3.3 Land Use and Access

3.3.1 Affected Environment

There are separate study areas for land use and access. For land use, the study area is limited to the project area (**Figure 3.3-1**), based on the limited anticipated potential extent of effects from the proposed project. The cumulative effects study area (CESA) for land use is the same as the direct and indirect effects study area and was selected based on anticipated potential cumulative effects that are confined to the project area. The study area for access includes the project area, but also includes the primary access road, Ivanhoe Road, approaching the project area and the transportation corridors for hauling ore to the mill sites (**Figure 3.3-2**). The CESA for access is the same as the direct and indirect effects study area and is based on the extent of the road access to the Hollister Site and mills. Past, present, and reasonably foreseeable future actions (RFFAs) are discussed in Section 3.2.

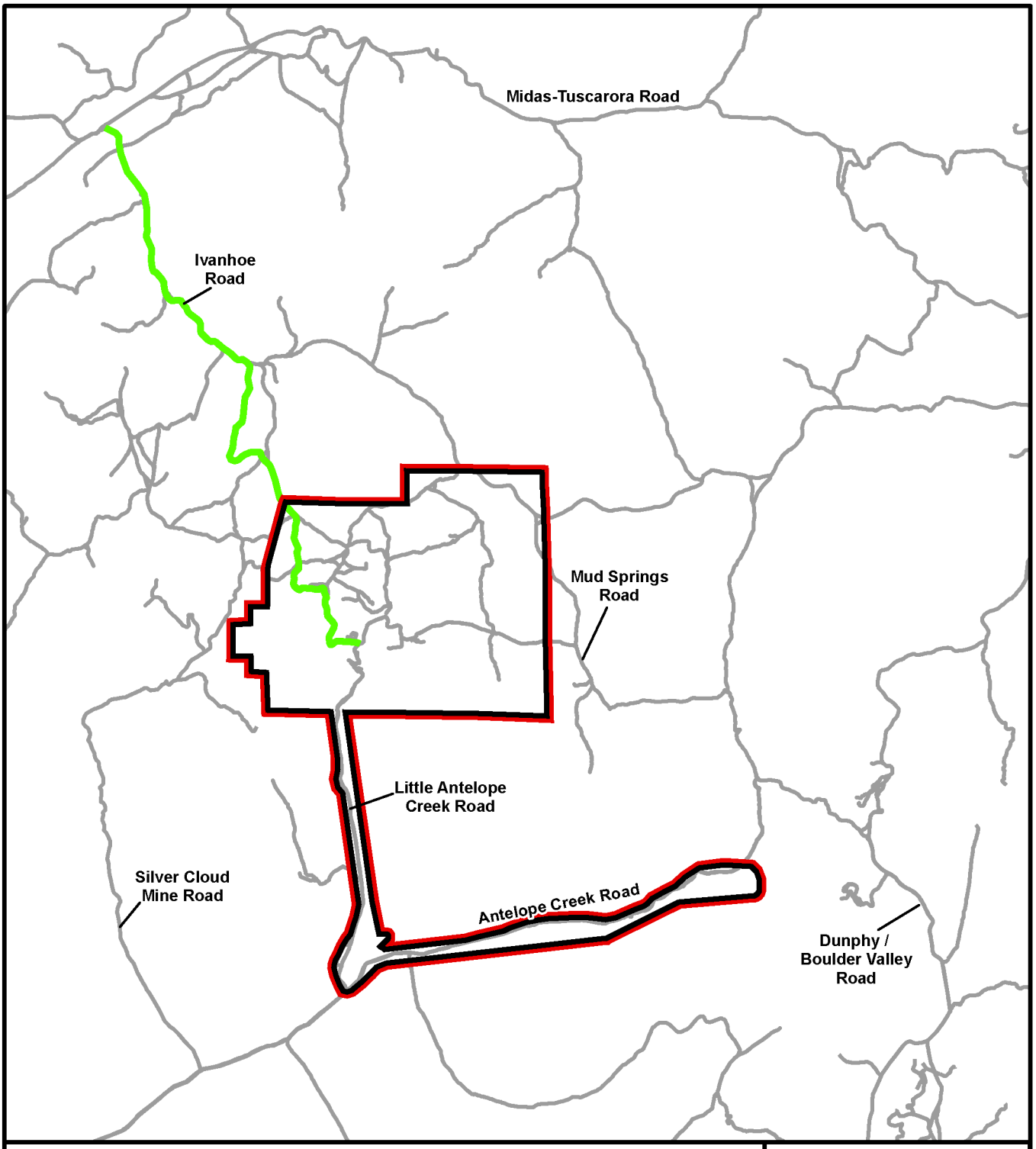
3.3.1.1 Land Use

The proposed project is located in Elko County, Nevada. Elko County is the fourth largest county in the lower 48 states with a land area of 17,181 square miles (Elko County 2008). Approximately 72.7 percent of the county is federal land administered by the Bureau of Land Management (BLM) (62.6 percent), the United States (U.S.) Forest Service (9.8 percent), the U.S. Fish and Wildlife Service (0.2 percent), and the Defense Department (0.1 percent). Although substantial, the percentage of federally administered lands is less than the 86.5 percent of the state as a whole. Tribal lands comprise 1.5 percent of the county and the state owns approximately 0.1 percent of the county. The remaining 25.7 percent of land in Elko County is privately owned or owned by local governments (Elko County 2008).

The land within the project area is mostly public land administered by the BLM Elko District, Tuscarora Field Office. There are private lands adjacent to the west edge of the project area, along much of Antelope Creek to the south, along the electric power transmission line (transmission line) corridor, and scattered in smaller parcels in the project vicinity (**Figure 1-2**). There are no state or county-owned lands in the project vicinity.

Public lands in the area are managed under the guidance of the BLM Elko Resource Management Plan (RMP). The RMP has designated project area lands "… open for mineral entry for locatable minerals …" (BLM 1987). Elko County does not have a master plan for the project vicinity. However, it has adopted the "Elko County Public Lands Policy Plan" (Elko County 2008). Among other provisions, the policy plan encourages continued mining under Policy 14-1, which states, "Retain existing mining areas and promote the expansion of mining operations and areas not specifically withdrawn" (Elko County 2008). There are no areas within the project boundary that have been withdrawn or restricted from mineral entry. Other relevant mineral policies in the plan include Policy 14-4, which encourages enforcement of reclamation standards to prevent "… undue degradation of the public lands," and Policy 14-6, which encourages that reclamation be "… consistent with the best possible post mine use for each specific area" (Elko County 2008). Elko County does not have zoning jurisdiction over public lands (Pierce-Fitzgerald 2010). Private land along Antelope Creek is zoned as open space, which would not restrict development of overhead transmission lines, but would require county approval of a conditional use permit for construction of a proposed substation (Pierce-Fitzgerald 2010).

Mining is the dominant economic use of land in the project vicinity with numerous large scale mines along the Carlin Trend from south of Carlin beyond the project area to the northwest. Livestock grazing is an established historic use in and surrounding the project area and is the dominant use in the project vicinity (see Section 3.11, Range Resources). Rangeland in the project vicinity is part of the Twenty-Five and Squaw Valley grazing allotments. There also is some hay production on irrigated



Legend

- Project Area Boundary
- Roads
- Ivanhoe Road
- Direct and Cumulative Effects Study Area for Land Use

N

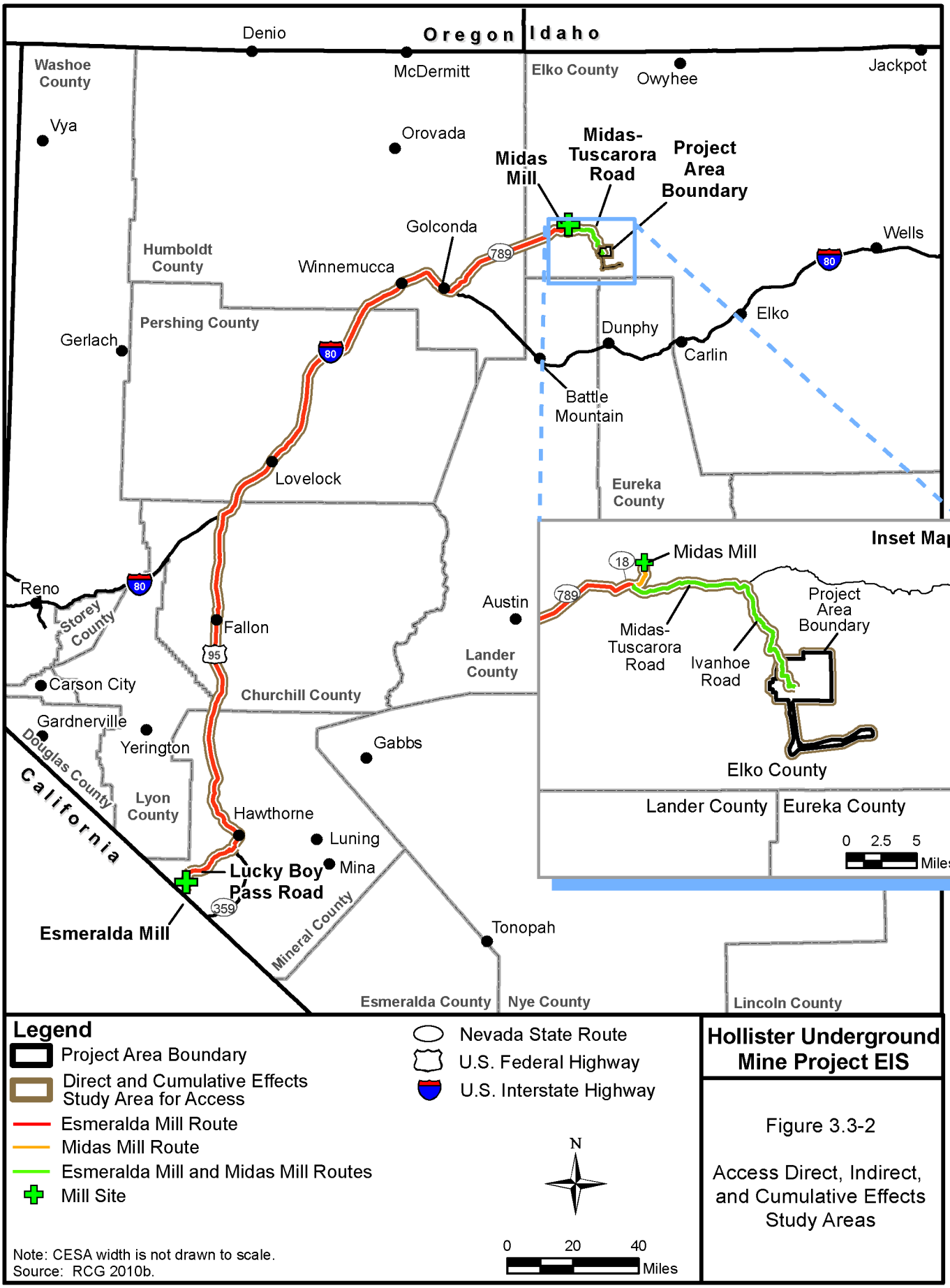
0 1 2 Miles

Source: TIGER 2009.

Hollister Underground Mine Project EIS

Figure 3.3-1

Land Use Direct, Indirect, and Cumulative Effects Study Area and Local and Regional Roads in the Project Vicinity


Oregon
Idaho
Denio
McDermitt
Elko County
Owyhee
Jackpot
Washoe County
Vya
Orovada
Midas Mill
Midas-Tuscarora Road
Project Area Boundary
Golconda
Wells
Humboldt County
Winnemucca
789
80
Elko
Pershing County
Gerlach
Dunphy
Carlin
Battle Mountain
Lovelock
Eureka County
Inset Map
Midas Mill
18
789
Project Area Boundary
Midas-Tuscarora Road
Ivanhoe Road
Elko County
Lander County
Eureka County
0 2.5 5
Miles
Reno
Storey County
Fallon
95
Austin
Lander County
Carson City
Churchill County
Gardnerville
Yerington
Douglas County
California
Lyon County
Gabbs
Hawthorne
Luning
Mina
Lucky Boy Pass Road
359
Esmeralda Mill
Mineral County
Tonopah
Esmeralda County
Nye County
Lincoln County
Legend
Project Area Boundary
Direct and Cumulative Effects Study Area for Access
Esmeralda Mill Route
Midas Mill Route
Esmeralda Mill and Midas Mill Routes
Mill Site
Nevada State Route
U.S. Federal Highway
U.S. Interstate Highway
N
0 20 40
Miles
Note: CESA width is not drawn to scale.
Source: RCG 2010b.
Hollister Underground Mine Project EIS
Figure 3.3-2
Access Direct, Indirect, and Cumulative Effects Study Areas

lands along water courses at the Squaw Valley Ranch to the northwest along the Midas-Tuscarora Road. Additionally, dispersed outdoor recreation, including hunting, camping, limited off-road vehicle use, sightseeing, photography, hiking, rock climbing, and visiting old mining camps, occurs on a seasonal basis, although not by large numbers of people. There are no developed recreation areas in the project vicinity (see Section 3.18, Recreation and Wilderness).

There are no tribal lands within the project vicinity; although there is concern from local tribal members regarding potential sacred sites and traditional use areas in the project vicinity (see Section 3.16, Cultural Resources and Section 3.17, Native American Traditional Values). The 4,000-acre Tosawihi Quarries Archaeological District lies within the project area. Tosawihi Quarries are culturally and religiously important for the Western Shoshone. The Western Shoshone use the area as a source of spiritual power, religiously important materials, medicines, opalite, wild game, and plants (see Section 3.16, Cultural Resources, and Section 3.17, Native American Traditional Values).

The project area encompasses a total of approximately 10,168 acres, the majority of which are BLM-managed land; approximately 117 acres would be affected by the Proposed Action. Approximately 105 acres of previously authorized disturbance would bring the total Hollister disturbance to approximately 222 acres. Approximately 2.7 miles of the proposed 11.6-mile-long transmission lines would cross private land along Antelope Creek and the remainder would cross BLM-managed land. **Figure 1-2** depicts the ownership status of lands in the project area.

There are a limited number of land use authorizations and rights-of-way (ROWs) on BLM lands in the Land Use study area. **Table 3.3-1** provides specific information on the authorizations and ROWs based on review of BLM Master Title Plats and the LR2000 system (BLM 2010g). The two road ROW authorizations both refer to Ivanhoe Road (BLM Road 1065), the primary access route to the project area. The transmission line ROWs include the existing 345-kilovolt (kV) and 120-kV transmission lines that are in the vicinity of the proposed project.

Table 3.3-1 Land Use Authorizations and Rights-of-Way in the Land Use Study Area

Serial Number	Grantee	Use	Legal Description	ROW Width or Size
NVN-048616	Newmont Mining Corp.	Roads (Ivanhoe Road)	Township 38 North (T38N), Range 48 East (R48E), Section 32; and T37N, R48E, Section 5	78 feet
NVN-077637	Rodeo Creek Gold Inc	Roads (Ivanhoe Road)	T38N, R48E, Section 32; and T37N, R48E, Section 5	78 feet
NVN-007639B	Sierra Pacific Power Co.	Transmission Line (345-kV)	T37N, R48E, Sections 25, 26, 32, and 33; and T37N, R49E, Sections 16 and 21	140 feet
NVN-042788	NL Industries, Inc.	Patent Issued (mining claims located at Rossi Mine along Mud Springs Road)	T37N, R49E, Sections 21 and 22	74.9 acres
NVN-053160	Sierra Pacific Power Co.	Transmission Line (120-kV)	T37N, R49E, Sections 21 and 29	140 feet

Source: BLM 2010g.

3.3.1.2 Access

The project area is served by a sparse network of roadways typical of rural Nevada (**Figures 3.3-1** and **3.3-2**). Interstate 80 (I-80) is the primary east-west traffic artery across northern Nevada, connecting Winnemucca, Battle Mountain and Elko with Reno to the west and Salt Lake City, Utah, to the east. The project area is approximately 28 miles north of the community of Dunphy on I-80.

The primary access to the project area is via the Golconda exit on I-80, approximately 16 miles east of Winnemucca. From Golconda, State Route (SR) 789 is a paved, two-lane highway for approximately 16 miles to the Midas Road. From SR 789, the project area can be accessed using the Midas Road (22 miles), Midas-Tuscarora Road (9 miles), and Ivanhoe Mine Road (9 miles). The final three road segments are all gravel-surfaced roads with approximately 15- to 30-foot-wide travel surfaces in generally good condition, and treated with water or dust suppressants to minimize dust. Midas Road and the Midas-Tuscarora Road are typically fairly straight, with mostly mild grades and with long sight distances in most places. The Ivanhoe Road is more circuitous with fairly steep grades in some locations.

There are alternate access routes to the project area from Battle Mountain, Dunphy and Elko, although all of these routes have limitations due to poor road conditions. From Battle Mountain, the North Battle Mountain Highway, a two-lane paved road, connects to Izzenhood Road (gravel), which becomes the Antelope Creek Road (dirt) (BLM 1139) at the Rock Creek crossing. From Antelope Creek Road, access to the mine site is via Silver Cloud Road (BLM 1220) and Ivanhoe Road (BLM 1065), or via Little Antelope Creek Road (BLM 1065). Access from Dunphy follows the Boulder Valley/Dunphy Road (gravel) north to the Rossi Mine area. From there, it turns westerly onto an unnamed road, which connects to the Antelope Creek Road, and then the Mud Springs Road (BLM 1065) to the mine site. Access from Elko follows the Mountain City Highway (SR 225) to the Taylor Canyon Highway (SR 226) and the Midas-Tuscarora Road to the Ivanhoe Mine Road as previously noted. None of these alternate routes provides a quality of access comparable to the primary route because they are not useable during winter or inclement weather. The Silver Cloud Road is an unimproved dirt road with steep grades, sharp turns, and a ford at Rock Creek that is not passable during high water. The Rock Creek Road, although partially graveled, is in poor condition. The lower crossing at Rock Creek is impassible during high water. The Mud Springs Road connection to the Rossi Mine area is a dirt road in very rough condition for approximately 10 miles, although the Boulder Valley/Dunphy Road is a well-maintained gravel road in excess of 30 feet wide.

Access to the Tosawihi Quarries is provided from the Ivanhoe, Silver Cloud, and Mud Springs roads, and from the various two-track roads that occur within the quarries.

<u>Esmeralda Mill Transportation Route</u>

The proposed transportation route for transporting ore to the Esmeralda Mill would follow the access routes noted above to Golconda. From Golconda, trucks would follow I-80 west for 110.6 miles to U.S. Highway 95 (U.S. 95), U.S. 95 south for 104 miles to Hawthorne, SR 359 for 3.4 miles to Lucky Boy Pass Road for the final 22.4 miles to the mill. All highways from Golconda to Lucky Boy Pass Road are paved state or U.S. highways in generally good condition. I-80 is a four-lane, divided, interstate standard highway. U.S. 95 and SR 359 are at minimum two-lane, undivided highways or better. Lucky Boy Pass Road is a gravel surface road in generally good condition, comparable to the gravel roads to the Hollister Site.

The Nevada Department of Transportation (NDOT) (2009) classifies project-related roadways as follows:

- I-80 is an Interstate Highway.
- U.S. 95 is a Principal Arterial.

- SR 359 is a Rural Major Collector.
- SR 789, Midas Road, Midas-Tuscarora Road, and Lucky Boy Pass Road are Rural Minor Collectors.

Traffic is relatively light compared to road capacity on all project access roads and on the ore transport route to the Esmeralda Mill. Traffic on the gravel-surfaced county roads is mostly generated by the mines in the area and a small number of ranches, occasionally supplemented by recreation-related traffic. There are rarely, if ever, more than several vehicles per hour on these roads. Existing traffic conditions on all paved highways are at level of service (LOS) "A". I-80 carries an average of approximately 7,400 to 7,800 vehicles per day (vpd) between Golconda and U.S. 95, well below its capacity. The rural segment of SR 789 carried an average of 760 vpd in 2009, down from an estimated 900 vpd in 2008. Counts were slightly higher at 1,100 vpd in Golconda. U.S. 95 carried between 1,500 vpd and 3,100 vpd on rural segments. Counts for U.S. 95 were higher in Fallon (7,600 vpd) and Hawthorne (3,700 vpd), but the highway is four lanes wide in both communities, speed limits are lower for the urbanized areas, and major intersections have traffic controls in both communities to provide safe conditions for the higher traffic volumes. SR 359 carried 2,400 vpd in Hawthorne, but just 670 vpd between Hawthorne and Lucky Boy Pass Road in 2009. Lucky Boy Pass Road carried just 60 vpd in 2009 (NDOT 2009). Counts were not available for other county roads. There was some variability in the count data over the past 5 years, but the direction of change was not consistent for individual roadways or between roadways so there were no readily discernible trends suggesting major growth or declines in traffic in the study area.

Midas Mill Transportation Route

The Midas Mill is approximately 20 miles from the Hollister Site. Access to the mill from the Hollister Site is northwest via the Ivanhoe Road (9 miles), west on the Midas-Tuscarora Road (9 miles) and north 2 miles on a gravel road to the mill site. All roads have a gravel surface. Haul trucks would be based at the Hollister Mine site and would follow this route to and from the site.

3.3.2 Environmental Consequences

The Proposed Action or alternatives could affect land use and access both directly and indirectly. For example, direct impacts could occur if existing land uses or ROWs are terminated or modified in the project area. Indirect impacts may result in altered land use patterns to other use areas adjacent to or near the project area. Indirect impacts also would occur if the Proposed Action or alternatives stimulated or encouraged the development of land uses not presently anticipated, or conversely, precluded other planned or proposed uses.

3.3.2.1 Proposed Action

Land Use

The project area encompasses a total of approximately 10,168 acres, of which 9,301 acres are BLM-managed public lands and 867 acres are private lands. For the Hollister mine, total surface disturbance would be approximately 172 acres (not including exploration disturbance), most of which would be on public land. The proposed project would add approximately 92 acres to the previously approved disturbance of approximately 80 acres due to mining activities. Approximately 34.7 of the 92 acres would be associated with construction of the transmission lines and associated components. Of the 92 acres that would be disturbed, 51.5 acres would be new disturbance (see **Table 2-5**). Rodeo Creek Gold Inc (RCG) also is proposing 25 acres for surface exploration in addition to the previously authorized 25 acres for surface exploration dispersed throughout the project area over the course of the 20-year mine life (**Table 2-6**) for a total project disturbance of approximately 222 acres.

As previously noted, sheep, cattle, and horse grazing activities occur in the project vicinity under the grazing permits held by the Twenty-Five and Squaw Valley allotments. There is a small amount of

dispersed recreation use. Native Americans also use the Tosawihi Quarries for traditional cultural purposes (Section 3.17, Native American Traditional Values). None of these uses brings large numbers of public citizens into the project vicinity. The current use of land within the project area is low. Restrictions to the public use of the area for recreation, sightseeing, etc. would only apply to lands within the perimeter fence as well as exploration sites outside the perimeter fence while occupied by drill rigs (see Section 2.4.6.6, Site Security, Fencing, and Signs). Areas open to grazing and recreation include the surface exploration and transmission line corridor outside the Hollister Site perimeter fence.

Project-related disturbance of 50 surface acres for exploration would reduce the amount of land available for livestock grazing and dispersed recreation, although the loss would be very small relative to the amount of land available for those activities in the vicinity. The area inside the Hollister Site perimeter fence is excluded from grazing and recreation. This is the same area where the proposed mining disturbance would occur. The specifics of the loss of use and access to public lands for livestock grazing and recreation are addressed in Section 3.11, Range Resources, and Section 3.18, Recreation and Wilderness, respectively. The approximately 117 acres of proposed surface disturbance would comprise less than 1 percent of the Twenty-Five and Squaw Valley allotments. None of the proposed surface disturbance would occur on currently irrigated cropland. There would be no loss of hay production from the Proposed Action.

The proposed project would not conflict with the few existing ROWs in the project vicinity. New ROW authorizations would be required for the proposed 120-kV and 24.9-kV transmission lines. Access and use of the private land for construction and installation of the proposed transmission line is determined by the private landowner, powerline company, and the proponent of the Proposed Action. The proposed new ROWs would not adversely affect land use or power availability in the area.

Post-reclamation land use of the disturbance area would be returned to open space, grazing, dispersed recreation, and wildlife habitat. These uses would be consistent with local and BLM land use plans and guidelines. The existing East Pit topography created from historical surface mining activities would remain after reclamation of the facilities. The West Pit would be backfilled with waste rock and reclaimed. All surface disturbance proposed in this project would be reclaimed, including exploration drill sites, exploration roads, and transmission line disturbance.

Access

Five categories of traffic would be generated by the proposed project including transmission line and mine facility construction traffic, mine worker commuting traffic, general company and contractor traffic, ore hauling to an off-site mill, and material deliveries. Construction traffic would likely be a combination of medium-duty trucks for delivery and installation of poles and conductors, heavy trucks delivering construction materials and supplies, and worker pickup trucks. Mine workers living in Winnemucca would mostly commute in company contracted busses. General RCG and contractor traffic would be predominantly light traffic using automobiles and pickup trucks. Ore hauling and material deliveries would use mainly heavy trucks and tractor-trailer rigs.

Transmission line construction likely would involve small crews for several weeks. Traffic would include a few large trucks and pickup trucks commuting in the morning and evening for the brief construction period. The Little Antelope Creek Road and Antelope Creek Road may continue to receive very low level maintenance activity such as blading during transmission line construction. Effects from transmission line construction on transportation would be minor and short-term, lasting until construction is completed.

Worker commuter traffic currently consists of two busses operating at shift change times for two, 10-hour shifts per day and three vans operating at shift change times for two, 12-hour shifts per day. General company and contractor traffic includes 12 to 15 pickup trucks for staff and security personnel

operating variably throughout the day. It is anticipated that there would be very little, if any, change in traffic levels from this activity under the Proposed Action.

Heavy traffic from material deliveries to the project area consists of occasional tractor-trailer deliveries at variable times throughout the day. It is expected that this traffic would increase by a small amount for most materials under the Proposed Action. Diesel fuel deliveries to the Hollister Site would decline because most use of the generators would be replaced by the new transmission line. Material deliveries would continue to be a minor contributor to traffic on mine access routes, likely averaging fewer than one or two loads (two to four vehicle trips) in any given hour of the work day.

Little Antelope Creek Road crosses the Little Antelope Creek approximately three times within the project boundary. Increased water discharge into Little Antelope Creek via the National Pollutant Discharge Elimination System discharge described in Section 2.4.3.4, Water Management, may cause the existing low water crossings to no longer be passable, thus limiting access along Little Antelope Creek Road.

Concern has been expressed about the possibility that improved access would attract more public use of the project vicinity, which could result in adverse effects on the resources of the Tosawihi Quarries Archaeological District. The primary access route into the project area is currently in good condition, however, and no major improvements are proposed. Ongoing maintenance during the project life would sustain good access conditions, but would not noticeably improve them. Consequently, access to the area would be essentially the same as it currently is and access-related effects on the quarry resources would be minimal.

Maintenance would continue on the Ivanhoe Road. Therefore, dust suppressants and sediments may enter adjacent drainages and streams. Also, culverts may be cleaned periodically, which may temporarily cause sediments to enter drainages and streams.

Esmeralda Mill Ore Hauling

The most notable change in traffic anticipated under the Proposed Action would be an increase in ore hauling. Current ore hauling consists of 5 days-per-week trips between Golconda, where the 38-ton tractor-trailer rigs are based, and the Hollister Site, and between Golconda and the Esmeralda Mill. Between 2:00 p.m. and midnight, up to 12 trucks make empty inbound trips to the Hollister Site and loaded return trips to Golconda. Between midnight and 10:00 a.m., the 12 trucks make loaded outbound trips to the Esmeralda Mill and empty return trips to Golconda. Under the Proposed Action, ore hauling would increase to 7 days per week and there could be an increase of between 6 and 13 truck trips on each of the 4 segments of the ore hauling route, resulting in a maximum total of 18 to 25 truck trips for each travel segment each day. The four segments are Golconda to the Hollister Site; Hollister Site to Golconda; Golconda to Esmeralda Mill; and Esmeralda Mill to Golconda.

Midas Mill Ore Hauling

As an option, ore could be hauled to the Midas Mill and sold to Newmont for processing and sale to the market. Ore would be hauled in 38-ton trucks, comparable to those utilized for the Esmeralda Mill haul, from the Hollister Site to the Midas Mill. The number of truck trips per day would vary depending on contract arrangements. If RCG entered into an agreement with Newmont to have all of the ore processed at Midas Mill, there would be up to 18 to 25 truck trips per day, 7 days per week, on each of 3 route segments. The trucks would travel empty in bound from Golconda to the Hollister Site. They would travel loaded from the Hollister Site to the Midas Mill, and they would return empty from the Midas Mill to Golconda.

Highway Traffic Effects

Highway traffic effects of the Proposed Action were analyzed using techniques provided in the Highway Capacity Manual (HCM) (Transportation Research Board [TRB] 2000). The standard measure of traffic flow from the HCM is LOS for a given segment of roadway. LOS is a method of qualitatively measuring the operational conditions of traffic flows on roadways and the perception of those conditions by motorists and passengers (TRB 2000). A road's LOS is determined based on the ratio of traffic flow volumes to estimated capacity (V/C ratio). LOS is rated "A" through "F"; "A" generally represents free-flowing conditions with few restrictions, and "F" represents a "forced or break-down" flow condition with queues forming and traffic volume exceeding the theoretical capacity of the roadway (TRB 2000). Generally, LOS "E" represents a traffic volume condition at the theoretical capacity of the roadway. The performance of each relevant roadway section in the study area was determined using the HCM procedures.

Under the scenario anticipated for Esmeralda Mill ore processing, there would be up to 25 tractor-trailer trips per day in each direction on the highway segments of the transportation corridor between Golconda and the Esmeralda Mill or the same number of tractor-trailer trips to the Midas Mill on the Midas-Tuscarora Road. As previously noted, all of the highway segments currently operate at LOS A. It is unlikely that this level of traffic would occur during the peak traffic hour for most of the route; however, if it did, all of the highway segments would continue to operate at LOS "A". LOS "A" indicates traffic operates in a free flowing condition allowing individual motorists considerable freedom to maneuver and to select their desired speed; LOS "A" provides ample opportunities for passing and entering or exiting the traffic flow safely (TRB 2000). Consequently, the effects of the Proposed Action on highway traffic would be minor.

HCM procedures are not applicable to rural gravel roads so evaluating the potential effects on these roads is more subjective. Because of the shuttle system employed to transport ore from the mine to Golconda, and because the trucks run in campaigns (groups) and are not spread out throughout the day, the potential peak hourly activity would be in the range of 12 to 15 truck trips, rather than 25, or 1 truck every 4 to 5 minutes during the peak hour. At this level, given the proposed new total of 18 to 25 trips in each direction per day, and considering the very low levels of traffic on these roads currently, and the generally long sight distances along most of the route, it is expected that the effects of the Proposed Action on traffic flow and safety along the gravel-surface segments of the corridor would be minor as well.

Transportation safety concerns related to traffic generated by the Proposed Action would be minimal. Lines of sight at intersections are unobstructed and sight distances are ample. Development of the proposed project would have no effect on the physical characteristics of the major intersections or the geometry of roadways. The increase in traffic would be modest, remaining well within the capacity of the roadways. The mix of heavy vehicles in the traffic stream would increase slightly, but not substantively. As such, any increase in the risk of traffic accidents would be minor and proportional to the overall increase in traffic.

The low level of maintenance proposed for Little Antelope Creek Road and Ivanhoe Road over short distances would make access slightly better, but would not likely result in more than very minor changes to access patterns or traffic levels in the area.

3.3.2.2 Mud Springs Road Transmission Line Alternative

The Mud Springs Road Transmission Line Alternative would be essentially the same as the Proposed Action except that the transmission line would be slightly shorter. The transmission line construction period would be slightly shorter. Construction access via Mud Springs Road would be necessary and would most likely require maintenance, which could impact cultural resources. For the North Option, approximately 9.5 fewer acres would be disturbed. For the South Option of the Mud Springs Road Transmission Line Alternative, 15.2 fewer acres would be disturbed. Most of the disturbance for either

transmission line alternative is associated with short-term vegetation compaction on construction and access roads. Compared with the Proposed Action, effects on land use and access/transportation would be essentially indistinguishable from those of the Proposed Action.

3.3.2.3 Mud Springs Waste Rock Storage Facility Alternative

Construction of the Mud Springs Waste Rock Storage Facility (WRSF) and ancillary facilities would increase surface disturbance by approximately 21 acres compared with the Proposed Action; 90 percent of the disturbance would be on previously undisturbed land (**Table 2-9**). This would be a long-term, but minor increase in disturbance in the context of the overall study area. All other effects on land use and access would be the same as described for the Proposed Action.

3.3.2.4 Backfill Alternative

Under this alternative, a small increment – less than 2 percent – of the waste rock from the proposed West Pit or existing WRSF would be transported to the Hatter production shaft and the East and West raises to backfill the shaft and raises as part of the reclamation and closure process. There would be a total of 10.6 acres of additional surface disturbance associated with this alternative. In the context of the study area, the short-term effects on land use would be effectively indistinguishable from the effects of the Proposed Action. Traffic and access activities associated with this alternative would occur entirely within the project area on existing roads and modestly upgraded two-track access routes to the raises. There would be no additional effects on traffic or access outside the project area. Effects within the project area would occur during reclamation of the proposed project and would be essentially unnoticeable to the general public.

3.3.2.5 No Action Alternative

Under the No Action Alternative, BLM would not approve the proposed project. RCG would continue to conduct surface and underground exploration and bulk sampling under the current mine exploration permits and approvals as authorized by the BLM and State of Nevada. Reclamation and closure of the existing Hollister facilities would proceed under the current schedule.

<u>Land Use</u>

Under the No Action Alternative, 77.4 acres of disturbance have been approved for bulk sampling and testing activities. This disturbance is on-going and would continue to be permitted under the existing Environmental Assessment (BLM 2004a). Surface exploration would continue with the current level of 25 acres of surface disturbance occurring from the combination of the Craig (5 acres) and Hatter (5 acres) Notices and Ivanhoe Surface Exploration Plan of Operations (15 acres) areas.

<u>Access</u>

Most, if not all, of the traffic associated with the No Action Alternative is already occurring on the local road network from Ivanhoe Road to Golconda at I-80 and from there to the Esmeralda Mill in Mineral County. The traffic is being accommodated with no measurable adverse effect on the roads beyond regular maintenance, and all roads are well within their capacities to accommodate traffic. Public access to public lands is not restricted, except inside the perimeter fence of the Hollister Site. The effects of the No Action Alternative on land use and access in the project area would be minor.

3.3.3 Cumulative Impacts

The CESAs for land use and access are shown in **Figures 3.3-1** and **3.3-2**, respectively. The past, present, and RFFAs are described in Section 3.2. **Table 3.2-1** identifies the mining and exploration projects and their associated acreages. Mining and exploration projects, Ruby Pipeline, and transmission lines are shown in **Figure 3.2-2**. It would be impractical to identify all past and present actions and RFFAs utilizing the major highway system between the project site and the Esmeralda

Mill. As discussed in Section 3.3.1.2, Affected Environment, the addition of ore haul traffic to the Esmeralda Mill resulting from the Proposed Action would not degrade LOS on these highways. Consequently, no cumulative impacts have been identified for the Esmeralda Mill ore haul corridor.

Past and present actions on the Carlin Trend have an approved mining, mineral exploration, and energy development (pipelines) surface disturbance of 45,257 acres. RFFAs would disturb an estimated additional 5,386 acres from mining, mineral exploration, and pipeline construction activities for a total of 42,817 acres of disturbance. Approval of the Proposed Action would add an increment of approximately 117 acres (including 25 additional acres of exploration) to the disturbance for a total of 45,374 acres, a 0.3 percent increase over past, present, and reasonably foreseeable disturbance.

Wildfires and wildlife/habitat management activities add a substantially greater disturbance acreage (1,822,357 acres) but wildfires in particular are uncertain except to assume that they would continue and are part of the natural process of the high desert ecosystem. Fire suppression activities to wildland fires in the vicinity of the proposed project would temporarily increase traffic on the access roads and increase the number of people working in the areas to fight a fire, which would continue until a wildland fire was extinguished. Increased traffic on roads could cause damage to dirt and gravel roads, increasing the need for maintenance. Any such damage would be minor to the graveled roads because fires would be unlikely when roads are soft from spring thaw or precipitation events. In some soils that consist of mostly clay material, damage to roads can be severe under dry conditions. These roads have a tendency to cause the soil particles to break apart during heavy travel creating a “powdery” material. These road conditions can become impassable, causing roads to widen or new travel paths to develop, increasing surface disturbance.

The foreseeable improvements in range and habitat restoration would be expected to improve the economic viability of ranching in the CESA, partially offsetting the losses of grazing land from mineral development.

Traffic generation data from the approved and reasonably foreseeable mineral development activities are unknown. However, most of these actions previously have been approved or are affiliated with existing mining operations. Consequently, it is assumed that most of the traffic that could be anticipated is currently on the road system. Based on this assumption and the substantial unused capacity on CESA roads and highways, it is expected that cumulative effects on traffic flow and safety would be essentially undetectable.

Improved road conditions may allow better access for Native Americans to Tosawihi Quarries resulting in an increase in its use. There would be minimal improvements, if any, to road conditions from the Proposed Project, however, such project-related cumulative effects would be minimal as well.

Cumulative impacts to land use and access under the other action alternatives would be essentially the same as cumulative impacts of the Proposed Action with the following exceptions:

- Mud Springs Road Transmission Line Alternative – a 9.5- and 15.2-acre decrease in cumulative land use disturbance including North and South Options, respectively.
- Mud Springs WRSF Alternative – a 21-acre increase in cumulative land use disturbance constituting an increase of 0.05 percent over past, present, and RFFA disturbance.
- Backfill Alternative – a 10.6-acre increase in cumulative land disturbance constituting an increase of 0.03 percent over past, present, and RFFA disturbance.

3.3.4 Potential Monitoring and Mitigation Measures

LU-1

Issue: Low water crossings may be made impassable as a result of the Proposed Action's water discharge into Little Antelope Creek and Antelope Creek.

Monitoring/Mitigation Measure: If the water discharge into Little Antelope Creek causes the low water crossings to become impassable along the Little Antelope Creek Road and at the intersection of the Little Antelope and Antelope Creek roads or the Antelope Creek – Silver Cloud road crossing, which is within the maximum extent of the 10-foot groundwater drawdown contour, then RCG would install culverts that are fish-friendly at each crossing that is no longer drivable or passable by vehicle.

Effectiveness: In the event that the additional water discharge rendered the Little Antelope Creek Road, Little Antelope Creek-Antelope Creek crossing, or Antelope Creek -Silver Cloud crossing inaccessible, placing fish-friendly culverts on the road crossings would maintain their accessibility with a vehicle and allow for aquatic species to move up and down the stream channels.

3.3.5 Residual Impacts

All surface disturbance would be reclaimed after mine operations have been completed except for the BLM-designated roads (e.g., Ivanhoe and Little Antelope Creek roads), and the land would be returned to pre-project uses including grazing, dispersed recreation and wildlife habitat. Consequently, there would be no residual land use effects from the project. Upon completion of mining and reclamation, there would be no project-related traffic or road maintenance so there would be no residual access effects from the proposed project.