

Initial Study for the Rimforest Storm Drain Project

Lead Agency:
San Bernardino County
Flood Control District
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A. Project Description

The County of San Bernardino (County), proposes to construct and maintain a series of drainage facilities to address historic erosion and landsliding in the southern Rimforest community. The remediation approach (proposed project) developed to address slope stability issues, includes rerouting existing drainage patterns away from southern Rimforest and towards the north, into Little Bear Creek, which drains to Lake Arrowhead. The San Bernardino County Flood Control District (SBCFCD), a separate legal entity, is acting in an advisory capacity to the County for this project.

A.1 Background

Highway 18, or State Route 18 (SR-18) was constructed through the community of Rimforest in the 1920s, and included culverts that concentrated historic stormwater runoff within roadside drainage ditches and cross culverts. Subsequent development within the community further altered stormwater runoff patterns in the area. Historic topographic maps dated prior to the construction of SR-18 indicate that a sizable portion of the Rimforest area north of what is now SR-18 and east of Strawberry Peak followed a drainage course that flowed in a southeasterly direction, near the current alignment of Blackfoot Trail West, and then curved in a northeasterly direction towards Lake Arrowhead, within the Mojave River Watershed (Bonadiman, 2010a). Development of the community of Rimforest included installation of a stormwater conveyance system, including two storm drain catch basins and pipes along Apache Trail, which direct surface water off the road and over the cliff in the southern portion of Rimforest, towards Strawberry Creek in the Santa Ana River Watershed, essentially reversing the direction of historic drainage in the area.

Landsliding and erosion in the southern portion of Rimforest was first noted in 1978, when a sewage pump station was damaged. Since 1978, the active landslide area has grown laterally to involve a greater area, and has continued into the southern portion of the community. The pump station, several houses, and a residential street have been damaged or destroyed. Localized over-steepened conditions have made much of the Rimforest area susceptible to additional failure. Over-steepened slopes undermine otherwise more stable areas in the vicinity and produce larger areas that are potentially unstable. In addition to slope steepness, other components that contribute to the stability of the Rimforest area include rock integrity, slope geometry and geomorphology, tectonics, seismicity, bedrock orientation, fractures, faulting, shear zones, groundwater, and surface water runoff. (Bonadiman, 2010b)

Between 1978 and 1993, a period of frequent landslide movement in the area south of Apache Trail occurred. Headward retrogression was estimated to have been up to eight feet per year. Comparison of survey information from 1993 and 2009 indicates an annual slope regression of approximately 0.75 feet per year during this time period. The most notable area of difference is near and immediately below the current storm drain outlet, runoff water falls approximately 200 feet to the eroded slope face. In total, the top edge of the slope receded approximately 26 feet between 1993 and 2009, and approximately 12 feet of vertical material was lost at the pipe outlet. This regression is expected to continue until the storm water can be diverted. (Bonadiman, 2010b)

A Drainage Feasibility Study was prepared for the Rimforest area and finalized in November of 2010; the primary purpose of that study was to estimate how effective controlling surface runoff may be with regards to slowing headward retrogression of landslide activity into the south edge of Rimforest. This study determined that the routing of stormwater runoff into Strawberry Creek has contributed significantly to erosion of the Rimforest slide area, and that high groundwater levels may have an equal or nearly equal effect on slope stability. Preventing stormwater runoff from reaching this area is

expected to reduce the frequency of large slope movement by up to 50 or 75 percent, but will have little effect on groundwater conditions; because there is a clear connection between groundwater and slope instability, the rerouting of flows away from the landslide area will not prevent all future slope movement in the area, but will slow the progression of such movement. (Bonadiman, 2010a/b)

A.2 Purpose and Need

Severe erosion and landsliding over the past 30 years has resulted in significant property loss, with the areas immediately south of Blackfoot Trail West and Apache Trail having been seriously impacted by more than 100 feet of bluff retreat. The rerouting of stormwater flows away from the southern area of Rimforest is necessary to minimize continued slope movement and reduce hazards to existing property in the area. The purpose and need for the proposed project is to divert stormwater flows away from Strawberry Creek and into Little Bear Creek in order to mediate ongoing erosion and landsliding hazards which pose significant risk to property and the public in southern Rimforest.

A.3 Project Location

As shown in Figure 1, the proposed project is located in the community of Rimforest, in the San Bernardino Mountains near Lake Arrowhead, approximately six miles north of the City of San Bernardino in the County of San Bernardino, California. Surrounding land uses and project site specifics are provided below.

A.3.1 Surrounding Land Uses and Setting

Rimforest is an unincorporated community in the San Bernardino Mountains of San Bernardino County, California. SR-18 runs through the community. Residential development and commercial uses are located south of SR-18, within the community of Rimforest, and residential development is also located to the north. Directly south of the residential uses in the community is the San Bernardino National Forest, which is federal land and will remain undeveloped. There are few developed recreational facilities in the proposed project area. A majority of the land to the immediate south of Rimforest is eroding cliff-side, a result of runoff from SR-18. Rim of the World High School is located approximately one mile to the east of the community of Rimforest.

The headwaters of Little Bear Creek drain from the northeastern vicinity of Rimforest, through the communities of Blue Jay and Lake Arrowhead, and into the Lake Arrowhead Reservoir. In addition, the headwaters of Strawberry Creek drain from the southern vicinity of Rimforest, into City Creek, and eventually terminate at the Santa Ana River. The Strawberry Creek watershed is part of the larger watershed of the Santa Ana River, which is within the safe yield of the San Bernardino Valley Municipal Water District (SBVMWD), meaning that the SBVMWD holds water rights to this drainage area. (Bonadiman, 2010a)

A development proposed by the Church of the Woods (COTW) is located in the northeastern area of the community of Rimforest, on the north side of SR-18, and the drainage output point for the proposed project is located on the COTW property. The COTW project would develop approximately 23 acres of a currently undeveloped 37-acre property. Roughly 14 acres of the site would be designated "open

space;" a portion of the proposed project would be located on this open space area. An EIR was prepared for the COTW project.

A.3.2 Project Site and Vicinity

The proposed project site is located in Township 2 North, Range 3 West, Section 30, immediately north of the San Bernardino National Forest, in the community of Rimforest. Access to the site is off SR-18, Rim of the World Highway, which runs in a west-east alignment through the community of Rimforest. Pine Avenue runs parallel to the south of SR-18. Blackfoot Trail West runs in a north-south alignment through the western portion of Rimforest, between Pine Avenue and the landslide area in southern Rimforest. Apache Trail connects to Blackfoot Trail West approximately 250 feet south of Pine Avenue, and continues to the east then south, towards the landslide area in southern Rimforest.

A.4 Proposed Project

The proposed project would divert runoff from its current flow-path through the community of Rimforest and outlet at the landslide area in southern Rimforest, into a new flow-path comprised of channels and pipeline to the north of SR-18, with an outlet into Little Bear Creek on the COTW property. Please see Figure 2 for a site plan. In re-directing this runoff, the proposed project would result in runoff flowing into the Mojave River Watershed instead of the Santa Ana River Watershed; as described in Section A.1 (Background), based on available evidence it is believed this was the historic drainage direction, prior to construction of SR-18 and establishment of the community of Rimforest. The diversion of runoff between watersheds would require approval of the SBVMWD and the State Water Resources Control Board (SWRCB), as well as the Santa Ana River Regional Water Quality Control Board (RWQCB), which has jurisdiction over the Santa Ana River Watershed, and the Lahontan RWQCB, which has jurisdiction over the Mojave River Watershed (Bonadiman, 2010a).

Downstream of the point where the proposed project would contribute flows to Little Bear Creek, the creek continues in a series of stormwater conveyance features through the unincorporated communities of Blue Jay and Lake Arrowhead, terminating at Lake Arrowhead Reservoir. Within the community of Blue Jay, an existing maintenance yard owned and operated by the County Department of Public Works (DPW) is located within the Little Bear Creek drainage; this maintenance yard is referred to as the Blue Jay Maintenance Yard. The maintenance yard is currently equipped with a three-foot-wide storm drain pipe to transmit flow in Little Bear Creek through the facility; however, this system is inadequate to contain the increased storm flow that would occur under the proposed project. The maintenance yard conveyance system may already be inadequate to contain existing storm flows, as asphalt within the yard appears to be damaged by water-related cracking, which occurs when water seeps to the asphalt base, causing the base to soften and form cracks which penetrate the surface, eventually leading to potholes. Therefore, in order to avoid further damage to the Blue Jay Maintenance Yard conveyance system, the proposed project would include a series of retarding basins on a property currently owned by the COTW, near the proposed project's output point into Little Bear Creek. These retarding basins, described further below, would slow the rate of stormwater flows in Little Bear Creek.

As mentioned, Little Bear Creek terminates at the Lake Arrowhead Reservoir. The current water supplier for Lake Arrowhead is the Lake Arrowhead Community Services District (LACSD), which presently purchases Feather River water from the SBVMWD, which is then transferred through Crestline Lake Arrowhead Water Agency (CLAWA). The proposed project would result in approximately 100 more acre-feet per year (afy) of water in Lake Arrowhead, potentially available for treatment and distribution by the LACSD. (Bonadiman, 2010a).



0 250 500 Feet

- Storm Drain
- Grading Area
- Temporary Impact Area
- Permanent Impact Area

Figure 2

Proposed Project Site Plan

A.4.1 Project Elements

In order to divert surface waters as proposed, the proposed project includes a series of channels, pipes, and retarding basins. With development of the storm drain systems and retarding basin(s), the proposed project would divert a total of approximately 100 acre-feet per year into Little Bear Creek (MBA, 2010). Primary elements of the project would be implemented in two distinct phases, described below.

Phase 1

Phase 1 of the proposed project would intercept the largest part of runoff to be diverted under the proposed project, and result in a 64 percent reduction (in runoff). Improvements constructed under this phase would convey mountainside runoff from an area of approximately 51 acres, and deliver this runoff to Little Bear Creek. This phase of the proposed project includes approximately 0.8 miles of flood control improvements, comprised of approximately 0.2 miles of channel/basin and approximately 0.6 miles of pipe culvert and appurtenances.

- *Channelized Reach(s)*. The proposed channel sections would be of varying width and depth and trapezoidal in configuration. Channelized reaches would be located near the inlet and outlet of the proposed basin(s) and would be armored to prevent erosion. The configuration of the channel sections will be determined by the SBCFCD and designed to be sufficient to convey the mountainside runoff and associated debris.
- *Culvert & Appurtenances*. The culvert system would be aligned along the north side of SR-18 extending from the west end of the community of Rimforest to the east end of the community discharging into the proposed basin via an inlet channel as described above, and would include street inlets to filter debris onto SR-18. Stormwater flows would be directed via the culvert/basin systems into Little Bear Creek. Currently, runoff into Little Bear Creek occurs from an area of approximately 40 acres north of SR-18; diverting runoff from a 50-acre area would therefore increase runoff into the creek. Phase 1 is anticipated to introduce an additional 100-year storm flow of approximately 225 cubic feet per second (CFS) into Little Bear Creek.
- *Basin(s)*. Retarding basin(s) would be constructed within the Little Bear Creek channel, downstream of the point where flows diverted by the culvert system described above would enter the drainage. This basin system would be designed to reduce peak storm flows discharging into Little Bear Creek, and would include a drain culvert and armored emergency spillway which would discharge to Little Bear Creek via an armored energy dissipater. The retarding basin(s) are included in the Phase 1 design because downstream stormwater drainage structures in the Little Bear Creek channel would not have sufficient capacity to transmit peak flows with the additional runoff contributed by the diversions described above. Jurisdictional ephemeral and perennial but non-wetland waters of the State and federally jurisdictional "waters of the U.S." will be defined on the COTW property. The EIR will evaluate any of these areas that will be impacted by the proposed project. Any impacts to jurisdictional waters, wetlands, or riparian habitat associated with the proposed project would require authorization from the United States Army Corps of Engineers (USACE), SWRCB, RWQCB and the California Department of Fish and Wildlife (CDFW). Phase 2

Phase 2 of the proposed project would divert runoff from 16 acres of the interior portion of the community of Rimforest and result in a 30 percent reduction (in runoff). This phase includes installation of a culvert system to direct runoff from Pine Avenue, which runs parallel to the south of SR-18, and under SR-18 to join flows diverted by Phase 1 in Little Bear Creek. The Phase 2 culvert system would include street inlets and storm drains within Rimforest to facilitate the diversion of flows along Pine

Avenue. A culvert system would be installed through an existing lumber yard off Pine Avenue, connecting to the main culvert system along Pine Avenue. By diverting Pine Avenue runoff into Little Bear Creek, Phase 2 would introduce an additional 100-year storm flow of 100 CFS. After a confluence with the Phase 1 flow into Little Bear Creek, the peak 100-year flow into Little Bear Creek would be approximately 500 CFS.

The COTW development also proposes to implement stormwater drainage improvements along Little Bear Creek, including construction of culvert system that would initiate at an existing storm drain at the southwestern corner of the COTW site (PCR, 2010); this is the same area where flows associated with the proposed project would enter the COTW property, via the Pine Avenue culvert system described above. The COTW proposed culvert system would route through the property along the same alignment as the Little Bear Creek drainage and an existing sewer line, also generally parallel to a proposed COTW sewer alignment (PCR, 2010). Approximately midway through the COTW site, the new culvert system would discharge into the Little Bear Creek drainage and flow northeasterly through the property (PCR, 2010). Due to the location of the proposed project’s discharge point at the southwestern portion of the COTW property, it is reasonably anticipated that flows associated with the proposed project would be transmitted through the COTW conveyance system described above, discharging into the proposed project’s retarding basins within Little Bear Creek. The COTW proposed conveyance system may or may not be in place at the time of implementation of the proposed project; close coordination between the COTW and the County DPW is ongoing to coordinate implementation of project elements.

The existing storm drain catch basins and pipes along Apache Trail would be left in place and would continue to convey a small amount of stormwater runoff through the community of Rimforest to the existing output location at the landslide area in southern Rimforest.

A.4.2 Construction

Schedule. Construction of the proposed project may require phasing and could occur over multiple four-to-five month-long periods during summer seasons. Hours of operation during construction would be limited to daylight hours. No construction activities would occur during snow months.

Earth Disturbance. Earth-disturbing activities would occur during construction of the proposed project in order to install the proposed project features described above. Table A.4.2-1 provides estimates of the types of earth-disturbing activities required during construction of the proposed project, and the associated quantities of materials.

Table A.4.2-1. Construction – Materials Quantities

Project Feature	Activity / Material	Quantity
Pipeline	Soil excavation and trenching to install pipeline	20,000 to 30,000 cubic yards
Retarding Basins (3)	Soil excavation to provide detention volume of up to 20 acre feet	n/a*
	Rock slope protection and rip-rap	500 to 1,000 cubic yards
General	Demolition of asphalt/concrete pavement	5,000 to 6,000 linear feet
	Re-paving of asphalt/concrete pavement	5,000 to 6,000 linear feet

* Specific quantities of soil excavation that would be required to provide the needed detention volume depend upon site-specific topography and soil conditions, and will be determined during final engineering of the proposed project.

Following is a summary list of the types of earth-disturbing activities that would occur in association with the proposed project elements described in Section A.4.1 (Project Elements).

- Excavation / trenching and slope protection would be required to install the culvert system north of SR-18.
- The pipelines proposed to the north of SR-18 and from Pine Avenue to Little Bear Creek would likely be installed in eight-foot segments, the size in which the pipes are manufactured, with the trench back-filled following the placement of each eight-foot segment.
- Trenching up to depths of 22 feet may be required to install the pipeline from Pine Avenue and under SR-18 to Little Bear Creek.
- The retarding basins on the COTW property would likely be constructed prior to the culvert system(s), and would require excavation activities to achieve desired detention volume of up to 20 acre feet.

Clear and grub wastes generated during construction of the proposed project may be taken to Heaps Peak Transfer Station for disposal. Other exported waste types may also be disposed of at this transfer station or be made the property of the contractor to be used or disposed of outside of County right-of-way at their discretion. Heaps Peak Transfer Station is located at 29898 SR-18 at Heaps Peak in Running Springs, approximately five miles east of the proposed project site, along SR-18.

Equipment. The number of off-road vehicles and equipment to be used during construction of the proposed project could vary from one or two to as many as 20 or 30, depending on actual site conditions, construction schedule, and the specific construction activity. The types of equipment anticipated to be required during construction of the proposed project include the following: forklifts, water trucks, small scrapers, loaders with integrated backhoe, wheel-mounted air compressor(s), excavators, pneumatic breaker, pneumatic-tired motor grader, steel drum roller, self-propelled paving machine, and haul trucks.

Staging Areas. Specific staging area locations for vehicles, equipment, and materials during construction have not yet been identified. However, it is reasonably assumed that previously disturbed site(s) would be used for this purpose. There are several lumber yards and open lots in the proposed project area that could potentially be used for staging. In addition, the southern shoulder of SR-18 is quite wide in some areas and could also potentially be used for staging.

Transportation. It is anticipated that either State Highway 138 or Interstate 210 would be used to transport construction vehicles, equipment, and materials to and from the proposed project site, via SR-18. State Highway 138 travels in an east-west alignment from Interstate 5 south of Gorman (west of the proposed project area) to Mount Anderson Junction, where it joins SR-18 south of Crestline, west of the proposed project site. Interstate 210 travels in an east-west alignment from Interstate 5 at Sylmar (west of the project site) to Interstate 10 in Redlands (east of the project site).

Utilities. It is not anticipated that a construction management trailer would be required to support construction of the proposed project, and connection to utilities would therefore not be required either. The construction contractor selected by the County DPW to construct the proposed project would be responsible for providing generators and fuel as needed to power the equipment and vehicles required during construction.

Water. During construction of the proposed project, a water source would be required for dust control and soil compaction. It is anticipated that existing fire hydrants located within the community of Rimforest would be used to obtain the proposed project's water supply. A water truck(s) would be used to spray water on the ground surface as necessary to achieve dust control goals.

COTW. Construction of the proposed 38-acre COTW development would occur over at least a four-year period (PCR, 2010). This project would involve substantial earth disturbance, including grading, excavating, and landscape re-contouring across the COTW property. As noted, the proposed project's retarding basins would be located on this property. Based on the Final EIR for the COTW, it is understood that the retarding basins would be located on a parcel that the site plans denote as "Open Space." Construction of the proposed project would need to occur in coordination with the COTW development, and it is possible that construction of both projects would occur at the same time.

A.4.3 Operation and Maintenance

Operation and maintenance of the proposed project would include but is not limited to the following activities:

- Slope stabilization, where necessary to maintain the integrity of flood conveyance facilities;
- Removal of sediment and vegetation from the retarding basin(s) and channelized sections to maintain capacity;
- Regular inspection of facilities for wear and damage;
- Repair of facilities as needed; and
- Maintenance of vegetated landscape buffers.

No use of chemicals such as herbicides and pesticides, among others, are anticipated during operation of the proposed project. However, materials such as motor oil and lubricants would be used by inspection vehicles and equipment required for operational activities such as sediment removal and slope stabilization.

A.4.4 Project Design Features

The proposed project includes a number of design features that have been incorporated to avoid or reduce potential adverse environmental effects. These features are listed below.

- *Aesthetics.* Landscape buffers will be planted on portions of the retarding basin slopes as necessary.
- *Hydrology and Water Quality.* The county will prepare a Water Quality Management Plan (WQMP) and Stormwater Pollution Prevention Plan (SWPPP) to identify site design, pollution source control, and best management practices (BMPs) to prevent water quality degradation. The county will also perform a preliminary drainage study to analyze the addition of runoff to potential 100-year flood impacts at Lake Arrowhead.
- *Geology and Soils.* Geotechnical studies may be required to properly design the retarding basins and evaluate groundwater conditions (i.e. Whether shallow groundwater is present in excavation areas).

The measures listed above are project design features and will be implemented with the proposed project; these are not mitigation measures, or additional requirements considered necessary to avoid or minimize impacts.

A.5 Required Permits and Approvals

Construction and operation of the proposed project may require the discretionary actions and approvals listed below, per jurisdiction.

Federal

- United States Fish and Wildlife Service (USFWS)
 - Biological Opinion/Endangered Species Act/Section 7 Consultation
- United States Army Corps of Engineers (USACE)
 - Clean Water Act Section 404 Individual Permit

State

- California Department of Transportation
 - Right-of-way (ROW) Encroachment Permit
 - Transportation Permit
- California Department of Fish and Wildlife
 - Streambed Alteration Agreement / California Fish and Game Code Section 1600
 - 2081 Incidental Take Permit (if applicable)
- State Water Resources Control Board
 - Water rights transfer agreement
- Native American Heritage Commission
 - Consultation on Sacred Areas to comply with State requirements

Regional

- Santa Ana River and Lahontan Regional Water Quality Control Boards (RWQCBs)
 - National Pollutant Discharge Elimination System (NPDES) Permit (Stormwater Pollution Prevention Plan (SWPPP))
 - Water Quality Certification/Clean Water Act Section 401
 - Water rights transfer agreement

B. Environmental Determination

B.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" and requiring implementation of mitigation as indicated by the checklist on the following pages.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards/Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality |
| <input checked="" type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input checked="" type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

B.2 Environmental Determination

On the basis of this initial evaluation:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the Proposed Project may have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

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Annesley Ignatius, Deputy Director
County of San Bernardino
Department of Public Works


Date

C. Evaluation of Environmental Impacts

C.3.1 Aesthetics

AESTHETICS				
Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project have a substantial adverse effect on a scenic vista?

LESS THAN SIGNIFICANT IMPACT. The proposed project would occur along State Route 18 (SR-18), which is designated as an Eligible State Scenic Highway by the California Department of Transportation (Caltrans). The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval and then adopts a Corridor Protection Program (Caltrans, 2012). Although SR-18 is not a State Scenic Highway as designated by Caltrans, SR-18 is designated as a Scenic Byway by the U.S. Forest Service, and San Bernardino County's 2007 General Plan designates SR-18 as a scenic route from San Bernardino northeast to the City of Big Bear Lake. This policy also states the County's desire to retain the scenic character of visually important roadways throughout the County (SBC, 2007).

Construction of the proposed project would temporarily have an adverse effect on the scenic vista surrounding the project site due to construction activity and vehicles. However, construction is expected to occur over an approximately four-month-long period, and operation of the proposed project would not present permanent structures that would obstruct scenic views from SR-18. Therefore, impacts from construction would be temporary and there would not be any permanent adverse effects during operation of the proposed project. As such, visual impacts associated with the proposed project would be less than significant.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

LESS THAN SIGNIFICANT IMPACT. Construction of the proposed project would require earth-disturbing activities including excavation, trenching, and slope protection. Construction of the channel and pipeline would be parallel to SR-18, with the channel varying in width between four and six feet, and with all project features designed to avoid the removal of trees where possible. Some vegetation along the highway may be removed; however, the proposed channel and pipeline are located within an area of commercial and residential development, and the surrounding area is not pristine forest land. Therefore, the removal of vegetation would not substantially change the scenic views from SR-18. Construction of the retarding basins would include the removal of trees and vegetation. However, the retarding basins would not be visible from SR-18, and the removal of trees to install the retarding basins

would not alter scenic resources such as the view from the highway. Visual impacts associated with construction of the proposed project would be less than significant.

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

LESS THAN SIGNIFICANT IMPACT. The proposed project site is located in the community of Rimforest. Residential and commercial development is present along the proposed project site where the channel and pipeline would be constructed; therefore, the proposed project would not substantially degrade the visual quality and surroundings in this developed area. Construction of the retarding basins would require excavation, trenching, and the removal of trees, which would alter or degrade the existing visual character of the proposed project site. However, the proposed project would also include landscape buffers along the slopes of the retarding basins, which would avoid substantial degradation of visual character of the site. Therefore, with the proposed landscaping design features, this impact would be less than significant.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

NO IMPACT. The main activities associated with construction of the proposed project would include excavation and trenching to install pipelines and construction of three retarding basins. Nighttime construction would not occur. Operation of the proposed project would include maintenance activities such as slope stabilization, removal of sediment from the retarding basins, and regular maintenance inspections. None of these activities would create new sources of light or glare. Therefore, there would be no impact under this criterion.

C.3.2 Agriculture and Forestry Resources

AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation incorporated	Less than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as Shown on the Maps Prepared Pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to Non-agricultural use?

NO IMPACT. The proposed project site is not within the FMMP survey boundary. Therefore, construction of the proposed project would not convert designated Farmland and there would be no impact under this criterion.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

NO IMPACT. The project site is not located within the County's agricultural zoning districts, nor is it located on land under Williamson Act contracts. Therefore, there would be no impact under this criterion.

- c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timber-land (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

NO IMPACT. The project site is not located on land that is zoned for forest land or timberland. Therefore, the proposed project would not conflict with existing zoning for forest land or timberland, and there would be no impact under this criterion.

- d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

LESS THAN SIGNIFICANT IMPACT. The proposed project site is located within the community of Rimforest which is under the jurisdiction of the County of San Bernardino. The project site would traverse lands within the County's residential and commercial land use designations. Therefore, the proposed project would not affect land that is officially designated forest land by federal or local agencies.

Construction of the channel and pipeline would primarily occur along SR-18 in an area that is predominantly characterized by residential and commercial development. Therefore, these components of the proposed project would not convert forest land to a non-forest use. However, construction of the retarding basins would occur on up to ten acres of an undeveloped site located within an existing drainage channel that is surrounded by coniferous forest land. The removal of trees and vegetation would be required for construction; however, the retarding basins would be designed for minimal tree removal. In addition, the conversion of up to 10 acres of forest land to open space for the purposes of flood control would not be a significant loss of forest land. Therefore, conversion of forest land would be less than significant.

- e. Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?**

NO IMPACT. The proposed project would not convert any agricultural land to non-agricultural uses nor would it convert any forest land to non-forest use, and it is not anticipated that the proposed project would involve other changes that would result in conversions to non-agricultural or non-forest uses. In addition, as discussed under Population and Housing (Section C.3.13), the proposed project would not be growth-inducing and would, therefore, not be expected to substantially induce or exacerbate conversion of agricultural or forest land. Consequently, no conversion of Farmland to non-agricultural uses and no conversion of forest to non-forest uses would occur.

C.3.3 Air Quality

AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

- a. Would the project conflict with or obstruct implementation of the applicable air quality plan?**
- b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**
- c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**
- d. Would the project expose sensitive receptors to substantial pollutant concentrations?**

POTENTIALLY SIGNIFICANT IMPACT. The proposed project site is located in the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Project construction would result in an increase in air emissions from off-road construction equipment and on-road trucks, fugitive dust, and worker trips. Project operation would also result in increases in air emissions generated by regular inspection and maintenance activities.

The proposed project would be required to comply with all applicable SCAQMD rules and regulations, but Project emissions could, nonetheless, interfere with implementation of the SCAQMD's AQMP. This issue will be analyzed further in the proposed project's EIR.

The SCAQMD has established standards for air quality priority pollutants including: ozone (O₃); carbon monoxide (CO); nitrogen dioxide (NO₂); sulfur dioxide (SO₂); and particulate matter smaller than or equal to 10 microns in diameter (PM₁₀) and particulate matter smaller than or equal to 2.5 microns in diameter (PM_{2.5}). Construction and operation of the proposed project would contribute to an increase in air quality emissions for criteria pollutants. As such, air quality impacts from construction and operation of the project require detailed evaluation using the thresholds of significance established by the SCAQMD. Short-term emissions would result from the use of construction equipment and trips generated by construction workers and haul/material delivery trucks. Long-term emissions would result from operation and maintenance activities, including periodic slope stabilization and sediment removal

activities. Compliance with SCAQMD rules and regulations would be required during construction and operation. Mitigated construction and/or operation emissions could result in the violation of air quality standards or the exceedance of air quality thresholds of significance, which may contribute to an existing or projected air quality violation. Therefore, potential project level and cumulative air quality impacts will be further evaluated in the EIR.

Emissions generated from construction activities, especially particulate matter emissions, could potentially expose nearby sensitive receptors (such as schools, churches, hospitals, and nursing homes) to substantial pollutant concentrations. Operational activities could also expose nearby sensitive receptors to increased levels of air pollution. The comparison of project emissions against SCAQMD localized significance thresholds could identify a potential for adverse localized impacts. This issue will be analyzed further in the EIR.

e. Would the project create objectionable odors affecting a substantial number of people?

LESS THAN SIGNIFICANT IMPACT. Some objectionable odors may be temporarily created during construction-related activities, such as from diesel exhaust and paving activities. These odors would not affect a substantial number of people and would only occur in localized areas. Therefore, impacts related to objectionable odors would be less than significant.

C.3.4 Biological Resources

BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

POTENTIALLY SIGNIFICANT IMPACT. The proposed project could directly or indirectly impact wildlife species identified as threatened, endangered, candidate, or special status species by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). The proposed retarding basins in the northeastern portion of the project area would be located in habitat that is suitable for several special-status wildlife species. The proposed diversion of water from the Strawberry Creek Watershed is expected to be less than significant due to the negligible amount of water being diverted. In addition, the majority of flows being diverted are from storm runoff and snowmelt, both of which have short durations and are highly variable on an annual basis. Special-status plants and wildlife species with potential to occur in the project area are discussed below.

Special-Status Plants

No significant impacts to rare plants are expected. California dandelion (*Taraxacum californicum*) is the only listed threatened or endangered plant reported from the area. It is endemic to meadow habitat in the San Bernardino Mountains; it occurs at several locations in the Big Bear Valley and there is a single historic occurrence near Twin Peaks (CDFW, 2012). Habitat in the project area is not suitable for California dandelion, and no significant impacts are anticipated.

Several additional plant species with a California Rare Plant Rank (CRPR) 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere) have potential to occur in the proposed project area, including San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*), Palmer's mariposa lily (*Calochortus palmeri* var. *palmeri*), and Southern Jewel-flower (*Streptanthus campestris*). There are occurrences in the vicinity of the project area and suitable habitat is present (CNDDDB, 2012). In addition, Parish's yampah (*Perideridia parishii* ssp. *parishii*) a CRPR 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) species is known from the vicinity and may occur in the project area. However none of these plants were observed during a site visit by qualified botanist in July 2012. Laguna Mountain's jewel-flower (*Streptanthus bernardinus*) is ranked as CRPR 4.3 (Plants of limited distribution – a watch list) and was documented in the project area during a field visit to the site in July 2012, but impacts to Rank 4 species generally do not meet CEQA criteria as significant.

Special-Status Wildlife

The proposed retarding basins could have significant impacts to special-status wildlife species. Several listed threatened or endangered species have potential to occur in the project area including southern rubber boa (*Charina bottae umbratica*) which is listed as threatened under the California Endangered Species Act (ESA), Sierra Madre yellow-legged frog (*Rana muscosa*) which is listed as endangered under the federal ESA and southwestern willow flycatcher (*Empidonax traillii extimus*) which is listed as endangered in the California and federal ESAs. There is suitable habitat for each of these species in the northeastern part of the project area.

In addition, three species recognized as Species of Special Concern by CDFW also have potential to occur in the project area: California Spotted Owl (*Strix occidentalis occidentalis*), San Bernardino flying squirrel (*Glaucomys sabrinus californicus*) and white-eared pocket mouse (*Perognathus alticolus alticolus*). Impacts to any of these species could be significant under CEQA.

The proposed project could directly or indirectly impact wildlife species identified as threatened, endangered, candidate, or special status species by the CDFWS or USFWS. Potential impacts to these species will be discussed in the EIR.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

POTENTIALLY SIGNIFICANT IMPACT. The proposed retarding basins in the northeastern part of the project area would be located along a stream channel supporting riparian vegetation. Project construction would remove or alter this habitat. The project may have an adverse effect on riparian habitat and impacts will be discussed in the EIR.

c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

POTENTIALLY SIGNIFICANT IMPACT. The project would include partial realignment of and the construction of a series of retarding basins within Little Bear Creek in the northeastern portion of the project area. The creek channel and associated habitat are potentially jurisdictional "waters of the U.S." and/or wetlands. Both permanent and temporary impacts are expected to occur to these potential State and federal jurisdictional waters. In addition, CDFW regulates impacts to State-jurisdictional streambeds ("waters") and adjacent riparian vegetation under Section 1600 et seq. of the California Fish and Game Code.

Direct effects to potentially jurisdictional waters are expected to result from channel realignment and basin construction. Indirect and operational impacts could include alterations in existing topography and hydrology regimes, increased sedimentation affecting downstream water quality, or colonization by non-native, invasive plant species. Operational impacts could occur during routine inspection and maintenance of the basins. Additionally, the installation of the basins and/or realignment of the channel may require trimming or removal of vegetation that could result in significant ground disturbance and could negatively impact wetland habitat. As a result, impacts to potentially jurisdictional waters and/or wetland habitats are likely to be significant and will be discussed further in the EIR.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

POTENTIALLY SIGNIFICANT IMPACT. The proposed storm drains would be located within a developed community and would not substantially affect wildlife movement or nursery areas. Due to availability of surrounding habitat east and west of the proposed retarding basins, the basins would not substantially affect wildlife movement for many species. However, the retarding basins would be located within a designated open space/ wildlife corridor area (see below) and the proposed habitat alteration would have the potential to degrade wildlife movement habitat through the area. In addition, the basins would affect wildlife nursery sites such as nest trees for birds or small mammals; burrows or other nesting areas for ground-dwelling vertebrates; or aquatic nest sites for amphibians. In general, these impacts to wildlife breeding areas would not be substantial for common or wide-ranging species, but could be substantial for special-status wildlife (see C.3.4.a. above). Potential impacts to special-status wildlife will be discussed in the EIR.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

POTENTIALLY SIGNIFICANT IMPACT. The project could conflict with the County of San Bernardino General Plan Open Space Element. The retarding basins would be located within the Strawberry Creek open space area/wildlife corridor which is designated to preserve habitat values (County of San Bernardino, 2007). Project impacts to this open space may be significant.

The County of San Bernardino Tree Removal Ordinance regulates the removal of trees for projects not on government land and not subject to land use permitting processes. The proposed project would necessitate tree removal for construction of retarding basins, which would require a Tree or Plant Removal Permit.

Potential impacts to the County of San Bernardino General Plan Open Space Element will be discussed in the EIR.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan?

NO IMPACT. The project would not conflict with an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan because the proposed project site is not located within the limits of any existing or proposed plans. No impacts would occur.

C.3.5 Cultural Resources

CULTURAL RESOURCES				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project cause a substantial adverse change in the significance of an historical resource as defined in §15064.5 [§15064.5 generally defines historical resource under CEQA]?

POTENTIALLY SIGNIFICANT IMPACT. Cultural resources inventories conducted within the project area resulted in the identification of one (1) built environment resource (36-007049; Rim of the World Drive/State Highway 18). This resource is located within the project Area of Potential Effects (APE), which includes areas that would be directly affected by project elements. This resource has not been formally evaluated for California Register of Historical Resources (CRHR) eligibility. The EIR will evaluate this resource and any potential impacts to this resource.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

POTENTIALLY SIGNIFICANT IMPACT. The archaeological survey of the project area has been completed. There are no significant archaeological resources within the proposed project area. However, unknown and potentially significant buried resources could be inadvertently unearthed during ground-disturbing activities associated with project construction. The EIR will evaluate this potential impact and identify measures to be implemented if any unknown and potentially significant buried resources are inadvertently uncovered during excavation activities associated with the project.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

LESS THAN SIGNIFICANT IMPACT. Significant California fossils typically consist of fossils of late Quaternary and Tertiary age and include invertebrate, vertebrate, and plant fossils. Older fossils are also found in the southern California area but are not as prevalent. The proposed project site is primarily underlain by granitic bedrock with local thin deposits of young Recent and Holocene alluvium and colluvial soils, both derived from the nearby and underlying granitic rocks, and artificial fill. The granitic bedrock consists of two units: the Cretaceous Monzogranite of City Creek, which underlies most of the proposed project site, and the Mesozoic Silverwood Lake mixed granitic rocks which are underlying the western end of Rimforest (Hilltop Geotechnical, 2010). The alluvial deposits in the proposed project area are concentrated along active washes and former drainage channels (LOR Geotechnical, 2001, Hilltop Geotechnical, 2010). Holocene colluvial soils are derived in place from the weathering of the underlying granitic bedrock and the colluvial deposits are generally found at the base of steep slopes and consist of materials weathered or transported from the underlying and surrounding granitic bedrock (Hilltop

Geotechnical, 2010). Ground disturbing activities for the trench, pipelines, and retarding basins would occur primarily within alluvial deposits, colluvial soils, and granitic bedrock (Monzogranite of City Creek).

The most useful designation for determining if paleontological resources are likely to be present in a project area is the “sensitivity” of the geologic units underlying the project. Sensitivity refers to the likelihood of finding significant fossils within a geologic unit. The colluvial and alluvial deposits and colluvial soils have low sensitivity based on their relative youthful age and/or their high-energy depositional history and are unlikely to produce important fossil remains. The granitic bedrock has zero sensitivity; zero sensitivity is assigned to crystalline rocks because they have no potential for producing fossil remains. The geologic units in the Proposed Project area have low to zero sensitivity, therefore there is a less than significant potential to damage or destroy paleontological resources.

d. Would the project disturb any human remains, including those interred outside of formal cemeteries?

POTENTIALLY SIGNIFICANT IMPACT. No human remains are known to be located within the project area. However, there is always the possibility that unmarked burials could be inadvertently unearthed during excavation activities, which could result in damage to these human remains. The EIR will evaluate this potentially significant impact and identify measures to be implemented if any remains are inadvertently uncovered during excavation activities associated with the project.

C.3.6 Geology and Soils

GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic groundshaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

LESS THAN SIGNIFICANT IMPACT. The project is located in a very seismically active portion of southern California; however, the Project is not located on or crossing a known Alquist-Priolo zoned fault. Two potentially active faults are located within the project vicinity, the Devils Canyon fault and the Rimforest fault. The Devils Canyon fault (also referred to as the Waterman Canyon fault) is a late Quaternary north dipping reverse fault and is located approximately 0.6 mile south of the proposed project (USGS, 2003; SCEDC, 2012). The Rimforest fault was identified by Hilltop Geotechnical Consultants, Inc. (Hilltop) in 2010 while conducting an investigation related to landslide mitigation in the community of Rimforest. The Rimforest fault as mapped by Hilltop traverses the community of Rimforest in northeast-southwest trend, passing to the south of the houses located on Apache Trail and continuing northeast across Blackfoot Trail and Highway 18. The fault zone as mapped by Hilltop consists of two nearly parallel traces of sheared rock with apparent vertical offset (Hilltop, 2010). Hilltop concluded that based on the apparent offset of soil along the fault and until further investigation is conducted along this feature it be considered a potentially active fault. Based on the landslide history of the area and the location of the

feature subparallel to the mountain front there is also potential that this linear sheared rock feature could be an old landslide plane. However, the Rimforest fault feature while mapped close to the project does not cross the alignments of proposed project features. Therefore, there is a less than significant potential of impact from surface rupture of a known fault.

ii) Strong seismic ground shaking?

POTENTIALLY SIGNIFICANT IMPACT. The project area would be subject to ground shaking associated with earthquakes on faults of the San Andreas and Transverse Ranges fault systems. The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between the project area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the project area. Earthquakes occurring on faults closest to the project area would most likely generate the largest ground motion. The intensity of earthquake induced ground motions can be described using peak site accelerations, represented as a fraction of the acceleration of gravity (g). Data from the CGS Probabilistic Seismic Hazard Assessment (PSHA) Mapping website was used to estimate peak ground accelerations (PGA) at the proposed project site (CGS, 2012). The PSHA Maps used depict peak ground accelerations with a 10 percent probability of exceedance in 50 years; peak ground acceleration is the maximum acceleration experienced by a particle on the Earth's surface during the course of an earthquake, and the units of acceleration are most commonly measured in terms of fractions of g, the acceleration due to gravity (980 cm/sec²). The estimated peak ground acceleration at the proposed project site is 0.69g, which corresponds to "strong to very strong" ground shaking.

Components of the proposed project would likely be subject to "local strong to very strong" ground shaking during their lifetime due to earthquakes on local and regional faults. While underground components such as pipelines are generally less susceptible to damage due to strong groundshaking they could be damaged in areas where they transition to other structures, and the retarding basins and covered drainage trench may be damaged due to the ground motions. This would result in a significant impact unless mitigation is incorporated, therefore a discussion of seismic ground shaking and appropriate mitigation measures will be discussed in the EIR.

iii) Seismic-related ground failure, including liquefaction?

POTENTIALLY SIGNIFICANT IMPACT. Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong groundshaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects.

While most of the proposed project area is underlain by granitic bedrock that is not susceptible to liquefaction, potentially liquefiable alluvial deposits exist within the community of Rimforest and where some project components are planned (Hilltop, 2010; LOR, 2001). Seismic related ground failures, including liquefaction could occur in these sediments in the event of a large earthquake if they were to occur while the sediments were saturated due to shallow perched water or seasonal high water tables. Mitigation measures would be required to reduce these impacts to less than significant and thus a discussion of seismically induced ground failures, including liquefaction, and appropriate mitigation measures will be discussed in the EIR.

iv) Landslides?

POTENTIALLY SIGNIFICANT IMPACT. The proposed project is located adjacent to an area of known landsliding and slope instability (Hilltop, 2010; LOR, 2001), and is located in an area mapped as having landslide susceptibility by San Bernardino County (2010). Ground disturbing activities for construction of the proposed project components could potentially destabilize the already susceptible slopes in the area resulting in landslides or other slope failures. Implementation of mitigation measures would be required to reduce this impact to less than significant. The potential for the project to cause and be damaged by landslides will be discussed in the EIR.

b. Would the project result in substantial soil erosion or the loss of topsoil?

POTENTIALLY SIGNIFICANT IMPACT. Ground disturbing activities for the project include trenching for the channel and pipelines along SR-18 and the pipelines along Pine Avenue, and grading and excavation for construction of the three retarding basins along Little Bear Creek. These ground disturbing activities would loosen soils and could result in soil erosion. Additionally, the introduction of additional runoff to the Little Bear Creek drainage could result in additional downstream erosion of the creek bed and banks. These potential impacts could be reduced to less than significant with the incorporation of mitigation measures. The potential for soil erosion related to construction of the proposed project and appropriate mitigation measures for erosion related impacts will be discussed in the EIR.

c. Would the project be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

POTENTIALLY SIGNIFICANT IMPACT. As discussed above, the proposed project is located in an area of known landslide susceptibility and landsliding and is locally underlain by potentially liquefiable sediments. Mitigation measures would be required to reduce these impacts to less than significant. Therefore a discussion of seismically induced ground failures, including liquefaction, and landslides with appropriate mitigation measures for any impacts will be discussed in the EIR.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

LESS THAN SIGNIFICANT IMPACT. The proposed project is entirely underlain by the Morical-Wind River families complex (NRCS, 2012). The Morical-Wind River families complex is found on mountain slopes and consists of residuum weathered from the underlying granite bedrock. Linear extensibility is used to determine the shrink-swell (expansive) potential of soils by the National Resources Conservation Service. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling of the soils resulting from changes in moisture content can cause damage to buildings, roads, and other structures. Special design is commonly required. Linear extensibility of soil at the project site ranges from 0-2.9%, which indicates low expansion potential and therefore, there would be a less than significant impact from expansive soils.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

NO IMPACT. The project would not include any facilities requiring wastewater or sewage disposal and would therefore, not need septic or other wastewater disposal systems. No impact would occur.

C.3.7 Greenhouse Gas Emissions

GREENHOUSE GAS EMISSIONS				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Significance criteria established by CEQA Guidelines, Appendix G.

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**
- b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?**

POTENTIALLY SIGNIFICANT IMPACT. Global climate change is an international phenomenon, and the regulatory background and scientific data are changing rapidly. In 2006, the California state legislature adopted AB 32, the California Global Warming Solutions Act of 2006. Assembly Bill (AB) 32 describes how global climate change would affect the environment in California. The impacts described in AB 32 include changing sea levels, changes in snow pack and availability of potable water, changes in storm flows and flood inundation zones, and other impacts.

Greenhouse gas (GHG) emissions would be generated from off-road equipment uses and on-road vehicle trips during construction. Operational GHG emissions would be generated by the operation and maintenance activities. Indirect GHG emissions could also occur due to the electricity needs during construction or operation. These GHG emissions could have potentially significant impacts and/or may conflict with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions. Therefore, potential impacts related to GHG emissions associated with the proposed project will be analyzed further in the EIR.

C.3.8 Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

LESS THAN SIGNIFICANT IMPACT. The proposed project would not involve the routine transport, use, or disposal of hazardous materials. Potentially hazardous materials such as motor oil, gasoline, diesel fuel, and other materials necessary to operate construction vehicles and equipment would be utilized during construction of the proposed project, and would occasionally be utilized during operation of the project as related to inspection and maintenance activities. However, use of such materials for the operation of vehicles and equipment would occur under best management practices (BMPs) to avoid accidental spill(s) or leak(s), and would not introduce significant potential for hazard to the public or the environment. The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

LESS THAN SIGNIFICANT IMPACT. As described above under criterion (a), the proposed project would not introduce significant potential for hazard to the public or the environment associated with accidental spill(s) or leak(s) of hazardous materials, including through reasonably foreseeable upset and accident conditions.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

NO IMPACT. The closest school to the proposed project site is the Rim of the World High School, located approximately one mile to the east of the community of Rimforest along State Route 18 (SR-18). Access to the project site during construction and operation would utilize SR-18, and traffic associated with the project would likely pass the Rim of the World High School. However, emissions associated with such traffic would be consistent with existing and future emissions from traffic along SR-18, and would not introduce a new impact associated with hazardous emissions in proximity to the aforementioned high school. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in proximity to any existing or proposed school.

d. Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

NO IMPACT. Government Code Section 65962.5 requires the California Department of Toxic Substances Control (DTSC) to compile and update a list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code (HSC), and to submit this list to the Secretary for Environmental Protection. This list, referred to as the Cortese List, currently identifies 16 sites within San Bernardino County, none of which are located on the project site or along the project's proposed access routes (DTSC, 2007).

In addition, HSC Section 25187.5(a) identifies those hazardous waste facilities where DTSC has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC Section 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment (CalEPA, 2011). This is a very small and specific subgroup of facilities, which does not include any facilities on the project site or within vicinity of the proposed project (CalEPA, 2011).

The State Water Resources Control Board (SWRCB) identifies one Leaking Underground Storage Tank (LUST) Cleanup Site in the community of Rimforest on the Rimforest Lumber property, located at 26391 Pine Avenue; the cleanup status of this site is designated as complete, and the case is identified as closed (RB Case # 083602319T) (SWRCB, 2012). No solid waste disposal sites within the County of San Bernardino, including the community of Rimforest, are identified with waste constituents above hazardous waste levels outside the waste management unit (CalEPA, 2012).

Based on the above discussion, the proposed project would not be located on a hazardous materials site and would not create a significant hazard to the public or the environment. No impact would occur, and no further evaluation under this criterion is necessary.

- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?***

NO IMPACT. There are numerous airports located within San Bernardino County. The nearest airports to the community of Rimforest are the San Bernardino International Airport, located approximately 9.25 miles (linear) to the south, and Redlands Municipal Airport, located approximately 11 miles (linear) to the south-southeast. The project is not located within an airport land use plan or within two miles of an airport, and would not result in a safety hazard for people residing or working in the project area.

- f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?***

NO IMPACT. The project is not located within the vicinity of a private airstrip, and would not result in a safety hazard for people residing or working in the project area.

- g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

LESS THAN SIGNIFICANT IMPACT. Construction of the proposed project may require short-term traffic lane diversions and/or closures to ensure public safety while installing project infrastructure. Such diversions/closures would be conducted in coordination with Caltrans and standard BMPs to avoid adverse traffic effects, including as related to emergency response and evacuation. The proposed project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- h. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?***

LESS THAN SIGNIFICANT IMPACT. Construction of the proposed project would include the use of motorized vehicles and equipment in and adjacent to forest areas. Sparks or heat from vehicle and equipment engines could potentially result in the ignition of a wildland fire. However, the proposed project would be constructed in accordance with standard safety measures and would not introduce a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

C.3.9 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater discharge such that there would be a net deficit in the aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. Cause inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project violate any water quality standards or waste discharge requirements?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED. A significant impact to hydrology and water quality could occur if project-related construction or operation and maintenance activities result in the violation of any water quality or waste discharge standards. Such violations could occur through the creation of erosion, sedimentation, and/or polluted runoff, through the accidental release of potentially hazardous materials required during construction or operational activities, and/or through the discharge of contaminated groundwater during dewatering activities. The proposed project would be designed and implemented to avoid such occurrences, and project-specific mitigation measures would be implemented to avoid or minimize the potential for adverse effects to occur such that a water quality standard or waste discharge requirement could be violated. In addition, the diversion of surface water flows from the Santa Ana River Watershed to the Mojave River Watershed that would occur under the proposed project would require approval of the State Water Resources Control Board (SWRCB), the Santa Ana River RWQCB, the Lahontan RWQCB, the San Bernardino Valley Municipal Water District (SBVMWD), and other private holders of water rights within the areas to be affected by the proposed

diversion of flows; implementation of the proposed project would include coordination with and approval of all applicable agencies, including as related to water rights and the diversion of surface flows. It is anticipated that the proposed project would occur in compliance with all applicable water quality standards and waste discharge requirements.

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

POTENTIALLY SIGNIFICANT IMPACT. Groundwater supplies could potentially be depleted through the direct consumption of groundwater to meet project water supply requirements and/or through substantial interference with groundwater recharge associated with the introduction of impermeable surfaces or increased compaction of surfaces. During construction, the proposed project would require a water supply, primarily for the purposes of dust suppression and fire abatement. This water supply would be obtained from municipal fire hydrant(s) in the community of Rimforest. The proposed project is located within the service area of the Crestline-Lake Arrowhead Water Agency (CLAWA), which receives most of its supply from the California State Water Project (SWP) (CLAWA, 2010). The CLAWA does not currently deliver any groundwater resources, and there are no projected plans for CLAWA to use groundwater (CLAWA, 2010). Therefore, the project would have no effect on groundwater resources associated with water supply requirements during construction. There are no water supply requirements associated with operation and maintenance of the proposed project.

Implementation of the proposed project would include the introduction of impermeable surfaces in the form of the concrete channel and concrete pipes; however, these project features would be installed along existing roadways that are currently paved and therefore impermeable, and would not increase the area of impermeable surfaces in the area such that the rate and distribution of groundwater recharge would be affected. In addition, implementation of the proposed retarding basins within Little Bear Creek may result in localized soil compaction, but such effects would be limited to the retarding basins and would have no effect on the rate and distribution of groundwater recharge in the area.

It is understood that shallow groundwater occurs throughout the proposed project area. It is possible that shallow or perched groundwater could be unexpectedly encountered during project construction activities, particularly earth-disturbing activities such as trenching, tunneling, and excavating. If groundwater is unexpectedly encountered during construction, appropriate dewatering activities would be required to remove the perched groundwater as necessary and either return it to the subsurface or discharge to the surface, depending upon factors such as quality of the water, subsurface conditions, and applicable best management practices (BMPs). Due to the high potential for shallow or perched groundwater to be encountered during project construction, this issue will be explored in the EIR. It is anticipated that project-specific mitigation measure(s) will be developed to ensure that dewatering BMPs are applied as necessary to avoid depletion of groundwater supplies or interference with groundwater recharge. The proposed project is not anticipated to result in a net deficit in aquifer volume or a lowering of the local groundwater table level.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or off site?

POTENTIALLY SIGNIFICANT IMPACT. The proposed project would substantially alter existing drainage patterns of the project site and vicinity, towards the purpose of re-directing stormwater flows away from an existing landslide area in southern Rimforest. As described above under criterion (a), the proposed project would divert stormwater flows that currently enter Strawberry Creek in the Santa Ana River Watershed into Little Bear Creek in the Mojave River. This diversion is designed to substantially reduce existing rates of erosion and susceptibility to landslide hazards in southern Rimforest; in doing so, the project would also reduce siltation/sedimentation in the Strawberry Creek drainage associated with sediment-laden surface runoff from the landslide area.

The project's proposed stormwater conveyance facilities through the community of Rimforest are comprised of a series of concrete channels and pipes, the presence of which would not result in substantial erosion or siltation on-site. However, directing flows away from the landslide area and into Little Bear Creek could potentially increase erosion and siltation/sedimentation effects in the Little Bear Creek drainage. In order to control the velocity of increased flows in Little Bear Creek, the proposed project includes installation of a series of retarding basins near the headwaters of this drainage; the retarding basins would capture and slow the flow of surface runoff during large storm events, so that the Little Bear Creek drainage and existing downstream drainage facilities would not be damaged by increased volume and velocity of flow. The retarding basins would also allow sediment contained within surface runoff to settle out, and maintenance activities would include the occasional removal of accumulated sediment in order to maintain stormwater conveyance capacity of the basins.

The proposed project would not alter the course of any stream or river. It is anticipated that implementation of erosion control BMPs and compliance with applicable laws and regulations would avoid adverse effects associated with erosion and/or siltation. Such potential effects are considered potentially significant and will be addressed in detail in the EIR. It is anticipated that project-specific mitigation measures will be developed to ensure that appropriate BMPs are included in the project.

d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

POTENTIALLY SIGNIFICANT IMPACT. As discussed above regarding the project's potential to result in increased erosion and siltation on- or off-site, the project would substantially alter existing drainage patterns on the site and surrounding area. The diversion of surface water flows from the Santa Ana River Watershed into the Mojave River Watershed would increase the volume and velocity of stormwater flows within the Little Bear Creek drainage, particularly in response to large storm events. Existing flood control facilities downstream of the proposed project's outlet point in Little Bear Creek are not substantial enough to convey increased flows under the project unless the flows are impeded by the project's proposed series of retarding basins. These basins would function to decrease the rate at which increased flows travel into the Little Bear Creek drainage, thereby reducing stresses on downstream facilities such as the existing three-foot culvert through the Blue Jay Maintenance Yard, located within the Little Bear Creek channel near the community of Blue Jay.

The proposed project would not alter the course of any stream or river. It is anticipated that implementation of BMPs would avoid adverse effects associated with the potential for the project to result in off-site flooding effects. Such potential effects are considered potentially significant and will be

addressed in detail in the EIR. It is anticipated that project-specific mitigation measures will be developed to ensure that appropriate BMPs are included in the project.

e. Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff?

POTENTIALLY SIGNIFICANT IMPACT. As mentioned above, the existing stormwater conveyance system which transmits flows through the Blue Jay Maintenance Yard, located within the Little Bear Creek channel downstream of the proposed project's outlet point, is not capable of transmitting increased stormwater flows that would occur as a result of the project, and the proposed project would increase stormwater flows into Little Bear Creek. The retarding basins included under the proposed project would be designed to slow the velocity of flows into Little Bear Creek, and to avoid overwhelming the existing stormwater drainage system through the Blue Jay Maintenance Yard, as well as conveyance systems downstream of the maintenance yard, through the communities of Blue Jay and Lake Arrowhead. The potential for the project to create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems will be examined in the EIR for the project, and mitigation measures will be developed to address potential adverse effects.

f. Would the project otherwise substantially degrade water quality?

POTENTIALLY SIGNIFICANT IMPACT. By redirecting flows from north of SR-18 into Little Bear Creek, the proposed project would introduce the potential that surface flows affected by water quality constituents not currently in the headwaters of Little Bear Creek may be introduced to this drainage. For instance, oil and grease runoff from SR-18 may degrade the quality of surface waters diverted by the proposed project, and these waters may subsequently degrade the quality of water within Little Bear Creek. Little Bear Creek is currently routed along existing roadways through developed areas between its headwaters near the proposed project's outlet and its terminus at the Lake Arrowhead Reservoir. However, because the proposed project would direct new areas of surface runoff into Little Bear Creek, the potential for new sources of water quality degradation to be introduced will be examined in the EIR.

g. Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

NO IMPACT. The proposed project does not include the construction of any housing, and would not place housing within a 100-year floodplain as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. No impact would occur.

h. Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?

NO IMPACT. The proposed project would not involve the construction of any structures within a 100-year floodplain that would impede or redirect flood flows. No impact would occur.

i. Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

NO IMPACT. As discussed under criterion (d), it is possible that implementation of the project could result in increased flooding; however, project design features and mitigation measures would be implemented to avoid increased flooding and associated adverse impacts, including the potential to expose people or structures to a risk of loss, injury, or death. There are no levees or dams in the vicinity of the project that could experience failure and cause flooding as a result of the project. The nearest dam to the project

site is the Lake Arrowhead Dam, located more than four miles (linear) to the northeast and downstream of Rimforest. No impact would occur due to the failure of a levee or dam.

j. Would the project cause inundation by seiche, tsunami, or mudflow?

LESS THAN SIGNIFICANT IMPACT. The proposed project is located in a mountainous region that is not subject to inundation by seiche or tsunami; Lake Arrowhead, the nearest large body of water, is located approximately three miles downstream, and the Pacific Ocean is located more than sixty miles away. The proposed project would not cause inundation by seiche or tsunami. The proposed project area is subject to mudflow hazards, where mudflows are a type of mass wasting or landslide which occur when earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow may be triggered by heavy rainfall that the soil is not able to sufficiently drain or absorb; as a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location. However, implementation of the proposed project would reduce existing potential for mudflow events in the project area by routing stormwater runoff away from areas which are currently unstable as a result of historic mudflow and landsliding issues. Although the proposed project area may be subject to future mudflow and landslide events, such hazards would not be introduced as a result of the proposed project, and the project would not cause inundation by mudflow.

C.3.10 Land Use and Planning

LAND USE PLANNING

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project physically divide an established community?

NO IMPACT. The project site is located in the community of Rimforest. Residential and commercial development is present all along the project site. The main components of the proposed project include excavation and trenching for a 1,060-foot-long channel, a 1,616-foot-long concrete pipe, and a series of three retarding basins. The linear features of the project would primarily be aligned along SR-18, and the retarding basins would be constructed in an area of open space. Therefore, the proposed project would not physically divide any of the surrounding residential areas, and would not divide an established community.

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

POTENTIALLY SIGNIFICANT IMPACT. The community of Rimforest is located within the County of San Bernardino's Lake Arrowhead Community Plan. Other plans applicable to the proposed project site include the County's 2007 General Plan and the 2007 Development Code. Consistency with these and any other applicable local, regional, or State plans will be evaluated in the EIR.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

NO IMPACT. The proposed project is not within the boundaries of any adopted habitat conservation plan or natural community conservation plan. Therefore, the project would not conflict with any applicable habitat conservation or natural community conservations plans, and there would be no impact under this criterion.

C.3.11 Mineral Resources

MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

NO IMPACT. According to the U.S. Geological Survey’s (USGS) Mineral Resource Data System, the closest mining activity in the vicinity of the proposed project site includes the following past producers: Heap Peak Quarry (stone), Green Lead Mine (gold), and Keystone and Lucky Jim (feldspar, mica, silica) (USGS, 2012). As these mineral sites are no longer in production, construction and operation of the proposed project would not result in the loss of availability of mineral resources.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

NO IMPACT. No mineral resources have been identified by the County’s 2007 General Plan or the Lake Arrowhead Community Plan at the proposed project site or the immediate vicinity. Therefore, construction and operation of the proposed project would not prevent access to any mineral resource extraction areas specified in a local general plan, specific plan, or other land use plan. No impact would occur.

C.3.12 Noise

NOISE	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

POTENTIALLY SIGNIFICANT IMPACT. The County of San Bernardino 2007 General Plan (San Bernardino County, 2007a) defines noise-sensitive land uses as residences, schools, churches, and parks. The County of San Bernardino 2007 Development Code defines noise-sensitive land uses as residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses (San Bernardino County, 2007b). The proposed project would be located in the immediate vicinity of residential uses within the community of Rimforest, both north of State Route 18 (SR-18) and south of the industrial/commercial uses located on the south side of SR-18. Section 8.0.1.080, Noise, of the County Code provides noise standards for stationary and mobile noise sources. Per Section 83.01.080(g), temporary construction, maintenance, repair or demolition activities are exempt between 7:00 a.m. and 7:00 p.m., except Sundays and federal holidays.

Construction of the proposed project would occur between the hours of 7:00 a.m. and 7:00 p.m, Monday through Saturday, and would therefore be exempt from the County's noise standards. Noise during operations would occur as a result of various activities, including slope stabilization, sediment removal from retarding basins, inspections, repair of facilities, and maintenance of vegetated landscape buffers. As noted above, maintenance activities occurring between 7:00 a.m. and 7:00 p.m. Monday through Saturday (except Federal holidays) would also be exempt; however, no limit on when these activities would occur has been specified. Activities occurring outside these exempted hours would have the potential to exceed the County's noise level standards. Therefore, operational noise will be analyzed further in the EIR.

b. *Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

LESS THAN SIGNIFICANT IMPACT. Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration velocity is most often described in terms of peak particle velocity (PPV) for purposes of groundborne vibration analysis. Typically, ground-borne vibrations generated by man-made activities attenuate rapidly with distance from the source of the vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Construction would not involve blasting, pile-driving, vibratory compaction, demolition, drilling, major excavation, or other similar types of vibration-generating activities in close proximity to sensitive structures; however, the use of a pneumatic breaker, large construction equipment (e.g., excavator, grader, steel drum roller, paving machine) and delivery haul trucks may produce short-term groundborne vibration and associated groundborne noise. Such vibrations may be noticeable within the existing residential structures located immediately along the project alignment. Use of large equipment in any one location, however, would be limited as project construction would progress in a linear fashion along the project alignment. Given the short duration of construction activities with the potential to produce groundborne vibration, that these activities would generally be occurring during daytime hours when people are not usually sleeping, and the absence of highly sensitive uses (e.g., concert halls, vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment), there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels during construction. Furthermore, per Section 83.01.090, Vibration, of the County Code, temporary construction, maintenance, repair, or demolition activities occurring between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays, are exempt from the County's vibration standard (County of San Bernardino, 2007b). Therefore, construction vibration impacts would be less than significant.

Operations may require periodic maintenance activities including slope stabilization, sediment removal from retarding basins, inspections, repair of facilities, and maintenance of vegetated landscape buffers. While some of these activities may involve the use of major equipment or large vehicles (e.g., excavators for sediment removal), these activities would occur periodically, would be of limited duration, and would not occur in the vicinity of vibration-sensitive structures. Furthermore, maintenance activities occurring between 7:00 a.m. and 7:00 p.m. Monday through Saturday (except Federal holidays) are exempt from the County's vibration standard (County of San Bernardino, 2007b). Therefore, vibration impacts during operations would be less than significant.

c. *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

LESS THAN SIGNIFICANT IMPACT. On-going operation of the proposed project would involve the conveyance of water through a new storm drain system. No equipment would be utilized which would generate operational noise on a long-term basis. The project's long-term operational noise would be limited to the sounds of running water, which would vary depending on the velocity of the water flow. High velocity water flows, which would generate the greatest noise levels, would be of short duration during and immediately following a large rain event, and therefore, would not result in a substantial permanent increase in ambient noise levels in the project vicinity. Less than significant impacts would occur.

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

POTENTIALLY SIGNIFICANT IMPACT. Short-term increases in ambient noise levels would occur during construction as a result of both on-site construction equipment and off-site vehicle use from the transport of construction workers, construction equipment and materials. Short-term increases in ambient noise levels would also occur during periodic maintenance activities during operations. Residential uses, which are considered to be a noise-sensitive land use, are located in the immediate vicinity of the project. Furthermore, residential uses located along SR-18 may be considered to be “noise impacted”, which is defined in the County Code (Section 83.01.080(b)) as those areas within the County exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the County’s noise standards (San Bernardino County, 2007b). As such, project construction and operation would have the potential to result in substantial temporary or periodic increases in ambient noise levels, resulting in a potentially significant impact. This issue will be considered further in the EIR.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

NO IMPACT. The project is not located within an airport land use plan or within two miles of a public/public use airport.

f. For a project within the vicinity of a private air strip, would the project expose people residing or working in the project area to excessive noise levels?

NO IMPACT. The project is not located in the vicinity of a private air strip.

C.3.13 Population and Housing

POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

NO IMPACT. Construction activities associated with the proposed project would be approximately four months long and would occur Monday through Saturday from 7 a.m. to 7 p.m. Construction would be performed by the County of San Bernardino’s construction crews or contractors. Therefore, construction would be short-term and temporary, and construction personnel would reside either in the County or in the vicinity of the County. As such, the proposed project would not generate a permanent increase in population levels or a decrease in available housing, and no impacts to existing or future population growth levels would occur as a result of construction of the proposed project.

During the operation period, maintenance activities include regular inspections of facilities, slope stabilization, removal of sediment from the retarding basins, and maintenance of the landscape buffers. The proposed project would not result in the creation of new jobs and there would not be a need for new housing. Therefore, operation of the proposed project would not generate a direct or indirect increase in the permanent population of the area.

b. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

NO IMPACT. Construction of the channel and pipeline would primarily occur along SR-18, and the retarding basins would be constructed in an area of undeveloped forest land. The project site is primarily surrounded by residential and commercial development, but no housing developments are located within the sites or corridors for the proposed project. Therefore, implementation of the proposed project would not result in the displacement of housing, nor would it necessitate the construction of replacement housing. No impacts would occur.

c. Would the project displace substantial numbers of people necessitating the construction of replacement housing elsewhere?

NO IMPACT. As stated in Section C.3.13(b) above, there is no existing housing within the project site. Therefore, the proposed project would not result in the displacement of people, nor would it necessitate the construction of replacement housing elsewhere. No impacts would occur.

C.3.14 Public Services

PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Fire protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

a) Fire protection?

POTENTIALLY SIGNIFICANT IMPACT. The San Bernardino County Fire Department provides fire suppression and emergency medical services to the project area. The primary fire station that would serve the project area is Lake Arrowhead Station No. 91, located at 301 South State Highway 173, Lake Arrowhead, California, approximately 3.4 miles east of the proposed project site. The majority of the proposed project site is located within a State Responsibility Area (SRA), and the California Department of Forestry and Fire Protection (CAL FIRE) implements wildfire planning and protection for the SRA. Construction activities may result in temporary increased risk of wildfire, which could impact firefighting capacity in the area. The potential impact on fire services from construction in a SRA area is therefore potentially significant and will be evaluated in the EIR.

b) Police Protection?

POTENTIALLY SIGNIFICANT IMPACT. Police protection services in the proposed project area are provided by the San Bernardino County Sheriff-Coroner Department. The Twin Peaks Police Station, located at 26010 Highway 189, Twin Peaks, California, approximately 2.5 miles northwest of the proposed project area, would be the primary substation to service the proposed project area. Although the potential is low, the project may attract vandals or other security risks, and construction activities could result in increases in traffic volumes along State Route 14 that could increase demand on law enforcement services. The potential impact on police protection is therefore potentially significant and will be evaluated in the EIR.

c) Schools?

LESS THAN SIGNIFICANT IMPACT. During project construction, a relatively small number of construction workers would be required. It is expected that most of these workers would commute to the project site from surrounding communities. Therefore substantial temporary increases in population that would

adversely affect local school populations are not expected. Operation and maintenance activities would not generate a permanent increase in population that would impact school populations. Impacts on schools would be less than significant.

d) Parks?

LESS THAN SIGNIFICANT IMPACT. Any population increase that would be experienced during the construction phases of the proposed project would be temporary and would not result in additional demand for park facilities. Operation and maintenance activities would not generate a permanent increase in population that would impact park facilities or conditions. Impacts on parks would be less than significant.

e) Other Public Facilities?

LESS THAN SIGNIFICANT IMPACT. Any population increases experienced during the construction phases would be temporary and no additional population would be required for operation and maintenance. Consequently, it is not anticipated that the proposed project would increase population in a manner that would substantially affect public facilities. The proposed project is expected to result in less than significant impacts on public services, such as post office and library services.

C.3.15 Recreation

RECREATION

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

NO IMPACT. An increase in use of existing recreational facilities could be spurred by population growth, which increases use of existing recreational resources. Such a demand on these resources could result in the physical deterioration of the facilities. However, as discussed in the Population and Housing section, the proposed project is not expected to induce either short-term or long-term population growth, either during project construction or operation. As such, there would be no impact to recreational facilities because there would be no increased need for recreational resources.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

NO IMPACT. Construction of the proposed project would include earth-disturbing activities including excavation, trenching, and slope protection. Therefore, the proposed project does not include recreational facilities, nor does it require the construction of new facilities or the expansion of existing recreational facilities. As such, no adverse physical impacts on the environment would be generated by recreational facilities resulting from the proposed project.

C.3.16 Transportation/Traffic

TRANSPORTATION AND TRAFFIC

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with adopted policies, plans, or programs supporting regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

POTENTIALLY SIGNIFICANT IMPACT. As discussed in Section A.4.2 (Construction), it is anticipated that State Route 138 (SR-138) would provide regional access for construction vehicles, with SR-18 providing local access to the project area. SR-138 travels in an east-west alignment from Interstate 5 south of Gorman (west of the proposed project area) to Mount Anderson Junction, where it joins SR-18 south of Crestline, west of the proposed project site. As shown on Figure 2, project-related construction traffic would access the work areas from both SR-18 (which runs in a west-east alignment through the community of Rimforest) and Pine Avenue (which runs parallel to the south of SR-18). As discussed in Section A.4.2 (Construction), construction of the project will take approximately 4 months. Construction workers traveling to the site as well as deliveries of equipment and materials would generate vehicle trips to the area. Additionally, proposed activities may require periodic and temporary closures of northern travel lanes on both SR-18 and Pine Avenue to facilitate construction. Construction related trips and temporary lane closures could decrease the existing level of service (LOS) on all affected roadway segments. Therefore, the EIR will evaluate any potential conflicts with applicable plans, ordinance, or policies pertaining to maintaining identified LOS performance standards on SR-138, SR-18, and Pine Avenue.

During operation and maintenance of the proposed project, the activities identified in Section A.4.3 (Operation and Maintenance) are expected to generate minimal daily traffic volumes and would not require any temporary disruptions to travel lanes. Due to the limited nature of operational and maintenance activities, no impacts to an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system is anticipated to occur. Therefore, no further analysis is required with respect to operational and maintenance related activities on all modes of transportation facilities.

b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

POTENTIALLY SIGNIFICANT IMPACT. The segments proposed for construction related vehicle traffic along both SR-18 and SR-138 are identified within the San Bernardino County, Valley Region, Congestion Management Plan (CMP) Road System (SANBAG, 2007a). For the CMP roadway system, LOS E performance standards must be met for all roadway segments (SANBAG, 2007a). While these highway segments are part of the CMP, no CMP intersections occur along the planned construction vehicle access route (SANBAG, 2007b). Therefore, The EIR will evaluate any potential impacts from construction related vehicle trips and any temporary closure of roadway lanes along these segments of the CMP roadway system with respect to the CMP LOS E performance standard.

c. Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

NO IMPACT. The nearest public airport facility to the project area is San Bernardino International Airport, located approximately 8 miles south of the proposed project site. Due to the distance of this airport and the subsurface nature of the project components (refer to Section A.4.1 (Project Elements)), the proposed project would have no impact to existing air traffic patterns or result in a change in air traffic levels that could result in a substantial safety risk. No further analysis is required.

d. Would the project substantially increase hazards because of a design feature or incompatible uses?

POTENTIALLY SIGNIFICANT IMPACT. As discussed above in checklist question C.3.16(a), the project would generate construction trips and may require temporary roadway lane closures, which could temporarily disrupt typical daily traffic volumes and conditions on SR-138, SR-18, and Pine Avenue. Construction vehicles traveling slowly on these roadways, accessing work sites, and temporary lane closures could create temporary traffic hazards. Therefore, the potential for construction-related traffic and temporary lane closures to result in safety hazards will be evaluated in the EIR.

e. Would the project result in inadequate emergency access?

POTENTIALLY SIGNIFICANT IMPACT. As discussed above in checklist question C.3.16(a), the project would generate construction trips and may require temporary roadway lane closures that could increase the daily traffic volumes or delays on SR-138, SR-18, and Pine Avenue, thereby impeding emergency access. Therefore, the potential for project-related traffic and temporary lane closures to result in inadequate emergency access will be evaluated in the EIR.

f. Conflict with adopted policies, plans, or programs supporting regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

POTENTIALLY SIGNIFICANT IMPACT. As discussed above in checklist question C.3.16(a), the project may result in temporary roadway lane closures that could disrupt bicycle and pedestrian traffic on SR-18 and Pine Avenue. The Mountain Area Regional Transit Authority operates buses on the north and south sides of SR-18. Construction traffic accessing work sites along these areas as well as temporary lane closures could pose a hazard to pedestrians and bicycles. Therefore, the EIR will discuss any potential impacts to any transit, bicycle, or pedestrian facilities as well as any conflicts with applicable San Bernardino County General Plan goals and policies pertaining to such facilities.

C.3.17 Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

NO IMPACT. During construction of the proposed project, wastewater would be contained within portable toilet facilities and disposed of at an approved site. During operation, the proposed project would not generate wastewater. The proposed project would not exceed wastewater treatment requirements and no further analysis is warranted.

b. Would the project require, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

NO IMPACT. As described above, during construction, wastewater would be contained within portable toilet facilities and disposed of at an approved site. Water would be used during construction for dust control and would be obtained using existing fire hydrants in the community of Rimforest. Operation of the project is not expected to generate wastewater or require the use of water. All applicable local, State and federal requirements and best management practices would be incorporated into construction of the project. No new or expanded water or wastewater facilities would be required for the proposed project, and no further analysis is warranted.

c. *Would the project require, or result in the construction of, new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

NO IMPACT. The proposed project is designed as an expansion and construction of new stormwater drainage facilities, the purpose of which is to reroute stormwater flows to minimize the hazards of erosion and landslides. The proposed project is designed to accommodate existing and projected stormwater flows and would not require the construction of additional new or expanded stormwater facilities. No impact would occur and no further analysis is warranted.

d. *Would the project have sufficient water supplies available to serve the proposed project from existing entitlements and resources, or would new or expanded entitlements be needed?*

NO IMPACT. As described above, water for dust control during construction would be obtained from fire hydrants in the community of Rimforest. As described in Section C.3.9(a), the proposed project is located within the service area of the Crestline-Lake Arrowhead Water Agency (CLAWA), which receives its water supply from the California State Water Project (SWP) (CLAWA, 2010). The specific amount of water that would be required for dust suppression during construction of the project has not been identified; however, due to the short-term (four-month) duration of construction, and the limited use of water during construction towards the purpose of dust suppression, it is reasonably anticipated that sufficient water supply is available through municipal fire hydrants serviced by the CLAWA to meet the needs of the project. As such, sufficient water supplies are available to serve the proposed project from existing entitlements and resources, and no new or expanded water entitlements would be required. No impact would occur and no further analysis is warranted.

e. *Would the project result in a determination by the wastewater treatment provider that serves or may serve the Proposed Project that it has adequate capacity to serve the Proposed Project's projected demand in addition to the provider's existing commitments?*

NO IMPACT. As described above, wastewater generated during construction would be contained within portable toilet facilities and disposed of at an approved site and no wastewater would be generated during operation and maintenance. Due to the temporary and short-term nature of construction activities, the volume of wastewater generated during construction would not exceed the capacity of wastewater treatment providers serving the portable toilet disposal site. No impact would occur and no further analysis is warranted.

f. *Would the project be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs?*

LESS THAN SIGNIFICANT IMPACT. Clear and grub wastes generated during construction of the proposed project would be taken to Heaps Peak Transfer Station operated by Athens Disposal. Other exported waste types would also be disposed of at this transfer station. Heaps Peak Transfer Station is located at 29898 SR-18 at Heaps Peak in Running Springs, approximately five miles east of the proposed project site, along SR-18. Waste would then be transferred to an appropriately permitted landfill in Redlands, Colton, or Rialto, each of which have sufficient throughput and capacity to accommodate waste generated by the proposed project. Any impacts on these landfills would be less than significant and no further analysis is warranted.

g. Would the project comply with federal, State, and local statutes and regulations related to solid waste?

LESS THAN SIGNIFICANT IMPACT. The proposed project would generate solid waste during construction of the project, thus requiring the consideration of waste reduction and recycling measures. The 1989 California Integrated Waste Management Act (AB 939) requires San Bernardino County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. The construction contractor will be held accountable to comply with the SBCFCD Plans and Special Provisions issued for this project as well as Caltrans Standard Specifications. Therefore, impacts would be less than significant.

C.3.18 Mandatory Findings of Significance

MANDATORY FINDING OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited, but cumulatively considerable? (<i>Cumulatively considerable</i> means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

POTENTIALLY SIGNIFICANT IMPACT. As described in Section C.3.4 (Biological Resources), the proposed project could result in impacts to habitats that support sensitive species, riparian habitats, and wetlands. Section C.3.5 (Cultural Resources) shows that inventories conducted within the project area resulted in the identification of one (1) built environment resource (36-007049; Rim of the World Drive/State Highway 18). This resource is located within the project APE, which includes areas that would be directly affected by project elements. This resource has not been formally evaluated for CRHR eligibility. Therefore, there may be potentially significant impacts associated with the proposed project, and the EIR will evaluate this resource and any potential impacts to this resource.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? (*Cumulatively considerable* means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

POTENTIALLY SIGNIFICANT IMPACT. CEQA defines a cumulative impact as an effect that is created as a result of the combination of the proposed project together with other projects (past, present, or future) causing related impacts. Cumulative impacts of a project need to be evaluated when the project's incremental effect is cumulatively considerable and, therefore, potentially significant.

As discussed in preceding Sections C.3.1 (Aesthetics) through C.3.17 (Utilities and Service Systems), many of the potential impacts of the proposed project would occur during construction, with few lasting operational effects. Because the construction-related impacts of the proposed project would be temporary and localized, they would only have the potential to combine with similar impacts of other projects if they occur at the same time and in close proximity. Construction impacts caused by the proposed project (primarily related to air quality, biological resources, noise, and traffic) could combine with

similar effects of other projects being built in the area. Potentially significant cumulative impacts will be evaluated in the EIR.

c. Does the project have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly?

POTENTIALLY SIGNIFICANT IMPACT. The preceding sections of this Initial Study discuss various types of impacts that could have adverse effects on human beings, including:

- Dust and air pollutants emitted during project construction activities (see Section C.3.3, Air Quality);
- Exposure to potential geological impacts that could result in ground shaking, ground failures, or landslides (see Section C.3.6, Geology and Soils);
- Generate greenhouse gas emissions (see Section C.3.7, Greenhouse Gas Emissions);
- Noise generated by project construction and operation (see Section C.3.12, Noise);
- Potentially adverse impacts to fire and police protection services (see C.3.14, Public Services); and
- Construction-related traffic (see C.3.16, Transportation and Traffic).

These are primarily temporary impacts associated with project construction activities. Each type of impact with the potential to cause substantial adverse effects on human beings has been evaluated, and this Initial Study concludes that these impacts are potentially significant. Therefore, these potentially significant impacts associated with the proposed project will be evaluated in the EIR.

D. References

A. Project Description

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C.3.1 Aesthetics

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C.3.4 Biological Resources

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