezebel)

Hi Jacob, I have reviewed plans and respect the amount of work that has gone into this project. I just have a couple of questions. Interestingly, I just hiked the hill yesterday.
When you do Ice House Rd I am requesting that the road start at my property as erosion has greatly impacted the areas in front and behind ---14 Railyard Ln. I prefer the paved solution.

I appreciate the missing link part of the project. I also request that if paths are made for the project that they stay for future walking or driving paths on the hillside.
Thanks so much, Lori

Hello Jacob

The Board of Directors of Madrid Water recommend or favor the New Pipe crossing at the optional South route.

Thank you,
Board of directors
Madrid Water

I personally recommend or favor these three options:
Icehouse Rd. plan Alternative #1 with paved road with water main moved to edge of road.

Typical inverted crown road Alternative #1.
Firehouse lane Alternative #1 with paved road with water main moved to edge of road.

Thank you
Jethro Bawden

Hi Jacob, thanks for taking the time to show me some of the finished projects in my area and providing the drawings for proposed projects. The finished work that I saw impressed me as well as proposed work for the future. I'm thinking about my driveway that travels uphill to the East, I have 28' that could be filled in with the precast concrete block that now lines part of my road and the Mine Shaft road, this would join the two. Also my road in this area washes out during a big rain and you had mentioned doing a base course with larger rocks to stabilize this area. As to the two Concept Designs the drawings are very nice and I think the build-out would be a good functional aesthetic for the town. If choosing one I like the "Alternative 1" for Firehouse Lane, I like the idea of paving this area and locking in a grade, I think the Firehouse would like this also. The big catch-drain at Hwy.14 and the Mine Shaft Tavern is eroded now and pavement in this area will help lock in a grade. I have shot elevations between my storefronts and the road, and there are areas where the road drains toward my shops, could be corrected and locked in with pavement. I plan on work in this area but I can't change the elevations at shop doors/floors. Also I'm not sure a paved area needs to extend beyond the Firestation if budget was an issue. I don't know enough about other parts of town to make a choice on other projects, any erosion control is good and will be appreciated.

You had mentioned an old photo that showed the Arroyo passing through where my building now sits, if you have time I would enjoy seeing it.

(Mike Sharber)

Thank you for your time in this... Best, Mike Sharber

Hi Jacob,
From here, I'd like to see the minimum done for water erosion control. We are being gentrified enough, asphalt just adds to that, imho.
Not a fan of asphalt. So the proposal with the least amount of asphalt gets my vote.
Upkeep, who gets to pay for asphalt upkeep, yikes, we have it hard enough just keeping the dirt going.
Thanks for your time.
Gwendolyn Zaxus
3 Grasshopper
Madrid, NM 87010

I wanted to let you know that i support the South end hook-up to the water tank. I also prefer gravel to asphalt on all of our roads. I know some people are against making the arroyo thru town returned to a meander but i think in the long run it is the best idea to slow the rushing water.

Thanks and take care,
Rebecca

Hello Jacob,

I have reviewed the Madrid Stormwater & Erosion Control Project documents and have the following review comments for your consideration:

Figure 6: Ice House Road is proposed for asphalt paving. Without sufficient vehicle speed control devices (speed bump/hump) it will look incredibly inviting for those who wish to want to use it as a drag strip or simply drive fast on an assumedly un-patrolled road. A lot of folks use this as a hiking path and is also the backyard to many business homes. We already have a speeding problem on the dirt road Back Road which I personally am witness to and suspect nothing will be different on Ice House Road. A few folks use these two roads as motocross speedways on motorcycles which impact residents with undue noise and increased dust. Please consider some type of speed control devices on Ice House Road.
Figure 6: The Ice House Road detention pond and drop inlet/curb cut in the east shoulder may require a hardened (i.e. rock lined) overflow path to the east down the steep slope to Highway 14. A lot of earthen and vegetation debris (i.e. tree fall) is possible in this watershed and may easily overwhelm the inlet structures intended for conveyance. Please consider a hardened overflow path from the inlet/curb cut on Ice House Road to the highway.
Figure 6: As Ice House Road is a dedicated fire access lane, signage prohibiting parking on either side of the narrow 12 wide roadway may be necessary as the shoulders are inadequate to accommodate parking without encroachment in the road. Currently the road is host to many infrequently used/unregistered vehicles parked indefinitely.
Figure 11: The existing trail to be improved to the Trail and Conveyance Diversion Channel is host to prohibited off-road motorcycle traffic. Can signage prohibiting such use be provided at each end of the channel to discourage such traffic and extend the useful life of this improvement?
Figure 13: Under the Typical Sedimentation Basin Outlet Structure a corrugated metal drain pipe sloped to drain is specified. As the existing metal drain pipe on Ice House Road is subject to crushing and has an increased friction coefficient, can a reinforced concrete pipe be used to both eliminate potential future loss of section and reduced friction for greater capacity conveyance? Please note that there are no posted weight restrictions on Ice House Road. Also during the filming of “Wild Hogs” in 2005 Ice House Road was improved (surface course only) and all highway traffic in both directions was routed on this road during filming for limited periods of time.
Figure 13: Under the Typical Detention Pond/Sedimentation Basin should the conveyance structure be labeled Inlet as opposed to Outlet?
Figures 1-15: The title sheet differs from many of the other sheets listed as Madrid Stormwater & Erosion Safety Project. Is it Control of Safety? Also Design and Designs is also used interchangeably throughout the package.

Please note that is drawing set is heavily laden with images (which is a good device) and yet it took a long time (>1 hour) and several attempts for my connection to loaded in the browser. Can the pages be made available to be loaded separately or a hard copy provided to the address below (preferred)?

This looks like a well thought out project and I look forward to the next town meeting to learn of the continued progress on the design package and updated schedule.

Respectfully,

Mark Bremer
3 Opera House Road
Madrid, NM 87010

I believe you mentioned that AML was not going to replant along the green belt after the arroyo gets rerouted, I would like to know why but if its because it can be hard to keep plants alive and required watering I feel like Madrid residents could step up and help maintain plants until they get established.

I would like to see the gravel roads throughout the town, it looks better, smells better and I've noticed that new paved roads don't hold up very long I believe its because they don't have a solid base that has settled over time, a newly compacted road will settle more and the pavement will fall apart giving Madrid a road maintenance issue. Pavement produces a lot of heat and the smell of it is horrible. I know of one resident on the west end of Bridge Rd who is super sensitive to the smells of things, rarely going out of the house now, her 19 yo daughter seems to have the same issue, they would probably have to move if pavement went down on Bridge Rd. Having a truck load of gravel spread on the roads seems more affordable than hiring a paving company to resurface.

There is an error on the drawing "storage tank area" shows the existing hydrant line going down the side of Hwy 14, it actually runs down the full length of Fire House Ln and crosses the street on the south end of the Johnson's Gallery, the Fire House Ln line is going to be reused, we are tapping back into it where the new hydrant is shown (in light blue) on the drawing.

Per our discussion recently, on my property B1B there are two diversion ditches shown intersecting near Fire House Ln, I will need to cross the one diversion ditch that runs along the road to access my property.

Thanks,

Carl Hansen

We just now got a chance to look this over - the files are huge and take a very very long time to load. Plus we have been busy with the new baby! Anyway it looks like the issue we told you about the last time we met in person was not considered in the newest plan for Firehouse Lane. The drainage flow path through our property crosses our septic leach field as well as a section of land we hope to someday build a house on. This isn't going to work for us.

Thanks,

Kelly Ann

ATTACHMENT E

Memos

State of New Mexico
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico

SUSANA MARTINEZ
GOVERNOR

KEN McQUEEN
CABINET SECRETARY

July 31, 2018

MEMORANDUM

TO: Lloyd Moiola, Program Manager, AMLP

FROM: Jacob Pederson, Project Manager, AMLP

SUBJECT: Madrid Stormwater Improvement Project Update Memo

AML is currently developing community partnerships and refining a list of priority projects to address flooding and sedimentation issues caused by historic mining practices. This memo provides background on a workshop held in Madrid on June 20th, 2018, discusses how conceptual projects discussed at the workshop would be justified under AML-1 standard problem types and priority levels, and provides recommendations presenting a refined scope of work to partners in the community.

Modern-day Madrid features a highly modified landscape that continues to feel the effects of historic mining activities. As a company mining town, most commercial and residential buildings that exist today were installed by mining companies to accommodate mine workers and their families. They also installed a limited stormwater system that has not been replaced or upgraded since before the mines closed. Supported by photographic evidence, modifications included channelizing the Madrid Arroyo, which bisects the town and crosses under Highway 14 near the Mineshaft Tavern (Figure 1).

A community workshop was held in Madrid on June 20th, 2018 with the goals of renewing interest in and discussing stromwater improvement concepts developed in partnership with Madrid in the summer of 2013 (Johnson 2018). These plans focused on addressing the following ongoing problems in Madrid:

- Flooded/blocked highways and roads resulting from stormwater and sediment running through a historic mining landscape;
- Washed out or buried culverts, drop inlets, and conveyance channels; and
- Accumulations of coal waste and debris in residences, business, and historic buildings.

Although workshop attendance was much less than was anticipated by AML staff, those who did attend were highly engaged and knowledgeable about how the town works, stormwater/flooding issues, and previous AML activities in Madrid. Most conversations at the workshop focused on technical details of implementing stormwater conveyance projects along Icehouse Road. Conceptual plans, community input, rough projected costs, and anticipated AML-1 designations are summarized in Table 1.

One goal of the workshop was to ask the community if any types of projects were missing from the overall list of plans. The Chair of the Madrid Water Co-op, Mr. Glen “Jethro” Bawden,

submitted a comment requesting that a project protecting a water tank from bank destabilization in the Arroyo be added to the priority project list. The tank supplies non-potable water to fire hydrants in Madrid, and protecting it would increase fire safety and help maintain acceptable fire insurance rates for landowners. I met Mr. Bawden, as well as Carl Hansen, the Madrid Fire Chief, at the water tank the week following the Madrid workshop to document the issues at the site and discuss their preferred safeguarding methods (Pederson, 2018).

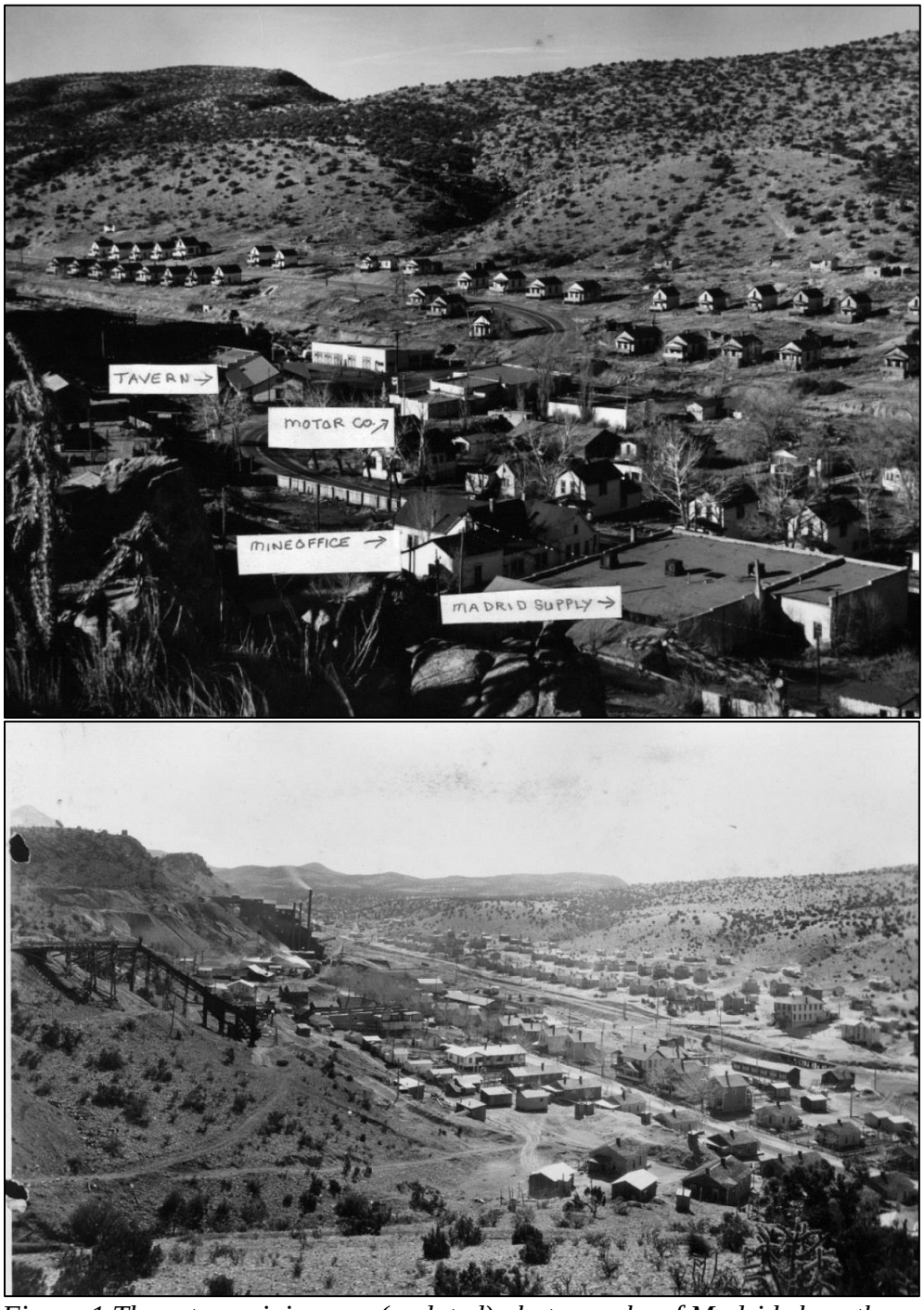


Figure 1 These two mining-era (undated) photographs of Madrid show the modified river channel running through the center of town.

Table 1 Madrid Stormwater Design Concepts and Associated AML Problem Types

Potential AML Work	Notes and Community Input	JK Estimate	AML-1 Problem Type and Priority Level
Icehouse Rd • Rebuild road with culvert and rundown • Hwy 14 culvert, lower conveyance channels, Cave Rd elevation/culvert • Detention ponds above Icehouse	• Broadly supported with strong technical interest; majority of general comments at the workshop related to Icehouse • Require maintenance agreement and MOU with town institutions • Challenging design but potential for innovative project	$2M	P1 Clogged Stream Lands (CSL) • Occupied structures, improved properties, roads, located in flood water path • High probability of occurrence of flooding caused by significant erosion carried downstream by surfaced water runoff from the unreclaimed AML area
Firehouse Drainage Zone • Rolling dips on Firehouse Lane • Rock rundown to Arroyo	Less of a priority, but relatively cheap	$150K	P2 Clogged Stream Lands (CSL) • Improvements located in flood water path • Potential danger of flooding caused by sediment carried downstream by surface water runoff from unreclaimed AML area
North Drainage Zone • Rolling dips • Rock rundowns • Ditch along Hwy 14 • Culvert under 14 • Conveyance channel and culvert under Cave Rd	General support from community	$750K	P2 Clogged Stream Lands (CSL) • Improvements located in flood water path • Potential danger of flooding caused by sediment carried downstream by surface water runoff from unreclaimed AML area
Slope Zone • LID treatments • Reclamation at sites • Reclamation of gob above Icehouse and jail building	• Best potential to reduce maintenance challenge at Icehouse as well as village zone on east side of arroyo • Gob reclamation is controversial in Madrid	$3M $1.5M If work does not include gob above firehouse and MST	P1 Dangerous Slide (DS) • Surface spoil in area • Occupied structures exist in area • Land mass is unstable and continually moving downhill into occupied area with each storm due to its own weight
Arroyo Zone • Cave Road Culverts @ Arroyo • Cave Road Detention Pond	Extent of cave road project depends on how much is included in Icehouse Rd project	$1M	Culverts: P1 Clogged Stream (CS) • Important access road located in flood path • Previous record of flooding and stream bed filled with AML sediments • High probability of occurrence of flooding caused by AML-related sediment-filled streambed Detention Pond: P3 Water (WA) • Poor drainage conditions causes water to leave area quickly in arroyo limiting plant growth and limiting stability in arroyo
Water Tank Safeguarding • Bank stabilization • Any necessary mitigation for in-stream fill	• This is a high priority for the community and can provide a strong incentive for participation and partnership from Water Co-op, MLA, and Merchant's Association • The water tank was previously rehabilitated by AML in 1984.	?	Priority B (PB) Water Supplies (WS) – Section 403(b) Specific water supplies adversely affected by mining in terms of water quantity; effects predominantly due to coal mining P1 CSL Improved public structure located in flood water path; high probability of occurrence of flooding caused by significant erosion carried downstream by surface water runoff from unreclaimed AML area.

Challenges and Recommendations

Implementing a stormwater improvement project in Madrid that will provide lasting benefit to the community faces several challenges.

Maintenance of installed projects
Most improvements would be installed on private property and private landowners have recently altered past AML projects. Projects would also cross multiple individual properties. AML proposes utilizing long-term stewardship management plans in ensure stakeholder ownership and reduce potential that projects would be manipulated or changed by individual landowners years after successful construction.

Upslope reclamation is controversial
Large historic coal waste piles are a major source of flood and erosion issues, but reclamation of these piled will be controversial with many residents in town. AML proposes developing multiple alternatives to analyze for feasibility.

Local Institutional Capacity is Limited
Local institutions have limited capacity to raise maintenance dollars. Long-term maintenance burden should be minimized during the design phase.

To address these challenging I provide the following recommendations:

- Seek partnerships with the existing Madrid institutions (Madrid Landowners Association, Water Co-op, Merchant's Association, and Madrid Cultural Projects) to negotiate a preliminary approach to ownership and long-term maintenance of installed stormwater facilities, including signed agreements, before presenting a scope of work to the broader community.
- Bring the same institutions into project design to ensure that long-term maintenance methods and costs are manageable before projects are built.
- Develop a list of compromises that we are requesting to limit maintenance needs on publicly-owned features. For example, reclaiming large gob piles above Icehouse Road will help protect the rebuilt road from sedimentation that exceeds maintenance capacity.

Documents Referenced

Goar, T, Lawrence, HP and M Hronich-Conner. 2013. A Site File and Archival Research Project for the Madrid Area, Santa Fe County, New Mexico. Marron and Associates, Albuquerque, New Mexico.

Johnson, E. 2018. Public Involvement Workshop Summary: Madrid Stormwater Improvement Project. Marron and Associates (an NV5 Company).

Pederson, J. 2018. Field Notes—Madrid Stormwater Improvement Project.

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Madrid Stormwater & Erosion Control Project: 2020 Conceptual Design and Community Feeback Report and Design Guidance Memo

Since 2010 the New Mexico Abandoned Mine Land (AML) Program has worked on developing solutions to stormwater, sedimentation, and flooding issues resulting from outdated and deteriorating stormwater infrastructure and large legacy coal waste (gob) piles on the east slope of Madrid, NM. This report provides

1) An FAQ based on of comments and questions received during the public comment period for conceptual designs held between August 7 and September 24, 2020.
2) A summary of changes that will be made to the project moving forward. These changes are based on public comments, direct outreach to potentially affected landowners, and input from project partners which include Santa Fe County, the Madrid Landowners Association, Madrid Water, and NMDOT.

Frequently Asked Questions

What is a "walk-down diversion channel?

1. Summary of Next Steps

Based on public comments received, direct communication with landowners, and consultation with project partners, AML is proposing to eliminate some design options from the project at this time. These decisions were made based on design guidelines established with the community, landowner considerations, and other concerns that govern all AML projects in New Mexico. These include cost of construction, maintenance costs, concerns of increased traffic speeds on improved roads, and the desire to maintain the character of the historic district—a value shared by all project stakeholders. The following actions would no longer be considered in project alternatives moving forward:

- The paved road (inverted crown) options for Icehouse, Bridge, and Cave Roads shown in Icehouse Alternative 1 (shown in Figure 2; illustrations in Figure 3 and 4).
- Subsurface storm drain channel options depticted in Icehouse Alternative 1 (Figure 2)
- The upper and lower diversion ditches and the detention pond shown in Firehouse Alternative 1 (Figure 9)

- The asphalt alternative for Firehouse Land shown in Firehouse Alternative 1 (Figure 9)

2. Design Organization

We are looking forward to catching up with everybody at this meeting. The main purpose of this meeting will be to discuss changes to the project moving forward. Here is a blurb of what AML is currently proposing:

Based on public comments received, direct communication with landowners, and consultation with project partners, AML is proposing to eliminate some design options from the project at this time. These decisions were made based on design guidelines established with the community, landowner considerations, and other concerns that govern all AML projects in New Mexico. These include cost of construction, maintenance costs, concerns of increased traffic speeds on improved roads, and the desire to maintain the character of the historic district—a value shared by all project stakeholders. The following actions would no longer be considered in project alternatives moving forward:

- The paved road (inverted crown) options for Icehouse, Bridge, and Cave Roads shown in Icehouse Alternative 1 (shown in Figure 2; illustrations in Figure 3 and 4).
- Subsurface storm drain channel options depticted in Icehouse Alternative 1 (Figure 2)
- The upper and lower diversion ditches and the detention pond shown in Firehouse Alternative 1 (Figure 9)
- The asphalt alternative for Firehouse Land shown in Firehouse Alternative 1 (Figure 9)
- The northern (“highway right-of-way”) route in the Water Tank Project Area will no longer be considered (Figure 14)

All remaining options would be carried forward, with all actions put in to one “bucket” from which we would draw to describe new project alternatives in narrative form in our EA.

Appendix E.

Biological Assessment/
Biological Evaluation

BIOLOGICAL ASSESSMENT AND BIOLOGICAL EVALUATION FOR THE MADRID STORMWATER AND EROSION SAFETY PROJECT

Santa Fe County, New Mexico

August 2019, Updated March 2024

Leeland Murray Date: 8/30/2019
Environmental Specialist/Project Manager
Anna Stearns
Wildlife Biologist/NEPA Specialist

BIOLOGICAL ASSESSMENT AND BIOLOGICAL EVALUATION FOR THE MADRID STORMWATER AND EROSION SAFETY PROJECT

Santa Fe County, New Mexico

Prepared for:
New Mexico Energy, Minerals, and Natural Resources Department
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August 2019

Table of Contents

1. Introduction and Background

The New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Abandoned Mine Land (AML) Program, in partnership with the U.S. Department of Interior Office of Surface Mining Reclamation and Enforcement (OSMRE), are proposing to establish stormwater conveyances, fire prevention improvements, and erosion control measures within the town of Madrid, NM, located in Santa Fe County, approximately 22 miles southwest of Santa Fe, NM (Figure 1). The Area of Potential Effect (APE) consists of approximately 125 acres of private, state, and county owned land.

The NM AML Program and other abandoned mine land programs throughout the nation were formed by the passage of the Surface Mining Control and Reclamation Act (SMCRA) on May 2, 1977; the State of New Mexico and OSMRE signed an agreement in 1981 which created the New Mexico AML Program. Fees collected through the SMCRA from active coal mines are placed in the Abandoned Mine Reclamation Fund, and these monies are utilized to reclaim qualified coal and non-coal mines abandoned prior to 1977. Abandoned mine sites in New Mexico are inventoried and evaluated to determine if they qualify for AML Program funding. Reclamation priorities include: "(1) protection of public health, safety, general welfare, and property from extreme danger resulting from the adverse effects of past mineral mining practices, (2) protection of public health, safety, and general welfare from adverse effects of past mineral mining and processing practices, which do not constitute an extreme danger and (3) restoration of eligible lands and waters and the environment previously degraded by adverse effects of past mineral mining and processing practices, including measures for the conservation and development for soil, water (excluding channelization), woodland, fish and wildlife, recreation resources, and agricultural productivity" (Surface Mining Control and Reclamation Act, 1977).

Madrid, New Mexico's history began in the early 1890s primarily serving as a new mining camp for coal mining activities. Since abandonment of the mine in the 1950s, the coal waste piles have remained relatively unstable and poorly vegetated, resulting in the movement of large quantities of sediment downslope, especially during significant precipitation events. This sediment movement has had significant negative impacts on the town of Madrid, located immediately downslope and adjacent to multiple coal gob piles. Over time, sediment has accumulated within the area, clogging drainage paths and leading to episodic flooding throughout the town. In 2011, a Madrid Mining Landscape community outreach identified two (2) main reclamation projects in the town of Madrid: the East Slope Catchment project and the Arroyo Restoration project (Dekker/Perich/Sabatini, 2011). These two (2) projects intiated the proposed action, in which the AML Program seeks to stabilize the coal gob piles and establish stormwater conveyances to reduce both the sedimentation and flooding occurring within the town. To identify a baseline water quality in the town of Madrid, the AML Program conducted a water quality monitoring study in which existing stormwater runoff contaminants were analyzed and testing levels compared to state and federal regulations. As future design plans for the proposed action will divert stormwater into the nearby arroyo, the AML Program wanted to identify existing stormwater runoff quality on unreclaimed gob piles, reclaimed gob piles, and a reference site (GMEC, 2019). Monitoring results indicated past reclamation efforts performed by the AML Program have made a positive impact on the stormwater quality (see Section 3.7 - Wetlands and Waterways) (GMEC, 2019).

Section 7 of the Endangered Species Act of 1973, as amended, requires federal agencies to use their authorities to carry out programs to conserve endangered and threatened species, and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of listed or proposed species, or result in the destruction or adverse modification of their critical habitats. A Biological Assessment/Biological Evaluation (BA/BE) must be prepared for federal actions that are "major construction activities" (defined under the National Environmental Policy Act [NEPA] as a project significantly affecting the quality of the human environment) to evaluate the potential effects of the proposal on listed or proposed species. The contents of the BA are at the discretion of the federal agency and will depend on the nature of the federal action (Interagency Cooperation - Endangered Species Act of 1973, 2014). Appropriate analyses for federally listed species are included under the Federally Listed Species section.

1.1 Proposed Project Location

The proposed project area is located in the town of Madrid, NM, about 22 miles southwest of Santa Fe in Section 35 of Township 14 North, Range 7 East. The APE is a combination of private, state, and county owned land that makes up approximately 125 acres (Figure 2 and 3). The percentage of surface ownership within the APE includes: 84 acres private (~67%), 4 acres Madrid Landowners Association (~3%), 3 acres Madrid Water Cooperative (~2%), 7 acres NM Department of Transportation (NMDOT) (~6%), and 27 acres Santa Fe County (~22%).

1.2 Proposed Action / Safeguarding Activities

The proposed action is designed to help protect the general public from the hazards associated with abandoned mines around the town of Madrid by stabilizing coal gob waste piles, increasing soil infiltration, improving fire safety, and establishing stormwater conveyances to reduce further sedimentation and flooding within the town. Madrid's town identity is rooted in its coal mining history and its economy relies heavily on tourism. It is important for the AML Program to preserve the historical integrity of the town while still safeguarding against environmental hazards.

Figure 1. Vicinity Map for Proposed Madrid Stormwater and Erosion Safety Project

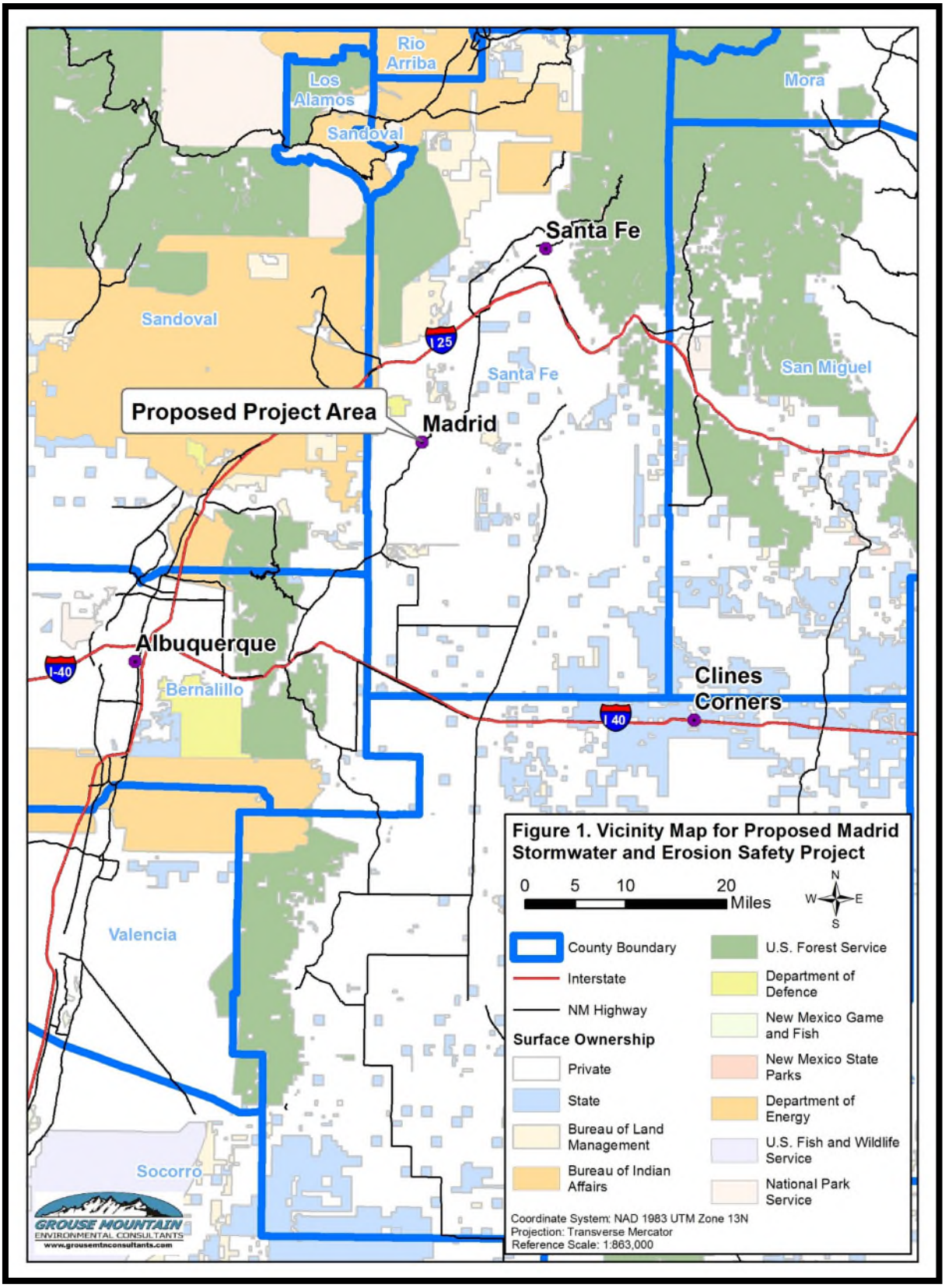


Figure 2. Area of Potential Effect (APE) Topography for Proposed Madrid Stormwater and Erosion Safety Project

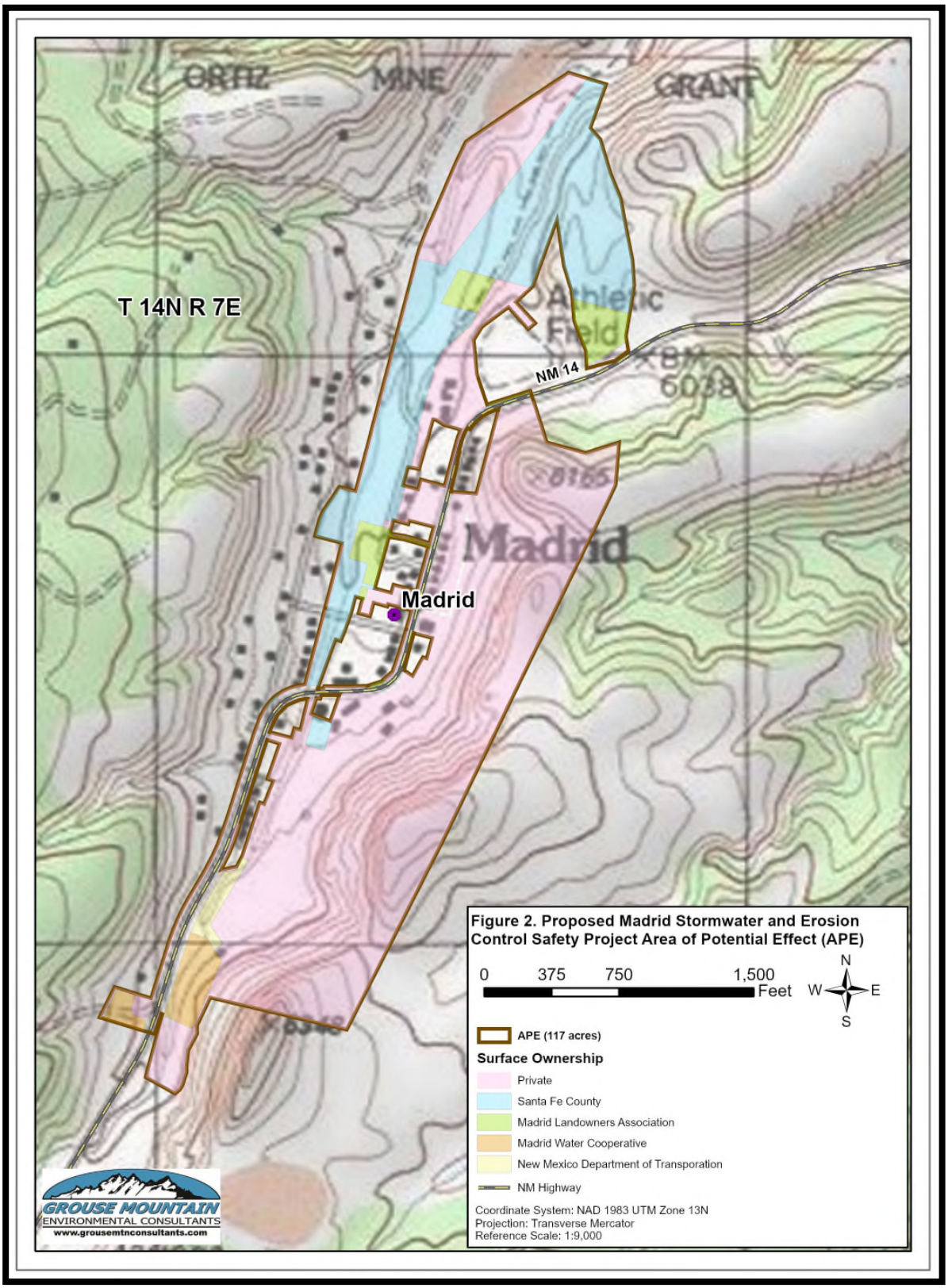
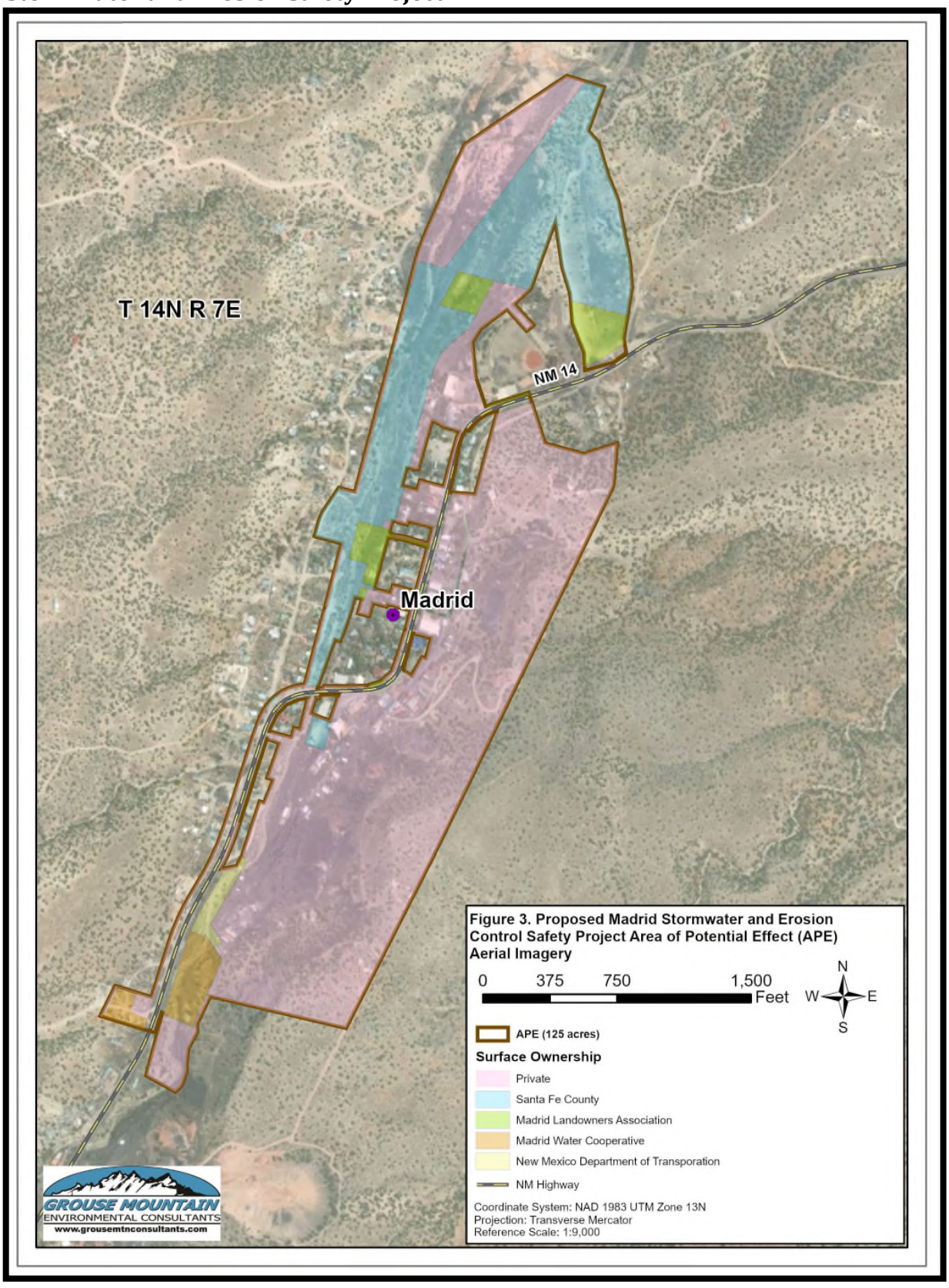


Figure 3. Area of Potential Effect (APE) Aerial Imagery for Proposed Madrid Stormwater and Erosion Safety Project



2. Methods

The Endangered Species Act (ESA) requires the evaluation of potential impacts on federally-listed species and their critical habitat. Prior to surveys, Grouse Mountain Environmental Consultants (GMEC) consulted with U.S. Fish and Wildlife Service (USFWS), New Mexico Department of Game and Fish (NMDGF), BLM Taos Field Office (BLM-TFO), NM Rare Plant Technical Council (NMRPTC), and the NM Crucial Habitat Assessment Tool (CHAT) to establish a comprehensive inventory of listed, proposed, and state sensitive species that have the potential to occur within the proposed project area. Prior to conducting fieldwork, GMEC consulted with agencies to discuss the appropriate survey methodology. Specifically, the USFWS New Mexico Ecological Services (https://ecos.fws.gov/ipac/) was verified for federally-listed fauna and flora within the APE and surrounding area (Appendix D). BISON-M database (http://www.bison-m.org/Index.aspx) was utilized for state listed fauna and the NMRPTC website (http://nmrareplants.unm.edu/index.html) and NM CHAT (http://nmchat.org/) was consulted for potential state listed flora within Santa Fe County. Once potential species were identified, habitat associations and species information were developed, then their requirements were compared to the habitat documented within the APE to identify species which are likely to occur. Species which were unlikely to occur within the proposed project area were removed from further analysis and a list of target species was developed prior to biological surveys. Vegetation surveys were scheduled prior to wildlife surveys so biologists could confirm habitat types and general wildlife supported by the different vegetation communities within the APE.

Leeland Murray and Anna Stearns conducted biological surveys of the approximately 117-acre APE. Special status plant species (SSPS) surveys were conducted May 22 - 23, 2019 and wildlife surveys were conducted May 30 - 31, 2019. Prior to conducting biological surveys, a thorough desktop analysis of the proposed project area was performed. The desktop analysis included analyzing aerial photography, New Mexico vegetation datasets, and the use of a geographical information system (GIS) to determine general locations of various habitat types across the proposed project area. For vegetation surveys, GMEC biologists conducted 100% visual coverage surveys with biologists walking parallel transects spaced 65ft (20m) apart while searching for suitable habitat. In concurrence with SSPS surveys, GMEC biologists searched for both New Mexico Department of Agriculture (NMDA) noxious weeds and potential wetlands and Waters of the U.S. (WOTUS) as defined by the U.S. Army Corps of Engineers (USACE). After consultation with NMDGF and BLM-TFO, the Integrated Monitoring in Bird Conservation Regions (IMBCR) protocol (Bird Conservancy of the Rocky Mountains, 2018) was utilized for presence/absence surveys of migratory birds. Twelve (12) point count stations were distributed throughout the proposed project area using a stratified sampling method based on habitat types and field logistics (i.e. surface ownership, topography, etc.). Habitat types included: arroyo riparian, pinyon/juniper, and juniper savanna. Each point count was spaced on average 656ft (200m) apart, except when spacing was adjusted to avoid placement in or around private dwellings and fragmented habitat (Figure 4). The biologist spent a maximum of ten (10) minutes at each point count. After completion of all counts, the biologists hiked the proposed project area listening and watching for any less detectible species not picked up during point counts.

For wetland and waters of the US (WOTUS) delineations, a GMEC biologist identified and delineated potential jurisdictional waterways within the proposed project area. The GMEC biologist documented ordinary high water mark (OHWM) indictors and any additional information that may assist with jurisdictional determination.

3. Environment and Existing Conditions

The elevation of the proposed project area ranges from approximately 5,900 to 6,350 feet, and topography varies from 1 to 55 percent slopes with various aspects (University of New Mexico, 2019). The proposed project area occurs within two main areas: Madrid's eastern hillside with moderate to steep topography, and the center of Madrid along the arroyo with gentle topography. Four (4) ephemeral drainages exist within the proposed project area, but only one meets the UACE definition of a WOTUS (see Section 3.7 - Wetlands and Waterways). Annual precipitation averages 13.79 inches, with approximately 70% of yearly precipitation occurring between June and October during the monsoon season (Western Regional Climate Center [WRCC], 2016a). Average temperatures range from 18.7°F to 42.7°F in January and from 57.9°F to 86.5°F in July (Western Regional Climate Center, 2016b).

3.1 Physiogeography

The proposed project area is located within the north central New Mexico valleys/mesas and conifer woodlands and savanna (Griffith et al., 2006). The northern half of the Madrid APE lies within the north central New Mexico valleys and mesas, characterized as mostly pinyon pine and juniper savanna with slightly cooler temperatures and greater precipitation than the lower valleys and mesas (Griffith et al., 2006). The south half of the Madrid APE is within the conifer woodlands and savannas, exhibiting a cooler and wetter climate than the north central New Mexico valleys and mesas and is seen as a transition community supporting both pinyon-juniper and ponderosa pine (Griffith et al., 2006).

3.2 Soils

The proposed project area is dominated by four major soil types: Oelop-Charalito complex, 1 to 3 percent slopes, Kech-Cerropelon-Rock outcrop complex, 5 to 50 percent slopes, Devargas-Riovista-Riverwash complex, 0 to 5 percent slopes, and Puertecito-Paraje complex, 15 to 50 percent slopes, with other minor components dispersed throughout the proposed project area (Natural Resource Conservation Service [NRCS], 2019b). The Oelop-Charalito complex occurs throughout town and within the primary Madrid arroyo and typically occurs in stream terraces and flood-plain steps. They are well-drained soils and have none-rare frequency of flooding or ponding. Runoff classification ranges from very low to low. Depth to water table is typically greater than 80 inches (NRCS, 2019b). Kech-Cerropelon-Rock complex occurs on the lower half of eastern hillside of Madrid and typically occurs on the hillsides ranging from the summit to backslope. They are well drained soils and have no frequency of flooding or ponding. Unlike the Oelop-Charalito complex, these soils have a medium-high runoff classification. Depth to water table is typically greater than 80 inches (NRCS, 2019b). The Devargas-Riovista-Riverwash complex occurs primarily within the Madrid arroyo and along stream terraces and floodplains. They are well-drained to excessively drained soils and generally have none-rare frequency of flooding or ponding. Runoff classifications range from none-very low. Depth to the water table is typically greater than 80 inches (NRCS, 2019b). The Puertecito-Paraje complex occurs on the upper half of the eastern hillside of Madrid and typically occurs

on the shoulder and backslope of low hills. They are well drained soils and have no frequency to flooding or ponding. Similar to the Kech-Cerropelon-Rock complex, they have a high-very high runoff classification, and a depth to groundwater greater than 80 inches (NRCS, 2019b).

3.3 Vegetation

Much of the APE has been historically coal mined and coal gob piles are interspersed along the eastern and northern sections of the APE. The proposed project area is dominated by species indicative of two vegetative communities: the pinyon-juniper woodland and arroyo riparian habitat types (Dick-Peddie, 1999). The Pinyon-juniper woodland is primarily composed of oneseed juniper (*Juniperus monosperma*), winterfat (*Krascheninnikovia lanata*), twoneedle pinyon (*Pinus edulis*), James' galleta (*Pleuraphis jamesii*), and siberian elm (*Ulmus pumila*). The arroyo riparian habitat located along drainage 1 (DR1) consists of a mixture between Siberian elm *(Ulmus pumila)* trees and upland vegetation. The APE plant species recorded during the biological surveys are listed in Table 1.

Table 1. Plant species observed during biological surveys, May 2019

Common Name	Scientific Name	Status
Indian ricegrass	*Achnatherum hymenoides*	Common
Threeawn	*Aristida* spp.	Common
White sagebrush	*Artemisia ludoviciana*	Common
Milkvetch	*Astragalus* spp.	Common
Fourwing saltbush	*Atriplex canescens*	Common
Blue grama	*Bouteloua gracilis*	Common
Cheatgrass	*Bromus tectorum*	Common [Non-native]
Indian paintbrush	*Castilleja* spp.	Common
Alderleaf mountain mahogany	*Cercocarpus montanus*	Common
Bull thistle	*Cirsium vulgare*	Common [Non-native]
Missouri gourd	*Cucurbita foetidissima*	Common
Tree cholla	*Cylindropuntia imbricata*	Common
Scarlet hedgehog cactus	*Echinocereus coccineus*	Common
Squirreltail	*Elymus longifolius*	Common
Rubber rabbitbrush	*Ericameria nauseosa*	Common
Apache plume	*Fallugia paradoxa*	Common
Needle and thread	*Hesperostipa comata*	Common
New Mexico feathergrass	*Hesperostipa neomexicana*	Common
Foxtail barley	*Hordeum jubatum*	Common
Oneseed juniper	*Juniperus monosperma*	Common
Winterfat	*Krascheninnikovia lanata*	Common
Fremont's mahonia	*Mahonia fremontii*	Common
Adonis blazingstar	*Mentzelia multiflora*	Common
Bush muhly	*Muhlenbergia porteri*	Common
Hairspine pricklypear	*Opuntia polyacantha*	Common
Twoneedle pinyon	*Pinus edulis*	Common
James' galleta	*Pleuraphis jamesii*	Common

Common Name	Scientific Name	Status
White poplar	*Populus alba*	Common [Non-native]
Globemallow	*Sphaeralcea* spp.	Common
Sand dropseed	*Sporobolus cryptandrus*	Common
Tamarisk	*Tamarix* spp.	Common [Non-native]
Siberian elm	*Ulmus pumila*	Common [Non-native]
Common mullein	*Verbascum thapsus*	Common [Non-native]
Soapweed yucca	*Yucca glauca*	Common

Note: Nomenclature follows the USDA PLANTS database (NRCS, 2019a)

3.4 Noxious and Invasive Weeds

Four (4) noxious weed species, as defined by the New Mexico Department of Agriculture (NMDA, 2016), were located within the proposed project area during the biological surveys (Figure 4). Siberian elm (*Ulmus pumilla*) and cheatgrass (*Bromus tectorum*), both class C species, were frequently located throughout the APE along the drainages (because these species were frequently documented and widespread throughout the APE, they were not included in Figure 4). Two (2) small populations of bull thistle (*Cirsium vulgare*), a class B species, were documented in the southeast and northern section of the APE. Tamarisk (*Tamarix ramosissima*), a class C species, was sporadic along the arroyo banks in the northern section of the APE.

3.5 Rare Plants

A list of potentially occurring New Mexico rare plants (State Threatened or Endangered) was obtained from the NMRPTC database prior to conducting field surveys (NMRPTC, 2019). No New Mexico rare plants were documented during biological surveys. Species considered to have the potential of occurring within the proposed project area are analyzed in Table 5.

3.6 Wildlife

During the wildlife surveys, forty-two (42) vertebrate species were recorded: thirty-seven (37) species of birds, two (2) species of mammals and three (3) species of reptile (Table 2).

Table 2. Wildlife species observed during wildlife surveys, May 2019

Common Name	Scientific Name	Status
Mammals		
Desert cottontail	*Sylvilagus audubonii*	Common
Rock squirrel	*Spermophilus variegates*	Common
Reptiles		
Eastern collared lizard	*Crotaphytus collaris*	Common
Chihuahuan spotted whiptail	*Aspidoscelis exsanguis*	Common
Common checkered whiptail	*Aspidoscelis tesselata*	Common
Birds		
Turkey vulture	*Cathartes aura*	Common
Cooper's hawk	*Accipiter cooperii*	Common

Common Name	Scientific Name	Status
Red-tailed hawk	*Buteo jamaicensis*	Common
Eurasian collared-dove	*Streptopelia decaocto*	Common [Non-native]
White-winged dove	*Zenaida asiatica*	Common
Mourning dove	*Zenaida macroura*	Common
Black-chinned hummingbird	*Archilochus alexandri*	Common
Western wood-pewee	*Contopus sordidulus*	Common
Say's phoebe	*Sayornis saya*	Common
Ash-throated flycatcher	*Myiarchus cinerascens*	Common
Cassin's kingbird	*Tyrannus vociferans*	Common
Western kingbird	*Tyrannus verticalis*	Common
Eastern kingbird	*Tyrannus tyrannus*	Common
Steller's jay	*Cyanocitta stelleri*	Common
American crow	*Corvus brachyrhynchos*	Common
Common raven	*Corvus corax*	Common
Woodhouse's scrub-jay	*Aphelocoma woodhouseii*	Common
Cliff swallow	*Petrochelidon pyrrhonota*	Common
Barn swallow	*Hirundo rustica*	Common
Juniper titmouse	*Baeolophus ridgwayi*	Common
Rock wren	*Salpinctes obsoletus*	Common
Eastern bluebird	*Sialia sialis*	Common
Western bluebird	*Sialia mexicana*	Common
American robin	*Turdus migratorius*	Common
Curve-billed thrasher	*Toxostoma curvirostre*	Common
Northern mockingbird	*Mimus polyglottos*	Common
European starling	*Sturnus vulgaris*	Common [Non-native]
Cedar waxwing	*Bombycilla cedrorum*	Common
Spotted towhee	*Pipilo maculatus*	Common
Canyon towhee	*Melozone fusca*	Common
Lark sparrow	*Chondestes grammacus*	Common
Dark-eyed junco	*Junco hyemalis*	Common
Blue grosbeak	*Passerina caerulea*	Common
Brown-headed cowbird	*Molothrus ater*	Common
House finch	*Haemorhous mexicanus*	Common
Lesser goldfinch	*Spinus psaltria*	Common
House sparrow	*Passer domesticus*	Common [Non-native]

Thirty-four (34) of the thirty-seven (37) bird species documented during the wildlife surveys are federally protected under the Migratory Bird Treaty Act (MBTA) and likely breed within the area. The three (3) non-native species documented (Eurasian collared-dove, European starling, and house sparrow) have no

federal or state protection. One (1) active Cooper's hawk nest (nest ID 14072501) was located along the arroyo in the northern portion of the APE (Figure 4, Appendix B).
No federally listed species or special status species were documented during the wildlife surveys. Federally listed species and special status species considered to have the potential of occurring within the proposed project area are analyzed in Table 4 and 5, respectively.

3.7 Wetlands and Waterways

The Clean Water Act (CWA) of 1972 regulates activities having the potential to impact WOTUS. Section 404 of the CWA regulates discharge of dredged and fill materials within the ordinary high water mark (OHWM) of WOTUS and is administered by the USACE. Section 401 of the CWA regulates water quality and, for the purposes of the proposed project, is administered by the New Mexico Environment Department (NMED). Prior to the biological surveys and field WOTUS delineations, the National Wetland Inventory (NWI) website was reviewed to determine potential wetlands within the APE and no wetlands were identified (USFWS, 2019b).

Based on hydrology data obtained from the Resource Geographic Information System from University of New Mexico (UNM, 2019), NWI (USFWS, 2019b), and field ground-truthing, four (4) ephemeral drainages are present within the Madrid, NM proposed project area. Two (2) ephemeral drainages (DR02 and DR03) are located on the west side of the proposed project area and enter DR01 via outlets located on the west streambank (Figure 5). Only the outlets are located within the proposed project area, and no proposed actions will occur within these drainages. DR02 (Figure C.3.) is a stormwater conveyance outlet with no OHWM indictors present and likely does not provide a significant hydrologic connection into DR01 or Galisteo Creek due to the lack of OHWM indicators. DR03 (Figure C.4.) is a concrete stormwater conveyance outlet for an ephemeral drainage located west of Highway 14, outside the proposed project area. Within the proposed project area, the outlet has no visible OHWM indicators and likely does not provide a significant hydrological connection to DR01 or Galisteo Creek. Based on these criteria, GMEC does not anticipate the need for the AML Program to acquire permits under Section 404 of the Clean Water Act for either DR02 or DR03. One (1) drainage documented on the eastern edge of the proposed project area, DR04, was identified as an erosional feature and does not meet the USACE definition of WOTUS as its an "isolated" erosional feature with no apparent hydrologic connectivity to DR01 or Galisteo Creek (Figure C.5.). As such, GMEC does not anticipate the need for the AML Program to acquire permits under Section 404 of the Clean Water Act.

One (1) ephemeral drainage located in the center of Madrid (DR01) was identified as having characteristics consistent with USACE's definition of WOTUS. DR01 is identified as an ephemeral drainage that flows into Galisteo Creek during periods of high rainfall events (monsoon season). DR01 has numerous OHWM indictors including: bed and bank, gravel sheets, presence of litter and debris, exposed root hairs below intact soil layers, vegetation matted down, and change in particle distribution. Based on the features evaluated in the field, it is GMEC's opinion that DR01 may contain a significant nexus to the Rio Grande TNW through Galisteo Creek. Galisteo Creek is located approximately 2.2 miles north of the proposed action APE. The flashy, infrequent flooding associated with DR01 caused by episodic monsoon rainfall events (July to October) likely transports significant sediment downstream to Galisteo Creek. Based on

climate data such as precipitation (monsoon dominated), proximity to Galisteo Creek (an intermittent stream), hydrological information (infrequent, high intensity flooding), physical indictors, and the potential for significant nexus to the Rio Grande, it is GMEC's professional opinion that DR01 would qualify as a jurisdictional non-relatively permanent water (RPW), meeting the USACE definition of WOTUS. GMEC recommends the AML Program pursue permits from the USACE and/or NMED prior to the proposed construction to remain in compliance throughout the length of the proposed project. Ultimately, the USACE will be the regulatory agency and provide a final jurisdictional determination for DR01.

Prior to and during the proposed construction, the USACE and NMED will be consulted as necessary to ensure all parties are in compliance with the CWA and surface water quality standards. Table 3 below details drainage attributes in the proposed project area, Figure 5 details various drainage locations, and Appendix C includes drainage location photographs.

Water sampling was conducted during the summer of 2019 (GMEC, 2019) to evaluate the baseline water quality of the runoff from multiple sampling locations including: downstream in DR01 (northern section of the proposed project area), within the town of Madrid, and in both reclaimed and unreclaimed coal piles on the east side of the APE.

GMEC sampling study concluded, given the instability of the coal waste gob piles and the amount of sediment that is actively eroding from these piles, it is expected that some pollutants would exceed Maximum Contaminant Level (MCLs) or Maximum Allowable Concentration (MACs) standards. However, only total dissolved solids (TDS), dissolved aluminum, and dissolved manganese exceeded these standards at specific sites. While the exceedance of dissolved aluminum and manganese may be cause for concern, it is evident that previous reclamation efforts conducted by the AML Program have made a positive impact on the water quality of the stormwater collected below reclaimed coal waste piles.

Table 3. Proposed Project Area Jurisdictional Drainage Attributes

Field Name	Drainage Direction	NHD Line	OHWM Indicators	Standing Water	Tributary To	Tributary to
DR01	North-northeast	Yes	Bed and bank Gravel sheets Levees and narrow berms Benches Debris drift	Absent	Galisteo Creek	Rio Grande River

Figure 4. Area of Potential Effect (APE) Biological Survey for Proposed Madrid Stormwater and Erosion Safety Project

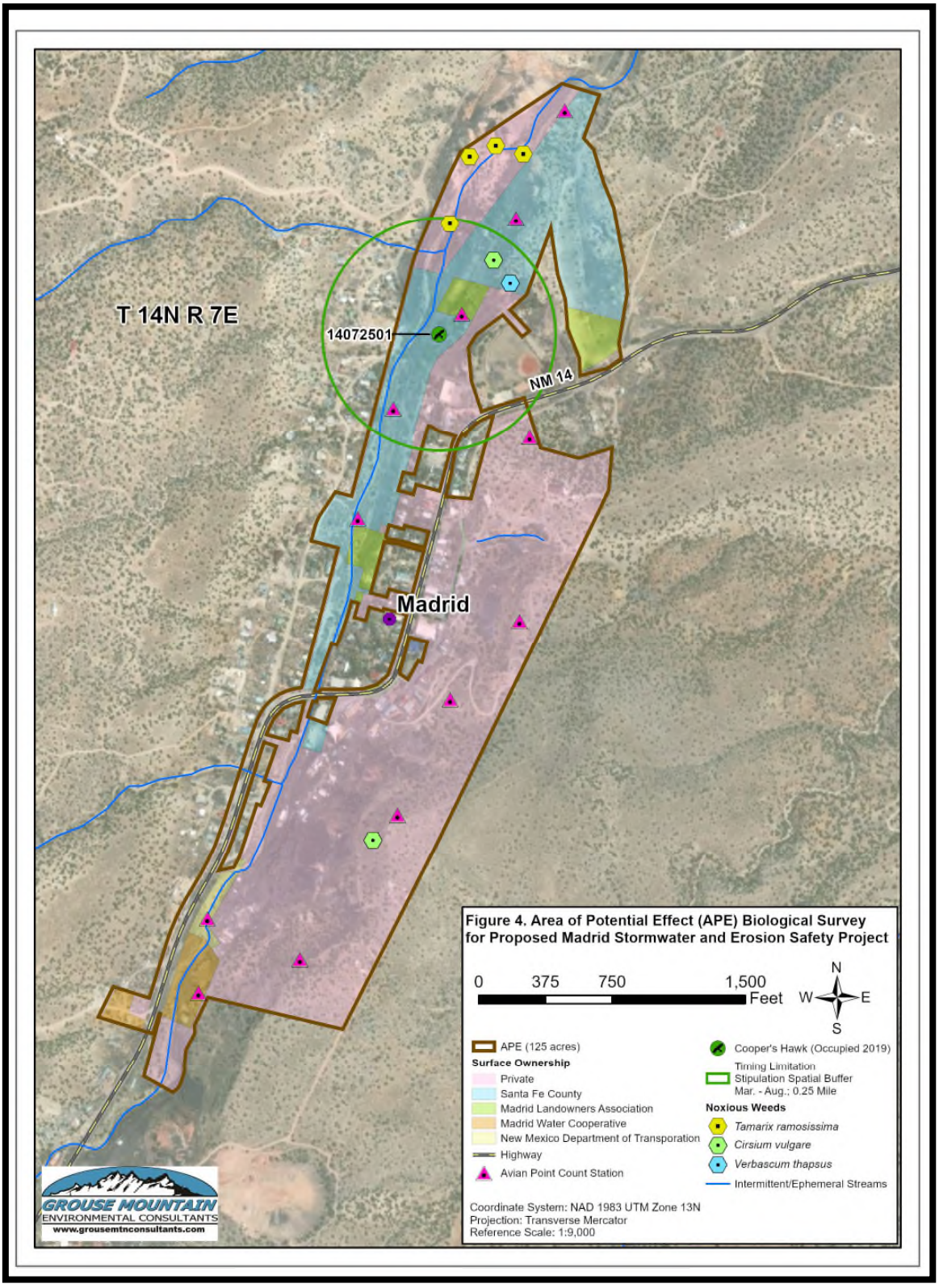
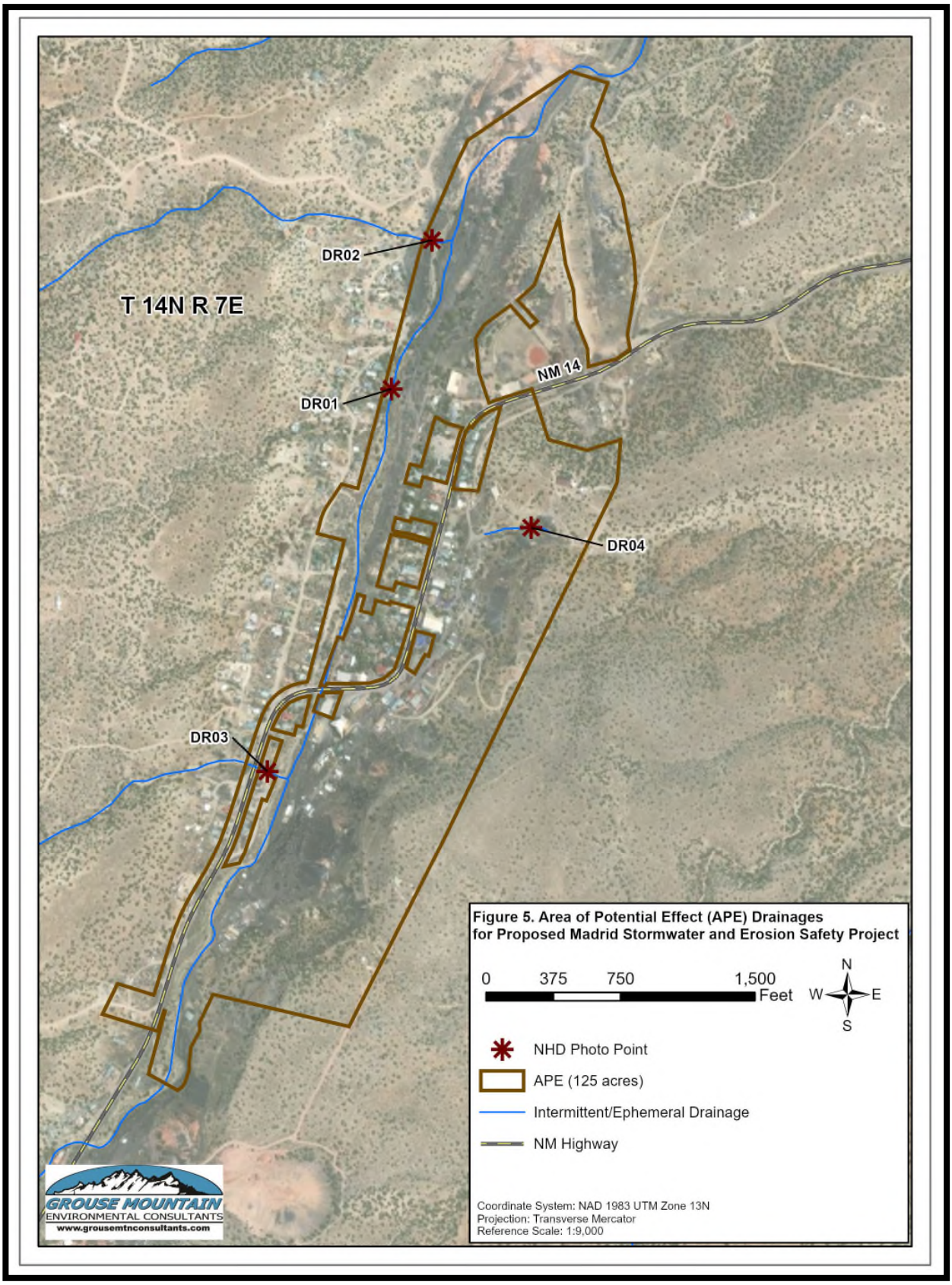


Figure 5. Area of Potential Effect (APE) Drainages for Proposed Madrid Stormwater and Erosion Safety Project



4. Threatened, endangered, and proposed species being considered

An inventory of federally listed species with the potential to occur within the proposed project area was obtained from the USFWS Information, Planning, and Conservation System (IPaC) (Appendix D). The proposed project area does not contain critical habitat for any federally listed species. Potential effects of the proposed action on threatened, endangered, and proposed species are analyzed in this section (BISON-M, 2019).

In addition to the legal status shown in Table 4, all birds analyzed are federally protected under the MBTA.

Table 4. Federally listed species for the proposed project area, as of May 15, 2019.

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Birds (3)						
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered		X			Riparian habitat requirement is not present within the proposed project area. There will be no effect to the species. No further analysis required.
Mexican spotted owl (*Strix occidentalis lucida*)	Threatened		X			Old growth or mature forests/canyons with riparian/conifer habitat is not present within the proposed project area. There will be no effect to the species. No further analysis required.
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened		X			Riparian woodland habitat is not present within the proposed project area. There will be no effect to the species. No further analysis required.
Mammals (1)						
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	Endangered		X			Riparian areas with dense herbaceous riparian vegetation are not present within the proposed project area. There will be no effect to the species. No further analysis required.

5. Special status species being considered

Special status species (Table 5) includes state listed threatened or endangered species and Species of Greatest Conservation Need (SGCN) in the state of New Mexico that have potential habitat in the proposed project area. Additionally, the bald eagle is federally protected under the Bald and Golden Eagle Protection Act (BGEPA).

Table 5. Special status species for the proposed project area, as of May 15, 2019.

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Mammals (3)						
Spotted bat (*Euderma maculatum*)	State NM Threatened/ SGCN		X			Typical spotted bat habitat includes canyons or rock walls in close proximity to water (Luce & Keinath, 2007). No habitat is present within the proposed project area; therefore, the presence of spotted bats is considered very unlikely. There will be no effect to this species. No further analysis required.
Pacific marten (*Martes caurina*)	State NM Threatened/ SGCN		X		X	Martens prefer subalpine coniferous forests dominated by spruce and fir mixed conifer stands of a late successional growth stage. No habitat is present within the proposed project area; therefore, the presence of martens is considered very unlikely. There will be no effect to this species. No further analysis required.
Meadow jumping mouse (*Zapus luteus*)	State NM Endangered/ SGCN		X			Riparian areas with dense herbaceous riparian vegetation are not present within the proposed project area. There will be no effect to the species. No further analysis required.
Birds (11)						
White-tailed ptarmigan (*Lagopus leucura*)	State NM Endangered/ SGCN		X		X	Typical white-tailed ptarmigan habitat includes alpine tundra and timberline habitats. No habitat is present within the proposed project area; therefore, the

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
						presence of white-tailed ptarmigans is considered very unlikely. There will be no effect to this species. No further analysis required.
Bald eagle (*Haliaeetus leucocephalus*)	State NM Threatened/ SGCN		X			Large deciduous trees adjacent to water suitable for roosting and breeding is not present within the proposed project area; therefore, the presence of bald eagles is considered very unlikely. There will be no effect to this species. No further analysis required.
Peregrine falcon (*Falco peregrinus*)	State NM Threatened/ SCGN		X			Suitable cliff and forest habitat for nesting does not exist within the proposed project area; therefore, the presence of peregrine falcons is considered very unlikely. There will be no effect to this species. No further analysis required.
Least tern (*Sternula antillarum*)	State NM Endangered/ SGCN		X		X	No shoreline or water sources are present in the proposed project area; therefore, the presence of least terns is considered very unlikely. There will be no effect to this species. No further analysis required.
Yellow-billed cuckoo (*Coccyzus americanus*)	State NM SGCN		X		X	Riparian woodland habitat is not present within the proposed project area. There will be no effect to the species. No further analysis required.
Boreal owl (*Aegolius funereus*)	State NM Threatened/ SCGN		X		X	Boreal owls typically inhabit higher elevation, mature old-growth spruce-fir forests which do not occur within the proposed project area; therefore, the presence of boreal owls is considered very unlikely. There will be no effect to this species. No further analysis required.

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Mexican spotted owl (*Strix occidentalis lucida*)	State NM Threatened/ SCGN		X			Old growth or mature forests/canyons with riparian/conifer habitat is not present within the proposed project area. There will be no effect to the species. No further analysis required.
Violet-crowned hummingbird (*Amazilia violiceps*)	State NM Threatened/ SCGN		X		X	Violet-crowned hummingbirds typically inhabit riparian woodlands. This type of habitat is not present within the proposed project area; therefore, the presence of violet-crowned hummingbirds is very unlikely. There will be no effect to this species. No further analysis required.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	State NM Endangered/ SGCN		X			Riparian habitat requirement is not present within the proposed project area. There will be no effect to the species. No further analysis required.
Gray vireo (*Vireo vicinior*)	State NM Threatened/ SCGN	X				Habitat present; full analysis required.
Baird's sparrow (*Centronyx bairdii*)	State NM Threatened/ SCGN		X		X	Baird's sparrows typically inhabit shortgrass prairies. Habitat is not present within the proposed project area; therefore, the presence of Baird's sparrows is very unlikely. There will be no effect to this species. No further analysis required.
Mollusks (1)						
Lilljeborg's Peaclam (*Pisidium lilljeborgi*)	State NM Threatened/ SCGN		X		X	This species frequently inhabits lakes, usually at higher altitudes. No alpine lakes occur within the proposed project area; therefore, the presence of Lilljeborg's peaclam is unlikely. There will be no effect to this species. No further analysis required.

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Plants (1)						
Santa Fe cholla (*Cylindropuntia viridiflora*)	State NM Endangered			X	X	Potential habitat exists within the proposed project area; however, this species is known to only occur between Santa Fe, NM and Chimayo, NM (NMRPTC, 2019). Biological surveys were conducted; however, no plant populations were located. Therefore, there will be no effect to the species. No further analysis required.

Except where otherwise noted, information for wildlife species was obtained from BISON-M website (BISON-M, 2019).

6. Potential for Effects/ Impacts

Federally endangered, threatened, and proposed species: No critical habitat or presence of endangered, threatened, or proposed species analyzed within Table 4 occur within the proposed project area; therefore, it is has been determined the proposed project will have no effect on threatened or endangered species or their respective critical habitat (USFWS, 2019a).

Migratory Bird Species: Thirty-four (34) migratory bird species were identified within the proposed project area during the wildlife surveys (see Section 3.6 - Wildlife). All migratory bird species documented during the surveys occur in northern New Mexico during the breeding season and are likely nesting within the proposed project area. Of these 34 birds, one active Cooper's hawk nest was identified within the proposed project area (Figure 4, Appendix B).

To minimize potential impacts to nesting birds, it is recommended proposed construction activities take place outside of the migratory bird breeding season (March – August). Additionally, in instances where timing of construction during this season cannot be avoided, it is recommended migratory bird clearance surveys be conducted prior to proposed construction to identify any occupied nests and establish appropriate disturbance avoidance measures.

For the identified Cooper's hawk nest, USFWS recommends a 0.25-mile spatial buffer around any active nests during breeding season (March – August). All potentially impacting activities should be avoided within the 0.25-mile spatial buffer during breeding season. Potentially impacting activities are defined as any human activity or the use or operation of mechanical equipment which may disturb raptors at a nest site (Whittington & Allen, 2008).

Special status species: No general habitat associated with, or presence of, fifteen (15) of the sixteen (16) state threatened, endangered, or SGCN species analyzed in Table 5 were identified

during the biological surveys; therefore, there was a no effect determination for 15 of the 16 species analyzed.

Habitat is present within the proposed project area for one (1) SGCN, the gray vireo. Therefore, this species has the potential to occur in or near the proposed project area during proposed project construction. Full analysis of the species is provided below.

- ***Gray Vireo***

This species' breeding habitat generally consists of open woodlands/shrublands with evergreen trees and a variety of shrubs. In New Mexico, the species is most often located on foothills and mesas in arid juniper woodlands that tend to be associated with oaks and a prominent grass understory (BISON-M 2019).

Piñon-juniper woodland habitat within the proposed project area is limited and located east of the coal waste gob piles on the eastern edge of the APE. While this area would constitute suitable gray vireo habitat, it is heavily fragmented and most suitable habitat is located outside of the APE. Any gray vireos occurring within the proposed project area during proposed construction could be temporarily displaced by project related noise and disturbance within the area. However, seeing as habitat within the APE is adjacent to undisturbed habitat outside of the APE, any impact would be discountable. Any gray vireos potentially displaced by the proposed project related activities would be expected to move into the abundant suitable habitat areas surrounding the APE. No gray vireos were observed during the wildlife surveys.

Overall, the proposed project would not result in any measurable amount of habitat loss. Proposed project construction activities will primarily be focused in previously disturbed areas. It is highly unlikely gray vireos would directly occupy the sites identified for proposed stormwater conveyance construction. Should gray vireos be nesting within the proposed project area during proposed construction, resulting impacts such as nest abandonment could occur. To minimize impacts to potential nesting gray vireos, it is recommended proposed construction activities take place outside of the migratory bird breeding season (March – August). If timing of construction during this season cannot be avoided, a search for gray vireo nests in potential nesting habitat could be carried out prior to proposed project implementation to identify any occupied nests and establish appropriate disturbance avoidance measures. Overall, any impacts to the species would be minor, most likely resulting in temporary displacement. Therefore, the proposed action is not likely to result in a trend toward federal listing or loss of viability of the gray vireo.

7. Determination Summary

The proposed action will have the following effects/impacts:

- The proposed action will have no effect on the following federally listed species: southwestern willow flycatcher, Mexican spotted owl, yellow-billed cuckoo, and the New Mexico meadow jumping mouse for the following reasons: 1) the proposed project area does not contain the necessary habitat or prey base or 2) the analyzed species do not occur within the proposed project area.

- The proposed action will have no effect on the following state threatened, endangered and SGCC: spotted bat, Pacific marten, New Mexico meadow jumping mouse, white-tailed ptarmigan, bald eagle, peregrine falcon, least tern, yellow-billed cuckoo, boreal owl, Mexican spotted owl, violet-crowned hummingbird, southwestern willow flycatcher, Baird's sparrow, Lilljeborg's peaclam, and Santa Fe cholla for the following reasons: 1) the proposed project area does not contain the necessary habitat or prey base or 2) the analyzed species do not occur in the proposed project area.

- The proposed action may affect individuals of the state threatened/SGCN gray vireo but is not likely to contribute to federal listing or a loss of viability for the following reasons: 1) suitable habitat within the APE is limited 2) disturbance is temporary and localized; and 3) disrupted individuals can relocate to adjacent, undisturbed habitat.

8. Summary and Conclusions

Proposed construction activities would minimal impacts in the majority of the project area. Tree removal may occur in localized areas to permit access for heavy machinery and would be mostly limited to single trees rather than stands. However, within Madrid Arroyo, trees and the majority of vegetation would be removed in order to recontour the drainage. A revegetation plan will be created for this disturbance but would likely take many years to reach suitable riparian habitat. Existing roads would be utilized to the extent possible, minimizing impacts to herbaceous and shrub species in the proposed project area. Disturbed areas would be seeded with a native seed mix and/or live plant transplants following the proposed construction to reestablish the vegetative community.

During the biological surveys, no wetlands were documented, but four (4) ephemeral drainages were documented within the proposed project area. Considering the location and type of features, three (3) drainages (DR02-DR04) do not elicit characteristics consistent with USACE definition of WOTUS. As such, GMEC does not recommend the need for the AML Program to pursue permits under Section 404 of the Clean Water Act. One (1) drainage, DR01, is characterized by features consistent with WOTUS and likely a significant nexus to Galisteo Creek, a perennial stream with direct connectivity to the Rio Grande, a TNW. Based on these criteria, GMEC recommends the AML Program pursue permits under Section 404 of the Clean Water Act prior to

the proposed construction to remain in compliance throughout the length of the proposed project. Prior to and during proposed construction, the USACE and NMED will be consulted as necessary to ensure all parties are in compliance with the CWA, and surface water quality standards. Table 3 details drainage attributes in the proposed project area, Figure 5 details various drainage locations and Appendix C includes drainage location photographs.

Four (4) noxious weed species were located within the proposed project area during the biological surveys including Siberian elm (*Ulmus pumilla*), cheatgrass (*Bromus tectorum*), two (2) small populations of bull thistle (*Cirsium vulgare*), and tamarisk (*Tamarix ramosissima*) (Figure 4). Revegetation will include a native seed mix or live transplants following the proposed construction and would reduce the potential of further colonization by noxious weeds into the proposed project area.

The proposed action will have temporary effects on wildlife. During the proposed construction activities, larger mammals and birds may choose to leave the area, while individual small mammals and reptiles may be displaced. These impacts will be minimal given the temporary and localized nature of the work, coupled with the availability of expansive adjacent habitat. Within the Madrid Arroyo area, there would be long-term displacement as it would take time for the revegetated areas to become suitable habitat.

To minimize potential impacts to nesting migratory birds, it is recommended proposed construction activities take place outside of the migratory bird breeding season (March – August). In instances where timing of construction during this season cannot be avoided, it is recommended migratory bird clearance surveys be conducted prior to proposed construction to identify any occupied nests and establish appropriate disturbance avoidance measures.

One (1) active Cooper's hawk nest was documented during the wildlife surveys (nest ID 14072501, Figure 4, Appendix B). Cooper's hawks are federally protected under the MBTA. Should work occur within the migratory bird breeding season (March - August), disturbance to nesting birds could occur. To avoid and minimize impacts to nesting birds, USFWS recommends a 0.25-mile spatial buffer around the nest (Whittington & Allen, 2008). During breeding season all potentially impacting activities should be avoided within the spatial buffer. Potentially impacting activities are defined as any human activity or the use or operation of mechanical equipment which may disturb raptors at a nest site (Whittington & Allen, 2008).

A no effect determination was made for all federally threatened or endangered species due to lack of critical habitat, general habitat, or occurrence in the proposed project area.

A no effect determination was made for fifteen (15) of the sixteen (16) state threatened, endangered and species of greatest conservation need analyzed in Table 5. Those species include spotted bat,

Pacific marten, New Mexico meadow jumping mouse, white-tailed ptarmigan, bald eagle, peregrine falcon, least tern, yellow-billed cuckoo, boreal owl, Mexican spotted owl, violet-crowned hummingbird, southwestern willow flycatcher, Baird's sparrow, Lilljeborg's peaclam, and Santa Fe cholla. Potential impacts to the gray vireo could occur; however, no gray vireos were documented during the wildlife surveys. Additionally, none of these impacts are likely to result in a trend toward federal listing or loss of population viability for any of these species.

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Appendix A
Proposed Project Area Photographs

Figure A.1. View of Town of Madrid southeast hillside.

Figure A.2. View of typical pinyon-juniper habitat in the northern section of the proposed project area.

Figure A.3. View of arroyo/juniper/gob pile habitat in the northern section of the proposed project area.

Figure A.4. View of arroyo riparian habitat north of town in proposed project area.

Figure A.5. View of arroyo riparian habitat south of town in the proposed project area.

Figure A.6. View of typical juniper habitat in southeast section of proposed project area.

Appendix B
Raptor Nest Photographs

Figure B.1. Location of nest ID 14072501 in tree

Figure B.2. View of nest ID 14072501 with an adult Cooper's hawk sitting in the nest. Nest photo was taken April 18, 2019 during a prior AML Program project.

Appendix C
Water Drainages Photographs

Figure C.1. DR01 facing upstream in the northern section of the APE (photo direction -south)

Figure C.2. DR01 facing downstream in the northern section of the APE (photo direction - north)

Figure C.3. DR02 convergence with DR01 facing upstream in the northern section of the APE (photo direction - southwest)

Figure C.4. DR03 convergence with DR01 facing upstream in the southern section of the APE (photo direction - south)

Figure C.5. DR04 facing upstream in the middle section of the APE (photo direction - east)

Figure C.6. Yellow lines mark approximate location of OHWM in DR01 (photo direction – north)

Appendix D
USFWS Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542
http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To: May 15, 2019
Consultation Code: 02ENNM00-2019-SLI-1103
Event Code: 02ENNM00-2019-E-02327
Project Name: Madrid Stormwater and Erosion Safety Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment(s):

- Official Species List
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Project Summary

Consultation Code: 02ENNM00-2019-SLI-1103

Event Code: 02ENNM00-2019-E-02327

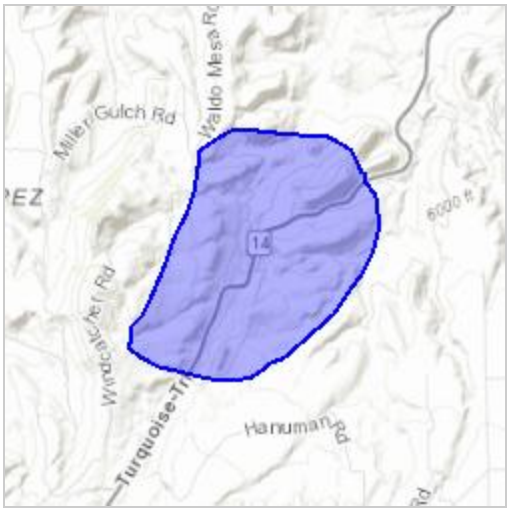
Project Name: Madrid Stormwater and Erosion Safety Project

Project Type: ** OTHER **

Project Description: Located in Madrid, NM, the Madrid Stormwater and Erosion Safety Project is an Abandoned Mine Lands (AML) safeguarding project designed to establish stormwater conveyances in the town of Madrid. The Area of Potential Effect (APE) is approximately 106 acres and the timing is not yet known because engineering plans have not been finalized.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.40793971603689N106.15029598290326W



Counties: Santa Fe, NM

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries [1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries , also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus*	Endangered

There is **final** critical habitat for this species . Your location is outside the critical habitat.

This species only needs to be considered under the following conditions:

- If project affects dense herbaceous riparian vegetation along waterways (stream, seep, canal/ditch).

Species profile: https://ecos.fws.gov/ecp/species/7965

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened
There is **final** critical habitat for this species . Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/8196	
Southwestern Willow Flycatcher *Empidonax traillii extimus*	Endangered
There is **final** critical habitat for this species . Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/6749	
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened
Population: Western U.S. DPS	
There is **proposed** critical habitat for this species . Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/3911	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act [1] and the Bald and Golden Eagle Protection Act [2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Black-chinned Sparrow *Spizella atrogularis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31
Brewer's Sparrow *Spizella breweri* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9291	Breeds May 15 to Aug 10

NAME	BREEDING SEASON
Grace's Warbler *Dendroica graciae* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 20 to Jul 20
Pinyon Jay *Gymnorhinus cyanocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15
Virginia's Warbler *Vermivora virginiae* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441	Breeds May 1 to Jul 31
Willow Flycatcher *Empidonax traillii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12

(0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

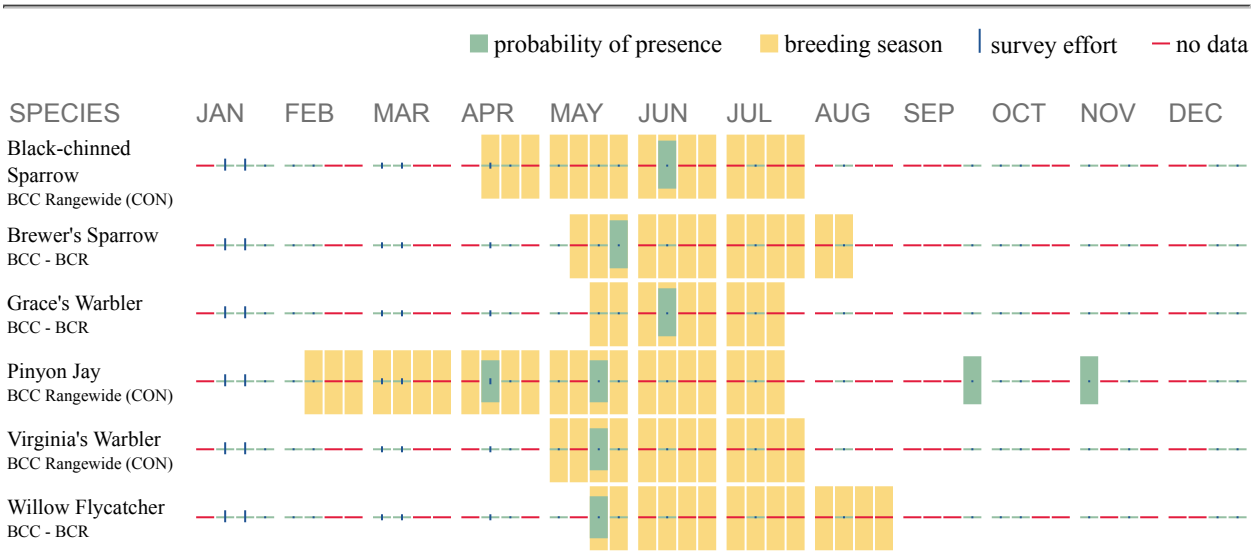
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and

how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.