EXECUTIVE SUMMARY

ES.1 Introduction

This Environmental Impact Report (EIR) examines the potential environmental impacts associated with construction, operation, and reclamation of the Idaho-Maryland Mine Project, and identifies and evaluates a reasonable range of alternatives to the proposed project. The Idaho-Maryland Mining Corporation (IMMC or applicant) proposes to reopen the historic Idaho-Maryland Mine for gold mining and to operate a ceramics plant that would produce a variety of marketable ceramic tile products from mine waste product. The Idaho-Maryland Mine project (i.e., proposed project) encompasses a total of 139 acres of land within the City of Grass Valley (City) and unincorporated Nevada County (County). Three properties comprise the project site: (1) the Idaho-Maryland site (101 acres); (2) the New Brunswick site (37 acres); and the Round Hole site (a 1-acre easement within a privately held 8-acre site). As part of the proposed project, IMMC has submitted applications to annex the Idaho-Maryland site into the City of Grass Valley; amend the City of Grass Valley's General Plan to accommodate the proposed use of the Idaho-Maryland site, and to zone the Idaho-Maryland site to be consistent with the proposed General Plan amendment and proposed use of the site.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) statute and guidelines. The City of Grass Valley is the Lead Agency for the Idaho-Maryland Mine Project under the CEQA process. Inquiries about the project and this CEQA process should be directed to:

Tom Last
Planning Director, City of Grass Valley
c/o Environmental Science Associates (ESA)
225 Bush Street, Suite 1700
San Francisco, CA 94104

ES.2 Background

The Master Environmental Assessment (MEA), published in June 2006, was the first part of a three-phase environmental review process and was prepared pursuant to the applicable provisions of CEQA and its implementing guidelines (CEQA Guidelines). Since the publication of the MEA, the applicant has revised the project description and all project related applications submitted to the City. Based upon those changes, the second part of the three-phase environmental review process, the Initial Study, was prepared and published in September 2007. The Initial Study summarized the analysis presented in the MEA for each resource area and

described how the analysis would or could change based upon the applicant's proposed changes to the proposed project. This Draft EIR is the third and final phase of the environmental review process. Following the Draft EIR public review period, responses to all comments received on the adequacy of the Draft EIR and submitted within the specified 45-day review period will be prepared and included in a response to comments document, which together with the Draft EIR, will constitute the Final EIR for the proposed project. See Chapter 1, *Introduction*, for further discussion of this three-phase environmental review process.

The City and County entered into a Memorandum of Understanding (MOU) in May 2006 which allows the project permitting to occur with the City as the Lead Agency. In accordance with the MOU, the City has primary responsibility for approval decisions regarding the proposed project. As such, the City will act as the designated Lead Agency for environmental review in compliance with the CEQA and the mining permit and reclamation plan pursuant to the Surface Mining and Reclamation Act (SMARA).

ES.3 Summary of Project Components

The proposed project would consist of three project sites that encompass a total of 138 acres of land within western Nevada County and the City of Grass Valley, approximately 1.5 miles east of Grass Valley's downtown. The project sites are located east of State Routes 20/49, with the Idaho-Maryland and Round Hole sites located south of Idaho-Maryland Road, west of Brunswick Road and north of East Bennett Road; and the New Brunswick site located southwest of the intersection of Brunswick Road and East Bennett Road.

ES.3.1 Project Sites

Idaho-Maryland Site

IMMC proposes to develop the Idaho-Maryland site for the mine and ceramics plant operations complex. Therefore, the site would support mineral exploration and development, construction and operation of the decline tunnel and new mine shaft, extraction, production, and operational activities (including water treatment facilities). These activities would be situated west of the historic Idaho Shaft No. 1 which is located on private property east of Centennial Drive (and is not part of the project). A summary of the major components of the Idaho-Maryland site is provided in Table ES-1.

Round Hole Site

The Round Hole site is proposed to be developed as an underground ventilation shaft and as an alternative emergency worker access to the New Brunswick site. A friction hoist and hoist building would be constructed at the surface. An unimproved access road, which intersects with Whispering Pines Lane, would be improved to a gravel surface and provide access to the Round Hole site. A summary of the surface development at the Round Hole site is provided in Table ES-1.

TABLE ES-1
SUMMARY OF PROJECT COMPONENTS

IDAHO-MARYLAND SITE

Buildings	Parking Lots	Roads	Storage Facilities	Landscaped and Recreation Areas	Other
• Gold Process Plant • Ceramics Plant • Education Center • 2 Dry Change Houses • Drill Cord Shed • Warehouse • Truck Shop • Bit and Steel Building	• Education Center Parking • Employee Parking (west of Centennial) • Employee Parking (east of Centennial)	• Centennial Drive Extension (Paved) • Education Center Road (Paved) • Interior Operations Roads (Paved) • Security Road (Gravel)	• Mine Rescue Equipment Storage • Equipment Bay • Fuel/Oil Storage • Temporary Storage and Stockpile from Decline • Development Rock Storage • Temporary Storage (Gravel) • Outside Storage Area	• Outdoor Historical Display/Park • Landscaped Areas (Western Areas) • Landscaped Areas (Eastern Areas)	• Truck Waiting Area • Truck Staging Area • Ceramics Loading Area • 3 Temporary Powder Magazines • Shaft with Headframe • Mine Water Settling Pond • Water Treatment Plant • Fire Water Tank • Storm Water Retention Pond • Substation • Conveyors

ROUND HOLE SITE

- Hoist house
- Staging and Parking Area (Gravel)
- Access Road (Gravel)

NEW BRUNSWICK SITE

- Hoist house
- Head-frame
- Water treatment system with compressor and electrical room
- Stand Pipe
- Substation and emergency generator set
- Parking (Gravel)
- Surface Operational Areas (Gravel)

New Brunswick Site

The New Brunswick site, specifically the existing New Brunswick shaft, would be developed for the purposes of providing mine ventilation, internal mine hoisting, emergency underground access, and a portal for mine dewatering. Occasionally, the shaft would be used to deliver workers and materials to the underground mine as an alternate to the portal at the Idaho-Maryland site. A dirt road located in the northwest corner of the site off of East Bennett Road would provide access to the New Brunswick site. The historic ore silo located adjacent to the shaft would be preserved but not actively used. Table ES-1 provides a summary of the surface development at the New Brunswick site.

ES.3.2 Objectives

IMMC seeks to reopen the historic Idaho-Maryland Mine in accordance with all applicable federal, State, and local laws and regulations for the purposes of:

- Dewatering and rehabilitating the historic Idaho-Maryland Mine workings to transform the site from an underutilized and environmentally contaminated site into an operational mine and ceramics plant that provides for historic, educational and economic opportunities, as well as a tourist and cultural attraction;
- Conducting underground resource exploration and development;
- Developing the industrial mineral and gold ore deposits;
- Processing the precious and industrial mineral deposits to produce gold and manufactured stone and ceramic building products, thereby reducing the environmental impacts of the project and creating marketable building products within California;
- Operating and maintaining for the life of the project (estimated to be 20 or more years, based on current projections) while maintaining flexibility to adapt and adjust to changing economic and market conditions to provide a prudent investment, balancing initial startup and long-term costs; and
- Performing reclamation activities at the project sites at the conclusion of the project.

ES.4 Role of the EIR

The City is the Lead Agency for the evaluation of IMMC's proposed project under CEQA and the mining permit and reclamation plan pursuant to the SMARA. This EIR will be used by the City, in conjunction with other information related to the City's application process, to act on IMMC's applications. Under CEQA requirements, the City will determine the adequacy of the Final EIR and, if adequate, will certify the document as complying with CEQA. The City Council will also act on IMMC's applications. If the City approves a project with significant and unmitigable impacts, it must state why in a "Statement of Overriding Considerations," which would be included in the City's decision on the applications. Both the certification of the EIR and action on IMMC's applications would occur at a Grass Valley City Council public hearing.

Several other State agencies will rely on information in this EIR to inform them in their decision over issuance of specific permits related to project construction or operation as shown in Table ES-2.

ES.5 Summary of Public Involvement Activities

On September 5, 2007, pursuant to the CEQA Guidelines (Sections 21080.4 and 15082(a)), the City published and distributed a Notice of Preparation (NOP) to advise interested local, regional, and State agencies, and interested public, that an EIR would be prepared for the proposed project. The NOP solicited both written and verbal comments on the EIR's scope during a 33-day comment period and provided information on a forthcoming public scoping meeting. The City held two scoping meetings to solicit verbal comments on the scope of the EIR on September 20,

TABLE ES-2
SUMMARY OF POTENTIAL PERMIT REQUIREMENTS

Agency	Permits
Federal Agencies	
Bureau of Alcohol, Tobacco, Firearms and Explosives	Storage and Use of Explosives
Mine Safety and Health Administration (MSHA)	Legal Identity Report
U.S. Army Corps of Engineers (Corps)	Section 404 Permit for discharge to jurisdictional waters of the U.S.
U.S. Fish and Wildlife Service - Sacramento Valley Branch	Federal Endangered Species Act Section 7 Consultation
State Agencies	
California Dept. of Transportation (CalTrans)	Encroachment Permit
California / Occupational Safety and Health Administration (OSHA)	Notification of commencement of underground operations
California Department of Conservation, Mining and Geology Board	Review and approval of Mineral Management and Reclamation Plan
California Department of Fish and Game	• Section 1601 - Streambed Alteration Agreement • California Endangered Species Act Consultation and 2081 Permit
Central Valley Regional Water Quality Control Board (CVRWQCB)	(1) National Pollutant Discharge Elimination System (NPDES) permit; (2) Industrial Storm Water permit; (3) Report of Waste Discharge and Waste Discharge Requirements; and (4) Construction Storm Water permit (5) Section 401 Water Quality Certificate in support of Section 404 Permit with the Corps
State Water Resources Control Board (SWRCB)	Same as and in conjunction with CVRWQCB
Northern Sierra Air Quality Management District	Air permit to construct Air permit to operate
Local Agencies	
City of Grass Valley	• Mine Use Permit • Formal Development Review • General Plan Amendment • Rezone/Prezone • Annexation • Reclamation Plan • Grading Permit • Encroachment Permit • Building Permit • Tree Removal Permit
Nevada County	Use Permit
Nevada County Environmental Health Department	Conditional use permit for hazardous materials storage, treatment and usage
Nevada County Sheriff's Department	Storage and use of explosives (i.e., blasting)
Nevada County LAFCo	Annexation approval

2007. First, the City held an agency scoping meeting from 2:00 p.m. to 4:00 p.m. in the Hullender Room at Grass Valley City Hall, 125 East Main Street, Grass Valley, California. Approximately 10 agency representatives attended the agency scoping meeting. The City then held a public scoping meeting from 6:00 p.m. to 8:00 p.m. in the Love Building in Condon Park off Minnie Street, Grass Valley, California. Approximately 65 people attended the meeting.

During the public scoping meetings held on September 20, 2007, participants were able to comment on the scope of issues to be included in the EIR for the proposed project. Written comments were also collected throughout the public comment period. Sixty (60) written letters were received during and after the scoping period. Appendix A to this EIR contains the Scoping Report, which includes a copy of the NOP, the NOP mailing list, a detailed description of all verbal and written comments received, transcripts of the oral comments, and copies of the written comments.

In addition to the scoping process, the City of Grass Valley held a series of public information workshops to provide information on issues of high public interest. Table ES-3 shows the three public information workshops that provided information on CEQA related issues. All three workshops were held at the Love Building in Condon Park, 660 Minnie Street, Grass Valley, California. For all three meetings, the public was given an opportunity to ask questions about the environmental setting and/or regulations pertaining to the proposed project.

TABLE ES-3
PUBLIC INFORMATION WORKSHOPS

Dates	Topics
Wednesday, December 12, 2007 Between 6:00 p.m. and 8:00 p.m.	Geology and Groundwater
Wednesday, January 23, 2008 Between 6:00 p.m. and 8:00 p.m.	Water Quality, Public Services, and Hazardous Materials
Wednesday, March 12, 2008 Between 6:00 p.m. and 8:00 p.m.	Traffic, Air Quality, Cumulative Effects, and Project Alternatives

ES.6 Areas of Controversy / Public Scoping Issues

Private citizens and homeowners provided the majority of the comments received during the scoping process. In addition to private individuals, comments were received during the scoping process from the following organizations and government agencies:

- U.S. Army Corps of Engineers (Corps)
- Nevada County Fairgrounds
- Nevada County Transportation Commission
- Native American Heritage Commission (NAHC)
- Alliance for a Post-Petroleum Local Economy (APPLE)

- County of Nevada Community Development Agency
- U.S. Fish and Wildlife Service (USFWS)
- Northern Sierra Air Quality Management District (NSAQMD)
- Economic Resource Council
- California Department of Transportation, District 3 (CalTrans)
- California Cornish Cousins
- County of Nevada, 1st District
- California Regional Water Quality Control Board, Central Valley Region (CVRWQCB)
- California Native Plant Society, Redbud Chapter (CNPS)
- Wolf Creek Community Alliance
- Linear Technology, Grass Valley Design Center
- Banner Mountain Homeowners Association
- City of Grass Valley Engineering Division
- Nevada County Local Agency Formation Commission
- City of Grass Valley Police Department
- City of Grass Valley Fire Department
- City of Grass Valley Public Works Department
- Nevada Irrigation District
- Citizens Concerned About Traffic

The Scoping Report (Appendix A) describes how the comments are addressed in the EIR and which comments are not covered under CEQA. The overarching themes in the written and oral comments received are as follows:

- Potential impacts on health and air quality from construction and operations
- Potential impacts related to transport, use and disposal of hazardous materials
- Potential impacts on water quality and ground water supply in the project area
- Potential impacts on biological resources including wetlands, Wolf Creek and South Fork Wolf Creek as well as associated habitat and species
- Potential impacts caused by noise and vibration to nearby residences and business
- Potential impacts of traffic caused by increased population and operations

ES.7 Summary of Environmental Impacts and Mitigation Measures

Impact Assessment Methodology. The analysis of environmental impacts is based upon the environmental setting applicable to each resource/issue and the manner in which the construction, operation and reclamation of the proposed project would affect the environmental setting and

related resource conditions. In accordance with CEQA requirements and guidelines, the impact assessment methodology also considers the following three topics: (1) the regulatory setting, including whether the proposed project would be consistent with adopted federal, State and local regulations and guidelines, (2) growth-inducing impacts, and (3) cumulative impacts. Regulatory compliance issues are discussed in each resource/issue area section. The EIR document is organized according to the following major issue area categories:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems.
- Energy

In order to provide for a comprehensive and systematic evaluation of potential environmental consequences to the resource/issue areas, the environmental impact assessments for the proposed project are based upon a classification system, with the following four associated definitions:

Class I: Significant impact; cannot be mitigated to a level that is not significant

Class II: Significant impact; can be mitigated to a level that is not significant

Class III: Adverse impact, less than significant

Class IV: Beneficial impacts.

Mitigation Measures. The EIR describes feasible measures that could minimize significant adverse impacts (CEQA Guidelines Section 15226.4). Within each issue area, mitigation measures are recommended where environmental effects could be substantially minimized. The mitigation measures recommended by this study have been identified in the impact assessment sections of the EIR and are presented in Mitigation Monitoring, Reporting, and Compliance Program in Chapter 8.

The major findings of the EIR analysis are summarized below according to resource issue area. Regulatory issues pertinent to each resource are identified, along with a summary of the primary Class I (significant, unmitigable) and Class II (significant, mitigable) impacts that would be expected from the construction, operation, and reclamation of the proposed project. Impact findings and mitigation measures for the proposed project are summarized in Table ES-5 at the end of this Executive Summary.

ES.7.1 Aesthetics

Less than Significant Impacts

Implementation of the proposed project would have less than significant impacts to scenic vistas. There are no designated scenic vista points in the project area, and the proposed project would not obstruct views of scenic vistas, including the distant foothills or ridgelines, which are currently available to the public. Although new development would be visible from certain vantage points in the vicinity, including Idaho Maryland Road, and would alter immediate or foreground views of the sites, the proposed project would not obstruct, and therefore would not result in a substantial effect to, prominent visual resources.

Since no scenic resources are located on the project sites, and since it is expected that the proposed project would not substantially impact views from State Route (SR) 20/49, an eligible State scenic highway, impacts would be considered less than significant. The proposed project would also integrate new landscaping features, and would be consistent with City (the Idaho-Maryland and Round Hole sites) and County (the New Brunswick site) Design Guidelines. Therefore, the proposed project would result in less than significant impacts to scenic resources within a State scenic highway corridor.

New development that would occur as part of the proposed project would result in new sources of light and glare. The proposed project would include exterior lighting located at building entries and exits, along pedestrian and vehicle access ways, and within parking areas. New buildings would also include general lighting of interior use areas. However, exterior lighting would utilize fixtures that would be downcast and shielded where necessary to minimize spill light to off-site locations. In addition, IMMC would reduce or eliminate the potential for adverse effects from glare generated by the project by treating surfaces with non-reflective treatments as feasible. Additionally, each of the sites would be subject to light and glare policies and ordinances for either the County (for the New Brunswick site) or the City of Grass Valley (for the Idaho-Maryland and Round Hole sites). Therefore, the project impact to light and glare would be considered less than significant.

Less than Significant With Mitigation

Proposed project construction activities could result in temporary visual impacts to the existing visual character or quality of the sites and their surroundings. In order to mitigate the short-term construction impacts to a less-than-significant level, the project design would retain mature trees and existing woody vegetation to the maximum extent practicable. For any trees removed, replacement trees would be provided. In addition, IMMC and/or its Contractor would water areas where dust is generated, particularly along unpaved haul routes and during earth-moving activities, to reduce potential visual impacts caused by dust. Furthermore, construction staging areas would be sited, where feasible, to take advantage of natural screening opportunities provided by existing topography and vegetation and would be located away from heavily traveled roadways and sidewalks.

The project would alter the visual conditions at the three individual sites comprising the proposed project. In order to mitigate changes in the existing visual environment due to new surface facilities and structures at the Idaho-Maryland site, landscape installation and maintenance would be required with landscape plans submitted for review and approval by the City of Grass Valley prior to commencement of construction.

The removal of Ponderosa Pine trees from the Round Hole site could result in a potentially significant conflict with the Whispering Pines Specific Plan. This impact would be mitigated by requiring the applicant to replace any removed trees.

ES.7.2 Air Quality

Less than Significant Impacts

Implementation of the proposed project would have less than significant impacts on local carbon monoxide concentrations along access and haul routes to the project sites. In addition, the proposed project would not result in odorous emissions that could affect nearby sensitive receptors.

Less than Significant With Mitigation

The proposed project would generate toxic air contaminants generated by operation of the proposed mine. This would result in less than significant health risks for sensitive receptors in the project vicinity with implementation of two mitigation measures. The mitigation measures would require the applicant to prepare and implement a *Dust Control Plan*, install emission control devices, and prepare and implement an *Asbestos Dust Mitigation Plan*.

Construction, operation, and reclamation activities associated with the proposed project would generate criteria pollutant emissions, including suspended and inhalable particulate matter and equipment exhaust emissions, and would potentially expose sensitive receptors to pollutant concentrations. With implementation of the mitigation measures described below (second paragraph under Significant and Unavoidable with Mitigation), during construction and operation particulate matter with a diameter equal to or less than 10 microns (PM10) would be reduced to less than significant (except for years 2009, 2011, 2012, and 2015). During reclamation (year 2029), reactive organic gases (ROG) and PM10 would be reduced to less than significant.

Significant and Unavoidable with Mitigation

As noted above, construction, operation, and reclamation activities associated with the proposed project would generate criteria pollutant emissions, including suspended and inhalable particulate matter and equipment exhaust emissions, and would potentially expose sensitive receptors to pollutant concentrations. Implementation of mitigation measures would reduce this impact; however, even after mitigation the impact would remain significant and unavoidable for certain pollutants during specific years of construction, operation, and reclamation.

The mitigation measures would include: (1) the adoption and implementation of a *Dust Control Plan* for construction (i.e., watering or applying soil stabilizers, enclosing and covering soil and other materials, covering trucks, and sweeping the streets, access roads, parking areas and staging areas, and limiting traffic speed on unpaved roads); (2) coordination with the Nevada County Transportation Commission to implement several measures to provide or improve public transit in the area; (3) incorporate control devices and methods into the project design (i.e., water storage areas, install low nitrogen oxide (NOx) burners, minimize idling time, etc); and (4) coordination with the City and NSAQMD to develop and implement an Offsite Air Emissions Reduction Plan.

With implementation of the mitigation measures described above, for all years of construction and operation, emissions of ROG would remain potentially significant, NOx would remain significant and unavoidable, and PM10 would remain potentially significant during the years 2009, 2011, 2012, and 2015. During reclamation (year 2029) NOx emissions would be potentially significant.

ES.7.3 Biological Resources

Less than Significant Impacts

Implementation of the proposed project would have a less than significant impact on the movement/migration patterns of wildlife/aquatic species traveling between the surrounding habitats and the project sites. Additionally, the proposed project would have a less than significant impacts on fragmentation of woodland habitat.

Less than Significant With Mitigation

Construction, operation and reclamation of the proposed project could affect potentially jurisdictional wetlands and waters of the U.S. on and within the vicinity of the Idaho-Maryland and New Brunswick sites. Permit approval from the Corps, RWQCB, CDFG and any other agencies with jurisdiction would be required. In order to reduce the potential impacts to less than significant, IMMC would be required to either avoid impacts, minimize disturbance of jurisdictional wetlands and waters of the U.S. to the greatest extent practicable; implement standard Best Management Practices (BMPs) to provide effective erosion and sediment control, and/or provide compensatory mitigation for any permanent impacts to wetlands and riparian habitat.

Construction, operation and reclamation of the proposed project could result in adverse impacts to aquatic species and/or their habitat (i.e., riparian, streambed and banks) in Wolf Creek and South Fork Wolf Creek due to reduced water quality, downstream flooding, and increased bank erosion due to the discharge of mine water into Wolf Creek and South Fork Wolf Creek from mine dewatering activities as well as from construction and potential removal of in-stream diffusers. In order to mitigate potential impacts to less than significant, the water treatment process would be required to maintain a mean daily dissolved oxygen concentration and temperature differential based on Basin Plan requirements. Additionally, as discussed in Section 4.7, *Hydrology and Water Quality*, an alternate discharge location would be required to reduce impacts to aquatic

wildlife from sedimentation and erosion rates. Construction and/or removal of the in-stream diffusers would require (a) installation in late summer or early fall (August 1 through November 30), when flows within Wolf Creek and South Fork Wolf Creek are typically low; (b) installation of a sand bag cofferdam (by hand) under supervision of a qualified fisheries biologist; and (c) conduct of a fish rescue and relocation effort.

Construction and operation of the proposed project could result in adverse impacts to the following special-status species: valley elderberry longhorn beetle, California red-legged frog, northwestern pond turtle, California horned lizard, and Pine Hill flannelbush, as well as raptors. In order to reduce potential impacts to less than significant, IMMC would be required to implement a number of species-specific measures including but not limited to avoidance where possible, protocol level surveys or assumed presence, preconstruction surveys, use of buffers/exclusion zones, biological construction monitors, construction windows, restoration to preconstruction conditions and/or off-site restoration, and compensatory mitigation. Additionally, a Workers Environmental Awareness Program (WEAP) would be required for all construction crews and contractors to provide education regarding special-status species and sensitive resources that could exist in the project study area, to identify the locations of sensitive biological resources on the project site, and to describe their legal status and protection. The education program would include materials describing sensitive resources, resource avoidance, permit conditions, and possible fines for violations of State or federal environmental laws.

Construction of the proposed project could result in adverse impacts to native trees, including oaks and ponderosa pine. In order to reduce potential impacts to less than significant, IMMC would be required to provide replacement trees for trees approved for removal by one or a combination of the following: replanting on-site, replanting off-site, or providing payment in lieu of planting.

ES.7.4 Cultural Resources

Less than Significant

Implementation of the proposed project, specifically the discharge pipeline on the New Brunswick site, would have a less than significant impact on a historic resource, the Nevada County Narrow Gauge Railroad (NCNGR), as defined in §15064.5. The discharge pipeline would be constructed perpendicularly through a small portion of the NCNGR grade. In comparison to the resource's 22-mile length, construction of the proposed pipeline would have a relatively minor effect on the physical integrity and historical setting of the NCNGR; therefore, this would be a less than significant impact. Construction of the overland pipeline to South Fork Wolf Creek downstream of the embedded wooden structure (i.e., Mitigation Measure 4.7-4, discussed below) would also require passing through a small portion of the NCNGR grade. Construction of this overland pipeline would not be expected to have a substantial effect on the physical integrity and historical setting of the NCNGR because little or no excavation or grading would be required; therefore, impacts to the NCNGR grade would remain less than significant.

Less than Significant With Mitigation

Construction, operation and reclamation activities could adversely impact an embedded wooden structure in South Fork Wolf Creek on/within the vicinity of the New Brunswick site. Since the significance of the resource is unknown, IMMC would be required to retain a qualified archaeologist to identify the resource, to perform any necessary investigations to determine the significance of the find, and to record the site as appropriate. Additionally, implementation of Mitigation Measures 4.7-4 and 4.7-4a, *Hydrology and Water Quality*, which essentially maintains existing flow conditions within South Fork Wolf Creek upstream of the embedded wooden structure, would reduce potential impacts to the embedded wooden structure from operations and/or reclamation activities to less than significant.

Construction, operation and reclamation activities associated with the proposed project could adversely impact currently unknown significant historical resources, including unique archaeological resources and human remains as well as unique paleontological resource or site or unique geologic feature. Mitigation measures are designed to address potential adverse effects on both known unanticipated resources. Mitigation measures would include all procedures and protocols pursuant to the CEQA guidelines and would include, but are not limited to, avoidance, training of construction personnel, and halting construction activities and contacting an applicable specialist if a resource is encountered.

ES.7.5 Geology, Soils, and Seismicity

Less than Significant Impacts

The proposed project would not result in structural damage, injury to workers, or potential property loss caused by compression of fill material that is unsuitable to support structural improvements; the impacts would be less than significant.

Less than Significant With Mitigation

Based on the geologic characteristics found in the project area and the design of the project to mine only at deeper levels of the mine, there would be a very low risk of subsidence at the surface as a result of the proposed underground mining activities. However, at some point during the life of the project, locations within the project area could experience cave-ins with associated surface subsidence. This is especially the case for the concrete collar around the Brunswick Shaft; failure of the concrete to support down-shaft equipment would adversely affect the project.

Potential significant impacts associated with cave-ins of shallow mine workings and surface subsidence would be reduced to less than significant with implementation of a mitigation measure. The mitigation measure requires the applicant, through a third party review, to identify and correct potential subsidence hazards and requires that corrective action take place prior to construction. Engineered remedies to reduce or eliminate potential subsidence (i.e., shoring, tie-backs, steel supports, concrete mesh, rock bolting, steel reinforced concrete) are standard mining tunnel construction methods used successfully throughout the industry and thus, secondary impacts associated with corrective measures are not expected.

ES.7.6 Hazards and Hazardous Materials

Less than Significant Impacts

During operations of the proposed project a significant hazard to the public or the environment would occur through the routine transport, use, or disposal of hazardous materials, including sodium cyanide, lime, sodium hydroxide, dilute hydrochloric acid, lead nitrate, hydrogen peroxide or sulfur dioxide, sodium isobutyl xanthate, methylisobutylcarbinol, and soluble starch. Transport, use and/or disposal of hazardous materials are regulated under a number of Federal, State and local regulations and laws with which the applicant would be required to comply; therefore, given the extensive regulatory oversight, additional mitigations are not required under CEQA and potential impacts would be less than significant.

Less than Significant With Mitigation

During construction, operations and reclamation, limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc. would be used to fuel and maintain vehicles and motorized equipment which could result in the potential for accidental spill. Additionally, residual contamination with soils associated with the Idaho-Maryland site could be encountered during construction or reclamation. Impacts associated with the use and storage of hazardous substances as well as those associated with encountering soil contamination would be mitigated to less than significant levels by implementing Best Management Practices, ensuring emergency spills supplies and equipment are on site, and preparing and enacting a number of plans (i.e., Hazardous Substance Control and Emergency Response Plan, Health and Safety Plan, and Worker Environmental Awareness Program).

During construction and reclamation activities, previously unidentified hazardous materials could be released into the environment. To mitigation potential impacts to less than significant, IMMC would be required to prepare and enact a Hazardous Substance Control and Emergency Response Plan, well as implement recommended due diligence site investigations. Additionally, IMMC would be required to leave any areas that would be capped in place under the oversight of the Department of Toxic Substances Control to be left in place with no disturbance to the cap(s) to ensure that the contamination would not be vulnerable to migration during reclamation. If during reclamation, IMMC or a future property owner would want to remove the caps, said remediation activities would need to be conducted under the oversight of Department of Toxic Substances Control.

During construction activities, portions of the project sites currently designated as very high Fire Hazard Severity Zones by CalFire could be ignited by heat and/or sparks from construction vehicles and equipment during vegetation removal activities. To mitigate this impact to less than significant, IMMC would be required to coordinate with multiple fire departments to determine amounts and locations of required fire suppression equipment on site; additionally, all construction vehicles would required to park away from dry vegetation and have fire suppression equipment.

ES.7.7 Hydrology and Water Quality

No Impact

Recycling a portion of the groundwater extracted during mine dewatering, as much as practical, for onsite operational uses including underground drilling, site landscape irrigation, and onsite fire suppression would not create a risk to humans or aquatic environments; therefore, there would be no impact.

Less than Significant Impacts

Grading and construction of the proposed project would result in less than significant impacts related to the generation and discharge of pollutants to Wolf Creek and South Fork Wolf Creek. Considering the existing regulatory mechanisms, which require monitoring and reporting of water quality protection measures to manage storm water discharge and water quality during construction, this impact is less than significant requiring no mitigation.

The proposed project may generate 1,200 tons per day of mine development rock, gold mill tailings, and other solid waste that would be used as backfill in the underground mine workings. Groundwater contact with backfilled waste rock and mine tailings could lead to degradation of groundwater quality. However, material to be backfilled into the mine would be evaluated to ensure there would be no subsurface disposal of potentially hazardous materials as part of the regulatory oversight of the RWQCB. In addition, the requirements imposed through the Title 27 Regulations ensure that proper waste characterization would be performed for all generated mine waste. Therefore, this impact is less than significant requiring no mitigation.

The proposed project would result in a less than significant impact on the structural integrity of the berm separating the MILCO Property and the Idaho-Maryland site.

Less than Significant With Mitigation

Water quality impacts from the gold mill process water could present a significant impact because the proposed project has not defined a mechanism associated with the wastewater treatment system to treat contaminants that would be found in the wastewater generated during the gold mill process. Residual sodium cyanide, flotation reagents, various by-products and residual chemicals present from the neutralization of sodium cyanide sludge material could lead to degradation of surface water quality if it is discharged to surface waters and therefore this is considered a potentially significant impact. Implementation of a mitigation measure requiring the design and construction of a wastewater treatment system to effectively treat the liquid waste generated during gold mill processing operations would address this issue and implementation of the measure would ensure that the impact would be reduced to less than significant.

The analysis conducted in this EIR has determined that the applicant's proposed measures (APMs) do not adequately reduce the impact of potential well dewatering to a less than significant impact level. Although the APMs are considered necessary in order to reduce

significant impacts associated with dewatering of domestic water supply wells in the vicinity of the proposed project, additional mitigation measures are considered necessary. With implementation of the following mitigation measures impacts from dewatering would be reduced to less than significant: 1) redefine High, Moderate, Low, and Very Low Risk groups utilized for the APMs; 2) ensure that wells within the High to Moderate Risk group receive a permanent NID water connection in a timely manner rather than be subject to long term emergency water supply through the use of on-site water tanks and other delivered water options; 3) require that individuals within the High to Moderate Risk groups that are not included in the monitoring program are protected from dewatering impacts regardless of the availability of baseline data; 4) require assurances for unforeseeable changes in groundwater levels, which are the responsibility of the applicant, that may cause domestic wells to dewater during the operational life of the project; and 5) require that all wells determined to have insufficient water supply capacity are decommissioned and/or destroyed and that IMMC is responsible for those costs.

Mine dewatering discharge to the proposed location on South Fork Wolf Creek would result in a potentially significant impact with respect to inducing substantial erosion and downstream sedimentation resulting in a violation of water quality standards. Implementation of a mitigation measure requiring the discharge location for the dewatering operations at the New Brunswick site to be moved approximately 1,500 feet downstream of the proposed discharge location would avoid this impact and reduce the potential impact of the proposed discharge to less than significant.

Analysis of the mitigation measure to move the discharge location identified two secondary impacts that could result from its implementation. First, relocating the discharge pipe approximately 1,500 feet downstream would expose a reach of South Fork Wolf Creek to potential surface water loss due to groundwater dewatering (i.e., that reach of South Fork Wolf Creek is within the predicted cone of depression from mine dewatering). Second, the relocated discharge pipeline would cross two streams, one intermittent and one perennial. Placement of footings within the riparian zone of the creeks could adversely impact aquatic habitats and therefore this is considered a secondary impact.

Implementation of two mitigation measures would ensure that these secondary impacts remain less than significant. The first mitigation measure would require that a portion of the treatment plant effluent be discharged to South Fork Wolf Creek at the project proposed discharge location to supplement surface water losses in the 1,500 foot section of creek. The second mitigation measure would ensure that potential hydrological and biological impacts associated with construction abutments or footings in the riparian zone would be less than significant.

The increased flows associated with the discharge of mine water into South Fork Wolf Creek (from the New Brunswick site) would increase the potential for flooding downstream, resulting in a potentially significant impact. Implementation of mitigation during the initial 8 to 12 month (or longer) dewatering period would reduce the potential flooding impact of the proposed South Fork Wolf Creek discharge to a less than significant level. The mitigation measure would require that the 75 percent critical flow depth be permanently marked at culvert locations and monitored by the applicant during periods of high flow. Discharges from the mine operation would cease upon the water surface elevation reaching the 75 percent capacity mark at any of the culvert locations.

With implementation of these mitigation measures, hydrology and water quality impacts resulting from the proposed project would be less than significant.

ES.7.8 Land Use and Planning

Less than Significant Impacts

The proposed project could potentially conflict with the City of Grass Valley Capital Improvements Program, adopted by the General Plan, which provides for a proposed southerly extension of Centennial Drive to supply a north-south arterial link between Idaho Maryland Road and East Bennett Road. While the City plans for the road extension to be completed by the year 2015, the applicant does not propose to complete the road extension until the completion of its proposed mining operation (approximately 2029). However, it is likely that the City, during the development review process, would require the proposed project to be consistent with the CIP and/or would amend the General Plan Circulation Element to allow for the timing proposed by the applicant; therefore, this impact would be less than significant.

Less than Significant With Mitigation

The proposed project could conflict with the adopted Nevada County Zoning Ordinance, the City of Grass Valley Zoning Map, Whispering Pines Corporate Community Specific Plan, and City of Grass Valley Parks and Recreation Master Plan, and their applicable land use designations and policies adopted for the purpose of avoiding or mitigating environmental effects.

Implementation of three mitigation measures would reduce the impact of any conflicts with these zoning maps/ordinances and plans to less than significant. The first mitigation measure would require the applicant to redesign all facilities on the project sites to conform with the height restrictions of the applicable zoning ordinance/map if the applicant's Planned Development Permit Application is not approved by the City of Grass Valley. The second mitigation measure would implement a mitigation measure developed in Section 4.3, *Biological Resources* (i.e., replacing trees removed on the Round Hole site), thereby mitigating any conflicts with the Whispering Pines Corporate Community Specific Plan. The third mitigation measure would mitigate the impacts of any conflict with the City of Grass Valley Parks and Recreation Master Plan. While operation of the proposed historical display/park on the Idaho-Maryland site in the location of a planned Neighborhood/Pocket Park is consistent with the Master Plan, if public access is not available then the proposed project would result in a conflict with the Master Plan. Consistent with the City's Park Rules and Regulations, the mitigation measure would require the applicant to make its historical display/park available to the public free of admission fees from dawn until dusk. If the applicant does not make its historical display/park available to the public free of admission fees, then the applicant would be required to pay an in-lieu fee to the City of Grass Valley in an amount adequate (i.e., fair share) to address the loss of a planned Neighborhood/Pocket Park on the Idaho-Maryland site.

With implementation of mitigation measures, land use impacts resulting from the proposed project would be less than significant.

ES.7.9 Noise

Less than Significant Impacts

Impacts associated with construction and reclamation at the Round Hole site were found to be less than significant requiring no mitigation. Impacts associated with operation-related ambient noise levels in the vicinity of the New Brunswick site and Round Hole site were also found to be less than significant. The increase in traffic-related noise levels along the proposed project route would not exceed the Federal Interagency Committee on Noise (FICON) significance criteria on any of the roadway segments; therefore, this impact was found to be less than significant.

Less than Significant With Mitigation

Noise generated during project construction and reclamation is the primary concern that would be associated with the proposed project. Construction and reclamation activities at the Idaho-Maryland and New Brunswick sites would exceed Nevada County's (at the Idaho-Maryland and New Brunswick sites) and the City of Grass Valley's (at the Idaho-Maryland site) noise level performance standards. Therefore, noise levels at the nearest sensitive receptors to the Idaho-Maryland site and the New Brunswick site would be potentially significant during construction and reclamation.

Project operation could result in a substantial permanent increase in ambient noise levels in the vicinity of the Idaho-Maryland site above levels existing without the proposed project. The noise levels at the nearest sensitive receptors would be below the County's and City's noise level performance standards; however, the project-related noise produced by audible alarms in the form of backup beepers (i.e., backup warning systems which are required by California labor law for heavy equipment) could be a potentially significant impact. In addition, noise sources at the gold process/mill building could be emitted to the exterior environment through the ventilation system and could be a potentially significant impact. Furthermore, it is feasible that some air pollution control fans and cyclones located outside the ceramics plant could result in potentially significant noise impacts.

Implementation of mitigation measures, including noise reduction and suppression techniques and limiting construction activities to daytime hours, would reduce impacts associated with construction and reclamation noise as well as operation-related ambient noise to a less than significant level.

Impacts associated with construction- and operation-related ground-borne vibration or ground-borne noise levels in the project vicinity were also found to be potentially significant. Because there are nearby vibration-sensitive activities (including the use of high-power microscopes for circuitry testing at Linear Technologies, and vibration-sensitive medical procedures at the Sierra Nevada Memorial Hospital), this could be potentially significant.

Implementation of mitigation measures would reduce the vibration impact to less than significant, including requiring the applicant to notify residences within a 1000-foot radius of the boundary of

the underground mine workings a blasting schedule identifying the days and times for any blasting that would occur outside of 8:00 AM to 8:00 PM as well as implementing blasting vibration reduction and/or avoidance measures such as suppression techniques or installation of heavy reinforced tunnel doors. The applicant would be required to take specific measures to reduce the adverse impacts to vibration-sensitive activities at the Linear Technologies building and the Sierra Nevada Memorial Hospital.

With implementation of mitigation measures, noise and vibration impacts resulting from the proposed project would be less than significant.

ES.7.10 Population and Housing

Less than Significant Impacts

Impacts related to population growth could be potentially significant as the proposed project would result in an approximately three percent increase in local population that had not been considered within the planning assumptions for the existing General Plan. However, as population data used in the General Plan analysis are estimates and predictions of population, the impact of 400 additional residents within a City projected to have 21,861 residents in 2020 would not be substantial. Potential physical impacts related to population growth associated with the proposed project have been assessed in Section 4.11, *Public Services*, Section 4.12, *Recreation*, Section 4.14, *Utilities and Service Systems*, and Section 4.15, *Energy*, of this EIR and have been found to be less than significant with mitigation. Therefore, the increase in population associated with the proposed project would be less than significant.

While the proposed General Plan Amendment would allow a site that is currently vacant/industrial to be used for mineral resource extraction, consistent with the City's Mineral Management Element, it would also result in a loss of land designated for residential uses (*Urban Medium Density Residential [UMD]*) within the City of Grass Valley, which could conflict with the City of Grass Valley General Plan Housing Element. However, the City of Grass Valley's Special Development Areas (SDAs) have proposed providing additional housing units. Therefore, the SDAs would be able to absorb the loss of the 188 to 376 residential units that could have been accommodated on the *UMD*-designated land within the Idaho-Maryland site. The indirect impacts to *UMD*-designated land associated with the proposed project would be less than significant.

ES.7.11 Public Services

Less than Significant Impacts

Impacts associated with the demand for public libraries, hospitals, and other civic uses were found to be less than significant requiring no mitigation.

Less than Significant With Mitigation

The proposed project would increase the demand for fire protection and police services through the introduction of mining operations and the additional 400 residents in the project vicinity. This would require changes in the number of firefighters and police officers available. The City of Grass Valley Fire Department has determined that a minimum of four additional firefighters would be required to provide an adequate level of service to the project site and the City of Grass Valley. The City of Grass Valley Police Department has determined that the proposed project would generate the demand for two additional sworn police officers in the first two to five years of operation.

The introduction of mining operations would result in potential impacts to the local public services agencies to provide emergency fire suppression and medical assistance and transportation for injured persons. For example, the City of Grass Valley Fire Department has determined that based on current proposed project site plans, the Department would need a 100-foot Aerial Ladder Truck in a 'quint' configuration (i.e., including the pumping and hose line capabilities of a standard fire engine to support both functions as necessary) to meet the needs of the proposed project.

Mitigation measures have been developed to reduce the impacts to fire protection and police services to less than significant. Five mitigation measures have been designed to address impacts to fire protection services. The first mitigation measure would require the applicant to include and invite appropriate fire department personnel to any scheduled training sessions that the applicant is required to receive pursuant to provisions of the California Code of Regulations (CCR) Title 8. The second mitigation measure would require the applicant to contribute public service fees to the City of Grass Valley and Nevada County for the increased service capacity necessary to accommodate the development sites, including the provision of a cost-sharing agreement for the purchase of an adequate fire truck to handle possible emergencies at the mine. The third mitigation measure would require the applicant to document compliance with the Mine Health and Safety Administration requirements for affiliating with mine rescue teams based on the number of people underground. The mitigation would assure that the adequate number of mine rescue teams would be available anytime miners are underground. The fourth mitigation measure would require the applicant to coordinate with the affiliated mine rescue team(s) to assure that sufficient helicopter access would be provided. The fifth mitigation measure would require the applicant to provide documentation to the City that the design of the proposed water storage facility for fire suppression was coordinated with the City of Grass Valley Fire Department.

This impact would be mitigated by ensuring that the local fire departments would have the adequate personnel, training, and equipment to meet potential fire protection services needed by the proposed project, including the provision of a cost-sharing agreement for the purchase of an adequate fire truck to handle possible emergencies at the mine.

To mitigate potential impacts to police services, the applicant would be required to implement two mitigation measures. A mitigation measure has been developed requiring the applicant to have their proposed onsite security measures, including security staffing and planning, reviewed

and approved in conjunction with the City of Grass Valley Police Department prior to project implementation. Implementation of the onsite security measures would reduce demands for police services by implementing measures that would reduce the likelihood of onsite vandalism and trespassing. Similar to the mitigation for fire protection services, the second mitigation measure would require the applicant to contribute public service fees to the City of Grass Valley and Nevada County for the increased service capacity necessary to accommodate the development sites.

To address the issues of restricted access for emergency vehicles and fire department response times, a mitigation measure has been developed requiring the applicant to coordinate with local emergency service providers prior to construction. In addition, the applicant would be required to make all access and service roads, including gates, available for use by all emergency response units, including fire suppression, medical aid, and law enforcement.

ES.7.12 Recreation

Less than Significant Impacts

Potential environmental effects that would result from the construction of the proposed historical display/park would be reduced to less than significant levels through construction-related mitigation measures identified throughout this EIR in Sections 4.2, *Air Quality*; Section 4.9, *Noise*; Section 4.7, *Hydrology and Water Quality*; and Section 4.6, *Hazardous Materials*. Therefore, the proposed project would not result in adverse physical effects on the environment from construction or expansion of additional recreational facilities.

Less than Significant With Mitigation

As discussed above in Section ES.7.8, *Land Use and Planning*, the proposed project could conflict with the City of Grass Valley Parks and Recreation Master Plan. In order to be consistent with the City's Parks and Recreation Master Plan, IMMC would be required to make its proposed historical display/park available to the public free of admission fees from dawn until dusk. If the applicant does not make its historical display/park available to the public free of admission fees, then the applicant would be required to pay an in-lieu fee to the City of Grass Valley in an amount adequate (i.e., fair share) to address the loss of a planned Neighborhood/Pocket Park on the Idaho-Maryland site. With implementation of this mitigation measure, recreation impacts resulting from the proposed project would be less than significant.

ES.7.13 Transportation and Traffic

Less than Significant Impacts

The proposed project could affect levels of service at local freeway segments and at local freeway ramp junctions in the project vicinity under Short Range (2013) and Long Range (2030) conditions; generate demand for alternative transportation service for the area. However, these impacts would be less than significant and require no mitigation.

Less than Significant With Mitigation

The proposed project would affect traffic levels of service at the following local intersections in the project vicinity under Short Range (2013) and Long Range (2030) conditions: Idaho Maryland Road/SR 49 NB ramps (Intersection #2) and Idaho Maryland Road/Spring Hill Drive (Intersection #4). Bennett Street/SR 49 SB off ramp (Intersection #9), Colfax Avenue/SR 49 Frontage Road (Intersection #13), South Auburn Street/SR 49 NB off ramp (Intersection #17), and Idaho Maryland Road/Railroad Avenue (Intersection #3) would also be affected in the Long Range (2030) conditions. However, with implementation of a mitigation measure this impact would be less than significant. IMMC would be required to pay its fair share or fully pay for the improvement and subsequently, at the City's discretion, enter into a reimbursement agreement depending on the impacted intersection.

The proposed project could increase the potential for conflicts among different traffic streams such as emergency vehicles response times. However, with implementation of Mitigation Measures 4.11-2a and 4.11-2b, *Public Services*, this impact would be less than significant.

The proposed project could temporarily affect traffic flow and on-site circulation, parking, and pedestrian safety. However, IMMC would be required to develop and implement a *Traffic Management Plan* which would mitigation this impact to less than significant.

The proposed project could result in inadequate parking capacity; however, with implementation of Mitigation Measure 4.15-2, *Energy*, which promotes ridesharing and use of alternative transportation modes which could result in a reduction to project parking demand requirements, this would be less than significant.

The proposed project could contribute to the degradation of pavement on public roads. However, IMMC would be required to determine the condition of the road base along Idaho Maryland Road (between the project access and the SR 49 ramps to the west of the site) and pay for improvements if required. Also, IMMC would be required to enter into a *Roadway Maintenance Agreement* with the City of Grass Valley providing their fair share to maintain the proposed haul roads. With implementation of these mitigation measures, this impact would be less than significant.

ES.7.14 Utilities and Service Systems

Less than Significant Impacts

Impacts associated with the demand and capacity of utility services (i.e., water service, wastewater collection and treatment, telecommunication, lines, solid and non-hazardous waste generation and disposal), as well as compliance with federal, State, and local regulations, were found to be less than significant requiring no mitigation.

Less than Significant with Mitigation

Construction activities could inadvertently contact underground utility lines and/or facilities during excavation and other ground disturbance, possibly leading to short-term utility service interruptions; however, with implementation of a mitigation measure this impact would be less than significant.

To mitigate the potential impact to underground utility lines and/or facilities, IMMC would be required to notify Underground Service Alert prior to initiation of construction activities with ground disturbances, as well as delineate the area to be excavated, and hand expose to the point of no conflict within the tolerance zone of any utility. With implementation of this mitigation measure, utilities service impacts resulting from the proposed project would be less than significant.

ES.7.15 Energy

Less than Significant Impacts

The energy consumption for construction would represent a less than significant impact as construction activities would not result in long-term depletion of non-renewable energy resources and would not permanently increase reliance on energy resources that are not renewable. Construction activities would not reduce or interrupt existing electrical or natural gas services. Therefore, project construction would not have a significant effect on PG&E's energy resources. Energy consumption by construction activities, therefore, would not constitute a significant impact. Although construction energy would be consumed only during the construction period, it would represent irreversible consumption of finite natural energy resources.

Less than Significant with Mitigation

The proposed project would result in the long-term consumption of electricity, which includes energy produced from non-renewable resources. The proposed project's electricity consumption would constitute about a 26 percent increase in Nevada County's annual electricity usage and about a 54 percent increase in PG&E's natural gas consumption in the County. This represents a substantial increase in the electricity and natural gas consumption of Nevada County.

Construction, operation, and reclamation of the proposed project would also result in the long-term consumption of petroleum-based fuel, generally associated with the use of gasoline- and diesel-powered mobile construction, operations, and reclamation equipment and the use of automobiles to transport workers to and from the project site(s).

To mitigate the potential impacts from the increase in the consumption of electricity and natural gas, IMMC would be required to develop and implement an *Energy Conservation Plan*, which would require energy conservation measures that would reduce the proposed project's overall demand on electricity and natural gas. Recommendations for specific energy conservation measures are located in Section 4.15, *Energy*.

In addition, IMMC would also be required to develop a *Greenhouse Gas Reduction Plan*, which would support vehicle fuel efficiency standards (see Section 4.2, *Air Quality*), as well as ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling or through the operation of poorly maintained equipment.

With implementation of these mitigation measures, energy impacts resulting from the proposed project would be less than significant.

ES.8 Growth Inducement and Secondary Effects of Growth

ES.8.1 Removal of an Impediment to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth, as well as the removal of planning impediments resulting from land use plans and policies. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services (e.g., water service), while planning impediments may include restrictive zoning and/or general plan designations.

The design and construction of roadway, sewer, electrical, and natural gas infrastructure needed to accommodate the proposed project would not induce growth within undeveloped areas surrounding the project area. However, as described in Chapter 2, *Project Description*, Applicant Proposed Measure 10 would include construction of a permanent water source (i.e., water pipeline) to be initiated immediately *if* any domestic well(s) in the project vicinity display a definite and sustained negative response to mine dewatering. If a water pipeline is required to supply water to residents in the project vicinity, it would be constructed during Phase I of the proposed project. Consequently, the new water pipeline could induce growth within the project vicinity as the pipeline could be accessed by undeveloped parcels adjacent to the pipeline.

ES.8.2 Economic Growth

The second criterion by which growth inducement can be measured involves economic considerations. No residential uses are proposed by the project. As such, the project would not directly contribute to population growth through the provision of additional housing. The proposed project would result in the creation of job opportunities, an indirect growth-inducing effect. The extent to which the new jobs created by a project are filled by existing residents reduces growth-inducing effects of a project.

The proposed project could induce (1) direct on-site construction, operations, and reclamation employment; (2) approximately 400 new residents (employees and dependents) in the City of Grass Valley; (3) approximately 35 percent of employees commuting from nearby Nevada County communities and neighboring counties; and (4) indirect off-site employment from new resident and employee spending in City of Grass Valley and the surrounding region. The increase

in population from employment opportunities and economic activity potentially generated by the proposed project could be considered an indirect growth-inducing effect.

The increased housing demand associated with the proposed project would not be considered a growth-inducing effect.

ES.8.3 Precedent-Setting Action

Changes from a proposed project that could be precedent setting include (among others) a change in general plan designation, zoning designation, general plan text, or approval of exceptions to regulations that could have implications for other properties or that could make it easier for other properties to develop.

Although the proposed project's proposal to change land use, zoning, and building height limits could encourage other requests to similarly change the General Plan designation, rezone, or apply for flexibility in the Development Code for their properties, each application would be considered by the City of Grass Valley or Nevada County on a project-by-project basis. In addition, the proposed annexation of the Idaho-Maryland site would be consistent with the Local Agency Formation Commission (LAFCo) policies and the City of Grass Valley Annexation Plan. For these reasons, the proposed project would not be considered growth-inducing under this criterion.

ES.8.4 Development of or Encroachment into Isolated Open Space

Development can be considered growth-inducing when it is not contiguous to existing urban development and "leap frogs" over open space areas. The proposed project would not "leap frog" over any undeveloped areas or introduce development into an area which has not been developed. Therefore, this project does not have the potential to result in growth inducement through the development of, or encroachment into, isolated or open space areas.

ES.9 Cumulative Impacts

The CEQA Guidelines require that the cumulative impacts of a project are discussed in an EIR when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects.

Chapter 3, *Alternatives and Cumulative Projects*, evaluates the significant cumulative impacts resulting from implementation of the proposed project in combination with other projects or conditions, and indicates the severity of the impacts and their likelihood of occurrence. If implemented at the same time as other projects, construction, operations and reclamation activities could contribute to potential short-term and long-term cumulative effects associated with the following resources: aesthetics; air quality; biological resources; cultural resources; geology, soils and seismicity; hazards and hazardous materials; hydrology and water quality; land

use and planning; noise; population and housing; public services; recreation; transportation and traffic; utilities and service systems; and energy. The projects in the cumulative scenario include a range of project types from small single-family housing developments and road improvements to larger residential development, mixed use and commercial projects. Due to the location and nature of the cumulative projects and the incorporation of appropriate mitigation measures associated with the proposed project, construction, operation and reclamation activities associated with the proposed project, when considered in combination with other projects, would not result in a considerable contribution to cumulative impacts in any resource area with the exception of air quality.

Long-term impacts from the proposed project would contribute to potential cumulative effects associated with greenhouse gases, and construction and operations would contribute to potential long-term cumulative effects associated with regional criteria pollutants. These impacts, although mitigated, would still remain significant and unavoidable and thus cumulatively considerable.

ES.10 Summary Comparison of the Proposed Project and Alternatives

ES.10.1 Methodology

CEQA requires identification of an Environmentally Superior Alternative, but does not provide specific direction regarding the methodology for alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (e.g., visual impacts and permanent loss of habitat or loss of use of recreational facilities). Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

The methodology used to compare alternatives in this EIR started with the identification of any significant unavoidable impacts associated with implementation of the proposed project. Based on that analysis, alternatives were developed by the EIR team that could reduce or avoid any significant unavoidable impacts. An intensive evaluation process was then completed that resulted in the determination that the EIR would analyze three alternatives as well as the CEQA-required No Project alternative. The second step required assessment of the environmental impacts of the proposed project and the alternatives. The third step was the comparison of the impacts of each alternative to those of the proposed project to determine the Environmentally Superior Alternative. The Environmentally Superior Alternative was then compared to the No Project alternative.

This alternatives comparison focuses on the reduction of significant unavoidable impacts related to Air Quality; impacts in all other resource areas were determined to be less than significant or could be mitigated to less than significant levels. Although this EIR identifies an Environmentally Superior Alternative, it is possible that the City could balance the importance of each impact area differently and reach a different conclusion than this EIR.

ES.10.2 Summary of Significant (Class I) Unmitigable Impacts

The proposed project would result in project specific and cumulatively considerable significant and unmitigable impacts to Air Quality. Pertaining to the proposed project, even with implementation of mitigation measures, for all years of construction and operation, emissions of ROG would remain potentially significant, NOx would remain significant and unavoidable, and PM10 would remain potentially significant during the years 2009, 2011, 2012, and 2015. Outside of those years, PM10 would be reduced to less than significant. During reclamation (year 2029) NOx emissions would be potentially significant. Additionally, in the cumulative context, even with implementation of mitigation measures, the proposed project would conflict with implementation of State goals for reducing greenhouse gas (GHG) emissions and would thereby have a potentially adverse effect on attainment of State policies designed to address the potential for global climate change.

ES.10.3 Environmentally Superior Alternative

Table ES-4 summarizes the environmental impact conclusions of the proposed project and the three alternatives. Although the proposed project and the three alternatives would each have significant unmitigable air quality impacts, the combination of electrification and a reduced ceramics plant production would provide the greatest reduction in criteria pollutants. Therefore, the Electrification of Mine Operations and Reduced Ceramics Plant Production alternative has been identified as the Environmentally Superior Alternative.

ES.10.4 Environmentally Superior Alternative vs. No Project Alternative

The Environmentally Superior Alternative, Electrification of Mine Operations and Reduced Ceramics Plant Production, would substantially reduce impacts related to Air Quality; however, the impacts to ROG and PM10 would remain potentially significant, and NOx emissions would remain significant. In comparison, it is unlikely that any land use development under the No Project Alternative would have similarly high emission levels, specifically the natural gas usage associated with the ceramics plant and the fuel usage of above- and below-ground mobile sources. Therefore, the No Project alternative would be likely to have much lower air quality impacts and so would be preferred over the Environmentally Superior Alternative.

ES.11 Impact Summary Tables

Table ES-5 on the following pages summarizes all identified impacts of the proposed project. For each impact, the following information is presented: impact number and title, impact class (Class I, II, III, or IV), applicable mitigation measure, and residual impact (whether significant or less than significant).

TABLE ES-4
PROPOSED PROJECT VS. ALTERNATIVES
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Resource Area	Proposed Project	Electrification of Mine Operations	Reduced Ceramics Plant Production	Electrification of Mine Operations and Reduced Ceramics Plant Production
Aesthetics	No preference	No preference	No preference	No preference
Air Quality	Would result in project specific significant and unmitigable air quality impacts related to generation of criteria pollutant emissions from construction, operation, and reclamation activities.	Would result in project specific significant and unmitigable air quality impacts related to generation of criteria pollutant emissions from construction, operation, and reclamation activities.	Would result in project specific significant and unmitigable air quality impacts related to generation of criteria pollutant emissions from construction, operation, and reclamation activities.	Would result in project specific significant and unmitigable air quality impacts related to generation of criteria pollutant emissions from construction, operation, and reclamation activities. **Preferred** because it would result in the greatest reduction of Air Quality impacts.
Biological Resources	No preference	No preference	No preference	No preference
Cultural Resources	No preference	No preference	No preference	No preference
Geology, Soils and Seismicity	No preference	No preference	No preference	No preference
Hazards and Hazardous Materials	No preference	No preference	No preference	No preference
Hydrology and Water Quality	No preference	No preference	No preference	No preference
Land Use and Planning	No preference	No preference	No preference	No preference
Noise	No preference	**Preferred** because it would result in an overall decrease in noise and vibration	No preference	**Preferred** because it would result in an overall decrease in noise and vibration
Population and Housing	No preference	No preference	No preference	No preference
Public Services	No preference	No preference	No preference	No preference
Recreation	No preference	No preference	No preference	No preference
Transportation and Traffic	No preference	No preference	No preference	No preference
Utilities and Service Systems	No preference	No preference	No preference	No preference
Energy	No preference	No preference	**Preferred** because it would result in an overall decrease in energy demand	**Preferred** because it would result in an overall decrease in energy demand

TABLE ES-5
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Aesthetics			
4.1-1: Could have a substantial adverse effect on a scenic vista.	Class III	None required	Less than significant
4.1-2: Could substantially damage scenic resources.	Class III	None required	Less than significant
4.1-3: Construction could substantially degrade the existing visual character or quality of the site and its surroundings.	Class II	**4.1-3:** Implement measures to reduce visual intrusion during construction	Less than significant
4.1-4: Operations could substantially degrade the existing visual character or quality of the site and its surroundings.	Class II	**4.1-4a:** Submit landscape plans prepared by a licensed landscape architect or certified arborist **4.1-4b:** Implement Mitigation Measure 4.3-5, Section 4.3, *Biological Resources*	Less than significant
4.1-5: New source of substantial light or glare could adversely affect day or nighttime views of the area.	Class III	None required	Less than significant
Air Quality			
4.2-1: Construction, operation, and reclamation generate criteria pollutant emissions.	Class I	**4.2-1a:** Implement dust control plan for construction, operation, and reclamation **4.2-1b:** Implement mitigations for use during construction **4.2-1c:** Implement public transit and traffic-flow improvements **4.2-1d:** Incorporate control devices and methods into project design **4.2-1e:** Implement offsite air emission reduction plan	For all years of construction and operation, emissions of ROG would remain potentially significant, NOx would remain significant and unavoidable, and PM10 would remain potentially significant during the years 2009, 2011, 2012, and 2015. Outside of those years, PM10 would be reduced to less than significant. During reclamation (year 2029), ROG and PM10 would be reduced to less than significant, and NOx emissions would be potentially significant.

[a] Impact Classes: Class I (significant, unmitigable); Class II (less than significant with mitigation incorporated); Class III (less than significant); Class IV (beneficial)

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Air Quality (cont.)			
4.2-2: Generation of DPM and TAC emissions.	Class II	**4.2-2a:** Implement Mitigation Measures 4.2-1a, 4.2-1b, and 4.2-1d **4.2-2b:** Prepare and submit an Asbestos Dust Mitigation Plan	Less than significant
4.2-3: Generation of localized CO emissions.	Class III	None required	Less than significant
4.2-4: Increased odorous emissions.	Class III	None required	Less than significant
4.2-5: Possible conflict with implementation of State goals for reducing greenhouse gas (GHG) emissions.	Class I	**4.2-5:** Develop and implement a Greenhouse Gas Reduction Plan	Significant and Unavoidable
4.2-6: Cumulative development would contribute to regional criteria pollutants, and TACs.	Class I	**4.2-6:** Implement Mitigation Measures 4.2-1a through 4.2-1e	Significant and Unavoidable
Biological Resources			
4.3-1: Construction, operation and reclamation impacts to potentially jurisdictional wetlands and waters of the U.S.	Class II	**4.3-1a:** Avoid and minimize disturbance to the greatest extent practicable **4.3-1b:** Application of standard Best Management Practices (BMPs) to provide effective erosion and sediment control **4.3-1c:** Compensatory mitigation for permanent impacts and development and submittal of a wetland mitigation and monitoring plan	Less than significant
4.3-2: Construction, operation and reclamation impacts to aquatic species and/or their habitat.	Class II	**4.3-2a:** Monitor water discharged to Wolf Creek and South Fork Wolf Creek. **4.3-2b:** Monitor and record discharge water temperature, as well as the respective receiving waters, to document that dewatering operations are consistent with the Basin Plan and do not increase or decrease the temperature of the natural receiving water more the 5°F. **4.3-2c:** Implement Mitigation Measure 4.7-4. **4.3-2d:** Limit construction and removal of in-stream diffusers to late summer and early fall when flows within the creeks are typically low. Implement conditions to minimize impacts from construction and removal of in-stream diffusers.	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Biological Resources (cont.)			
4.3-3: Construction and operation of the proposed project has the potential to result in adverse impacts to the following special-status species: valley elderberry longhorn beetle, California red-legged frog, northwestern pond turtle, California horned lizard, and Pine Hill flannelbush.	Class II	**4.3-3a:** Avoid valley elderberry longhorn beetle shrubs were possible. Elderberry shrubs within 100 feet of the proposed project shall conform to the Endangered Species Act avoidance guidelines. **4.3-3b:** Implement avoidance and protection measures specific to the California red-legged frog. **4.3-3c**: Prior to construction perform surveys for western pond turtle within suitable habitat on the project site. A biologist shall temporarily relocate any identified western pond turtle. Halt activities until the work area is determined to be free of turtles and their nests. **4.3-3d:** Survey for the presence of California horned lizard. Halt activities if any California horned lizard is identified where habitat disturbance is proposed. **4.3-3e:** Implement measures to reduce potential impacts on nesting birds. **4.3-3f:** Minimize or avoid impacts to all Pine Hill flannelbush populations within or adjacent to the project sites. **4.3-3g:** Implement a *Workers Environmental Awareness Program (WEAP)* that includes a component related to biological resource education for construction crews and contractors.	Less than significant
4.3-4: Construction and operation of the proposed project could interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Class III	None required.	Less than significant
4.3-5: Construction of the proposed project has the potential to result in adverse impacts to native trees, including oaks and ponderosa pine.	Class II	**4.3-5:** Provide replacement trees for trees approved for removal.	Less than significant
Cultural Resources			
4.4-1: Impacts to historic resources.	Class II	**4.4-1a:** Retain a qualified archaeologist to identify the resource, to perform any necessary investigations to determine the significance of the find. If the resource is determined significant, mitigation measures will be developed in consultation with the State Historic Preservation Officer. **4.4-1b:** Implement Mitigation Measure 4.7-4 and 4.7-4a.	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Cultural Resources (cont.)			
4.4-2: Impacts to significant historical resources, including unique archaeological resources and human remains.	Class II	**4.4-2:** Monitor for discovery; avoid or recover; contact Coroner	Less than significant
4.4-3: Impacts to unique paleontological resource or site or unique geologic feature.	Class II	**4.4-3:** Monitor for discovery; document, avoid, or mitigate	Less than significant
Geology, Soils, Seismicity and Mineral Resources			
4.5-1: Shallow mine workings cave-in.	Class II	**4.5-1:** Licensed geotechnical engineer to evaluate shallow mines, determine if susceptible to failure and develop feasible corrective measures to effectively reduce or eliminate the risk of subsidence in the event that the underlying mine working collapsed	Less than significant
4.5-2: Areas of the project sites contain fill material that is unsuitable to support structural improvements.	Class III	None required	Less than significant
Hazards and Hazardous Materials			
4.6-1: Improper use or advertent release of hazardous materials.	Class II	**4.6-1a:** Implement Best Management Practices **4.6-1b:** Develop and implement Hazardous Substance Control and Emergency Response Plan **4.6-1c:** Develop and implement Health and Safety Plan **4.6-1d:** Develop and implement Worker Environmental Awareness Program **4.6-1e:** Provide Emergency Spill Supplies and Equipment	Less than significant
4.6-2: Release previously unidentified hazardous materials.	Class II	**4.6-2a:** Develop procedures; implement if encountered **4.6-2b:** Implement due diligence recommendations **4.6-2c:** Conduct reclamation activities under DTSC if contaminants would be disturbed	Less than significant
4.6-3: Routine transport, use, or disposal of hazardous materials.	Class III	None required	Less than significant
4.6-4: The Idaho-Maryland site, which is listed as a hazardous material site, could result in a hazard to the public or environment.	Class II	**4.6-4:** Implementation of Mitigation Measures 4.6-2a and 4.6-2b.	Less than significant
4.6-5: Expose nearby residences to hazardous emissions.	Class II	**4.6-4:** Implementation of Mitigation Measures 4.6-2a and 4.6-2b.	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Hazards and Hazardous Materials (cont.)			
4.6-6: Ignite dry vegetation and start a fire.	Class II	**4.6-6:** Coordinate with multiple fire departments, park away from dry vegetation and have fire suppression equipment on-site and in vehicles.	Less than significant
Hydrology and Water Quality			
4.7-1: Affect water quality and violate water quality standards of Wolf Creek or South Fork Wolf Creek.	Class III	None required	Less than significant
4.7-2: Violate water quality standards, waste discharge requirements and/or could substantially degrade water quality within creeks.	Class II	**4.7-2:** The applicant shall design and construct its wastewater treatment system to effectively treat the liquid waste associated with the gold mill process, including residual sodium cyanide, flotation reagents, by-products from the gold mill process, and residual sodium chemicals present from the neutralization of sodium cyanide sludge material. The treatment process can either be designed as an integral component of the overall wastewater treatment system or be designed as a separate, in-line pre-treatment process. The applicant shall demonstrate to the RWQCB and the City of Grass Valley that the proposed treatment system effectively treats mine discharge water, storm water, and gold mill process water to applicable water quality standards and discharge requirements. The City of Grass Valley and its consultants shall participate in the review process with the RWQCB, and the RWQCB must approve the treatment strategy prior to implementation by the applicant. Changes to the applicant-proposed treatment system that result from this mitigation measure shall become part of the project and the applicant shall provide the City of Grass Valley and the RWQCB with detailed plans and narratives describing the wastewater treatment system and the required upgrades to the currently or design changes.	Less than significant
4.7-3: Dewatering could reduce groundwater levels or entirely dewater certain high risk domestic groundwater supply wells reducing domestic water supply.	Class II	**4.7-3a:** Utilize the High, Moderate, Low, and Very Low Risk well group categories as redefined by this EIR for all APMs developed as part of the proposed project. **4.7-3b:** Within 14 days of the identification of dewatering impacts within the High to Moderate Risk Well areas, the applicant shall connect the affected well owners home to the NID system. If agreed upon through negotiations with the affected well owner, alternative supplies of water supply and/or a longer time frame for connection to the NID system may be negotiated. **4.7-3c:** If dewatering impacts occur at a currently operable domestic water supply well which is considered a High to Moderate Risk well,	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Hydrology and Water Quality (cont.)			
4.7-3 (cont.)		that is not currently part of the groundwater monitoring program, IMMC shall ensure that the property is provided with NID water supply. **4.7-3d:** If dewatering impacts occur at domestic water supply well(s), IMMC shall provide a temporary water source to the affected well owner prior to the installation of a permanent water source. **4.7-3e:** If dewatering impacts occur and the property of the affected well owner is included into the NID water service system, the well(s) that are no longer in service shall be decommissioned and/or destroyed	
4.7-4: Discharge into creeks would alter the natural drainage pattern, potentially inducing substantial erosion and downstream sedimentation, and/or resulting in a violation of existing water quality standards.	Class II	**4.7-4:** Move discharge location for the dewatering into South Fork Wolf Creek downstream of the proposed discharge location. **4.7-4a:** Proposed pipeline to South Fork Wolf Creek to remain and only supply continuous low flow (i.e., 1-2 cfs) at this location. **4.7-4b:** Install ancillary facilities outside the riparian areas.	Less than significant
4.7-5: Increased potential flooding downstream on Wolf Creek and South Fork Wolf Creek.	Class II	**4.7-5:** Permanently mark critical flow depths, monitor during high flow and cease discharge if water surface elevation reaching the critical flow depths. Resume discharge when water is below the critical flow depth.	Less than significant
4.7-6: Discharge of water from MILCO Property due to earthquake or a static failure of berm boarding the Idaho-Maryland site.	Class III	None required	Less than significant
4.7-7: Groundwater contact with backfilled waste rock and mine tailings could lead to degradation of groundwater quality.	Class III	None required	Less than significant
Land Use and Planning			
4.8-1: A change to land uses at the project sites could conflict with existing adopted applicable land use plans and policies.	Class II	**4.8-1a**: If the Planned Development Permit Application is not approved then the facilities on the New Brunswick site shall be redesigned to conform to the zoning district's height limit. In the alternative, IMMC shall submit a Variance application to request a waiver or modification of the height standards; if this application is not approved, the project applicant must conform to the existing height regulations.	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Land Use and Planning (cont.)			
4.8-1 (cont.)		**4.8-1b:** If the Planned Development Permit Application is not approved then the facilities on the Idaho-Maryland site shall be redesigned to conform with the zoning district's height limit. In the alternative, IMMC shall submit a Variance application to request a waiver or modification of the height standards; if this application is not approved, the project applicant must conform to the existing height regulations. **4.8-1c:** Implement Mitigation Measure 4.3-5. **4.8-1d:** Make the historical display/park available to the public free of admission fees from dawn until dusk. After reclamation, provide a financing mechanism to cover projected maintenance costs for these recreational facilities to the City.	
Noise			
4.9-1: Construction and reclamation noise.	Class II	**4.9-1a:** Construction activities between 7:00 a.m. and 7:00 p.m. only, and not permitted Sundays and legal holidays **4.9-1b:** Implement noise reduction and suppression techniques	Less than significant
4.9-2: Potential substantial permanent increase in ambient noise levels.	Class II	**4.9-2a:** Implement noise reduction and suppression techniques **4.9-2b:** Implement measures to lower the noise level from the beepers if complaints are received	Less than significant
4.9-3: Excessive ground-borne vibration or ground-borne noise levels.	Class II	**4.9-3a:** Distribute to residences within a 1000-foot radius of all underground mine workings a blasting schedule for all any blasting that would occur outside of 8:00 AM to 8:00 PM **4.9-3b:** Install heavy reinforced tunnel doors **4.9-3c:** Implement blasting vibration reduction and/or avoidance measures in addition to the time restrictions in Mitigation Measure 4.9-3a	Less than significant
Population and Housing			
4.10-1: Indirectly induce substantial population growth in the City of Grass Valley and surrounding areas.	Class III	None required	Less than significant
4.10-2: Indirectly displace housing units by changing the land use designation.	Class III	None required	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Public Services			
4.11-1: Fire suppression and emergency services affected.	Class II	**4.11-1a:** Safety and rescue training sessions **4.11-1b:** Payment of public services fees **4.11-1c:** Mine rescue affiliation and team measures **4.11-1d:** Mine rescue team helicopter access **4.11-1e**: Water storage facility for fire suppression coordination	Less than significant
4.11-2: Emergency vehicle response times.	Class II	**4.11-2a:** Coordinate with emergency service providers **4.11-2b:** All access and service roads available for use by all emergency response units	Less than significant
4.11-3: Police protection service abilities.	Class II	**4.11-3a:** Coordinate and submit security plan **4.11-3b:** Coordinate and pay public services fees	Less than significant
4.11-4: Reduced available capacity of other public services.	Class III	None required	Less than significant
Recreation			
4.12-1: Physical deterioration of recreational facilities.	Class II	**4.12-1a:** Implement Mitigation Measure 4.8-2b	Less than significant
4.12-2: Potential construction or expansion of recreational facilities.	Class III	None required	Less than significant
Transportation and Traffic			
4.13-1: Affect traffic levels of service at local intersections in the project vicinity under Short Range (2013) conditions. See specific intersection impacts and mitigations under Impacts 4.13-1a through 4.13-1c.			
4.13-1a: Idaho Maryland Road/SR 49 NB ramps (Intersection #2).	Class II	**4.13-1a:** The City shall install a traffic signal at the unsignalized Idaho Maryland Road/SR 49 NB ramps. The applicant shall make its fair share contribution to this improvement.	Less than significant
4.13-1b: Idaho Maryland Road/Spring Hill Drive (Intersection #4).	Class II	**4.13-1b:** The applicant shall design and install a traffic signal at the unsignalized Idaho Maryland Road/Spring Hill Drive. In the event that full funding for the improvement from other sources is secured as anticipated in the City Roadway CIP, the applicant shall not be required to install the improvement but shall be required to pay its	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Transportation and Traffic (cont.)			
4.13-1b (cont.)		fair share contribution to this improvement through payment of the City Local Traffic Fee.	
4.13-1c: Bennett Street/SR 49 SB off ramp (Intersection #9).	Class III	None required	Less than significant
4.13-2: Affect levels of service at local freeway segments in the project vicinity under Short Range (2013) conditions.	Class III	None required	Less than significant
4.13-3: Affect levels of service at local freeway ramp junctions in the project vicinity under Short Range (2013) conditions.	Class III	None required	Less than significant
4.13-4: Affect traffic levels of service at local intersections in the project vicinity under Long Range (2030) conditions. (See specific intersection impacts and mitigations under Impacts 4.13-4a through 4.14.4f).			
4.13-4a: Idaho Maryland Road/SR 49 NB ramps (Intersection #2).	Class II	**4.13-4a:** Implement Mitigation Measure 4.13-1a.	Less than significant
4.13-4b: Idaho Maryland Road/Spring Hill Drive (Intersection #4).	Class II	**4.13-4b:** Implement Mitigation Measure 4.13-1b.	Less than significant
4.13-4c: Bennett Street/SR 49 SB off ramp (Intersection #9).	Class II	**4.13-4b:** The applicant shall design and install a traffic signal at the unsignalized Bennett Street/SR 49 SB off ramp. In addition to a traffic signal improve the southbound approach to include one left-turn lane, one through lane, and one shared through right-turn lane. In the event that full funding for the improvement from other sources is secured as anticipated in the City Roadway CIP, the applicant shall not be required to install the improvement but shall be required to pay its fair share contribution to this improvement through payment of the City Local Traffic Fee.	Less than significant
4.13-4d: Colfax Avenue/SR 49 Frontage Road (Intersection #13)	Class II	**4.13-4d:** The applicant shall design and install a traffic signal at the unsignalized Colfax Avenue/SR 49 Frontage Road. In addition, improve the following: eastbound approach to include one left-turn pocket and one through lane; westbound approach to include one through lane, and one exclusive right-turn lane; and re-stripe the northbound approach to include one shared through left turn lane, one through lane, and one exclusive right-turn lane (northbound left-turns would be permitted). Applicant shall fully fund the improvements and may enter into a reimbursement agreement with the City.	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Transportation and Traffic (cont.)			
4.13-4e: South Auburn Street/SR 49 NB off ramp (Intersection #17).	Class II	**Measure 4.13-4e:** The applicant shall design and install a traffic signal at the unsignalized South Auburn Street/SR 49 NB off ramp In addition improve the northbound approach to include one through lane, and one exclusive right-turn lane. In the event that full funding for the improvement from other sources is secured as anticipated in the City Roadway CIP, the applicant shall not be required to install the improvement but shall be required to pay its fair share contribution to this improvement through payment of the City Local Traffic Fee.	Less than significant
4.13-4f: Idaho Maryland Road/Railroad Avenue (Intersection #3).	Class II	**Measure 4.13-4f:** The City shall improve the westbound approach to include one left turn-pocket and two through lanes. The applicant shall make its fair share contribution to this improvement.	Less than significant
4.13-5: Affect levels of service at local freeway segments in the project vicinity under Long Range (2030) conditions.	Class III	None required	Less than significant
4.13-6: Affect levels of service at local freeway ramp junctions in the project vicinity under Long Range (2030) conditions.	Class III	None required	Less than significant
4.13-7: Generate demand for alternative transportation service for the area.	Class III	None required	Less than significant
4.13-8: Increase the potential for conflicts among different traffic streams.	Class II	**4.13-8:** Implement Mitigation Measures 4.11-2a and 4.11-2b	Less than significant
4.13-9: Construction would temporarily affect traffic flow and on-site circulation, parking, and pedestrian safety.	Class II	**4.13-9:** Prepared Submit and Implement a Traffic Management Plan	Less than significant
4.13-10: Result in inadequate parking capacity.	Class II	**4.13-10:** Implement Mitigation Measure 4.15-2.	Less than significant
4.13-11: Contribute to the degradation of pavement on public roads.	Class II	**4.13-11a:** Conduct core sampling and associated testing of Idaho Maryland Road to determine if existing roadway is not designed for and/or in a condition that would accommodate, long-term project truck traffic. If roadway needs improvements, applicant shall pay the full cost including design and construction. **4.13-11b:** Enter into a *Roadway Maintenance Agreement* with the City.	Less than significant

TABLE ES-5 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROPOSED PROJECT

Impact	Impact Class[a]	Mitigation Measure(s)	Residual Impact
Utilities and Service Systems			
4.14-1: Additional domestic water service required from the Nevada Irrigation District.	Class III	None required	Less than significant
4.14-2: Decreased excess wastewater capacity of the City of Grass Valley WWTP.	Class III	None required	Less than significant
4.14-3: Construction and operation would generate solid waste.	Class III	None required	Less than significant
4.14-4: Generation of sludge.	Class III	None required	Less than significant
4.14-5: Inadvertently contact underground utility lines.	Class II	**4.14-5:** Contact Underground Service Alert	Less than significant
Energy			
4.15-1: Substantial consumption of energy such that existing supplies would be constrained.	Class III	None required	Less than significant
4.15-2: Increased long-term consumption of electricity.	Class II	**4.15-2:** Develop, implement, and monitor *Energy Conservation Plan*	Less than significant
4.15-3: Increased long-term consumption of natural gas.	Class II	**4.15-3:** Implement Mitigation Measure 4.15-2	Less than significant
4.15-4: Increased long-term consumption of petroleum.	Class II	**4.15-4a:** Implement Mitigation Measure 4.15-2 **4.15-4b:** Implement Mitigation Measure 4.2-5 **4.15-4c**: Implement Mitigation Measure 4.2-1d	Less than significant
4.15-5: Use of substantial amounts of electricity and natural gas that could not be adequately served by existing energy infrastructure.	Class III	None required	Less than significant