

# 1. SUMMARY

## 1.1 Introduction

This Initial Study and Mitigated Negative Declaration (IS/MND) has been prepared to evaluate the potential physical environmental consequences of the proposal by Looking Glass Networks (LGN), also called “the Applicant,” to install conduit and related facilities to create a Metropolitan Area Network (MAN) to serve the California metropolitan areas of the San Francisco Bay Area and the Los Angeles Basin. The fiber optic conduits primarily would be buried underground in existing public rights-of-way (ROWs), within built-up urban and suburban locations. LGN has requested a Certificate of Public Convenience and Necessity (CPCN) to supplement its existing CPCN granted by the California Public Utilities Commission (CPUC) on September 7, 2000, authorizing LGN to install fiber optic cables to provide MAN services in California. The initial CPCN granted to LGN authorized it to provide limited facilities-based and resell local exchange service as a competitive local exchange carrier throughout the service territories of Pacific Bell, Verizon Communications (formerly GTE California Incorporated), Roseville Telephone Company, and Citizens Telecommunications Company of California, Inc., and interexchange telecommunications services (both inter-Local Access and Transport Area (LATA)<sup>1</sup> and intra-LATA) as a non-dominant interexchange carrier statewide.

This IS/MND has been prepared in accordance with the California Environmental Quality Act (CEQA) (Pub. Res. Code Section 21000 et seq.) and the updated State CEQA Guidelines (Title 14, Chapter 3, Section 15000, et seq., California Code of Regulations) to meet the requirements for an IS/MND.

Potential environmental impacts have been identified for each environmental issue area based on a program level of detail that is correlated to the general locations identified for project activities. These general locations have been grouped into study zones. Study zones encompass priority construction areas as well as targeted aggregation points<sup>2</sup> where laterals may be required to connect the existing (or future) backbone networks to the targeted aggregation points or to complete gaps in the existing backbone networks. Because final alignments have not been determined at this time, prior to construction LGN will be required to submit work plans detailing route-specific construction plans, schedules, maps, permits and other relevant plans and information identified as identified in Section 4.

Mitigation measures that address both program-level (study zone) and project-level impacts are identified in this document. This IS/MND concludes that, given the construction approach, design elements (including design features that avoid or lessen project impacts), and the mitigation measures included in this document, no significant effect on the environment would occur.

In addition to its Application for the CPCN, LGN submitted a Proponent’s Environmental Assessment (PEA), which has been used in the preparation of this IS/MND. The environmental baseline information in the PEA was used, after verification, but impact determinations were made independently for this IS/MND.

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<sup>1</sup> By order of the Modified Final Judgment for the divestiture of the Bell Operating Companies by AT&T Corporation, service or market areas named Local Access and Transport Areas were established as subdivisions of the Bell service/market area; California was divided into 11 LATAs.

<sup>2</sup> Aggregation points include, but are not limited to, telephone company central offices, carrier points of presence, data centers, hosting facilities, carrier hotels, and other buildings.

## 1.2 Project Description

As described in Section 3 of this document, as part of its application, LGN seeks CPUC approval to install conduit and related facilities to create a Metropolitan Area Network to serve the California metropolitan areas of the San Francisco Bay and the Los Angeles Basin. The project consists of (1) the construction of facilities (including tie-ins and manhole installation), and (2) the repair or replacement of existing conduit through which LGN would pull fiber optic cable.<sup>3</sup>

The construction process for the installation of new underground conduit typically involves conduit installation, fiber optic line installation, and splicing of the fiber optic lines. For conduit installation, the Applicant proposes to utilize a mixture of company-owned outside plant (OSP) facilities. Potentially leased conduit and/or fiber would be deployed in one of three fashions: underground facilities, aerial facilities, or leased structures, depending on geographical location and whether sensitive resources could be encountered.

- Underground facilities would be installed primary via trenching in dense urban areas and via directional boring methods in suburban or less dense urban areas. In trench installations, LGN would install two 4-way 1.5-inch rigid polyvinyl chloride (PVC) conduit packs buried at a depth of 36 inches (top of conduit). In directional boring installations, 8 high-density polyethylene (HDPE) conduits would be pulled through the borehole.
- LGN's basic method of installation for aerial facilities would be to install suspension clamps at each pole or supporting structure location. Cables would then be supported (lashed) to high-strength galvanized suspension strands held in place by the suspension clamps. Aerial facilities could also be in the form of a bridge attachment; bridge attachments commonly occur either by hanging the conduit to the exterior of the bridge structure or by installing the conduit within an existing cell or continuous void that runs the entire length of the bridge.
- LGN's proposed use of leased structures involves leasing existing subsurface conduit and/or fiber from a telephone company, municipality, or other third party entity.

Once the conduit is in place, fiber optic cable would be installed, generally by using a powered pulling device with hydraulic-powered assist wheels. A pull line would be attached to a plug that would be pushed through the conduit by air pressure. When the plug emerges at the end of the conduit section or access point, the pull line would be attached to the fiber optic cable. The pull line would then be pulled back through the conduit section, threading the cable through the conduit as it returns to the point of entry. The cable would be spliced in splice cases located in handholes or manholes with sufficient slack allowed.

LGN's CPCN Application states that its primary approach to implementation of the proposed project would be avoidance of impacts. This approach would include designing the project to completely avoid permanent alteration of wetlands and waters of the United States and avoiding or minimizing temporary construction-related activities in sensitive resource areas, such as biological or cultural resources, to the extent practicable by selecting a route through previously disturbed habitats and by boring under highly sensitive resources. Where complete avoidance of construction-related disturbance to sensitive resource (biological, cultural, noise, traffic, etc.) areas is not practical or feasible, LGN states that it would minimize the effects of the proposed project in those specific areas through construction timing, implementation of environmentally sensitive construction practices, training and education, and compliance monitoring. No new access roads, either temporary or permanent, would be created. Specific miti-

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<sup>3</sup> The installation of fiber optic cable, which occurs after the fiber optic conduit has been installed, is not included as part of the proposed project; cable installation is covered under LGN's existing CPCN.

gation measures have been identified in this document and LGN has committed to adopting them to avoid or reduce the impacts of the project to less than significant levels. These measures are presented in Table 1-1 at the end of this section and described in Section 4 (Environmental Setting, Impacts, and Mitigation Measures).

## 1.3 Project Components

LGN's targeted connections or network nodes are located in major aggregation points in the San Francisco Bay Area and the Los Angeles Basin. It is expected that the laterals required to reach targeted customers will utilize State and local ROWs and other designated utility corridors. As mentioned above, study zones in these two areas encompass major aggregation points and planned backbone networks.

### San Francisco Bay Area

In the San Francisco Bay Area, LGN has identified aggregation points of immediate interest, as well as many potential enterprise business locations that LGN predicts may be connected at a later date to satisfy future customer service orders. Nearly all buildings to which LGN would like to connect are adjacent to LGN's planned MANs. In the San Francisco Bay Area, LGN has identified gaps in the planned backbone networks that will likely require new construction. The exact conduit alignments of these new build locations have not yet been determined, but all potential construction zones have been identified.

Fifteen study zones were developed that encompass the area around the potential targeted buildings and the MANs in which they would connect to in order to provide potential future build connections and locations. The study zones extend at least a quarter mile from each build location and, in some cases, larger areas are created by the cluster of build locations in downtown areas. Future lateral builds to connect targeted buildings that would involve new conduit installation by LGN Networks would fall within the study zones identified in this document.

### San Francisco Bay Area Study Zones

- *San Francisco North Study Zone* surrounds the Financial District in downtown San Francisco bounded to the north by Green Street and the South of Market (SOMA) District bounded to the south by 16<sup>th</sup> Street. It continues south through South San Francisco.
- *South San Francisco Study Zone* extends from 23<sup>rd</sup> Street in the City of San Francisco to Geneva Avenue in Daly City.
- *Mid-Peninsula Study Zone* begins in the City of South San Francisco and extends through San Bruno, Burlingame, and Millbrae.
- *Foster City Study Zone* includes a small portion of Foster City roughly bordered to the south by Hillsdale Boulevard, to the North by Highway 92, to the east by Foster City Boulevard, and to the west by the Marina Lagoon.
- *Redwood City Study Zone* generally follows Highway 101 between Shoreline Boulevard and Embarcadero and El Camino Real between Embarcadero and Shoreline Boulevard.
- *Mountain View/Palo Alto Study Zone* is generally between Highway 101 on the northeast side and El Camino Real on the southwest, and between Edgewood Road and Willow Road.
- *Milpitas Study Zone* covers portions of the City of Milpitas between the Southern Pacific Railroad line to the south, and Highway 237 and Tasman Road to the north.

- *Sunnyvale Study Zone* covers portions of the area between Highway 101 and El Camino Real, and also follows Hollenbeck Avenue south to Stevens Creek Boulevard and then returns north along Wolfe Road.
- *San Jose Study Zone* encompasses the central business district area of San Jose and goes as far south as San Jose Avenue. It is roughly bound on the east by the Union Pacific Railroad (UPRR) and on the west by The Alameda.
- *North San Jose Study Zone* covers a small portion of northern San Jose to the north of Highway 101, west of the UPRR and mostly south of Highway 237.
- *Fremont Study Zone* follows the UPRR and extends 1,000 feet from each side of the railroad corridor.
- *Hayward Study Zone* forms a loop along Winton Avenue, down Cabot Boulevard, back across Depot Road and Culp Avenue, and through the downtown Hayward area.
- *Oakland Study Zone* encompasses the central business district of Oakland.
- *Emeryville Study Zone* extends along San Pablo Avenue between Stanford Avenue and Channing Way.
- *Pleasanton Study Zone* encompasses an area roughly within Las Positas Boulevard, Stoneridge Drive, Owens Drive, and Hopyard Road.

## Los Angeles Basin

In the Los Angeles Area, LGN has identified the aggregation points of immediate interest as well as many business locations to which LGN may connect in the future to satisfy customer service orders. Similar to the presentation for the San Francisco area, nearly all buildings to which LGN would like to connect are adjacent to LGN's planned MANs.

In the Los Angeles Area, LGN has not yet identified areas where new construction may be required to complete planned backbone routes; however, the environmental analysis described in this document analyzes the potential target buildings and their surroundings (at least 1,000 feet to either side of them) for potential future implementation. In addition, study zones were outlined around the areas of other identified potential future build locations. The study zones encompass the planned network backbones including existing conduit systems to which LGN proposes a potential connection. There are 9 study zones in the Los Angeles Basin. The study zones extend at least a quarter mile from each target location and, in some cases, larger areas are created by the cluster of target buildings in downtown areas. Future lateral builds to connect targeted buildings that would involve new conduit installation by LGN Networks would fall within the study zones identified in this document.

## Los Angeles Basin Study Zones

- *Burbank/Glendale Study Zone* covers the vicinity around the four potential future build locations near the intersections of Broadway and Orange Street, Glenoaks Boulevard and Palm Avenue, Thornton Avenue and Ontario Avenue, and Magnolia Boulevard and Tujunga Avenue.
- *Pasadena Study Zone* encompasses study boundaries surrounding three target building addresses, two in Altadena and one in central Pasadena.
- *Santa Monica/Beverly Hills Study Zone* include customer locations along Wilshire Boulevard, Sunset Boulevard, and Melrose Avenue. It extends west almost to the Pacific coast.
- *Downtown Los Angeles Study Zone* encompasses the central business district of Los Angeles. It is roughly bordered by Hollywood Boulevard on the North, San Julian Street on the east, 23<sup>rd</sup> Street on the south, and Union Street on the west.

- *LAX/El Segundo Study Zone* includes a small area of Marina del Rey, portions north and south of Los Angeles International Airport, and three target building locations east of I-405.
- *Long Beach Study Zone* encompasses small areas north and south of I-405 and east and west of the Pacific Electric railroad.
- *Buena Park/Anaheim Study Zone* primarily follows I-5 from just north of Artesia Avenue to Lincoln Avenue and then to Anaheim Boulevard and Haster Street. The area extends a quarter mile to either side of these roadways and also includes a few other peripheral addresses.
- *Santa Ana Study Zone* begins in Costa Mesa, encompassing the central and eastern portions of Costa Mesa and then extending northeast, paralleled by Interstate 5.
- *Irvine/Costa Mesa Study Zone* is roughly bounded on the east by the San Diego Creek Channel, on the west by the Upper Newport Bay, and on the north by Macarthur Boulevard. To the south it follows Macarthur Boulevard until it reaches San Joaquin Hills Road.

## **1.4 Summary of Impacts and Mitigation Measures**

LGN's primary approach to implementation of the proposed project would be avoidance of impacts. LGN would incorporate mitigation into the proposed project's design and construction approach, to avoid or reduce possible environmental impacts to less than significant levels. LGN's commitments include avoiding wetlands, rivers and streams, and sensitive habitats, cultural resources, and other environmentally sensitive areas during construction through rerouting, directional boring, or attaching to bridges where feasible. Specific mitigation measures have also been identified in this IS/MND and have been accepted by LGN to avoid or reduce the impacts of the proposed project to less than significant levels. These measures are presented in Table 1-1 at the end of this section and described in Section 4 (Environmental Setting, Impacts, and Mitigation Measures).

### **Growth-Inducing Impacts**

The proposed project would serve the expanding telecommunications market in California. The contribution of this project to California's projected population growth is expected to be negligible because it would not be a primary decision factor for persons or businesses considering moving to California. The State's growth is largely independent of the availability of fiber optic capacity.

### **Cumulative Impacts**

The environmental impacts of the proposed project would be negligible or less than significant after implementation of recommended mitigation measures. The project proposed by LGN involves building sections of local fiber optic networks primarily to serve customers in urban metropolitan areas of the Los Angeles Basin and the San Francisco Bay Area. Generally, LGN proposes to provide service utilizing existing conduit or aerial structures where they are available. Where such facilities are unavailable, LGN might also be required to construct interconnections between existing systems or build laterals or loops off other networks to expand or integrate its customer base. It is anticipated that construction associated with conduit placement or repair would not overlap with other public or private utility projects during the same timeframe on any given segment of the project. Therefore, because of the temporary nature of the potential effects of the proposed project, project effects are not expected to be cumulatively considerable.

**Table 1-1. Summary of Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>AESTHETICS</b>			
<b>Impact 1:</b> Construction activities would affect scenic vistas or visual character of the site.	<b>AES-1</b> LGN shall (1) maintain orderly staging and construction areas; (2) identify and comply with local regulations and requirements concerning architectural design and landscaping; (3) design project facilities to be unobtrusive and to not conflict with the character of the surrounding setting. LGN shall also restore conduit installation sites to pre-construction conditions. Prior to construction, the Applicant shall submit to the CPUC written documentation of consultation with the local agencies associated with each study zone regarding the appropriate architectural design and landscaping practices that the Applicant would implement before, during, and after construction.	☒	☒
<b>Impact 3:</b> Light or glare disturbance during construction	<b>AES-2</b> Construction lights shall be directed away from the visual field of motorists and pedestrians along any streets or ROWs. No nighttime construction (between the hours of 8:00 p.m. and 7:00 a.m.) shall occur within 500 yards of any residence or non-residential sensitive use, unless otherwise approved by the applicable jurisdiction.	☒	☒
<b>AGRICULTURAL RESOURCES</b>	No mitigation measures recommended		
<b>AIR QUALITY</b>			
<b>Impact 1:</b> Introduction of emissions sources from construction disturbance	<b>AQ-1</b> Mitigation of temporary construction impacts on air quality shall consist of implementation of Bay Area Air Quality Management District–recommended dust abatement measures for work in the San Francisco Bay Area study zones and implementation of similar types of measures for work in the Los Angeles Basin study zones as required under the South Coast Air Quality Management District’s Rule 403.  For work in the Los Angeles Basin, construction-related mitigation shall include additional measures to reduce emissions of ozone precursors and particulates from use of construction equipment. LGN shall comply with all SCAQMD permit requirements and SCAQMD Rule 403 as follows:  <ul style="list-style-type: none"> <li>● Use of diesel fuel with a sulfur content not to exceed 0.05 percent by weight to the extent feasible; and</li> <li>● Implementation of the measures required under SCAQMD Rule 403 (as described in PEA text) for high wind and normal wind conditions to reduce PM-10 emissions from the various fugitive dust sources associated with project construction, and maintenance of the necessary documentation that demonstrates compliance with the rule.</li> </ul>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>Impact 2:</b> Increase local pollutant concentrations.	<p><b>AQ-2</b> For project construction within the Bay Area Air Quality Management District, the Applicant shall implement the following dust abatement measures for individual construction sites that are larger than 4 acres or if any portion of the construction site is within 50 feet of sensitive receptors:</p> <ul style="list-style-type: none"> <li>● Water all active construction areas at least twice daily.</li> <li>● Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.</li> <li>● Pave, apply water 3 times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.</li> <li>● Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.</li> <li>● Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.</li> <li>● Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.</li> <li>● Install windbreaks, or plant trees/vegetative windbreaks at windward side(s) of construction areas.</li> <li>● Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.</li> <li>● Limit the area subject to excavation, grading, and other construction activity at any one time.</li> </ul>	☒	
<b>Impact 3:</b> Construction equipment exhaust emissions of ozone precursor (ROG and NOx).	<p><b>AQ-3</b> LGN shall comply with the following requirements for project construction:</p> <ul style="list-style-type: none"> <li>● Use of California on-road diesel fuel for all diesel-powered construction equipment;</li> <li>● Use of construction equipment that is properly tuned and maintained in accordance with manufacturer's specifications;</li> <li>● Use of best management construction practices to avoid unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues shall be kept with their engines off, when not in use); and</li> <li>● Suspension of emissions-generating construction activities during "Stage 2" smog alerts. Stage 2 air pollution episodes occur under the California Air Pollution Emergency Episode</li> </ul>		☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 3</b> above.	<p><b>AQ-4</b> For project construction within the South Coast Air Quality Management District, LGN shall comply with the following requirements:</p> <ul style="list-style-type: none"> <li>● Employ a maximum of 5 work crews on any given workday with a maximum of 3 work crews using the street trenching technique, unless all equipment is compliant with California emission standards for engines manufactured after 1995; or</li> <li>● Employ a maximum of 6 work crews on any given workday with a maximum of 4 work crews using the street trenching technique, if all equipment is compliant with California emission standards for engines manufactured after 1995.</li> </ul>		☒
<b>BIOLOGY</b>			
<b>Impact 1:</b> Direct or indirect adverse effects on sensitive species or their habitats.	<p><b>BIO-1</b> Biological surveys shall be performed prior to installation activity in areas where roads traverse open agricultural areas and grasslands, and are located near streams. Areas that could support special status wildlife species generally shall be avoided by project design (streams, grasslands, marshlands), and other restrictions shall apply to work in close proximity to sensitive resources. Where identified, sensitive resources shall be avoided by minor rerouting of the cable route within roads, boring under the resource (e.g., streams), attaching the conduit to an existing bridge, where applicable, or trenching during a time of year when sensitivity is low (in the case of nesting birds). Conduit shall be bored under streams that could support threatened or endangered species or other resources of special value or attached to bridges. In most cases, no construction activities shall be conducted within 20 feet of the top of bank or riparian stream vegetation. LGN shall acquire all permits and authorizations required by federal, State, regional, and local jurisdictions to construct near areas with sensitive biological resources. Throughout the life of the project, additional species may be listed or designated as special status, and LGN shall comply with any new requirements of the USFWS or CDFG for such species. Specific sensitive areas and widths of approved corridors shall be defined in the work plans submitted in the Programmatic Process.</p>	☒	☒



Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>BIO-2</b> The Applicant shall perform no open trench crossings at any stream, wetland feature or other waters of the United States unless otherwise identified by a Stream Bed Alteration Agreement, U.S. Army Corps of Engineer 404 Permit, and/or any other required permits. Stream or wetland crossings shall be performed either by bridge attachment or by directional bore.</p> <p>For directional bores at streams that do not support sensitive wildlife resources within 500 feet of the construction site (e.g., at channelized or unvegetated waterways), a qualified biological monitor shall visit the site at least once daily during construction. LGN shall provide full-time biological monitoring during all construction activities at stream or channel crossings that contain either flowing water, sensitive species, riparian or wetland vegetation. The LGN monitor shall ensure that State and/or federal wetland protection guidelines are followed and that an adequate setback of at least 20 feet is observed at wetland and/or riparian (woody vegetation) edges that provide suitable habitat for special status species.</p> <p>The 20-foot setback from riparian vegetation is considered an initial guideline that may be modified at specific sites following informal consultation with federal and State resource agencies, and as new information becomes available regarding wildlife habitat use.</p> <p>A resource specialist shall inspect all stream crossings prior to construction, additional sites that have not now been identified as potential habitat may become occupied at a later time (e.g., by nesting raptors).</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>BIO-3</b> LGN shall avoid riparian and wetland habitats that support special-status fisheries and wildlife, by establishing and observing exclusion zones consistent with current regulatory requirements for sensitive species and associated habitat. This measure shall apply to, but not be limited to, the following large creeks and streams that provide potential habitat for Pacific lamprey and Central California coast steelhead (and Central coast Chinook salmon in the Guadalupe River): Coyote Creek, Guadalupe River, Los Gatos Creek, and San Francisquito Creek. Additionally, this measure also applies to vegetated tributaries to the above-mentioned waterways and to freshwater and brackish water emergent wetlands and associated upland habitats bordering San Francisco Bay.</p>	☒	☒

		Applies To:	
Environmental Impact	Mitigation Measure	San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>BIO-4</b> Where construction is proposed to occur near riparian and salt marsh habitats that support special-status nesting birds as defined below, the Applicant shall limit construction periods to outside the breeding season.</p> <ul style="list-style-type: none"> <li>● <i>Tricolored Blackbird, Saltmarsh Common Yellowthroat, Alameda Song Sparrow.</i> For project activities within 250 feet of potential nesting habitat for tricolored blackbird, saltmarsh common yellowthroat, and Alameda song sparrow, surveys shall be conducted to determine the presence of nesting birds no more than 2 weeks prior to construction in March through August. If pre-nesting or nesting activity is identified, a determination shall be made in consultation with CDFG as to whether or not construction will impact nesting birds. If it is determined that construction will impact nests, construction within 250 feet of the nesting locations shall be delayed until juvenile birds have fledged.</li> <li>● <i>Western Snowy Plover, California Least Tern, California Clapper Rail.</i> To avoid disrupting nesting California clapper rail, western snowy plover, and California least tern, construction activities in areas that provide potential habitat for these species, as identified in the Redwood City Study Zone and Mountain View Study Zone, shall occur outside of the nesting season (February 1 through August 31) for these species. If construction activities take place during the nesting season and the survey methodology is accepted by the USFWS, a qualified biologist shall conduct a pre-construction survey according to accepted protocols and report whether or not there is occupied nesting habitat for the above-listed species within 700 feet of proposed construction activities. If any of the species listed above are identified, construction within 700 feet of the nest shall be delayed until the adult and/or juvenile plovers, terns, or rails are no longer using the nest as the center of their activity. Protocol-level presence/absence surveys may not be feasible in the Redwood City Study Zone due to the large expanse of marshlands present that about the project alignment. If surveys are deemed infeasible in this area, seasonal avoidance measures shall apply as previously described.</li> </ul>	☒	
Same as <b>Impact 1</b> above.	<p><b>BIO-5</b> The Applicant shall retain qualified biologists and resource specialists to monitor construction activities where sensitive resources have been identified, as identified in Table 4-10. A biological resource monitor shall be present constantly for bores or bridge attachments with sensitive in-stream or downstream resources, and in areas where the presence of special status species is known or suspected.</p> <p>Monitors shall be hired and trained prior to construction and shall be responsible for pre-construction surveys, staking resources, onsite monitoring, documentation of violations and compliance, coordination with contract compliance inspectors, and post-construction documentation. Resource monitors shall be familiar with the wildlife species and other sensitive biological resources in the general project area and qualified to recognize potential construction effects to these resources. Monitoring shall be particularly intensive near identified habitat for federal and State-listed species, as a “no take” approach has been adopted for the project.</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>BIO-6</b> Biological monitors, employed by LGN and approved by the CPUC, shall locate and stake previously identified sensitive resources before construction activities begin in specified segments and shall inspect areas prior to construction to ensure that barrier fencing, stakes, and required setback buffers are maintained. Avoidance measures and buffer distances vary for each species and are specified for some species in Mitigation Measures BIO-4, BIO-11, and BIO-13. The specific buffer zone distance will be determined by the resource agencies (CDFG and USFWS).</p> <p>The Applicant's biological monitor shall be responsible for monitoring construction activities in areas that support special-status species, woody riparian vegetation, wetlands, and perennial (i.e., flowing at the time of construction) drainage crossings. The monitors shall also be responsible for obtaining clearance from the resource agencies for deviations from avoidance measures described in Mitigation Measures BIO-2, BIO-3, BIO-4, and BIO-7 (e.g., reducing construction exclusion zone widths near sensitive biological resource locations).</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>BIO-7</b> If avoidance of sensitive wildlife species habitat is not feasible (e.g., by modifying the route or boring), then the Applicant shall conduct field surveys for special status species potentially occurring within sensitive areas using current USFWS or CDFG survey protocols to determine species presence or absence. If species that are listed under either the federal or State Endangered Species Acts are present (e.g., Central California coast steelhead or California red-legged frog), or are presumed to be present after informal consultation with USFWS and/or CDFG, then a formal consultation and Biological Assessment in support of a Biological Opinion may be required if complete habitat avoidance is not feasible. If a Biological Opinion is required, no construction activity will be permitted until the applicable resource agencies determine that the proposed mitigation (in the Biological Opinion) will result in less than significant impacts to the affected species.</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>BIO-8</b> The Applicant shall conduct Worker Environmental Awareness Program (WEAP) training for construction crews. All LGN construction crews and contractors shall participate in WEAP training prior to starting work on the project. The WEAP training shall include a brief review of the special-status species and other sensitive resources that could exist in the project area (including their life history and habitat requirements), the locations of sensitive biological resources, and their legal status and protection under the U.S. Endangered Species Act of 1973 (6 USC 1536). The education program shall include materials describing sensitive resources, resource avoidance, permit conditions, and possible fines for violations of State or federal environmental laws. The program shall cover the mitigation measures, environmental permits, and proposed project plans, reclamation plans, and any other required plans.</p> <p>The Applicant shall be responsible for ensuring that all project personnel and subcontractors adhere to the guidelines and restrictions. Training shall be conducted as needed — including morning “tailgate” sessions — to update crews as they advance into sensitive areas, and to educate new personnel brought on the job during the construction period. Project personnel will receive a hardhat sticker or be issued a card verifying compliance with the above mitigation measure. In addition, a record of all personnel trained during the project will be maintained and made available for compliance verification.</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>BIO-9</b> The Applicant shall confine construction equipment and associated activities to the approved ROW at all locations. Construction impacts shall be limited to a 20-foot ROW in areas that support sensitive resources (e.g., near areas that support riparian and wetland communities and special-status species adjacent to the work area), as defined in Table 4-10 and delineated by qualified biologists or resource specialists prior to construction.</p> <p>In sensitive areas that are being avoided by directional boring and drilling, drill rigs and equipment staging shall remain outside of sensitive habitats, with an adequate buffer, consistent with established Resource Agency Guidelines to avoid potential adverse effects to the resource. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying and minimize the potential for inadvertent worker intrusion into sensitive areas. Special habitat features identified by the resource monitor shall be avoided and previously disturbed areas within the project ROW shall be utilized for stockpiling excavated materials, equipment storage, and vehicle parking.</p> <p>During WEAP training (Mitigation Measure BIO-8), construction personnel shall be informed of the importance of maintaining a narrow work corridor. The resource coordinator, with support from resource monitors, as necessary, will ensure that construction equipment and associated activities avoid any disturbance of sensitive resources outside the construction corridor.</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<b>BIO-10</b> After the Applicant has identified specific project routes, the Applicant shall carry out focused pre-construction biological resource surveys consistent with approved survey protocols, to identify the location of sensitive biological resources. Sensitive resources shall be clearly mapped and marked on construction drawings or project maps before construction in these areas. If sensitive resources cannot be avoided, no work shall be authorized until the appropriate resources agencies (CDFG, USFWS, NMFS) determine that the action will not result in significant impacts to biological resources (see Mitigation Measure BIO-7).	☒	☒
Same as <b>Impact 1</b> above.	<b>BIO-11</b> The Applicant shall perform pre-construction surveys for burrowing owls along all new project routes, in all areas that may provide suitable nesting habitat. This includes the entire Mountain View, San Jose, North San Jose, Milpitas, Redwood City Study Zones, and any other zones known or determined to potentially support nesting habitat for this species. All project activity within the five identified study zones shall be surveyed by a qualified biologist to determine the presence of nesting borrowing owls. No more than 2 weeks before construction, a qualified biologist shall conduct a survey for occupied owl burrows within 500 feet of the construction corridor (access permitting) in areas that support potential owl habitat. The survey shall conform to California Burrowing Owl Consortium protocol, which includes up to four surveys on different dates if there are active owl burrows present.	☒	☒

		Applies To:	
Environmental Impact	Mitigation Measure	San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>BIO-12</b> The Applicant shall avoid disturbing active owl burrows and standard CDFG guidelines shall be implemented during the non-breeding season.</p> <p>If occupied owl burrows are found during pre-construction surveys (Mitigation Measure BIO-11), a qualified biologist shall determine whether or not project construction has the potential to impact the burrows so as to disrupt reproductive behavior. A biologist shall monitor all construction activities, consistent with CDFG requirements.</p> <p>If construction is determined not to adversely affect occupied burrows or disrupt breeding behavior, construction may proceed without seasonal timing restrictions, though other applicable mitigation measures shall still be implemented.</p> <p>If construction could adversely affect occupied burrows during the non-breeding season (August 31 through February 1), owls may be passively excluded from the burrow(s) using one-way doors. At least two suitable, unoccupied burrows (natural or artificial burrows — the latter constructed according to current design specifications) must exist within 300 feet of the occupied burrow before one-way doors are installed. Relocation burrows shall be in place at least one-week before one-way doors are installed on occupied burrows. The one-way doors shall remain in place for 48 hours before burrows are excavated.</p> <p>If construction activities are found to temporarily impact occupied burrows so as to disrupt reproductive behavior during the nesting season (February 1 through August 31), construction within 250 feet of occupied burrows shall be delayed until it is determined that the subject owls are not nesting or until a qualified biologist determines that juvenile owls are self sufficient and no longer using natal burrows as their primary shelter.</p> <p>As no permanent burrowing owl habitat loss is anticipated, no habitat compensation is proposed. If it is determined, however, that there are unavoidable impacts to owls, LGN shall consult with CDFG to determine the appropriate mitigation strategy (on-site or off-site mitigation) and the required compensation ratio (as defined in the Burrowing Owl Mitigation Guidelines).</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>BIO-13</b> The Applicant shall avoid disturbance to active raptor nests at all locations. Pre-construction surveys shall be performed in the south San Francisco Bay and Los Angeles Basin study zones to identify additional potential raptor nesting sites within the selected project route(s). To avoid potential adverse effects on nesting raptors, a no-disturbance buffer zone shall be established around active nests during the breeding season. No construction shall occur within the specified buffer zones during the breeding season (February 1 to August 31) or until it is determined that young have fledged.</p> <p>If construction activities are proposed to occur only during the non-breeding season (August 31 through February 1), no pre-construction surveys shall be required. If, however, construction activities are scheduled to occur during the breeding season, pre-construction surveys of all potentially active nest sites within 500 feet of the construction corridor (access permitting) shall be conducted in areas that may potentially have nesting raptors, as described in Table 4-10. If surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation shall be required.</p> <p>If active nests are found, a 500-foot, no-disturbance buffer shall be established around the active nest. The size of individual buffers can be adjusted, following a site evaluation by a qualified raptor biologist, which shall involve the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., farming activities or road traffic) and the observed sensitivity of the birds. Site evaluations and buffer adjustments shall be made in consultation with the local CDFG representative. The portion of the project that is within the designated buffer shall be identified in the field by staking and flagging.</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>BIO-14</b> The Applicant shall minimize the disturbance of other waters of the United States and restore the resource to pre-project conditions, as stated in the Corps permit(s). Any waters of the United States disturbed shall be limited to the minimum area necessary to successfully install the fiber optic conduit and cable. In addition, the surface grade shall be restored and topsoil shall be replaced. The Applicant shall implement the following minimum guidelines for reestablishing conditions conducive to natural site regeneration, and shall include any additional measures identified in the Corps permits:</p> <ul style="list-style-type: none"> <li>● Stabilize exposed slopes and stream banks immediately on completion of installation activities. This is anticipated to require minimal effort, since only low-energy seasonal streams or ditches shall be considered for trenching. Beds and banks shall be restored in a manner that encourages vegetation to reestablish to its pre-project condition and reduces the effects of erosion on the drainage system.</li> <li>● Remove trees, shrubs, debris, or soils during construction that are inadvertently deposited below the ordinary high-water mark of drainages in a manner that minimizes disturbance of the drainage bed and bank.</li> <li>● Implement additional measures that may be required as part of the CDFG, Corps, and/or RWQCB permits that shall be obtained for each project area.</li> </ul>	☒	☒

		Applies To:	
Environmental Impact	Mitigation Measure	San Francisco Bay Area	Los Angeles Basin
	<ul style="list-style-type: none"> <li>● These measures shall be incorporated into contract specifications and implemented by the construction contractor. Additionally, LGN shall incorporate all permit conditions into construction specifications. The resource monitors shall routinely inspect construction activities to verify that the above protective measures and permit conditions have been implemented.</li> <li>● Avoid installation activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, shall be used consistent with resource agency requirements.</li> <li>● Where determined necessary by the resource specialists, geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) shall be used in saturated conditions to minimize damage to the substrate and vegetation.</li> <li>● In wetlands or unvegetated waters of the U.S. that are trenched, the top 12 inches of topsoil from the excavated site with intact roots, rhizomes, and seed bank shall be stockpiled (Corps' Nationwide Permit No. 12 requires that topsoil be stockpiled and replaced). The topsoil and subsoil shall be replaced immediately after construction activities are complete.</li> <li>● Review the ground surface to maintain pre-project wetland hydrology.</li> <li>● LGN shall incorporate the above measures and all other permit conditions into contract specifications and shall ensure that they are implemented by the construction contractor. Resource monitors shall routinely inspect construction activities to verify that the above protective measures and permit conditions have been implemented.</li> </ul>		
Same as <b>Impact 1</b> above.	<p><b>BIO-15</b> The Applicant shall avoid disturbing active bat roosting or maternity colonies and swallow nesting colonies at bridge crossings. Pre-construction surveys shall be completed in compliance with Mitigation Measure BIO-10 to identify potential bat roosting or maternity, and swallow nesting colonies at bridge crossing locations.</p> <p>To avoid potential adverse effects upon bat roosting or maternity and swallow nesting colonies, the designated qualified biologist shall conduct pre-construction surveys of each bridge crossing to determine if bat roosting or maternity, and swallow nesting colonies occur. If pre-construction surveys determine that swallows have begun nesting on a bridge crossing, construction will be delayed till young have fledged. If bat roosting or maternity colonies occur, no bridge crossing construction shall occur during the roosting and breeding period (variable depending on bat species).</p> <p>If pre-construction surveys indicate that a bridge crossing is not being utilized for either bat roosting or breeding or swallow nesting, no further mitigation shall be required. Site evaluations and construction timing adjustments shall be made in consultation with the local resource agencies (USFWS and CDFG representative).</p>	☒	☒



Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<b>BIO-16</b> To avoid impacts to nesting shorebirds and songbirds in the San Diego Creek corridor, no project activities shall occur south of Jamboree Boulevard and west of McGaw Avenue in the Irvine/Costa Mesa Study Zone. If necessary, construction may occur within Jamboree Boulevard, provided that other relevant mitigation measures are followed.	☒	☒
<b>Impact 2:</b> Adversely effect riparian or other sensitive natural communities.	<b>BIO-17</b> The Applicant shall conduct pre-construction wetland delineation surveys (per U.S. Army Corps of Engineer's 1987 Manual Standards). Formal wetland delineations will serve to meet Section 404 requirements and will clearly describe wetland boundaries and impact acreages. A formal wetland delineation report shall be submitted to the Corps as part of the Section 404 permitting process.  Additional compensatory, restoration, or avoidance measures are not anticipated, but could be stipulated by the regulatory agencies (e.g., Corps, RWQCB, BCDC and CDFG) as part of the permitting process.	☒	☒
Same as <b>Impact 2</b> above.	<b>BIO-18</b> The Applicant shall avoid and protect jurisdictional wetlands adjacent to construction areas, as specified in the U.S. Army Corps of Engineers Permit. Construction and cable installation activities shall avoid all jurisdictional wetland areas, except as expressly identified in the Corps permit. Resource personnel shall identify the specific location of protective barriers before construction activities are initiated near specified jurisdictional wetlands and shall identify these areas on construction drawings. Protective barrier fencing or staking and flagging shall be installed at least 20 feet from wetland areas or as defined in the Corps permit issued for this project to protect wetlands near the work zone. Resource monitors shall routinely inspect protected areas to ensure that barriers remain in place and are effective. Protective barriers shall remain in place until all construction activities are complete in areas near sensitive resources. The following project features shall also tend to reduce adverse effects to sensitive wetland resources:  <ul style="list-style-type: none"> <li>● Cable installation activities shall not occur in any one location for typically more than a day.</li> <li>● Only several work sites (based on the number of contractors) shall be affected at any one time throughout the proposed project study zone.</li> <li>● Reclamation efforts within the disturbance corridor shall begin immediately and shall involve reestablishing site conditions. This shall involve grading to reestablish pre-construction contours, replacing topsoil in specified areas, and seeding with a sterile grass or native vegetation (as dictated by the individual project reclamation plans).</li> </ul>	☒	☒
Same as <b>Impact 2</b> above.	<b>BIO-19</b> The Applicant shall contain directional drilling equipment with sedimentation fences, certified weed-free hay bales, sand bags, water bars, and or baffles to contain bentonite around the drilling equipment and ensure protection for waters of the State, sensitive habitat, ditches, and wetlands.	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>Impact 3:</b> Disturb movement of any fish or wildlife species.	<p><b>BIO-20</b> The Applicant shall avoid directional drilling during the migration period of special status anadromous species in streams that potentially support these species (see Mitigation Measure BIO-3). LGN shall avoid sensitive fish and wildlife migration corridors along streams and provide on-site biological monitors at these locations to address construction activities that may interfere with migration of anadromous special status fish species or wildlife species. No instream construction activities will be allowed during migrational periods within streams that support special status anadromous species, unless otherwise authorized by CDFG and/or NMFS.</p> <p>LGN shall perform surveys to assess sensitive spawning and rearing areas along the proposed project line. This effort shall be conducted in consultation with CDFG and/or NMFS prior to construction. Spawning and rearing areas shall be identified and construction shall be avoided during critical periods. These surveys shall be conducted only in areas with the potential for special status fish species.</p> <p>The potential for accidental bentonite seeps through frac-outs will be minimized through the measures specified in Mitigation Measure WQ-4. Spills of hazardous materials will be minimized through implementation of measures specified in the SWPPP (Mitigation Measures BIO-5 and WQ-3).</p>	☒	☒
<b>CULTURAL RESOURCES</b>			
<b>Impact 1:</b> Construction related activities could damage and/or destroy historical resources.	<p><b>CR-1</b> LGN shall appoint a Cultural Resources Specialist (CRS), or specialists, prior to the start of project-related vegetation clearance, ground disturbance and grading, site or project mobilization, site preparation or excavation activities, implementation of erosion control measures, or movement or parking of heavy equipment or other vehicles onto or over unpaved or natural areas of the project. LGN shall submit to the CPUC, for review and approval, the name(s) and statement of qualifications for its designated cultural resources specialist, or specialists, who will be responsible for implementation of all cultural resources mitigation measures. The statement of qualifications must be sufficient to substantiate that the CRS meets the Secretary of the Interior’s proposed Historic Preservation Qualification Standards as published in the Federal Register.</p> <p>Prior to the start of any project-related activity defined above, Looking Glass Networks shall confirm in writing to the CPUC that the approved designated CRS will be available at the start of the project and is prepared to implement the mitigation measures. Ten days prior to the termination or release of a designated CRS, Looking Glass Networks shall obtain the CPUC approval of the proposed replacement CRS.</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>CR-2</b> As soon as the exact routes and locations are known, and prior to construction, the CRS shall review all proposed ground-disturbing activities to determine if the proposed action would impact known or potential archaeological resources. If resources are determined to be in the area of the proposed project, the first level of mitigation shall be to redesign or reroute the activity to avoid impacts if the resource has not been the subject of a previous study or deemed eligible for the California Register of Historical Resources.</p> <p>If redesign or avoidance is not feasible, testing of the resource to determine its significance and extent within the proposed project area will be required. A site-specific testing plan shall be submitted to the CPUC for review and approval prior to testing. The requirement shall be based on the feasibility of the testing (i.e., it may not be practical or feasible within a paved road that received heavy traffic), and the type of resource to be evaluated. Should the site be determined to be significant, or if testing/evaluation is not feasible, the site shall be avoided. Monitoring shall be required in those areas that are determined to be sensitive but where no resources are officially recorded. A Cultural Resources Technical Report shall be submitted to the CPUC for review and approval prior to the commencement of construction. If the area has not been surveyed within the past 10 years or the information is deemed inadequate, then an on-site field visit by the CRS will be undertaken by the CRS.</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>CR-3</b> Full-time archaeological monitoring shall occur during ground-disturbing activities at those areas identified as archaeologically sensitive as shown in Tables 4-11 and 4-12. Ground-disturbing activities include, at a minimum, trenching and boring. Monitoring is required within 500 feet of the boundaries of known cultural resources (including extant architectural features) and within 1,000 feet of the locations of modern and historic stream crossings.</p> <p>Monitors must have 2 years of professional experience and be certified by the CPUC. Monitors shall be under the supervision of the CRS.</p> <p>A detailed project specific protocol for monitoring shall be provided as an element of the Cultural Resources Technical Report, per CR-2, and shall include an Unanticipated Discoveries of Cultural Resources Plan. Following is a synopsis of what shall be included in the plan. If cultural resources are located during monitoring, monitors shall immediately halt construction within 250 feet of the find in non-urban area, and 50 feet of the find in urban areas, and notify the CRS. The CRS shall inspect the find. The CRS shall immediately notify the CPUC Environmental Monitor. If construction personnel discover a cultural resource in the absence of a monitor, construction within 250 feet of the find shall be halted and the environmental compliance officer contacted. Construction may begin once the CRS has completed necessary investigations and a written authorization to proceed has been issued by the CPUC.</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>Impact 2:</b> Potential discovery or disturbance of unique paleontological resources during construction.	<b>CR-4</b> In the event that fossil remains are encountered, either by the cultural resources monitor or by construction personnel, qualified paleontological specialists shall be contacted. Construction within 100 feet of the find in non-urban areas and 50 feet in urban areas shall be temporarily halted or diverted until a qualified vertebrate paleontologist examines the discovery. The paleontologist shall notify the appropriate agencies and the CPUC Environmental Monitor to determine procedures that shall be followed before construction is allowed to resume at the location of the find. Significant fossils shall be salvaged through a program of excavation, analysis, and documentation approved by the CPUC and appropriate agencies. Fossil remains collected during the salvage program shall be cleaned, sorted, catalogued, and then deposited in a public, non-profit institution with research interests in the materials.	☒	☒
<b>Impact 3:</b> Substantial effects may occur to human burials from trenching operations.	<b>CR-5</b> The Cultural Resources Technical Report, required pursuant to Mitigation Measure CR-2, shall include an Unanticipated Discoveries of Human Remains Plan. Following is a synopsis of what shall be included in the plan. If human remains are found at any time during project-level vegetation clearance; ground disturbance and grading; site or project mobilization; site preparation or excavation activities; implementation of erosion control measures; or the movement of parking of heavy equipment or other vehicles onto or over the project surface, all work shall immediately stop within 250 feet of the find in non-urban areas and 100 feet of the find in urban areas. The CRS shall be notified immediately and shall, in turn, immediately notify the county coroner for the appropriate county in compliance with Section 7050.5 of the California Health and Safety Code and notify the CPUC Environmental Monitor. Upon the completion of compliance with all relevant sections of the California Health and Safety Code and the conditions of the Unanticipated Discoveries Plan for Human Remains, the CRS shall implement CR-2.	☒	☒
<b>GEOLOGY AND SOILS</b>			
<b>Impact 1:</b> Expansive, soft, or loose soils	<b>GEO-1</b> Prior to the start of construction of a surface structure with a foundation, the Applicant shall provide to the CPUC: <ul style="list-style-type: none"> <li>● Schedules for or proof of geophysical testing to be conducted on the soils at the structure pad sites to determine the geophysical properties of the soils.</li> <li>● Certification of the structure footprint design under the Uniform Building Code Seismic Zone Criteria by a Registered Professional Engineer.</li> <li>● Certification of engineered fill placement and compaction plans by a Registered Professional Engineer.</li> </ul>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:		
		San Francisco Bay Area	Los Angeles Basin	
<b>HAZARDS AND HAZARDOUS MATERIALS</b>				
<b>Impact 1:</b> Subsurface hazardous materials may be encountered during underground construction activities, such as trenching.	<b>HAZ-1</b>	LGN shall ensure proper labeling, storage, handling, and use of hazardous materials in accordance with best management practices and the Occupational Safety and Health Administration's HAZWOPER requirements. LGN shall ensure that all employees are properly trained in the use and handling of these materials and that each material is accompanied by a material safety data sheet deemed adequate by the CPUC. Additionally, any small quantities of hazardous materials stored temporarily in staging areas shall be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials shall be stored separately, as appropriate. To avoid unexpected releases of hazardous materials, LGN shall employ individuals trained in accordance with the Occupational Safety and Health Administration's HAZWOPER requirements. Additionally, LGN shall submit a written plan to the CPUC for approval prior to construction outlining how to respond if hazardous materials are unexpectedly encountered. The plan shall specify identification, handling, reporting, and disposal of hazardous materials. All hazardous waste materials removed during construction shall be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility. LGN shall require in its contracts that all contractors meet federal, State, and local requirements.	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>HAZ-2</b> A Hazardous Materials Management/Spill Prevention Plan shall be developed and submitted to the CPUC for review and approval prior to construction. The purpose of the plan is to provide on-site construction managers, environmental compliance monitors, and regulatory agencies with a detailed description of hazardous materials management, spill prevention, and spill response/cleanup measures associated with the construction of project elements. The primary objective of the plan is to prevent the spill of hazardous materials; the plan shall be given to all contractors working on the project. At least one copy shall be on-site with the construction manager at all times. Elements of the plan shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li>● Definition of staging areas where refueling, storage, and maintenance of equipment will take place. Such areas shall not be located within 100 feet of drainages or any other body of water, or wetlands or riparian areas, to reduce the potential of contamination by spills.</li> <li>● During construction activities, equipment shall be maintained and kept in good operating conditions to reduce the likelihood of line breaks and leakage.</li> <li>● Fluids drained from machinery during services at staging areas shall be collected in leak-proof containers and disposed of at appropriate disposal or recycling facilities.</li> <li>● No refueling or servicing shall be done without absorbent material (e.g., absorbent pads, mats, socks, pillows, and granules) or drip pans underneath to contain spilled material.</li> <li>● Definition of spill control and countermeasures, including but not limited to employee spill prevention/response training and a description of onsite cleanup equipment (e.g., absorbent pads, mats, socks, granules, etc.) available at staging and construction sites.</li> <li>● Resource agency notification and documentation procedures.</li> </ul>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
Same as <b>Impact 1</b> above.	<p><b>HAZ-3</b> LGN shall prepare a Health and Safety Plan that includes a contingency plan for hazardous materials and waste operations. Before site activities could proceed, LGN shall submit the plan to the CPUC for review and approval, and once approved shall send the plan to each agency with jurisdiction. The Health and Safety Plan, applicable to all excavation activities, shall establish policies and procedures to protect workers and the public from potential hazards posed by hazardous wastes. The plan shall be prepared according to federal and California OSHA regulations for hazardous waste site Health and Safety Plans. This Health and Safety Plan shall also provide for proper storage and/or disposal of any contaminated soils that meet the definition of a hazardous waste. Such a protocol could include off-site treatment of contaminated materials or disposal at an appropriate landfill.</p> <p>The Health and Safety Plan shall also include contingencies for encountering methane and hydrogen sulfide, including immediate work stoppage if odors are detected. For such a possibility, hydrogen sulfide monitoring equipment shall be available on the construction sites during boring operations at locations within 500 feet of operating or historic oil production fields. If any odors are detected, work shall stop immediately and the area shall be monitored by the Site Health and Safety Officer using a calibrated hydrogen sulfide meter.</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>HAZ-4</b> A list search of known State and federal hazardous waste sites and leaking underground tanks within 1,000 feet of the excavation shall be conducted prior to construction to identify high-risk areas, where a moderate or high potential for encountering contaminated soil or groundwater may exist during shallow (6 feet or less) excavations.</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>HAZ-5</b> During construction, LGN shall monitor for odors and analyze excavated material with a photo-ionization detector to determine the potential for soil contamination and the need for specialized soil-handling procedures to reduce excavation impacts in areas of suspected contamination.</p>	☒	☒
Same as <b>Impact 1</b> above.	<p><b>HAZ-6</b> Within high-risk areas identified by Mitigation Measure HAZ-5, excavations shall be observed by a trained health and safety professional equipped with an organic vapor analyzer (or other appropriate methods for detecting anticipated contaminants) to screen excavated materials and ensure worker safety. If contamination is encountered, excavated soils shall be segregated and sampled relative to the profiling requirements of the accepting landfill, and disposed of in accordance with policies of the accepting landfill and applicable regulations.</p>	☒	☒

		Applies To:		
Environmental Impact	Mitigation Measure	San Francisco Bay Area	Los Angeles Basin	
<b>WATER QUALITY</b>				
<p><b>Impact 1:</b> Erosion resulting from stormwater runoff</p>	<p><b>WQ-1</b></p>	<p>The Applicant shall manage construction-induced sediment and excavated spoils in accordance with the requirements of the State Water Resources Control Board (SWRCB) National Pollution Discharge Elimination System (NPDES) permit for stormwater runoff associated with construction activities. Prior to the onset of construction, the Applicant shall complete a Stormwater Prevention Pollution Plan (SWPPP) that outlines Best Management Practices (BMPs) to control discharges from construction areas. The SWPPP shall conform to the standards set forth by the SWRCB and shall be approved by the CPUC and the applicable Regional Water Quality Control Boards. The SWPPP shall ensure that, at a minimum, the following requirements are met:</p> <ul style="list-style-type: none"> <li>● Sediment generated on the project site shall be retained using structural drainage controls.</li> <li>● No construction-related materials, wastes, spills or residues shall be discharged from the project.</li> <li>● The staging of construction materials, equipment, and excavation spoils shall be performed outside of drainages.</li> <li>● Excavated or disturbed soil shall be kept within a controlled area surrounded by a perimeter barrier that may entail silt fence, hay bales, straw wattles, or a similarly effective erosion control technique that prevents the transport of sediment from a given stockpile. In addition, all stockpiled material shall be covered or contained in such a way that eliminates offsite runoff from occurring.</li> <li>● Upon completion of construction activities, excavated soil shall be replaced and graded so that post-construction topography and drainage matches pre-construction conditions.</li> <li>● Surplus soil shall be transported from the site and disposed of appropriately.</li> </ul>	<p>☒</p>	<p>☒</p>
	<p>Same as <b>Impact 1</b> above.</p>	<p><b>WQ-2</b></p>	<p>Prior to the commencement of construction within a particular study zone, the Applicant shall provide the CPUC with an outline of the BMPs that will be employed during construction within that study zone. The BMPs shall be approved by the CPUC prior to construction to ensure that the potential for discharge into surface waters during construction is minimized.</p>	<p>☒</p>



Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>Impact 2:</b> Non-stormwater discharges	<p><b>WQ-3</b> Prior to non-storm discharges into surface waters, the Applicant shall provide the CPUC with documentation of obtaining all necessary and applicable approvals, including the following:</p> <ul style="list-style-type: none"> <li>● NPDES general construction permit and SWPPP that describes how non-storm discharges would not adversely impact human health or the environment with the implementation of appropriate BMPs to eliminate or reduce potential pollutants. These BMPs may include, but not necessarily be limited to, the utilization of settling ponds or screens to reduce suspended sediment loads, or if necessary due to contaminated groundwater, use of on-site treatment systems for contaminant removal prior to discharge.</li> <li>● Section 404 permit from the U.S. Army Corps of Engineers for discharges into waters of the United States (pursuant to Section 404 of the Clean Water Act).</li> <li>● Water Quality Certification (pursuant to Section 401 of the Clean Water Act) from the applicable Regional Water Quality Control Board.</li> <li>● The CPUC shall review and approve the non-storm discharge BMPs to ensure impacts are minimized to the maximum extent feasible.</li> </ul>	☒	☒
<b>Impact 3:</b> Directional drilling fluid seepage.	<p><b>WQ-4</b> Prior to the commencement of directional boring activities near streams, the Applicant shall provide the CPUC a Frac-out Contingency Plan (Plan). The Plan shall outline procedures the Applicant would put in place to minimize the potential for impacts to sensitive resources, and shall document the containment and cleanup equipment that must be present for use at staging areas and construction sites. Specific requirements shall include requiring boring crews to strictly monitor drilling fluid pressures, no nighttime boring unless absolutely required, retaining containment equipment on site, monitoring water quality downstream of the site, and immediately stopping work if a seep into a stream is detected. All bentonite seeps into waters of the State or sensitive habitat shall be immediately reported to the LGN resource coordinator, the CPUC, and the appropriate resource agencies. In addition, the Plan shall outline the clean up and reporting measures that must be utilized in the event of a frac-out. The CPUC shall approve the Plan prior to the onset of directional boring activities and the CPUC shall monitor the activities to ensure that all facets of the Plan are carried out.</p>	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>Impact 4:</b> Increases in turbidity and sedimentation.	<b>WQ-5</b> The Applicant shall not engage in any trenching or excavation activities across flowing or sensitive waterways. The Applicant shall install the fiber optic conduits to aerial structures (such as bridges) or use directional boring techniques to install the conduits under the waterway. If construction is required across a dry stream or waterway, the Applicant shall provide the CPUC documentation of those activities prior to the start of construction. The CPUC shall review and approve the plans to ensure the activities would not permanently alter existing drainage patterns or substantially disturb existing vegetation such that increased erosion could occur. Prior to construction, the Applicant shall also provide the CPUC with any necessary permits from other regulatory agencies that are required for construction in a channel.	☒	☒
<b>LAND USE</b>			
<b>Impact 1:</b> Conflicts with existing and planned land uses.	<b>LU-1</b> Prior to construction within each study zone, LGN shall submit to the CPUC written documentation, including evidence of review by the appropriate public works, planning, and/or community development agency for the applicable jurisdictions. This documentation shall include the following: <ul style="list-style-type: none"> <li>● Site plan showing the dimensions and location of the finalized alignment;</li> <li>● Evidence that the project meets all necessary requirements;</li> <li>● Evidence of compliance with design standards;</li> <li>● Copies of any necessary permits or conditions of approval;</li> <li>● Records of any discretionary decisions made by of the applicable jurisdictions.</li> </ul>	☒	☒
<b>Impact 2:</b> Conflict with any applicable habitat conservation plans or natural community conservation plans.	<b>LU-2</b> If a habitat conservation plan or natural habitat conservation plan area is encountered alongside or in the path of a proposed alignment, plan area boundaries shall be flagged and construction activities will not be permitted within the boundaries. If construction activities within the boundaries are unavoidable, prior to construction, the Applicant shall submit to the CPUC written documentation of consultation with the appropriate agencies associated with the plan area regarding the permits and practices that the Applicant would acquire or implement before, during, and after construction.	☒	☒
<b>MINERAL RESOURCES</b>	No mitigation measures recommended		

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>NOISE</b>			
<b>Impact 1:</b> Construction noise.	<b>NOI-1</b> LGN shall require construction contractors to comply with the construction-hour limitations and construction equipment standards set forth by each local jurisdiction (summarized in Tables 4-14 and 4-15). For construction in those jurisdictions where there are no specific construction-related standards, LGN shall require its contractors to limit any noise producing construction activity to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. <ul style="list-style-type: none"> <li>• All equipment shall have sound-control devices no less effective than those provided on original equipment.</li> <li>• No equipment shall have an unmuffled exhaust.</li> <li>• Construction equipment shall be located as far from sensitive receptors (e.g., residences, schools, places of worship, and hospitals) as possible.</li> <li>• If traffic control devices requiring electrical power are employed within 500 feet of sensitive receptors, the devices shall be battery/solar powered instead of powered by electrical generators.</li> </ul>	☒	☒
<b>POPULATION AND HOUSING</b>	No mitigation measures recommended		
<b>PUBLIC SERVICES</b>	No mitigation measures recommended		
<b>RECREATION</b>			
<b>Impact 1:</b> Temporary disruption of recreational activities	<b>REC-1</b> The Applicant shall schedule construction to avoid peak use periods (e.g., weekends and holidays) for recreational facilities. The Applicant shall provide onsite notification of recreational access closures at least 2 weeks in advance, through the posting of signs and/or notices.	☒	☒

Environmental Impact	Mitigation Measure	Applies To:	
		San Francisco Bay Area	Los Angeles Basin
<b>TRANSPORTATION AND TRAFFIC</b>			
<b>Impact 1:</b> Traffic congestion associated with road encroachments.	<b>TRA-1</b> LGN shall obtain all necessary local and State road encroachment permits, and railroad encroachment permits, prior to construction and shall comply with all the applicable conditions of approval. As deemed necessary by the applicable jurisdiction, the road encroachment permits shall require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan shall include the following requirements unless the applicable jurisdiction directs otherwise: <ul style="list-style-type: none"> <li>● Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.</li> <li>● Develop circulation and detour plans to minimize impacts to local street circulation. This shall include the use of signing and flagging to guide vehicles through and/or around the construction zone.</li> <li>● Schedule truck trips outside of peak morning and evening commute hours.</li> <li>● Limit lane closures during peak hours to the extent possible.</li> <li>● Use haul routes minimizing truck traffic on local roadways to the extent possible.</li> <li>● Include detours for bicycles and pedestrians in all areas potentially affected by project construction.</li> <li>● Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.</li> <li>● Store construction materials only in designated areas.</li> <li>● Coordinate with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary</li> </ul>	☒	☒
<b>Impact 2:</b> Construction activities could impede emergency vehicle traffic.	<b>TRA-2</b> LGN shall develop an Emergency Vehicle Access Plan that includes the following: <ul style="list-style-type: none"> <li>● Evidence of advanced coordination with emergency service providers, including but not necessarily limited to police departments, fire departments, ambulance services, and paramedic services. Emergency service providers shall be notified of the proposed project locations, nature, timing, and duration of any construction activities, and shall be asked for advice about any road access restrictions that could impact their response effectiveness.</li> <li>● Project construction schedules and routes designed to avoid restricting movement of emergency vehicles to the best extent possible.</li> <li>● Provisions to be ready at all times to accommodate emergency vehicles at locations where access to nearby properties may be blocked. Provisions could include the use of platings over excavations, short detours, and/or alternate routes.</li> </ul>		
<b>UTILITIES AND SERVICE SYSTEMS</b>	No mitigation measures recommended		