4. Irreversible and Irretrievable Commitments of Resources

This section describes the irreversible and irretrievable commitments of resources associated with implementing the Proposed Action. A summary of the irreversible and irretrievable commitments of resources is provided in **Table 4.0-1**. The following are the key values for quantifying surface disturbance effects, and long-term commitment of land to industrial uses.

12,303 Acres. The estimated total surface disturbance from construction and operation of all ROW facilities included in the Tier 1 NEPA analysis for mainline pipelines, transmission lines, access roads, and above-ground project facilities. This total surface disturbance area applies to effects on individual resources (soils, vegetation, wildlife habitat, and visual resources).

1,014 Acres. The estimated total area of land committed to permanent aboveground facility uses. It is assumed that all other disturbed land is revegetated, and is available for prior uses (wildlife habitat, grazing).

Surface disturbance associated with Alternatives A through C would be the same as the Proposed Action. Disturbance resulting from Alternatives D and E are provided in the impact summary for ROWs (**Table 2.10-1**). Future land requirements and resource effects for groundwater development facilities (wells, gathering pipelines, access roads, and electrical distribution lines) were not estimated because they are not accurately known for this Tier 1 NEPA analysis. A general assessment of the effects of future groundwater pumping on resources is provided where applicable.

A commitment of resources is irreversible when the effects of proposed activities result in limiting the future options for resource development or management. An irretrievable commitment refers to the lost production or use of a resource that would cause the resource to be unavailable for use by future generations. Examples include the permanent extraction or alteration of nonrenewable resources, such as minerals and cultural resources, and changes to renewable resources that would then become unavailable for use by future generations.

Constructing, operating and maintaining the Proposed Action would require committing land, soil, and vegetation to place permanent facilities including pipelines, wells, access roads, structures, and power lines. While it is possible that the natural landscape could be restored after these components are removed, it is unlikely in the foreseeable future. Therefore, these structures would constitute an irretrievable commitment of land.

 Table 4.0-1
 Summary of Irreversible and Irretrievable Commitments of Resources

Resource	Explanation
Air and Atmospheric Values	Surface Disturbance . Project facility construction equipment emissions would not exceed federal or state air quality standards. Local air quality would return to existing conditions after completion of project construction.
	Groundwater Pumping . There is a risk that there would be a long-term increase in fugitive dust from pumping basins where pumping drawdown may result in a decrease in vegetation cover and density. These potential air quality changes may limit future options for resource development. There would be no change in the availability of atmospheric air for use by future generations.
Geology	Surface Disturbance . Project facility construction would not cause irreversible or irretrievable effects on geological resources. Surface disturbance activities could alter paleontological resources and result in irreversible or irretrievable effects.
	Groundwater Pumping . Subsidence induced by future groundwater pumping is estimated to exceed 5 feet over an area of 76 to 781 square miles at full build out through full build out plus 200 years. This subsidence would be considered both irretrievable and irreversible.
Water Resources	Surface Disturbance . Project facility construction would not result in irreversible or irretrievable effects on surface water resources.
	Groundwater Pumping . Long-term flow reductions or drying of perennial springs and streams would limit future options for these surface water resources and therefore would be considered an irreversible impact. The permanent extraction of groundwater in storage within the aquifers (as evidenced by the formation of regionally extensive drawdown cones) is considered an irretrievable commitment of water resources.
Soils	Surface Disturbance . There would be a loss of soil productivity due to alteration and mixing of the soil horizons during construction on approximately 12,303 acres, resulting in an irretrievable commitment of this resource. There would also be an irreversible and irretrievable commitment of the resource on approximately 1,014 acres involving permanent structures, roads, and facilities that would not be reclaimed.
	Groundwater Pumping . Groundwater drawdown would reduce the source of water that sustains hydric soils on a long-term basis, which is an irreversible and potential irretrievable commitment of soil resources.
Vegetation	Surface Disturbance . Project facility construction would result in irretrievable effects on 12,303 acres of vegetation because vegetation would be removed, and would be restored over long time periods. There would be an irretrievable commitment of resources on approximately 1,014 acres involving permanent structures, roads, and facilities that would not be reclaimed.
	Groundwater Pumping. The long-term reductions or compositional change in wetland/wet meadow and phreatophytic shrub/medium vegetation cover types, and vegetation associated with springs and streams would be irretrievable within the modeled pumping time frames. Whether these changes in vegetation communities are irreversible would depend on whether these communities would be so altered that they could never return to their former composition, if groundwater levels are restored. Because of the very long time frames, and potential vegetation community changes over large geographic areas, the effects are considered irreversible within any reasonable time frame (likely more than 500 years).
Terrestrial Wildlife	Surface Disturbance . There would be an irretrievable reduction in wildlife habitat of approximately 12,303 acres as the result of construction surface disturbance. Of this total, there would be an irretrievable commitment of approximately 1,014 acres of wildlife habitat associated with permanent structures, and roads.
	Groundwater Pumping The loss of perennial surface water for wildlife would be an irreversible commitment of resources. The loss or long-term reduction or degraded quality of wetland and phreatophytic shrub vegetation would be an irretrievable commitment of resources. This reduction or adverse change in habitat quality could affect habitat carrying capacity, cover, breeding sites, foraging areas, and animal displacement on a long-term basis.
Aquatic Biological Resources	Surface Disturbance . ROW construction would not result in irreversible or irretrievable effects on aquatic biological resources.
	Groundwater Pumping. The loss of aquatic habitat and species in perennial springs and streams from groundwater drawdown would be an irreversible and potentially irretrievable impact for aquatic species, if waterbodies dry up or have substantial water level or flow reductions on a long-term basis.

Table 4.0-1	Summary of Irreversible and Irretrievable Commitments of Resources (Continued)
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Resource	Explanation
Minerals	Surface Disturbance . Small quantities of sand and gravel could be used during project construction. This would be an irreversible use of this resource.
	Groundwater Pumping. There would be no irretrievable or irreversible effects to minerals resources.
Rangelands and Livestock Grazing	Surface Disturbance . There would be an irretrievable loss of approximately 10,544 acres as the result of surface disturbance within BLM grazing allotments. These losses would be slowly reduced as the ROW is restored over the time period required for vegetation recovery. There would be an irretrievable commitment of resources on approximately 814 acres for permanent facilities.
	Groundwater Pumping. Reductions to flow or quality of springs and perennial streams would be both an irretrievable and potentially an irreversible loss of water sources for livestock.
Wild Horse and Burro Management Areas	Surface Disturbance. Project facility construction would result in an irretrievable loss of approximately 3,015 acres of wild horse forage and cover habitat within two Horse Management Areas. These losses would be slowly reduced as the ROW is restored over the time period required for vegetation recovery. There would also be an irretrievable commitment of 165 acres for permanent structures.
	Groundwater Pumping . Reductions to flow or quality of springs and perennial streams would be both an irretrievable and potentially an irreversible loss of water sources for wild horses.
Land Use	Surface Disturbance . Project facility construction would result in an irretrievable loss of approximately 1,014 acres of land due to the permanent use of land for structures, roads, and ancillary facilities that would not be reclaimed.
	Groundwater Pumping. Future groundwater drawdown would result in groundwater level reductions that could adversely affect surface water and vegetation on public lands available for disposal and private agricultural lands. These effects would be irreversible and potentially irretrievable impacts.
Special Designations	Surface Disturbance. There would be an irretrievable loss of vegetation and wildlife habitat in up to seven special designations due to construction and maintenance of permanent structures.
	Groundwater Pumping. The long-term reductions or compositional change in wetland/wet meadow and phreatophytic shrubland vegetation cover types, and vegetation associated with springs and streams would be irretrievable within the modeled pumping time frames (see Vegetation). Long-term flow reductions or drying of perennial springs and streams would limit future options for these surface water resources and therefore would be considered an irreversible impact.
Recreation	Surface Disturbance . Project facility construction would result in an irretrievable loss of approximately 2,448 acres of native vegetation acres within designated recreation areas. There would be an irretrievable commitment of resources on approximately 257 acres involving permanent structures, roads, and facilities that would not be reclaimed.
	Groundwater Pumping. The long-term reductions or compositional change in wetland/wet meadow and phreatophytic shrubland vegetation cover types, and vegetation associated with springs and streams would be irretrievable within the modeled pumping time frames (see Vegetation). Long-term flow reductions or drying of perennial springs and streams would limit future options for these surface water resources and therefore would be considered an irreversible impact.
Transportation	Surface Disturbance . There would be no irretrievable or irreversible changes in the transportation infrastructure and capacity.
	Groundwater Pumping. There would be no irretrievable or irreversible changes in the transportation infrastructure and capacity.
Visual Resources	Surface Disturbance. Removal of 12,303 acres of vegetation would result in irretrievable visual resources effects (increase in contrasts in color, line, and form within the landscape). These contrasts would be reduced through successful reclamation procedures. Irretrievable landscape changes would result from installation of aboveground structures that may be viewed from areas of high public use, such as scenic byways (portions of U.S. 93 and U.S. 50).
	Groundwater Pumping . Future groundwater drawdown would gradually alter landscape views in areas where wetland, wet meadow, and basin shrubland vegetation composition and structure are changed on a long-term basis. These changes would be irretrievable and may be irreversible, if water sources are not replaced.

Resource	Explanation		
Cultural Resources	Surface Disturbance. NRHP-eligible sites that may be disturbed by construction activities would be mitigated in accordance with the Programmatic Agreement. Sites from which artifacts are excavated and removed represent an irreversible impact to cultural resources.		
	Groundwater Pumping. No irreversible or irretrievable effects to cultural resources are anticipated.		
Native American Traditional Values	Surface Disturbance . Construction disturbance to Native American traditional use sites would be irretrievable, until mitigated in accordance with the Programmatic Agreement.		
	Groundwater Pumping. The spiritual and religious experience may be diminished in areas where surface water, vegetation, wildlife or fish resources are affected by future drawdown. This diminishment may be both irretrievable and irreversible, depending on extent of surface water or vegetation resource changes (see Water Resources, Vegetation, Wildlife, and Aquatic Biological Resource sections).		
Socioeconomics	Surface Disturbance The economic benefits to nearby communities of construction payrolls and spending would not be irreversible or irretrievable.		
	Groundwater Pumping. Groundwater pumping that reduces groundwater levels over the long term (50 to 200 years) would increase irrigation pumping costs (electricity). These additional costs are considered to be both irreversible and irretrievable because of the long time frames, and the uncertainty that groundwater levels would recover to former elevations if pumping were ceased.		
Environmental Justice	Surface Disturbance . Proposed project facility construction would not disproportionately affect minority or low-income populations, and therefore no irretrievable or irreversible effects are anticipated.		
	Groundwater Pumping. Based on available information, groundwater pumping would not affect minority or low income population water rights, and therefore no irretrievable or irreversible effects are anticipated.		
	Surface Disturbance.		
	• Transport and use of hazardous materials is neither irretrievable or irreversible. If a hazardous material spill were to affect a sensitive resource, an irretrievable impact could occur pending the recovery of the affected resource.		
	• Project facility construction would result in short-term increases in noise in a rural area, and would then cease. Exposure to short term noise is neither irretrievable, nor irreversible.		
	Groundwater Pumping.		
	• Transport and use of hazardous materials is neither irretrievable or irreversible. If a hazardous material spill were to affect a sensitive resource, an irretrievable impact could occur pending the recovery of the affected resource.		
	• Project facility operations would result in long-term controlled noise in a rural area. Assuming that noise levels are maintained below commonly-cited regulatory thresholds, operational noise would not cause irretrievable or irreversible effects.		

Table 4.0-1 Summary of Irreversible and Irretrievable Commitments of Resources (Continued)

Development and operation of the GWD Project would require the commitment of natural, human, engineered and monetary resources. Most of the non-monetary resource investments would be irretrievable and their use, may preclude or foreclose other opportunities. Meeting the demands for goods and services indirectly associated with the project, would also be irreversible, although some reuse may occur.

5. Consultation and Coordination

5.1 Introduction

This chapter provides a summary of the opportunities that have been made available for public involvement, including government, and non-governmental agencies or organization on the GWD project.

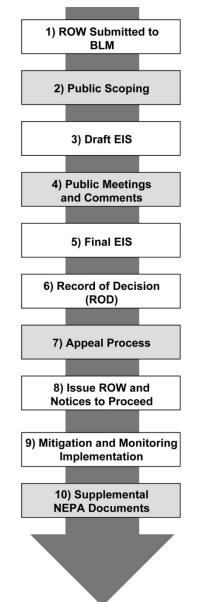
A flow chart of a typical NEPA process for creation of an EIS is shown in the figure in the sidebar. Places in the process where public involvement typically occurs are identified on the graphic (as colored boxes).

The public participation program for the Clark, Lincoln, and White Pine counties Groundwater Development Project helped to determine the scope of issues to be addressed in the EIS. Further discussion of issues brought forward in scoping is provided in Section 5.2.

Initially, mailing lists were requested from agencies and other entities with projects or interests in the area and a postcard was sent to determine if the recipient had an interest in remaining on the mailing list for this project. The initial mailing was sent to approximately 2,000 addresses. Subsequent mailings included those who expressed an interest and others who requested that their name be added to the mailing list. Addresses were removed if a submission was returned as undeliverable. When returned with an address update, the new information was added to the database for subsequent mailings.

5.2 Scoping

The BLM initiated the scoping process by publishing a Notice of Intent (NOI) to prepare an EIS in the Federal Register (FR) on April 8, 2005. Public meetings were held in the communities and on the dates included in **Table 5.2-1.** A second NOI was published on July 19, 2006, notifying the public and interested government agencies of changes to the proposed project. This second NOI also invited the public to comment on the project and project changes by reopening the scoping period. All comments (written and oral) were summarized for inclusion in the Scoping Summary Report and issues were distilled for use in writing the EIS. The analysis of the pertinent issues will provide the BLM decision makers with appropriate information to make a determination of whether the ROW should be granted.



Meeting Location	Dates	Signed-in Participants	Speakers
Bristlecone Convention Center, Ely, Nevada	Tuesday, April 26, 2005	131	30
Baker School Gymnasium, Baker Nevada	Wednesday, April 27, 2005	138	49
Caliente Youth Center, Caliente, Nevada	Thursday, April 28, 2005	30	8
Ambulance Barn, Alamo, Nevada	Tuesday, May 3, 2005	14	5
Alexis Park, Las Vegas, Nevada	Wednesday, May 4, 2005	112	29
Airport Plaza, Reno, Nevada	Thursday, May 5, 2005	70	24
Plaza Hotel, Salt Lake City, Utah	Monday, May 9, 2005	60	20
Crystal Inn Hotel, Cedar City, Utah	Tuesday, May 10, 2005	39	9
Fair Building, Delta, Utah	Wednesday, May 11, 2005	63	36

 Table 5.2-1
 Summary of Public Scoping Meetings

5.3 Public Outreach

The BLM has initiated extensive interaction with the public following the publishing of the Notice of Intent (NOI) in the Federal Register on April 5, 2005. Summaries of the interaction with Cooperating Agencies, Technical Task Groups, and Tribal entities are presented in Sections 5.3-1 through 5.3-3. In addition to those specific collaborations, the BLM has conducted extensive outreach and has actively pursued opportunities to inform the public of the status of the project, respond to questions and concerns, and provided a forum for public input. A Public Participation Matrix has been compiled to document the breadth of interaction with the public. The matrix is presented in Appendix G.

5.3.1 Cooperating Agencies

In the early stages of the project, the BLM sent out 30 letters inviting the participation of federal and state agencies, local governments, and other organizations as official cooperating agencies. According to 40 CFR 1501.6, cooperating agencies have a four-part role in the EIS process: 1) participate in the NEPA process at the earliest available time period; 2) participate in scoping; 3) at the lead agency's request, assume responsibility for developing information and preparing environmental analyses for areas in which the cooperating agency has special expertise, and 4) at the lead agency's request, make staff available to

A cooperating agency can be a federal, state, local or tribal government with jurisdiction by law or special expertise with respect to environmental impacts.

support the EIS process. A Memorandum of Understanding (MOU) was created to establish guidelines for the parties that desired to become formal cooperating agencies. Sixteen agencies, governments, and other organizations have formalized their participation as a cooperating agency by signing MOUs (see Section 6.3).

5.3.2 Tribal Interaction

Interaction with the Tribes in the area also has been a top priority and the BLM has met numerous times with tribal governments, individual tribal members and tribal groups. Government-to-government interaction is ongoing through the Section 106 process. In addition, an Ethnographic Assessment has been completed to document specific tribal concerns and identify geographic areas that the tribes believe should be protected to preserve their unique historic and cultural values, see Section 3.17, Native American Traditional Values.

5.3.3 Technical Work Groups

Technical work groups were established early in the EIS process to help to solicit input on important, far-reaching topics including natural resources, hydrology, and socioeconomics. The work groups met on a regular basis and provided specialized knowledge on the topic of interest. In the case of the Natural Resources Group, a technical report was completed to characterize the species and habitat in the area of interest. The hydrology technical task team met frequently as the model was being developed and their input provided a framework for the model's structure and its analytical results. Outside experts from academia and the USGS also were involved. A hydrology baseline report was produced and

distributed for review. Additional details on the work group process are provided in Sections 3.4, Water Resources; 3.5, Vegetation; and 3.18, Socioeconomics.

5.4 Mailings

5.4.1 Postcards

Postcards were mailed to over 8,000 entities to inquire if they wanted to continue to receive project information. Those who returned the postcard and indicated that they wanted to continue to receive information were retained on the project mailing list.

5.4.2 Newsletters

To date, six newsletters have been mailed to the addresses on the project mailing list. The newsletters are available at www.blm.gov/5w5c. The newsletters were developed to inform and educate interested parties about project elements, government and agency responsibilities, the NEPA process, and other topics of interest. Project progress and a schedule of key deliverables also were communicated.

5.5 List of Involved Agencies, Entities, or Individuals

5.5.1 Federal Agencies

- National Park Service (NPS)
- Bureau of Indian Affairs (BIA)
- Bureau of Reclamation (BOR)
- Nellis Air Force Base
- U.S. Forest Service (USFS)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (USEPA)
- Federal Highway Administration (FHA)
- U.S. Geological Survey (USGS)

5.5.2 State Agencies

- Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control
- NDEP, Bureau of Safe Drinking Water
- Nevada Department of Transportation (NDOT)
- Nevada Department of Water Resources (NDWR)
- Nevada Department of Wildlife (NDOW)
- Nevada Division of Forestry
- Nevada Department of Cultural Affairs, State Historic Preservation Office (SHPO)
- Public Utility Commission of Nevada
- Utah Geological Survey
- Utah Division of Wildlife Resources
- Utah Division of Water Rights
- Utah Division of Air Quality
- Utah Department of Natural Resources
- State of Utah, Governor's Office

5.5.3 Local Agencies

- Clark County, NV
- Lincoln County, NV
- White Pine County, NV
- Tooele County, UT
- Juab County, UT
- Millard County, UT
- Central Nevada Regional Water Authority
- Utah Association of Counties

5.5.4 Tribal Organizations

- Confederated Tribes of Goshute Reservation
- Duck Valley Shoshone-Paiute Tribe
- Duckwater Shoshone Tribe
- Ely Shoshone Tribe
- Te-Moak Tribe
 - Battle Mountain Band
 - Elko Band
 - South Fork Band
 - Wells Band
- Timbisha Shoshone Tribe
- Yomba Shoshone Tribe
- Chemehuevi Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribe
- Hualapai Tribe
- Kaibab Paiute Tribe
- Las Vegas Paiute Tribe
- Moapa Band of Paiutes
- Pahrump Paiute Tribe
- Paiute Indian Tribe of Utah
 - Cedar Band of Paiute Indians
 - Indian Peaks Band of Paiute Indians
 - Kanosh Band of Paiute Indians
 - Koosharem Band of Paiute Indians
 - Shivwits Band of Paiute Indians

5.5.5 Other Organizations and Individuals

Approximately 1,350 other involved organizations and individuals are contacted periodically through the mailing of newsletters and other correspondence. The mailing list is updated on an ongoing basis and is a component of the project administrative record.

5.6 List of Agencies, Organizations, and Individuals to Whom Copies of this Statement are Sent

Federal and State Officials

Utah Governor - Herbert, Gary R Nevada Lt. Governor - Krolicki, Brian U.S. Senator – Hatch, Orrin U.S. Senator - Heller, Dean U.S. Senator – Lee, Mike U.S. Senator - Reid, Harry U.S. Congresswoman - Berkley, Shelley U.S. Congressman - Bishop, Rob U.S. Congressman - Chaffetz, Jason U.S. Congressman - Heck, Joe U.S. Congressman - Matheson, Jim Nevada Assemblyman - Aizley, Paul Nevada Assemblyman - Anderson, Elliot Nevada Assemblyman - Atkinson, Kelvin Nevada Assemblywoman - Benitez-Thompson, Teresa Nevada Assemblyman - Brooks, Steven Nevada Assemblywoman - Bustamante Adams, Irene Nevada Assemblywoman - Carlton, Maggie Nevada Assemblyman - Carrillo, Richard Nevada Assemblyman - Conklin, Marcus Nevada Assemblyman - Daly, Richard "Skip" Nevada Assemblywoman - Diaz, Olivia Nevada Assemblywoman - Dondero Loop, Marilyn Nevada Assemblyman - Ellison, John Nevada Assemblywoman - Flores, Lucy Nevada Assemblyman - Frierson, Jason Nevada Assemblyman - Goedhart, Ed Nevada Assemblyman – Goicoechea, Peter Nevada Assemblyman - Hambrick, John Nevada Assemblyman - Hardy, Cresent Nevada Assemblyman – Hogan, Joseph Nevada Assemblyman - Horne, William Nevada Assemblywoman - Kirkpatrick, Marilyn Nevada Assemblywoman - Mastroluca, April Nevada Assemblyman - Mcarthur, Richard Nevada Assemblyman - Munford, Harvey Nevada Assemblyman - Neal, Dina Nevada Assemblyman - Oceguera, John

Nevada Assemblyman – Ohrenschall, James Nevada Assemblywoman - Pierce, Peggy Nevada Assemblyman - Segerblom, Tick Nevada Assemblyman - Sherwood, Mark Nevada Assemblyman - Stewart, Lynn Nevada Assemblywoman - Woodbury, Melissa Nevada Senator - Breeden, Shirley Nevada Senator - Cegavske, Barbra Nevada Senator - Copening, Allison Nevada Senator - Denis, Mo Nevada Senator – Gustavson, Don Nevada Senator - Halseth, Elizabeth Nevada Senator – Hardy M.D., Joseph (Joe) Nevada Senator - Horsford, Steven Nevada Senator – Kihuen, Ruben Nevada Senator - Lee, John Nevada Senator – Manendo, Mark Nevada Senator - Mcginness, Mike Nevada Senator – Parks, David R Nevada Senator - Rhoads, Dean Nevada Senator - Schneider, Mike Nevada Senator - Wiener, Valerie Utah Representative - Duckworth, Susan Utah Representative - Noel, Michael Utah Representative - Rudd Menlove, Ronda Utah Representative – Sagers, Douglas Utah Representative - Sumsion, Kenneth Utah Representative – Vickers, Evan Utah Representative - Wright, Bill Utah Senator – Knudson, Peter Utah Senator - Madsen, Mark B Utah Senator - Mayne, Karen Utah Senator - Okerlund, Ralph Utah Senator – Robles, Luz Utah Senator - Thatcher, Daniel W Utah Senator – Urquhart, Stephen Utah Senator – Waddoups, Michael

Federal Agencies

Bureau of Indian Affairs, Phoenix, AZ Bureau of Indian Affairs, St George, UT Bureau of Indian Affairs, Elko, NV Bureau of Land Management, Washington, DC Bureau of Land Management, Cedar City, UT Bureau of Land Management, Richfield, UT Bureau of Land Management, Fillmore, UT Bureau of Land Management, Salt Lake City, UT Bureau of Land Management, Caliente, NV Bureau of Land Management, Ely, NV Bureau of Land Management, Las Vegas, NV Bureau of Land Management, Lakewood, CO Bureau of Land Management, Battle Mountain, NV Bureau of Land Management, Elko, NV Bureau of Land Management, Reno, NV Bureau of Land Management, Kanab, UT Bureau of Land Management, Moab, UT Bureau of Land Management, St George, UT Bureau of Reclamation, Denver, CO Bureau of Reclamation, Carson City, NV Bureau of Reclamation, Boulder City, NV Department of the Interior, Washington, DC U.S. Environmental Protection Agency, Las Vegas, NV U.S. Environmental Protection Agency, San Francisco, CA U.S. Forest Service, Ely, NV U.S. Forest Service, Wells, NV

U.S. Forest Service, Wells, NV

Nevada State Agencies

Colorado River Commission, Las Vegas Cooperative Extension, Logandale Department of Prisons, Ely Department of Transportation, Carson City Department of Wildlife, Reno Department of Wildlife, Ely Department of Wildlife, Las Vegas Department of Wildlife, Ruby Valley Development Authority, Las Vegas Division of Conservation Districts, Carson City Division of Forestry, Pioche Division of Minerals, Carson City

Utah State Agencies

Division of Water Rights, Salt Lake City Division of Wildlife, Salt Lake City Division of Wildlife, Cedar City Division of Wildlife, St George Farm Bureau, Sandy Geological Survey, Salt Lake City U.S. Forest Service, Tonopah, NV U.S. Forest Service, Sparks, NV U.S. Department of Agriculture, Farm Service Agency, Fallon. NV U.S. Department of Agriculture, Farm Service Agency, Reno, NV U.S. Fish and Wildlife Service, Amoragosa Valley, NV U.S. Fish and Wildlife Service, Dugway, UT U.S. Fish and Wildlife Service, Las Vegas, NV U.S. Fish and Wildlife Service, Reno, NV U.S. Fish and Wildlife Service, West Valley City, UT U.S. Fish and Wildlife Service, Sacramento, CA U.S. Fish and Wildlife Service, Alamo, NV U.S. Fish and Wildlife Service, Portland, OR U.S. Fish and Wildlife Service, Ruby Valley, NV U.S. Fish and Wildlife Service, Denver, CO U.S. Geological Survey, Carson City, NV U.S. Geological Survey, Henderson, NV National Park Service, Baker, NV National Park Service, Denver, CO National Park Service, Fort Collins, CO National Park Service, Boulder City, NV Natural Resource Conservation Service, Caliente, NV Natural Resource Conservation Service, Minden, NV Department of the Air Force, Nellis AFB, NV Hawthorne Army Depot, Hawthorne, NV

U.S. Department of Agriculture, Ely, NV

Division of Minerals, Las Vegas Division of State Parks, Logandale Division of State Parks, Overton Division of State Parks, Panaca Division of Water Resources, Carson City Farm Bureau, Lund Natural Heritage Program, Carson City NV Army National Guard, Carson City Office of Energy, Carson City State Clearinghouse, Carson City State Controller, Carson City State Historic Preservation Office, Carson City State Museum, Carson City

Local Government and Agencies

Alamo Sewer and Water, NV Alamo Town Board, NV Beaver County Commission, UT Central Nevada Regional Water Authority, NV Cedar Iron County Water Conservancy District, UT Churchill County, County Manager Churchill County, Commission City of Mesquite, NV City of Ely, NV City of Henderson, NV City of Las Vegas, NV Clark County Desert Conservation Program, NV Clark County, County Manager, NV Clark County Commission, NV Clark County Dept of Air Quality and Environmental Mgmt, NV Clark County Flood Control, Rtc Snv, NV Clark County Rural Town Services, NV Elko County Commission, NV Esmeralda County Commission, NV Eureka County Commission, NV Hawthorne Utilities, NV Henderson Chamber of Commerce, NV Humboldt County Commission, NV Iron County Commission, UT Juab County Commission, UT Lander County PLUAC, NV Lander County Commission, NV Lincoln County Farm Bureau, NV Lincoln County Commission, NV Lincoln County, NV

Tribal Governments and Organizations

Aha Makav Cultural Society Battle Mountain Band - Te-Moak Tribe Blackfeet Nation Cedar Band of Utah Paiute Indians Chemehuevi Indian Tribe Colorado River Indian Tribal Museum Colorado River Indian Tribes Confederated Tribes of the Goshute Reservation Crow Tribe - Apsaalooke Nation Duck Valley Shoshone Paiute Tribe Duckwater Shoshone Tribe Eastern Shoshone Tribal Business Council Eastern Shoshone Tribe Elko Band -- Te-Moak Tribe Ely Shoshone Tribe Fort Mojave Indian Tribe Hualapai Tribal Council Indian Peaks Band of Utah Paiute Indians Inter-Tribal Council of Nevada Kaibab Paiute Tribe Kanosh Band of Utah Paiute Indians Koosharem Band of Utah Paiute Indians

Lincoln County Power District No 1, NV Lincoln County Wildlife Advisory Board, NV Los Angeles Dept of Water, CA Mesquite Building & Capital Projects, NV Mesquite Planning Dept, NV Milford City, UT Millard County, UT Millard County Attorney, UT Millard County Commission, UT Millard County Water Conservancy District, UT Mineral County Commission, NV Mineral County Development Authority, NV Nye County Commission, NV Nye County Department of Natural Resources, NV Parks and Recreation, NV Pershing County Commission Pershing County Planner Public Works Director, NV Salt Lake County Council, UT Sandy Valley Public Water Preservation Association, NV Surprise Water Advisory, CA Tooele County Commission, UT UT Association of Counties, UT Utah County, County Commission, UT Virgin Valley Water District, NV Wells Chamber of Commerce, NV Wells Rural Electric Co, NV White Pine Co Commission, NV White Pine Economic Development, NV White Pine Co. Water Advisory Board, NV

Las Vegas Paiute Tribe Moapa Band of Paiutes Northern Arapaho Business Council Northern Arapaho Tribe Pahrump Paiute Tribe Paiute Indian Tribe of Utah POW WOW of the Four Winds Shivwits Band of Utah Paiute Indians Shoshone-Bannock Tribes Shundahai Western Shoshone South Fork Band - Te-Moak Tribe Southern Nevada Paiute Elders Group Southern Paiute Consortium Te-Moak Tribe Timbisha Shoshone Tribe Ute Indian Tribe Washoe Tribe of Nevada and California Wells Band - Te-Moak Tribe Western Shoshone National Council Winnemucca Indian Colony Yomba Shoshone Tribe

Other Organizations and Groups

Associated General Contractors Las Vegas Baker Area Citizens Advisory Board CA & NV Rockhounders Californians for Western Wilderness Center for Biological Diversity Coalition for Nevada Wildlife Coalition of National Park Service Retirees Colorado River Basin Salinity Control Forum Culinary Workers Union Local 226 Desert Law and Water Science Forum **DIA Art Foundation** Ducks Unlimited Eastern Nevada Landscape Coalition Eureka Producers Cooperative Friends Nevada Wilderness Friends of Arizona Rivers Friends of Nevada Wilderness Great Basin Bird Observatory Great Basin Business and Tourism Council Great Basin National Heritage Route Great Salt Lake Audubon Greater Las Vegas Association of Realtors Henderson Development Association Intl Soc Protection of Mustangs Burros Las Vegas Convention and Visitors Authority Latin Chamber of Commerce Nevada, Inc. Lincoln County Heritage Site Stewards Mojave Southern Resource Advisory Council National Audubon Society National Mustang Association National Mustang Association Ne NV Stewardship GRP Northeastern Nevada Resource Advisory Council Nevada Contractors Association Nevada Miners and Prospectors Association

Companies and Businesses

7H Ranch, LLC **AECOM Environment** Arid Lake Tree Nursery LLC Baker Ranches, Inc. Barrick Gold of North America Basin Research Associates **Bengston Consulting** BLT Lincoln County Land, LLC Blue Diamond Oil Corp Bobcat Properties, Inc. Broken Tongue Land and Livestock Butler Holdings, LLC C/O Kleinfelder Carter Cattle Company Centerra U S, Inc. Chico Environmental Science and Planning LLC Construction Notebook

Nevada Outdoor Recreation Association Nevada State AFL CIO Nevada Subcontractors Association Great Basin Water Network Nevada Wildlife Federation Nevada Wildlife Federation NV Archaeological Association NV Environmental Coalition Inc. NV Job Connect NV Miners and Prospectors NV Board of Sheep Commissioners Nevada Water Resource Assoc Office of Public Archaeology Operating Engineers Local #3 Partners in Conservation Partnership for the USA Progressive Leadership Alliance of Nevada Public Lands Foundation Public Resource Associates Resource Advisory Council Sierra Club Southern Nevada Home Builders Assoc So Utah Land Restoration Project Southwest Regional Council of Carpenters Susanville Advisory Council The Center for Biological Diversity The Conservation Fund The Nature Conservancy Utah Cattleman's Association Utah Property Rights Association Western Environmental Law Center Western Lands Project Western Watersheds Project Wild Horse Commission Wilderness Impact Research Foundation

D4 Enterprises Deep Creek Mountains Ranch Desert Wildlife Dixie Power Water Light Telephone & Oil, Inc. Double Horseshoe Ranch, LLC **Doug Lenier Productions** Dunbar Stone Co., Inc. Durham Resource Consulting Eagle Exploration Echohawk Law Offices Egbert Livestock, LLC Ellison Ranching Co. Entrix Environmental Consultants Executive Home Builders, Inc. FM Fulstone, Inc. First National Bank Fish Creek Ranch, LLC

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6. List of Preparers and Reviewers

6.1 Bureau of Land Management EIS Team

BLM Office/Team Member	Resource/Responsibility	
Nevada State Office		
Amy Lueders	State Director	
Penny Woods	Project Manager	
Dan Netcher	Deputy Project Manager, Hydrology	
Kim Dow	Natural Resource and Section 7 Coordination, General Administration, Website Maintenance, Budget	
Kathy Cadigan	Administrative Record, Correspondence, Media	
Sarah Peterson	State Office – Soil, Water, and Air Resources	
Tom Burke	State Office – Cultural and Tribal	
Jolynn Worley	Public Affairs	
Ely District Office		
Rosey Thomas	District Manager	
Mike Herder	Associate District Manager	
Mary D'Aversa	Field Manager, Schell Field Office	
Elvis Wall	Tribal Consultations, Native American Concerns	
Travis Young	NEPA	
Melanie Peterson	Hazardous Materials/Safety	
Dave Davis	Geology	
Dave Jacobson	Wilderness, Recreation, Visual Resource Management	
Paul Podborny	Wildlife Oversight/Section 7 Consultation	
Ben Noyes	Wild Horse and Burro	
Craig Hoover	Range	
Shawn Gibson	Archaeology	
Nancy Williams	Wildlife, Section 7Consultation	
Alicia Styles	Section 7 Consultation	
Mindy Seal	Noxious Weeds, Vegetation, Riparian, Wetlands	
Gina Jones	Ecology, Vegetation, Riparian, Wetlands	

BLM Office/Team Member	Resource/Responsibility	
Mark D' Aversa	Soils	
Zack Peterson	Forestry	
Southern Nevada District		
Phil Rhinehart	Southern Nevada District Liaison	
Susanne Rowe	Cultural/Tribal, Southern Nevada	
Mark Slaughter	Biology	
Lisa Christianson	Air Quality	
Utah State Office		
Verlin Smith	Branch Chief, Natural and Renewable Resources	
Glenn Carpenter	West Desert, District Manager	
Justin Jimenez	Coordinator – SNWA Project and Riparian/Fisheries Lead	
Heidi Hadley	Groundwater Hydrology	
Roy Smith	Water Rights	
Lisa Bryant	Soil, Water, Air	
Ron Bolander	Botany and T&E Species	
Steve Madsen	Wildlife	
Phillip Zieg	Water Rights	
Craig Egerton	Range	
National Operations Center, Denver, Colorado		
Paul Summers	Hydrogeology	

6.1 Bureau of Land Management EIS Team

AECOM Team Member	Responsibility/Resource	Degree/Certifications	Experience (years)
Scott Ellis	Project Management, Vegetation	BS Biology & English	39
Rollin Daggett	Project Management, Aquatic Resources	MS Freshwater & Marine Biology BS Zoology	36
Debby Sehi	Project Management and Coordination	BS Environmental Health	15
Jean Decker	Senior Review	MS Chemical/Environmental Engineering BA Chemistry/Biology	38
Jamie Schlangen	Wildlife Biology	MS Applied Ecology MS National Resource Management and Environmental Policy BS Wildlife Ecology	11
Ellen Dietrich	Soil	Graduate Studies, Soil Science/Archaeology BA Archaeology/Geology	39
Patrick Plumley	Water Resources	MS Geology BS Geology	24
Chris Dunne	Wild Horses and Burros, and Grazing/Range Management	BS Range Science	5
Ron Dutton	Socioeconomics	MS Economics BS Economics	33
George Blankenship	Environmental Justice	MA Urban and Regional Planning/Community Development BA Anthropology BA Social Work	31
Kim Munson	Cultural Resources, Native American Concerns Illustrations of Native American Points	MA Anthropology BA Anthropology Integrating Cultural Resources into NEPA Compliance Heritage Resources Management - Section 106 Review	16
Bill Berg	Geology, Paleontology, Hazardous Materials	MS Geology BS Geology	34
Jeremy Call	Visual Resource Management	MS Landscape Architecture BA Humanities	8

6.2 AECOM EIS Team (Third-party Consultant)

AECOM Team Member	Responsibility/Resource	Degree/Certifications	Experience (years)
Courtney Taylor	Air and Climate	MS Atmospheric Science BA Environment, Economics, and Politics	10
Melanie Martin	Recreation, Special Designation Areas, Land Use, Transportation	BS Environmental Policy and Management, Natural Resource Management BA Advanced Study in Natural Resource Management BS Agriculture, Environmental Protection	13
Todd White	GIS, Recreation, Transportation, Land Use	MCP Community Planning Environmental Science MA Anthropology BA Geology	15
Adele Gard	Document Production	College Coursework	20
Bruce Flinn	NEPA Review	Retired BLM Manager	34
Molly Molenaar	Tribal Consultation	 B.A. English M.A. Cultural Anthropology, 11 years of experience with Great Basin Tribes/Ethnography 	11
John Godec	Public Participation/Facilitator	BA Communication MS Management	30

6.2 AECOM EIS Team (Third-party Consultant)

6.3 Cooperating Agencies

Federal Agencies

- Department of Agriculture, Forest Service (USFS)
- Department of Defense, Army Corps of Engineers (USACE)
- Department of Defense, Nellis Air Force Base
- Department of Interior, Bureau of Indian Affairs
- Department of Interior, Bureau of Reclamation
- Department of Interior, Fish and Wildlife Service (USFWS)
- Department of Interior, National Park Service

State Agencies

- Nevada Department of Wildlife (NDOW)
- State of Utah

Local Agencies

- Central Nevada Regional Water Authority
- Nevada Counties: Clark, Lincoln, White Pine
- Utah Counties: Juab, Millard, Tooele

6.4 Other Agencies

Nevada State Engineer's Office

The Nevada State Engineer's Office participates in the Groundwater Development Project as an observer. They will review the draft EIS when it is released to the public.

U.S. Geological Survey

The USGS has contributed to the NEPA process in the role of Technical Advisor to the BLM. Their assistance has included review of the project water model and technical advice regarding the design, calibration, and results of the modeling. This role also included review of the preliminary and administrative drafts of this draft EIS and they will review the draft EIS when it is released to the public.