3.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
9.	**HYDROLOGY AND WATER QUALITY— Would the Project:**				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b)	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 (e.g., 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)?	☐	☐	☐	☒
c)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☒
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 authoritative flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☒	☐
j)	Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

3.9.1 Environmental Setting

The Project area is located within the foothills of the Sierra Nevada and ranges from approximately 350 to 1,500 feet in elevation. The area experiences cool, wet winters and hot, dry summers, typical of a Mediterranean climate. The majority of annual precipitation typically falls between October and May and is on average approximately 20 inches over this time (DWR, 2003; WRCC, 2014). Because of the close proximity to the Sierra Nevada mountain range, the area's major rivers experience a heavy seasonal runoff from snowmelt at higher elevations during the spring and summer months. These rivers include the Cosumnes River, which collects water from many creeks and drainages located along the eastern portions of the Project alignment, and the American River, which collects water from drainages in the western portion of the Project area.

Surface Water Hydrology

The Project alignment crosses through three major hydrologic units—Middle Sierra, North Valley Floor, and Valley-American (DWR, 2003). The Middle Sierra and North Valley Floor hydrologic units are part of the larger San Joaquin River hydrologic area. Surface water in the Middle Sierra hydrologic unit, which includes approximately 4.8 miles of the Project alignment from Shingle Springs Substation to approximately Tierra De Dios Drive in Cameron Park as well as Limestone Substation, generally flows south or southwest, forming the upper headwaters to Deer Creek (DWR, 2003). Surface waters in the North Valley Floor hydrologic unit, which include approximately 4.6 miles of the Project alignment, from approximately Tierra De Dios Drive in the community of Cameron Park to Santa Cruz Court in the community of El Dorado Hills, drain to Deer Creek and the Cosumnes River.

Surface water in the Valley-American hydrologic unit, which includes approximately 2.6 miles of the Project alignment, from approximately Santa Cruz Court in the community of El Dorado Hills to Gold Hill Substation in the City of Folsom, generally flows west to the Sacramento River. This section is part of the larger Sacramento River hydrologic region, which collects surface water from the Sacramento Valley and surrounding mountains, drains to the Sacramento–San Joaquin Delta and lastly the San Francisco Bay.

Numerous aquatic features are present throughout the Project area, ranging from larger creeks and streams to ponds and wetlands. Drainages in the Project area consist of Carson Creek, Deer Creek, as well as many other unnamed tributaries. Numerous seasonal wetlands, vernal pools, and other surface water features are also located throughout the length of the Project alignment.

Groundwater

The Project area is located within two groundwater subbasins, the Cosumnes Subbasin and South American Subbasin. The Cosumnes Subbasin is located beneath approximately 8.9 miles of the Project alignment, from Shingle Springs Substation to approximately Santa Cruz Court in El Dorado Hills, as well as beneath Limestone Substation. This subbasin is part of the larger San Joaquin Valley Groundwater Basin, which underlies much of the San Joaquin Valley. The Cosumnes Subbasin is recharged primarily by three drainage systems: the Cosumnes River, Dry Creek, and the Mokelumne River. Groundwater levels in the basin recorded since the mid-1960s have been relatively stable, with periods of drought showing decreases and periods of heavy rain showing substantial recharge (DWR, 2003).

The South American Subbasin is located beneath approximately 2.3 miles of the Project alignment, from approximately Santa Cruz Court in El Dorado Hills to Gold Hill Substation. This subbasin is part of the larger Sacramento Valley Groundwater Basin, which underlies much of the Sacramento Valley. The South American Subbasin is recharged primarily by the American River; however, interactions within the Cosumnes and Mokelumne rivers may affect groundwater at lower depths. Groundwater levels in the basin recorded since the mid-1960s have been relatively stable, with periods of drought showing decreases and periods of heavy rain showing substantial recharge (DWR, 2003).

Drinking water in the Project area is supplied almost entirely by surface water reservoirs containing snowmelt from the Sierra Nevada. Groundwater is not a substantial contributor to municipal water in the Project area (EID, 2013; City of Folsom, 2014).

Flood Potential

The Project area is not located within a flood hazard zone as designated by FEMA nor is it in an area that would be susceptible to natural disasters such as seiches, tsunamis or mudflows. There are no enclosed water bodies, oceans or active faults within the Project area (see Figure 2-1). The nearest flood hazard areas to the Project area are the low-lying portions of Cameron Park located approximately 0.2 miles north of Archwood Road in Cameron Park (FEMA, 2014).

Based on the review of the Cameron Park Lake Dam Failure Inundation Zone Map (County of El Dorado, 2002), it appears that the Cameron Lake Dam is approximately 1.5 miles away. The width of the inundation zone at the Project site would be about 1,000 feet at its widest. Since the inundation zone widens before reaching the area of the Project site, this would result in a decrease in the depth of the flood water at the Project site in the event of a dam failure.

In addition, all relevant flood control and management databases where reviewed in order to determine the proximity of the nearest levees and other flood control facilities. According to the El Dorado County Multi-Jurisdiction Hazard Mitigation Plan, (County of El Dorado, 2004) El Dorado County has a significant number of large and small dam structures with impoundments, but no levees. The flood control facilities (i.e. levees) for the Sacramento Area Flood Control Agency (SAFCA) are all downstream of the Project components (SAFCA, 2008) and the Central Valley Flood Management Planning Program (CVMPP) does not extend into the Project area (DWR, 2010).

3.9.2 Regulatory Setting

Federal and State

The statutes that govern the activities related to the Project that could affect water quality are the federal Clean Water Act (CWA) (33 U.S.C. §1251) and the state Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code §13000 et seq.). These acts provide the basis for water quality regulation that is applicable to the Project.

The California Legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The RWQCB adopts and implements a Water Quality Control Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (Water Code §13240-13247).

Clean Water Act

The CWA, enacted by Congress in 1972 and amended several times since its inception, is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA authorizes the U.S. Environmental Protection Agency (USEPA) to implement federal water pollution control programs such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the CWA is administered by the USEPA and U.S. Army Corps of Engineers (USACE). At the state and regional levels, the act is administered and enforced by the SWRCB and the nine RWQCBs.

Beneficial Use and Water Quality Objectives (CWA §303)

The RWQCB is responsible for the protection of the beneficial uses of waters within Sacramento County. The RWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and has adopted the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (the "Basin Plan") to implement plans, policies, and provisions for water quality management. The RWQCB published the most recent version of the Basin Plan in October, 2011 (RWQCB, 2011).

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan identifies existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction (RWQCB, 2011). **Table 3.9-1** identifies beneficial uses designated in the Basin Plan for the surface water and groundwater bodies relevant to the Project site. The Basin Plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make-up the water quality standards for a given region and Basin Plan (RWQCB, 2011). The Basin Plan also includes actions necessary to maintain these water quality standards.

TABLE 3.9-1
DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE PROJECT SITE AND SURROUNDING AREA

Water Body	Designated Beneficial Uses
Placerville to Folsom Lake	MUN, AGR, POW, REC-1, REC-2, WARM, COLD, WILD
Folsom Lake	MUN, AGR, POW, REC-1, REC-2, WARM, COLD, SPWN
Folsom Dam to Sacramento River	MUN, AGR, IND, POW, REC-1, REC-2, WARM, COLD, MIGR,SPWN, WILD

NOTES:

Beneficial Uses Key:
MUN (Municipal and Domestic Supply); AGR (Agricultural Supply); REC-1 (Body Contact Recreation); REC-2 (Noncontact Recreation); WARM (Warm Freshwater Habitat); COLD (Cold Freshwater Habitat), WILD (Wildlife Habitat); POW (Hydropower Generation); IND (Industrial Service Supply); MIGR (WARM and COLD Migration), SPWN (Warm Spawning).

SOURCE: RWQCB, 2011

National Pollutant Discharge Elimination System Program CWA Section 402

Under the CWA Section 402, the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the United States. The SWRCB administers the NPDES permit program in California.

Projects that disturb one or more acres of soil must obtain coverage under the state's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each project covered by the general permit. At a minimum, a SWPPP includes:

- Description of construction materials, practices, and equipment storage maintenance;
- List of pollutants likely to contact stormwater and site specific erosion and sedimentation control practices;
- List of provisions to eliminate or reduce discharge of materials to stormwater;
- Best management practices (BMPs) for fuel and equipment storage;
- Non-stormwater management measures such as installing specific discharge controls during activities such as paving operations and vehicle and equipment washing and fueling; and
- Commitment that equipment, materials, and workers will be available for rapid response to spills and/or emergencies. All corrective maintenance or BMPs will be performed as soon as possible, depending upon worker safety.

The SWPPP provides specific construction-related BMPs to prevent soil erosion and loss of topsoil. BMPs implemented could include, but would not be limited to: physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Post-construction requirements require that construction sites match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition, unless the site is located within an area subject to the post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved stormwater management plan. The Project is within a MS4 area. The post-construction standards include structural and nonstructural control measures to replicate the pre-project water balance and pre-project drainage density, and reduce pollutants in storm water discharges. A SWPPP must be prepared before construction begins.

The project would disturb more than 1 acre of soil; therefore, it would require an NPDES permit.

NPDES Construction General Permit

The RWQCB administers the NPDES stormwater permitting program in the Central Valley Region. Construction activities disturbing 1 acre or more of land, which includes the Project, are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit) and must apply for

Construction General Permit coverage. For all new projects, applicants must electronically file permit registration documents using the Stormwater Multiple Applications and Report Tracking Systems (SMARTS), and must include a Notice of Intent (NOI), risk assessment, site map, and SWPPP to be covered by the General Construction Permit prior to beginning construction. The risk assessment and SWPPP must be prepared by a state-qualified SWPPP Developer.

The Construction General Permit requires that the site be assigned a risk level of 1 (low), 2 (medium), or 3 (high) based on sediment and receiving waters risk. The sediment risk level is the relative amount of sediment that can be discharged given the project and location details. The receiving waters risk level reflects the risk sediment discharges pose to the receiving waters. A construction analysis provides a preliminary risk level assessment.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) determines flood elevations and floodplain boundaries based on USACE studies. FEMA also distributes the flood insurance rate maps used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations. Those regulations enable FEMA to require municipalities participating in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

California Fish and Game Code Section 1602

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake under the jurisdiction of the California Department of Fish and Wildlife (CDFW). Project plans that are sufficient to indicate the nature of a project for construction must be submitted to CDFW if the project would:

- substantially divert, obstruct, or change a streambed;
- use material from the streambeds; or
- result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement that can flow into a stream.

For projects affecting the bed, bank, or flow of water under CDFW jurisdiction, applicants must submit a notification of lake or streambed alteration to CDFW. The department may issue an agreement if its staff members determine that the activity may substantially adversely affect fish and wildlife resources.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, the SWRCB has authority over waters of the state and water quality. The RWQCBs have local and regional authority. The Central Valley RWQCB has authority in the Project area. The RWQCB prepares and periodically updates the

Basin Plan described under the heading *Beneficial Use and Water Quality Objectives (CWA §303)*, above.

The proponent of any project that will discharge waste to waters of the State must file a report of waste discharge with the appropriate RWQCB. The RWQCB will issue waste discharge requirements or a waiver of the waste discharge requirements for the Project as described below (California Wetlands Information System, 2002).

Waste Discharge Requirements

Actions that involve or are expected to involve discharge of waste may be subject to waste discharge requirements (WDR) under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (Water Code §13260-13274) states that persons discharging or proposing to discharge waste that could affect the quality of waters of the State (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. However, the RWQCB has issued a waiver for certain types of discharges, as discussed below.

Waiver for Specific Types of Discharges (Central Valley RWQCB Resolution R5-2013-0145)

The RWQCB has adopted a waiver of WDR (Resolution R5-2013-0145, *Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge within the Central Valley Region*) for specific types of low-threat discharges to the land surface within the Central Valley region. Construction dewatering and dredged material disposal to land are among the activities covered by this waiver, providing the subject activities meet the conditions specified within the waiver. Waivers serve much the same purpose as general permits (i.e., they are intended to describe a range of protective measures that could be applied to a broad category of activities). This waiver must be obtained from the RWQCB for any actions that would potentially involve dewatering and/or long-term storage of excavated material on the land surface.

Local

Since the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, the Project is not subject to local discretionary regulations. However, consistent with its obligations under CPUC General Order 131-D and as described in the Land Use and Planning section, *Section 3.10.2, Regulatory Setting*, PG&E has consulted with El Dorado and Sacramento counties and with the City of Folsom regarding land use matters. This section includes a summary of local standards or ordinances related to hydrologic resources and water quality for informational purposes and to assist with the CEQA review process.

The El Dorado County Building and Safety Services Department issues grading permits for work to regulate and oversee activities that could, among other things, degrade water quality within the local environment. In addition, the Sacramento County Public Works Agency has a Land Grading and Erosion Control Ordinance designed to minimize damage to surrounding properties and public rights-of-way, the degradation of the water quality of watercourses, and the disruption of natural or County authorized drainage flows caused by the activities of clearing and grubbing, grading, filling and excavating of land, and sediment and pollutant runoff from other construction related activities, and to comply with the provisions of the County's NPDES Permit Number, CA0082597, issued by

the California RWQCB. Similarly, the City of Folsom's Public Works Department oversees all storm water management issues within its jurisdiction, from storm drainage design and construction, to operation and maintenance, and to pollution prevention from urban runoff.

Although PG&E is not subject to local discretionary permitting, ministerial permits would be secured as required.

3.9.3 Applicant Proposed Measures

PG&E has proposed to implement the following APMs as design features of the Project to avoid or minimize potential impacts of the Project to hydrologic resources and water quality:

APM HYDRO-1: Storm Water Pollution Prevention Plan

PG&E would file a Notice of Intent with the SWRCB for coverage under the General Construction Storm Water Permit and would prepare and implement a SWPPP in accordance with General Order No. 2009-0009-DWQ, as amended, discussed in the Regulatory Setting, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation.

APM HYDRO-2: Water Feature Protection Requirements

Where access through hydrologic resources are required, PG&E shall install temporary bridges or plates over drainages (spanning the ordinary high water mark) and install fiberglass or wood matting in wetland features to reduce water quality impacts to these features.

3.9.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would violate any water quality standards or waste discharge requirements: *LESS THAN SIGNIFICANT.*

Construction-related impacts on water quality have the potential to result from several different sources. Among these sources is contamination from fuels or other hazardous materials, and increased erosion caused by grading or vegetation clearing that leads to increased sedimentation. Vegetation may need to be cleared or mowed to improve existing access roads or establish overland access routes, work areas, pull sites, or landing zones for construction. In some instances, minor grading also may be needed to improve tower work areas or existing access roads. The Project has the potential to temporarily adversely affect water quality as a result of erosion and subsequent sedimentation that can result from the increased use of off-road vehicles or earth-disturbing activities. One tower located approximately 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road is located in a seasonal pond and is anticipated to be accessed using a helicopter; however, depending on site-specific conditions at the time of construction, other construction methods may be employed, including accessing the tower on foot and using pulley equipment staged outside of the pond or completing tower work only during the dry season and staging construction equipment on temporary matting. Furthermore, a number of seasonal drainages and one seasonal wetland would also need to be crossed to access Project work areas; however,

these types of Project activities would be small in scale and distributed along the entire length of the Project alignment. Therefore, the impact would be less than significant.

PG&E would assess the risk to water quality—based on site-specific soil characteristics, slope, and the construction schedule—and would develop a SWPPP that addresses potential water quality concerns, as described in APM HYDRO-1. The SWPPP would specify measures for each activity that has the potential to degrade surrounding water quality through erosion, sediment runoff, and the presence of other pollutants. These measures would be implemented and monitored throughout the Project by a qualified SWPPP practitioner (QSP). With implementation of APM HYDRO-1 and APM HYDRO-2, PG&E would further reduce the temporary and short-term construction-related effects on water quality. Therefore, the impact would be less than significant.

Accidental releases of hazardous materials that are used during construction, such as diesel fuel, hydraulic fluid, or oils and grease, would have the potential to occur. This potential impact and associated APMs are discussed in *Section 3.8, Hazards and Hazardous Materials*.

b) Whether the Project would 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 (e.g., 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): *NO IMPACT*.

A water truck, typically with a capacity of 4,000 gallons, would be available to support Project construction activities and dust suppression. Conservatively assuming 360 construction days during the approximately 18-month construction period, and an average of four water truck loads per day, the Project could require about 5.76 million gallons (or 17.7 acre-feet) of water during the construction period. The water is expected to be obtained from local municipal sources such as the El Dorado Irrigation District or the City of Folsom, which are typically supplied through surface water reservoirs. The Project also would not result in an increase in impervious surfaces or other areas that could substantially interfere with groundwater recharge. The Project's water use during construction would not deplete or interfere with groundwater supply or recharge. Therefore, no impact would occur.

c) Whether the Project would substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site: *LESS THAN SIGNIFICANT*.

The Project has been designed to minimize impacts on waterways, as well as avoid substantially altering the drainage patterns of the Project work areas or altering the course of a stream or river. Furthermore, because major grading or contouring is not required, the Project would not result in the substantial alteration of existing drainage patterns. Minor temporary grading may be needed in select locations to improve Project access or establish work areas to accommodate equipment; however, this grading would be limited in scope and would not substantially alter site drainage or result in substantially increased erosion or siltation. Therefore, the impact would be less than significant.

To further reduce this impact, appropriate measures would be implemented, per the SWPPP and under the guidance of a QSP, as described in APM HYDRO-01. After Project construction is completed, disturbed areas would be returned to approximately pre-Project conditions, unless otherwise requested by the landowner. Through Project design and implementation of the SWPPP and APM HYDRO-2, the temporary and short-term effects of erosion or siltation from site runoff would be addressed. Therefore, the impact would be less than significant.

d) Whether the Project would substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site: *LESS THAN SIGNIFICANT.*

The Project does not include creation of impervious surfaces or other modification of surface conditions that could increase surface water runoff rates. In addition, the Project would not require the substantial modification of any upland sites to an extent that it could alter drainage patterns in a way that would increase the potential for on- or off-site flooding. Therefore, the impact would be less than significant.

e) Whether the Project would 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: *LESS THAN SIGNIFICANT*.

Much of the Project alignment is located within rural or undeveloped parcels where municipal or otherwise developed storm water collection systems are not established. The storm water conveyance systems that are present generally consist of open storm water ditches along U.S. Highway 50 and other local roads. Portions of the Project alignment crossing through parking lots and residential development generally have more developed storm water systems already in place. The Project would not increase the amount of impervious surfaces, nor would it substantially modify the grade within the Project area; therefore, the Project would not create or contribute additional runoff that could exceed the capacity of existing storm water systems. Therefore, the impact would be less than significant.

As discussed previously, the Project has the potential to result in less-than-significant water quality impacts, typically through the flow of sediment-laden runoff or the accidental discharge of hazardous materials. As described in APM HYDRO-1, these types of polluted runoff would be controlled further through implementation of an SWPPP. Therefore, the Project would have a less than significant impact related to the provision of additional sources of polluted runoff.

f) Whether the Project otherwise would substantially degrade water quality: *NO IMPACT*.

No additional impacts on water quality beyond those described previously are anticipated. Thus, the Project would not otherwise substantially degrade water quality. Therefore, no impact would occur.

g) Whether the Project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map: *NO IMPACT*.

The Project does not include construction of any new housing. Therefore, no impact would occur.

h) Whether the Project would place within a 100-year flood hazard area structures that would impede or redirect flood flows: *NO IMPACT*.

The Project is not located within a 100-year flood hazard area. Thus, the Project would not result in impediments or redirections of flood waters. Therefore, no impact would occur.

i) Whether the Project would 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: *LESS THAN SIGNIFICANT*.

The Project would not affect existing levees, dams, or other flood control mechanisms, nor would it affect the potential for significant risk of loss, injury, or death resulting from flooding. The Project would not include work that could jeopardize the function or safety of existing dams, levees, or other flood control devices.

Since the Project does not involve impacts to an existing dam or other flood control mechanism, workers would only be exposed to a significant risk involving flooding in the event of an actual dam failure. At 1.5 miles away, there would be some time to be warned of the failure and workers would be able to move to higher ground or outside of the inundation area. In the event of a dam failure, the inundation zone widens before the Project site, thereby reducing the depth of the water and the resulting potential for damage or injury. In addition, the workers would only have the potential for exposure for the period of time they are working on that particular section of the Project. The potential impact would be less than significant because of the distance, the relatively small area of exposure, and the relatively short period of time workers would actually be in that potential inundation zone.

j) Whether the Project would expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow: *NO IMPACT*.

The Project would not result in inundation by seiche, tsunami, or mudflow. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. There are no enclosed water bodies within the project area and the nearest active fault that could generate a seismic event is 93.5 miles away from the Project area. Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption. The Project area is located in an inland area that is not susceptible to tsunamis, which generally occur in areas along the shoreline and for a small distance inland. Mudflows generally result from volcanic activity, catastrophic dam failure, or a large volume precipitation event on saturated soils. The Project is not located in an area of volcanic activity. As discussed above, the Project area is not in an area that would be subject to inundation from dam failure. Therefore, no impact would occur.

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