

2.8 Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
8. HYDROLOGY AND WATER QUALITY—Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2.8.1 Setting

Climate

Sonoma County has a Mediterranean climate characterized by warm, dry summers and cold, moist winters. The majority of annual precipitation in this region occurs as rain that falls during the period of November through April and ranges from 25 to 40 inches per year. Precipitation

patterns in the region are influenced by local topography; correspondingly, mean annual precipitation generally increases with elevation.

Surface Water Hydrology

Watersheds

The project area lies within Sonoma County and transects the Petaluma and Sonoma Valleys. The proposed alignment crosses a total of seven streams and two ponds and makes an elevation change of approximately 600 feet. The entire project area lies within the boundaries of the Sonoma Creek Watershed and the Petaluma River Watershed. Water flow within these two watersheds discharges into San Pablo Bay.

Sonoma Creek Watershed

The Sonoma Creek Watershed covers an area of approximately 170 square miles. The watershed is roughly rectangular in shape, stretching about 25 miles from north to south and about 10 miles east to west at its widest point (SFEI and SEC, 2000). Sonoma Creek originates north of the project area at an elevation of about 2,700 feet and flows south toward San Pablo Bay via a number of circular sloughs that have, over the last 150 years, been highly modified by dredging, levees, and re-alignment. Mountain ridges bound the creek drainage to the east and west.

Tributaries to Sonoma Creek that are located in the project vicinity include Rodgers Creek (spanned in Segment 1 between Poles 42 and 43), Felder Creek (paralleled for approximately 0.75 miles and then spanned in Segment 2 between Poles 96 and 97), Carriger Creek (spanned in Segment 2 between Poles 101 and 102), and Sonoma Creek (spanned in Segment 17 between Poles 107 and 108). Key creeks and streams are shown in **Figures 1-4(a) through 1-4(d)**. Pole 115 would span Fryer Creek, a small concrete-lined tributary to Nathanson Creek in Segment 17. Many of these creeks are seasonal and are either dry or reduced to a series of disconnected pools in the summer.

Petaluma River Watershed

The Petaluma River watershed covers an area of about 146 square miles and flows into the northwestern portion of San Pablo Bay. The watershed comprises a hilly and mountainous headwater section, a central valley section, and a flat tidelands section near the bay (SSCRCD, 2005). The Lakeville Substation and a portion of Segment 1 are located just above the tidelands section of the watershed. Tributaries to Petaluma River include two branches of an unnamed ephemeral creek crossed between Poles 14 and 15 and 35 and 36 located near the Lakeville Substation. These tributaries are dry or reduced to disconnected pools in the summer.

Ponds, Reservoirs, and Wetlands

Both watersheds contain a number of ponds and reservoirs; however, only two ponds (both livestock ponds) located in Segment 1 are crossed by the project. These ponds, located in the Petaluma River watershed northeast of the Lakeville Substation, are spanned by Poles 25 and 26 and 36 and 37. Pole 26 is a proposed new pole whereas Poles 36 and 37 would remain in their

current location. The new Pole 26 would be constructed at a 100-foot setback from the stock ponds.

Natural depressions in the two watersheds accumulate runoff and hillside seepage during wet periods, forming intermittent streams and seasonal ponds. Wetlands are located in the project area adjacent to some of the surface water bodies and near isolated springs. Section 2.4, *Biological Resources*, describes these wetland areas in more detail.

Flooding and Storm Water Management System

The Federal Emergency Management Agency (FEMA) is responsible for mapping areas subject to flooding during a 100-year flood event (1 percent chance of occurring in a single year). Of the areas mapped within the project area, Segment 17 of the transmission line is located within the FEMA 100-year floodplain where the alignment crosses Felder Creek, Carriger Creek, and Sonoma Creek.

The City of Sonoma maintains piped storm drain systems to contain and direct storm water runoff from impervious surface areas such as roads and buildings. Most of these pipes and channels redirect runoff into the natural creeks, some of which have been partially improved to accommodate flood flows. Storm drain systems in the more urban parts of Sonoma are typically maintained by the City. In County areas outside of these drain systems, runoff is either infiltrated into surface soils or directed through overland flow into the aforementioned creeks and other smaller drainages. Public storm drain system improvements are designed in accordance with the Sonoma County Water Agency. Standards for private storm drain systems are set by the City Community Development Department and are based on the Sonoma County Water Agency Flood Control Design Criteria.

Surface Water Quality

The majority of stream flow in the creeks along the project route originates as storm water runoff. In the more urbanized sections, storm water runoff can entrain urban pollutants generated by residential, commercial, industrial, and transportation land uses. These pollutants typically include sediment, oil and grease, heavy metals, pesticides, treatment plant discharges, and debris. Although some of these contaminants are deposited into the streambed, most are discharged directly into San Pablo Bay, adding to the overall pollutant load. Sediment is transported from steep erosive areas, and agricultural operations may add contaminants from livestock manure and chemical fertilizers. Rural residential areas can potentially add pollutants from malfunctioning septic tanks. Additionally, sediments from erosion in the upper tributaries of the watershed decrease the capacity of downstream and tidal waterways.

Groundwater Quality and Use

Sonoma County receives its water supply from both surface waters and groundwater supply wells. Channel flow in the Russian River is the primary source of domestic water; however, Sebastopol, Rohnert Park, and Petaluma supplement their supply with groundwater (Sonoma County PRMD, 1989). Groundwater is recharged through existing natural waterways and

permeable alluvial materials. The principal water-bearing materials in Sonoma County are the alluvial deposits of the valleys as well as some of the volcanic rocks and local deposits of sand. The shallow water table, which fluctuates seasonally with precipitation recharge, varies in depth across the project site.

2.8.2 Regulatory Context

Federal

The legislation governing the water quality aspects of the project is the Federal Clean Water Act (CWA) and within California, the Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation. The objective of this legislation is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The California legislature has assigned the primary responsibility to administer regulations for the protection and enhancement of water quality to the California State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). 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 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 CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with the National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. In November 1990, the U.S. Environmental Protection Agency (US EPA) published final regulations that establish storm water permit application requirements for discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance. Regulations (Phase II Rule) that became final on December 8, 1999 expanded the existing NPDES program to address storm water discharges from construction sites that disturb land equal to or greater than one acre and less than five acres (small construction activity).

State

While federal regulations allow two permitting options for storm water discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide General Permit at this time that will apply to all storm water discharges associated with construction activity.¹ This General Permit requires all dischargers where construction activity disturbs one acre or more, to:

¹ State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000002.

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

This General Permit is implemented and enforced by the nine California Regional Water Quality Control Boards (RWQCBs). Dischargers are required to submit a Notice of Intent to obtain coverage under this General Permit and submit annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. Dischargers are responsible for notifying the RWQCB of violations or incidents of non-compliance.

On August 19, 1999, the State Water Resources Control Board (SWRCB) reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ referred to as “General Permit”). In September 2000, a court decision directed the SWRCB to modify the provisions of the General Permit to require permittees to implement specific sampling and analytical procedures to determine whether Best Management Practices (BMPs) implemented on a construction site are: (1) preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment or silt, and (2) preventing other pollutants, that are known or should be known by permittees to occur on construction sites and that are not visually detectable in storm water discharges, from causing or contributing to exceedances of water quality objectives. The monitoring provisions in the General Permit have been modified pursuant to the court order.

Local Water Quality and Grading Requirements

The City of Santa Rosa and the County of Sonoma are legally bound to implement the mandates of a 1987 amendment to the federal Clean Water Act. In 1997, these two agencies joined with Sonoma County Water Agency (owner of the areas major storm drain system facilities) to obtain a National Pollutant Discharge Elimination System (NPDES) Permit. As part of the permit, these jurisdictions prepared a Storm Water Management Plan (SWMP) which laid out the steps each jurisdiction took to eliminate or reduce to the maximum extent practicable the pollution entering our local creeks from the storm drain system. The Permit was issued by the North Coast Regional Water Quality Control Board (Sonoma County, 2003)².

The first five-year NPDES Permit reached its time limit and the City, County, and Water Agency reapplied. They rewrote the Storm Water Management Plan to match increasing requirements from the State and Federal Governments about reducing water pollution. The Storm Water Management Plan was adopted June 26, 2003 as part of the NPDES Permit issued by the North Coast Regional Water Quality Control Board (Sonoma County, 2003).

² North Coast Regional Water Quality Control Board, Order No. R-1-2003-0062, NPDES No. CA 0025054.

Sonoma County NPDES and Stormwater Management Plan

The County's legal authority required to implement and enforce the municipal storm water management plan is provided in the Federal Clean Water Act, California Water Code, Fish and Game Code, Health and Safety Code, Penal Code and the Sonoma County Code. The California Environmental Quality Act and Subdivision Map Act provide municipalities legal authority to establish conditions on development projects. Sonoma County has adopted local ordinances to supplement Federal and State legal authority to fulfill the National Pollutant Discharge Elimination System for storm water discharge (NPDES) requirements and implement the Storm Water Management Plan (SWMP). These local ordinances are codified in the Sonoma County Code, and many of the provisions of the ordinances relating to storm water are codified in Chapter 11 (Drainage and Storm Water Management) of the Sonoma County Code (Sonoma County, 2003).

Grading Permit Issuance

Development/construction projects in County jurisdiction are subject to the Uniform Building Code (UBC) grading provisions, Chapter 7 of the Sonoma County Code (SCC) as it relates to erosion and sediment control provisions, and Chapter 11 of the SCC for drainage requirements. With respect to grading, the UBC provisions require a grading permit for any project that involves moving more than 50 cubic yards of earth material (with exceptions for certain specified types of excavations), creating cut slopes greater than 2 feet, or importing fill greater than one foot in depth. (In flood prone urban areas, any importation of fill requires a grading permit and engineered plans.) The UBC specifies certain thresholds for requiring engineered grading plans (e.g., volume of earth material being moved). Not all grading plans are engineered grading plans. If an engineered grading plan is required, the applicant's engineer must submit a report certifying that the project, including any erosion and sediment control facilities, has been constructed as designed, prior to final inspection by the Sonoma County Permit and Resource Management Department (Sonoma County, 2003).

2.8.3 Hydrology and Water Quality Impacts and Mitigation Measures

- a) **Violate any water quality standards or waste discharge requirements: *less than significant impact.***

Proposed Project

Potential water pollutants would be generated during the construction phase of the project and could include soil sediment and petroleum based fuels and lubricants. Disturbing soils while establishing staging areas and pull and tension sites, installing poles, and grading necessary temporary and permanent access roads to pole sites, could cause soil erosion and the eventual release of excess sediment into water courses. Excess sediment in water courses can alter and degrade the aquatic habitat in streams. If construction equipment or workers inadvertently release pollutants such as hydraulic fluid or petroleum to the surface, these materials could be entrained by storm water and

discharged into surface water features causing water quality degradation. Potential pollutant sources would be present during the construction phase of the project only and would not be an issue following project completion.

When compared to a subsurface utility installation project that requires extensive trench excavations and soil handling over many miles, the proposed linear overhead transmission line project would require a relatively minor amount of soil disturbance and mechanized equipment. Soil disturbance and equipment use for this project would take place in several localized areas including individual pole sites and temporary staging areas. Establishing construction staging areas and pull and tension sites would require some grubbing (removal of vegetation by mechanized equipment) and soil grading by mechanized equipment to level the near-surface soils. New temporary roads (1.52 miles) and permanent roads (1.35 miles) for access would require standard grubbing and grading of the surface soil to achieve grade and slope. Each pole installation (approximately 99) would require equipment access to an area approximately 50 feet in diameter and would require soil removal to excavate and construct the concrete pier foundation. Preparation at each pole site may require minor grubbing and surface soil disturbance but the major source of soil disturbance would be drilling the pier foundation. Soil generated from the pole locations would not be left at each pole site, rather, it would be off-hauled and disposed or stockpiled for reuse in the staging areas.

PG&E would implement specific erosion control and surface water protection methods for each construction activity conducted as part of the project. These stormwater protection methods, or Best Management Practices (BMPs), are standard in the construction industry and are commonly used to reduce water quality degradation. As discussed in the Regulatory Context section above, the project would be required to comply with the NPDES Construction Activities Permit and therefore, be required to employ specific BMPs for the protection of surface water. PG&E is required to provide details as to the design and monitoring of the BMPs in the Stormwater Pollution Prevention Plan (SWPPP), which they would prepare under the NPDES permit requirements. Examples of standard BMPs, which PG&E would implement as part of the SWPPP and the typical application of those BMPs are discussed below.

- Site grading operations necessary to develop temporary staging areas and pull and tension sites would be required to protect surface water sources from entrainment of sediment using appropriately-placed silt fencing. Surfaces of these staging areas would be graveled during wet weather use to minimize erosion and sediment laden runoff. Temporary staging areas would be returned to pre-project conditions and revegetated.
- Silt fencing is proposed as part of the project and is a standard BMP to control erosion and siltation from loose or disturbed soil. Silt fencing would be placed as appropriate at each pole installation site, especially those adjacent to natural surface water bodies. Stockpiled soil generated from the excavation of pier foundations or boreholes would not be left at the site.

Loose soil would be loaded and used elsewhere or stockpiled in staging areas. Soil stockpiled at the staging area would be managed as required in the SWPPP and be appropriately covered, vegetated, or protected by berms during rainy periods to ensure that eroded sediments do not runoff to surface water resources.

- As part of the project, access roads would be sloped, as appropriate, providing effective surface sheet flow to avoid formation of erosive gullies caused by concentrated runoff. Where necessary, flow diversions, known as water bars, would be used on roadways exceeding gradients of 10 degrees. Water bars divert runoff from roads before gullies can form. Where necessary, all-weather roads would be covered with gravel base material. The gravel base would reduce the erosive energy to reduce erosion.
- The NPDES requires that the SWPPP show BMPs for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and waste. The SWPPP must also describe the BMPs designed to minimize or eliminate the exposure of storm water to construction materials, equipment, vehicles, waste storage or service areas. The SWPPP would require PG&E to identify equipment storage, cleaning and maintenance areas.

Temporary construction activities required for the Proposed Project could generate soil sediment and other petroleum-based pollutants from construction equipment, that, if discharged to surface water could degrade water quality. PG&E is required by federal and local laws to comply with the National Pollutant Discharge Elimination System General Permit, which requires it to develop a SWPPP to address stormwater pollution. The intent of the SWPPP is to reduce or eliminate pollutant discharges to surface water. Through the NPDES general permit process and use of the BMPs prescribed under the SWPPP to manage, reduce, and eliminate pollutant discharges to streams, the potential impacts associated with violations of water quality standards or waste discharge requirements would remain less than significant.

Mitigation Measure 2.1-1

Implementation of Mitigation Measure 2.1-1 would require excavation and stockpiling of subsurface materials from Pole 108 to the Sonoma Substation. This work would begin in the vicinity of Sonoma Creek and require dry boring underneath Fryer Creek (EDAW, 2005). Pollutant discharges associated with construction activity required to implement this mitigation measure are similar to those discussed under the Proposed Project (above) and include soil sediment generated from soil disturbance and localized release of petroleum-based fuels and lubricants from construction equipment. Temporary stockpiles may also be placed near the work area, which could become a sediment pollutant source to streams if not properly protected and covered. As discussed above, construction activities associated with the Proposed Project would be required by the NPDES permit to prepare a SWPPP and outline BMPs which would manage stormwater and reduce or eliminate pollutants (sediment and petroleum) from entering surface water resources.

Implementation of Mitigation Measure 2.1-1 would comply with the NPDES permit and through the requirements of NPDES, temporary impacts associated with violations of water quality standards or waste discharge requirements would remain less than significant.

- 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): *less than significant impact.***

Proposed Project

The depth to the groundwater varies across the project area and some foundation excavations would be above the water table. It is possible, however, in areas where the water table is shallow, that some groundwater seepage may occur in some pole excavations and concrete pier foundation excavations requiring dewatering on a one-time basis immediately prior to pole placement or concrete pouring. The dewatering process would be temporary, yielding only a small volume of groundwater and therefore would be an insignificant impact to the groundwater supply. If dewatering occurs in an area requiring storm sewer discharge, a discharge permit would be obtained from the local Publicly Owned Treatment Works (POTW). Discharging excavation water to open ground would require standard BMPs as outlined for stormwater control in the SWPPP. Project impacts associated with dewatering and its affects to the groundwater resource would be less than significant.

Concrete footings, pier foundations, paved roads, and substation improvements required for the project would result in a minor net increase in impervious surfaces (approximately 0.39 acres across the entire project site). This area of impervious surfaces would not cause a measurable reduction in surface infiltration or a decrease in deep percolation to the underlying aquifers. Potential impacts associated with groundwater recharge would be less than significant.

Mitigation Measure 2.1-1

Implementation of Mitigation Measure 2.1-1 would require excavation and stockpiling of subsurface materials from Pole 108 to the Sonoma Substation. As described for the Proposed Project, although Mitigation Measure 2.1-1 may require some temporary dewatering, the impact to the groundwater resource would be less than significant.

- 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 of siltation on- or off-site: *less than significant impact.***

Proposed Project

The Proposed Project would not significantly alter drainage patterns or the course of any creeks resulting in erosion on or offsite. All proposed replacement poles located in the vicinity of drainages and waterways would be located at a further setback than currently exists (i.e., from 50 feet to 100 feet). In addition, the total footprint of each newly installed pole would not occupy enough area to cause alteration of drainage patterns or diversion of surface water in such a way that would concentrate flow and cause erosion. The substation modifications would require the construction of small concrete foundation pads for equipment within the existing substation property and would not contribute to surface erosion. The BMPs developed under the SWPPP as described in a), above, would ensure that runoff and drainage impacts related to temporary construction would remain less than significant.

Mitigation Measure 2.1-1

Implementation of Mitigation Measure 2.1-1 would involve placing a portion of the transmission line underground and would not result in any changes to topography or existing drainage ways.

- 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: *less than significant impact.***

Proposed Project

The Proposed Project would not alter drainage such that it would cause flooding on or off-site. As mentioned above, the net increase in impervious surfaces (approximately 0.39 acres) would be negligible. In addition, the total footprint of each newly installed pole would vary from a two-foot diameter for wood poles to a 7-foot diameter for the tubular pole foundation. The total footing and foundation areas proposed under the project would not occupy an area that would alter drainage areas or divert surface waters in flood prone areas. The substation modifications would require the construction of small concrete foundation pads for equipment within the existing substation property. The area occupied by these foundation pads would not be enough to alter existing drainage patterns or cause offsite flooding. Impacts associated with alteration of drainage area and potential flooding would remain less than significant.

Mitigation Measure 2.1-1

Implementation of Mitigation Measure 2.1-1 would involve placing a portion of the transmission line underground and would not result in any changes to topography, existing drainage ways, or flood flow patterns.

- 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: *less than significant impact.***

As discussed in a), above, the SWPPP required under the NPDES permit would ensure that excess runoff generated by the temporary construction phase of the project would be managed by BMPs, which would reduce or eliminate the potential for polluted runoff. As discussed in c) and d), above, the area of impervious surface resulting from the proposed project is minor and would not result in excessive runoff. Much of the project area is not serviced by stormwater drainage systems. The SWPPP and project characteristics would ensure that impacts associated with excessive surface water would remain less than significant.

- f) **Otherwise substantially degrade water quality: *less than significant impact.***

The project would not result in additional surface water pollution above that discussed in a), above.

- 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 flood hazard delineation map: *no impact.***

The project does not propose to place housing in the project area and therefore, the project would not result in any impacts related to the placement of housing within a 100-year flood hazards area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

- h) **Place within a 100-year flood hazard area structures which would impede or redirect flood flows: *less than significant impact.***

No new poles would be placed in a 100-year floodplain as determined by the Flood Insurance Rate Map that identifies 100-year flood zones along Sonoma Creek, Felder Creek, or Carriger Creek. Existing poles located in flood zones would not impede or redirect flood flows because the area they occupy is not adequate to impede flow; water flows around the poles with minimal diversion. The Lakeville and Sonoma Substations are both located outside of the flood zone boundaries. Impacts associated with pole locations in flood zones remain less than significant.

- 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: *less than significant impact.***

All construction activities would be located outside of known 100-year flood zones. No reservoirs or dams exist in the project vicinity; however, failure from the Sutzenfield Dam, located more than 5 miles from the project boundaries, could impact Sonoma Creek

where the transmission line transects it (ABAG, 2005). Under existing conditions, a catastrophic failure of Sutzenfield Dam could be observed in the proposed project area. The proposed project would not change that condition. Because the distance from the dam and the ability of the water energy to attenuate over the distance, a dam failure may cause a temporary increase in the water surface in Sonoma Creek but it would not cause substantial flooding in the project area. There are no characteristics of the project that would increase the flooding hazard and therefore, impacts associated with catastrophic flooding would be less than significant.

j) Inundation of seiche, tsunami, or mudflow: no impact.

Although within a seismically-active region, the Proposed Project is not located in an area that would be impacted by a seiche, tsunami, or mudflow.

References – Hydrology and Water Quality

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