

EXHIBIT C – PG&E Line 406/407 Natural Gas Pipeline Project

MITIGATION MONITORING PROGRAM NOVEMBER 16, 2009

As the Lead Agency under the CEQA, the CSLC is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures for this project, if it is approved, to ensure that the adopted mitigation measures are implemented as defined in this EIR. This Lead Agency responsibility originates in Public Resources Code section 21081.6(a) (Findings), and the CEQA Guidelines sections 15091(d) (Findings) and 15097 (Mitigation Monitoring or Reporting).

MONITORING AUTHORITY

The purpose of a Mitigation Monitoring Program (MMP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. A MMP can be a working guide to facilitate not only the implementation of mitigation measures by the Project proponent, but also the monitoring, compliance and reporting activities of the CSLC and any monitors it may designate.

The CSLC may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities, and the California Department of Fish and Game (CDFG). The number of construction monitors assigned to the project will depend on the number of concurrent construction activities and their locations. The CSLC or its designee(s), however, will ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

Any mitigation measure study or plan that requires the approval of the CSLC must allow at least 60 days for adequate review time. When a mitigation measure requires that a mitigation program be developed during the design phase of the project, PG&E must submit the final program to CSLC for review and approval for at least 60 days before construction begins. Other agencies and jurisdictions may require additional review time. It is the responsibility of the environmental monitor assigned to each spread to ensure that appropriate agency reviews and approvals are obtained.

The CSLC or its designee will also ensure that any deviation from the procedures identified under the monitoring program is approved by the CSLC. Any deviation and its correction shall be reported immediately to the CSLC or its designee by the environmental monitor assigned to the construction spread.

ENFORCEMENT RESPONSIBILITY

The CSLC is responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to each construction spread. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CSLC or its designee.

MITIGATION COMPLIANCE RESPONSIBILITY

PG&E is responsible for successfully implementing all the Applicant Proposed Measures (APMs) and the Mitigation Measures (MMs) in the MMP, and is responsible for assuring that these requirements are met by all of its construction contractors and field personnel. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include detailed success criteria. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

GENERAL MONITORING PROCEDURES

Environmental Monitors. Many of the monitoring procedures will be conducted during the construction phase of the project. The CSLC and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with PG&E. To oversee the monitoring procedures and to ensure success, the environmental monitor assigned to each construction spread must be on site during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor is responsible for ensuring that all procedures specified in the monitoring program are followed.

Construction Personnel. A key feature contributing to the success of mitigation monitoring is obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures, will be taken:

- Procedures to be followed by construction companies hired to do the work will be written into contracts between PG&E and any construction contractors. Procedures to be followed by construction crews will be written into a separate

document that all construction personnel will be asked to sign, denoting agreement.

- One or more preconstruction meetings will be held to inform all and train construction personnel about the requirements of the monitoring program.
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all mitigation measures requiring their attention.

GENERAL REPORT PROCEDURES AND PUBLIC ACCESS TO RECORDS

General Reporting Procedures. Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned to the relevant construction spread. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

Public Access to Records. The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CSLC or its designee on request.

MITIGATION MONITORING TABLE

The following sections present the mitigation monitoring tables for each environmental discipline. Each table lists the following information, by column:

- Impact (impact number, title, and impact class);
- Mitigation Measure (includes APM and MM with summary text of the measure);
- Location (where the impact occurs and the mitigation measure should be applied);
- Monitoring/reporting action (the action to be taken by the monitor or Lead Agency);
- Effectiveness criteria (how the agency can know if the measure is effective);
- Responsible agency; and
- Timing (before, during, or after construction; during operation, etc.).

Abbreviations Used in the Mitigation Monitoring Program Tables

The following abbreviations are used in the Mitigation Monitoring Program tables:

Acronym	Definition
AES	Aesthetic/Visual Resources
AGR	Agricultural Resources
ALT-L	Alternative L
APM	Applicant Proposed Measures
AQ	Air Quality
BIO	Biological Resources
BMP	Best Management Practice
CDFG	California Department of Fish and Game
County CUPAs	Certified Unified Program Agency
CR	Cultural Resources
CFR	Code of Federal Regulations
CSLC	California State Lands Commission
FRAQMD	Feather River Air Quality Management District
GEO	Geology and Soils
GHG	greenhouse gases
HAZ	Hazards and Hazardous Materials
HDD	Horizontal Directional Drilling
HWQ	Hydrology and Water Quality
LU	Land Use and Planning
MM	Mitigation Measure
MMP	Mitigation Monitoring Program
NCIC / CHRIS	North Central Information Center / California Historical Resources Information System
NMFS	National Marine Fisheries Service
NOI	Noise
NO _x	Oxides of Nitrogen
PALEO	Cultural Resources Paleontology
PCAPCD	Placer County Air Pollution Control District
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SMAQMD	Sacramento Metropolitan Air Quality Management District
TMP	Traffic Management Plan
TRANS	Transportation and Traffic
USACE	United States Army Corps of Engineers

USFWS	United States Fish and Wildlife Service
WAPA	Western Area Power Administration
YSAWMD	Yolo County Air Quality Management District

Table C-1: Mitigation Monitoring Program - Aesthetic/Visual Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
AES-1: Degrade the existing visual character or quality of the site and its surroundings	AES-1: Replanting of screening vegetation	Entire alignment	Compliance monitoring	Recreates the visual quality provided by the removed vegetation	CSLC	After construction
AES-2: Create new source of light or glare	AES-2: Light shielding and positioning away from residences	HDD, hydrostatic testing, and tie-in locations near residences	Verification of light shielding and positioning	Reduces light trespass onto nearby residences	CSLC	During construction

Table C-2: Mitigation Monitoring Program - Agricultural Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM AGR-1: Advanced construction notification	Entire alignment	Verification of advanced notification	Construction timing concerns of residents, landowners, aerial applicators, and the Yolo County Farm Bureau are considered and adjusted by PG&E	CSLC	Before and during construction

Table C-3: Mitigation Monitoring Program - Air Quality

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM AQ-1: Compile comprehensive inventory list of heavy-duty off-road equipment	Entire alignment	Review construction equipment inventory	Exhaust emissions are minimized	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before construction
	APM AQ-2: Ensure that construction equipment exhaust emissions will not exceed visible emission limitations	Entire alignment	Equipment Inspection	Exhaust emissions are minimized	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before and during construction
	APM AQ-3: Prepare and implement a fugitive dust mitigation plan	Entire alignment	Review and verification of plan	Fugitive dust is minimized	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before construction
	APM AQ-4: Ensure that all construction equipment is properly tuned and maintained	Entire alignment	Verification of maintenance	Exhaust emissions are minimized	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	During construction
	APM AQ-5: Minimize equipment and vehicle idling time to five minutes	Entire alignment	Observation of idling time	Exhaust emissions are minimized	CSLC	During construction
	APM AQ-6: Prevent dust impacts off-site	Entire alignment	Observation of water truck operation	Fugitive dust is minimized	CSLC	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM AQ-7: Utilize existing power sources or clean fuel generators	Entire alignment	Verification of power sources	Emissions are minimized	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	During construction
	APM AQ-8: Develop traffic plan to minimize traffic flow interference	Entire alignment	Review and verification of plan	Exhaust emissions are minimized	CSLC County Agencies	Before and during construction
	APM AQ-9: Not allow open burning of removed vegetation	Entire alignment	Observation of vegetation removal	Reduces air pollution	CSLC	During construction
	APM AQ-10: Portable engines and portable engine-driven equipment units	Entire alignment	Verification of compliance	Ensures compliance with air quality standards	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before and during construction
	APM AQ-11: Limit operation on “spare the air” days within each County	Entire alignment	Observation of limited operation	Emissions are reduced on “Spare the Air” days	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
AQ-1: Construction or operational emissions exceeding regional thresholds	AQ-1a: Fugitive PM ₁₀ control	Entire alignment	Observation of reduced speed on unpaved roads and application of soil stabilizers	Reduces fugitive dust emissions from Project construction	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	During construction
	AQ-1b: NO _x mitigation menu	Entire alignment	Verify implementation of NO _x reducing measures such as installation of diesel catalytic reduction or Lean NO _x Catalyst equipment or payment of mitigation fee	Reducing NO _x emissions	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before and during construction
	AQ-1c: PCAPCD mitigation	Placer County	Verify provision of required project equipment information and implementation of construction emission / dust control plan.	Exhaust emissions and fugitive dust are minimized	CSLC PCAPCD	Before and during construction
	AQ-1d: SMAQMD mitigation	Sacramento County	Verify provision of required project equipment information and reports	Exhaust emissions are minimized	CSLC SMAQMD	Before and during construction
AQ-2:	AQ-1a: Fugitive PM ₁₀	Entire	Observation of	Reduces fugitive	CSLC	During

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Construction or operational emissions exceeding State or Federal standards	control	alignment	reduced speed on unpaved roads and application of soil stabilizers	dust emissions from Project construction	FRAQMD YSAWMD PCAPCD SMAQMD	construction
	AQ-1b: NO _x mitigation menu	Entire alignment	Verify implementation of NO _x reducing measures	Reducing NO _x emissions	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before and during construction
	AQ-1c: PCAPCD mitigation	Placer County	Verify provision of required project equipment information and implementation of construction emission / dust control plan	Exhaust emissions and fugitive dust are minimized	CSLC PCAPCD	Before and during construction
	AQ-1d: SMAQMD mitigation	Sacramento County	Verify provision of required project equipment information and reports	Exhaust emissions are minimized	CSLC SMAQMD	Before and during construction
AQ-3: Increase in greenhouse gas emissions	AQ-3: GHG emission offset program	Entire alignment	Verification of carbon offsets program purchase	Offset of GHG emissions	CSLC FRAQMD YSAWMD PCAPCD SMAQMD	Before Construction

Table C-4: Mitigation Monitoring Program - Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM BIO-1: Worker training	Entire alignment	Verification of training attendance	Improves awareness and compliance with mitigation measures	CSLC	Before and during construction
	APM BIO-2: Educational brochure	Entire alignment	Verification of brochure distribution	Improves awareness and compliance with mitigation measures	CSLC	Before and during construction
	APM BIO-3: Exclusion zone fencing	Entire alignment	Verification of exclusion zone fencing	Avoids inadvertent intrusion into sensitive resources	CSLC CDFG USFWS USACE RWQCB	During construction
	APM BIO-4: Vegetation removal	Entire alignment	Compliance monitoring	Ensures vegetation is only removed within the approved work area	CSLC	During construction
	APM BIO-5: Work area	Entire alignment	Verification of work area	Protects sensitive areas from heavy equipment, vehicles, and construction work	CSLC	During construction
	APM BIO-6: Construction monitoring	Entire alignment	Verification of monitoring and pre-activity surveys	Avoids disturbance of special-status species and habitats	CSLC CDFG USFWS USACE	Before and during construction
	APM BIO-7: Erosion and dust control	Entire alignment	Verify application of control BMPs	Minimizes potential for impacts to sensitive resources	CSLC USACE RWQCB	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM BIO-8: Workday schedule	Entire alignment	Verification of schedule	Minimizes disturbance from construction	CSLC	During construction
	APM BIO-9: Vehicle inspection	Entire alignment	Verify that vehicles and equipment are inspected for wildlife	Avoids injury or death of wildlife	CSLC	During construction
	APM BIO-10: Speed limit	Entire alignment	Verify enforcement of speed limits	Protects sensitive habitat	CSLC	During construction
	APM BIO-11: Trench ramping	Entire alignment	Verification of trench ramping	Avoids injury or death of wildlife	CSLC CDFG USFWS	During construction
	APM BIO-12: Sensitive habitat monitoring and procedures if listed species are found	Entire alignment	Observation of sensitive habitat monitoring	Avoids unnecessary disturbance to sensitive species or habitat	CSLC CDFG USFWS	During construction
	APM BIO-13: Spill prevention/containment and refueling precautions	Entire alignment	Verify that precautions are implemented	Minimizes potential for spills that may impact sensitive species	CSLC CDFG USFWS USACE	Before and during construction
	APM BIO-14: Trash cleanup	Entire alignment	Observation of trash cleanup	Avoids unnecessary disturbance to sensitive species or habitat	CSLC	During and after construction
	APM BIO-15: Prohibitions for pets, fire, firearms	Entire alignment	Observation of prohibition	Avoids unnecessary disturbance to sensitive species or habitat	CSLC	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM BIO-16: ROW restoration	Entire alignment	Verification of restoration	Restores work areas to pre-existing contours and conditions	CSLC CDFG USACE USFWS	After construction
	APM BIO-17: ROW restoration plan	Entire alignment	Review and verification of plan; observation of restoration measures	Ensures post-construction revegetation, success criteria, and monitoring periods in natural areas	CSLC	After construction
	APM BIO-18: Seed mix and success criteria	Entire alignment	Verify seed mix and success criteria	Restores wetlands and stream crossings	CSLC	After construction
	APM BIO-19: Erosion control	Entire alignment	Observation of erosion control measures	Ensures that revegetation is successful	CSLC CDFG USACE RWQCB	After construction
	APM BIO-20: Water crossings in special-status species habitats	Entire alignment	Verification of water crossing schedule	Protects habitat for special-status aquatic species	CSLC USACE NMFS USFWS	During construction
	APM BIO-21: Wetland and waterway avoidance during final design	Entire alignment	Verification of avoidance measures	Avoids impacts to sensitive wetland habitats and waterways	CSLC USACE NMFS USFWS	Before construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM BIO-22: Wetland restoration and monitoring plan	Entire alignment	Review and verification of plan; observation of restoration and mitigation measures	Minimizes impacts to sensitive wetland habitats and waterways	CSLC CDFG USACE NMFS USFWS	Before construction
	APM BIO-23: HDD fluid release contingency plan	HDD locations	Review and verification of plan; observation of procedures	Minimizes personal injury, death, or property damage from accidental spills during construction	CSLC USACE RWQCB	Before construction
	APM BIO-24: Vernal pool invertebrate mitigation	Entire alignment	Verification of mitigation measures, compliance monitoring	Minimizes effects to vernal pool invertebrate species	CSLC USFWS	During construction
	APM BIO-25: Giant garter snake habitat buffer	Entire alignment	Verification of buffer	Avoids injury or death of giant garter snake	CSLC CDFG USFWS	During construction
	APM BIO-26: Construction window in giant garter snake habitat	Entire alignment	Verification of construction window	Avoids injury or death of giant garter snake	CSLC CDFG USFWS	Before and during construction
	APM BIO-27: Giant garter snake monitoring	Entire alignment	Verification of monitoring	Avoids injury or death of giant garter snake	CSLC CDFG USFWS	During construction
	APM BIO-28: Dewatering giant garter snake habitat	Entire alignment	Observation of dewatering	Avoids injury or death of giant garter snake	CSLC CDFG USFWS	Before and during construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM BIO-29: Bird nest surveys and monitoring	Entire alignment	Verification of surveys and observation of monitoring	Avoids disturbance of nesting birds and raptors	CSLC CDFG	Before and during construction
	APM BIO-30: Nesting birds	Entire alignment	Verification of buffer zone and avoidance	Avoids disturbance of nesting birds and raptors	CSLC CDFG	During construction
	APM BIO-31: Burrowing owl surveys	Entire alignment	Verification of pre-construction surveys	Avoids disturbance of burrowing owls	CSLC CDFG	Before and during construction
	APM BIO-32: Burrow avoidance	Entire alignment	Verification of buffer zone and avoidance	Avoids disturbance of burrowing owls	CSLC CDFG	Before and during construction
	APM BIO-33: Burrow relocation	Entire alignment	Observation of burrow relocation	Minimizes disturbance of burrowing owls	CSLC CDFG	Before and during construction
	APM BIO-34: Burrowing owl monitoring plan	Entire alignment	Review and verification of plan	Protection of burrowing owls from Project disturbance	CSLC CDFG	Before and during construction
	APM BIO-35: Species-specific and habitat-specific compensation	Entire alignment	Verification of compensatory mitigation	Minimizes disturbance to vernal pools, wetlands, giant garter snake, and other special-status species	CSLC CDFG USFWS USACE	Before and during construction
BIO-1: Wetlands	BIO-1a: Wetland avoidance and restoration	Entire alignment	Verification of avoidance and observation of mitigation	Ensures that impacts to wetlands are minimized to the greatest extent feasible	CSLC CDFG USACE RWQCB	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	BIO-1b: Trench backfill and topographic restoration	Entire alignment	Verification of mitigation implementation	Ensures that permanent hydrologic alteration to wetlands is minimized	CSLC CDFG USACE RWQCB	Before, during and after construction
	BIO-1c: Riparian avoidance and restoration	Entire alignment	Verification of riparian avoidance and restoration	Ensures impact to riparian habitat is avoided, minimized or restored	CSLC CDFG USACE	Before, during and after construction
BIO-2: Reduce or alter vegetation	BIO-2a: Tree avoidance and replacement	Entire alignment	Review of tree replacement plan, verification of avoidance and replacement	Ensures identification, protection, and replacement of native trees within the Project site	CSLC CDFG Yolo County	Before, during and after construction
	BIO-2b: Avoidance of valley oak woodland	State Route 113 vicinity	Verification and observation of trenchless excavation	Ensures that existing mature valley oak woodland is not impacted by the Project	CSLC CDFG	Before construction
BIO-3: Invasive species or soil pests	BIO-3: Prepare and implement an invasive species control program	Entire alignment	Verify implementation of program measures	Minimizes the introduction of new invasive weed species, soil pathogens, or aquatic invertebrates	CSLC CDFA, Control and Eradication Division	Before and during construction
BIO-4: Habitat removal or loss of special status species	BIO-4a: Protect special status wildlife	Entire alignment	Verification of avoidance and observation of mitigation	Ensures that habitat removal or loss of special status species is minimized to the greatest extent feasible	CSLC USFWS CDFG	Before and during construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	BIO-4b: Mitigation for potential impacts to Natomas Basin Conservancy mitigation lands	Natomas Basin Conservancy mitigation lands	Verification of mitigation measures	Reduces impacts to Natomas Basin Conservancy mitigation lands	CSLC CDFG	Before and during construction
	BIO-4c: Mitigation for potential impacts to Sacramento River Ranch Conservation Bank mitigation lands	Sacramento River Ranch Conservation Bank mitigation lands	Verification of mitigation measures	Reduces impacts to Sacramento River Ranch Conservation Bank mitigation lands	CSLC CDFG	Before and during construction
	BIO-4d: Protect special-status bird species	Entire alignment	Verification of construction timing, buffer implementation and/or mitigation consultation	Reduces potential impacts to special-status bird species	CSLC USFWS CDFG	Before and during construction
BIO-5: Construction impacts on special-status plant species	BIO-5. Rare plant avoidance	Alternative Options A, B, D, E, H, I, J	Verify completion of surveys, flagging and fencing of rare plants	Avoids impacts on rare plants.	CSLC CDFG	Before construction

Table C-5: Mitigation Monitoring Program - Cultural Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM CR-1: Evaluate unavoidable unevaluated resources	Entire alignment	Verify evaluation of unavoidable unevaluated resources	Identifies and protects un-evaluated resources in the Project site	CSLC NCIC/ CHRIS	During construction
	APM CR-2: Protect significant/eligible resources	Entire alignment	Compliance monitoring	Protects significant/eligible resources	CSLC NCIC/ CHRIS	During construction
	APM CR-3: Study or observe areas sensitive for buried archaeological remains at reported location of Eagle Hotel	Eagle Hotel	Completion of a geo-archeological study or observation of ground disturbing activities at Eagle Hotel	Reduces potential for damage to unknown buried archaeological remains	CSLC NCIC/ CHRIS	During construction
	APM CR-4: Consult with the local Native American community	Entire alignment	Verify consultation	Ensures appropriate treatment of archaeological materials or human remains	CSLC	Before and during construction
	APM CR-5: Provide environmental training	Entire alignment	Verification of training attendance	Improves awareness and compliance with procedures	CSLC	Before construction
	APM PALEO-1: Paleontologist will provide input for environmental training	Entire alignment	Verification of involvement in training	Improves awareness of paleontologic resource issues	CSLC	Before construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM PALEO-2: Provide environmental training	Entire alignment	Verification of training attendance	Improves awareness of compliance measures pertaining to paleontological resources	CSLC	Before construction
	APM PALEO-3: Monitoring by a qualified paleontologist for areas with high sensitivity	Entire alignment	Observation of monitoring	Reduces potential for damage to unknown buried paleontological resources	CSLC	During construction
	APM PALEO-4: Monitoring by a qualified paleontologist for area east of Yolo	Line 407 West Project area east of Yolo	Observation of monitoring	Reduces potential for damage to unknown buried paleontological resources	CSLC	During construction
	APM PALEO-5: Stop work within 25 feet of any paleontological resources discovered during Project activities if qualified monitor is not present	Entire alignment	Observe construction activities	Reduces potential for damage to unknown buried paleontological resources	CSLC	During construction
PALEO-1: Fossils	PALEO-1: Proper curation of fossil collection	Entire alignment	Verification or proper curation	Enhances subsequent evaluation and curation by the chosen repository	CSLC	During and after construction
PALEO-2: Scientific or educational value	PALEO-2: Delivery of fossil collection to appropriate location	Entire alignment	Verification of delivery	Ensures that the fossil collection would be permanently incorporated into the larger collection of an appropriate curatorial facility	CSLC	During and after construction

Table C-6: Mitigation Monitoring Program - Geology and Soils

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
GEO-1: Known earthquake faults /ground motion	GEO-1: Site specific seismic Analysis	Entire alignment	Review of site specific field investigation and verification of implementation	Minimizes hazards due possible seismic displacement along fault crossings	CSLC	Before and during construction

Table C-7: Mitigation Monitoring Program - Hazards and Hazardous Materials

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM HAZ-1: Environmental training program	Entire alignment	Verification of training attendance	Improves awareness and compliance with mitigation measures	CSLC	Before and during construction
	APM HAZ-2: Hazardous substance control and emergency response plan	Entire alignment	Review and verify plan and observe construction activities for compliance	Minimizes personal injury, death, or property damage from accidental spills during construction	CSLC County CUPAs	Before and during construction
	APM HAZ-3: Use oil-absorbent material, tarps, and storage drums to contain and control any minor releases	Entire alignment	Verify supplies and equipment	Minimizes personal injury, death, or property damage from accidental spills during construction	CSLC	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM HAZ-4: Conduct soil sampling and potholing along the Project route	Entire alignment	Observe sampling and potholing for compliance	Minimizes potential for release of pre-existing contamination	CSLC County CUPAs	Before construction
	APM HAZ-5: Laboratory analysis of any suspected contaminated groundwater sampling	Entire alignment	Observe sampling for compliance	Minimizes potential for release of pre-existing contamination	CSLC County CUPAs	During construction
	APM HAZ-6: Prepare construction fire risk management plan	Entire alignment	Observe construction activities for compliance	Minimizes personal injury, death, or property damage from fire during construction	CSLC	During construction
	APM HAZ-7: Properties with a history of agricultural use	Entire alignment	Observe construction activities for compliance	Minimizes potential for release of pre-existing contamination	CSLC	During construction
	APM HAZ-8: Operation Fire Risk Management Plan	Entire alignment	Observe operation activities for compliance	Minimizes personal injury, death, or property damage from fire during operation	CSLC	During operation
	APM HAZ-9: Use thicker wall pipe than required by 49 CFR 192	Entire alignment	Confirm design plans include pipe wall thicknesses greater than 49 CFR 192 requires	Minimizes personal injury, death, or property damage from fire during operation	CSLC	Before construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM HAZ-10: Implementation of joints welds, inspection and coating	Entire alignment	Observe construction activities for compliance	Minimizes personal injury, death, or property damage from fire during operation	CSLC	During construction
	APM HAZ-11: Increased pipe depth	Entire alignment	Observe construction activities for compliance	Minimizes personal injury, death, or property damage from fire during operation	CSLC	During construction
	APM HAZ-12: Installation of remote monitoring equipment	Entire alignment	Observe construction activities for compliance	Provides pipeline monitoring for increased safety	CSLC	During construction
	APM ALT-L: Center Unified School District risk analysis	Alternative Option L alignment	Verify completion of risk analysis	Risk is reduced to a proposed elementary school site	CSLC	During the school site planning process
HAZ-1: Emergency plans/wildland fires	HAZ-1: Minimize risk of fire	Entire alignment	Observe construction and operation activities for compliance	Minimize damage from fire	CSLC County Agencies	During construction and operation

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
HAZ-2: System safety and risk of serious injuries and fatalities due to project upset	HAZ-2a: Corrosion and third party damage mitigation	Entire alignment	Observe construction and operation activities for compliance	Minimize leaks or ruptures caused by corrosion and third party damage	CSLC	Before, during and after construction
	HAZ-2b: Installation of automatic shutdown valves	All project Stations	Confirm installation of automatic shutdown valves	Ensures enhanced public safety through ability to shutdown pipeline during emergencies	CSLC	During construction and operation

Table C-8: Mitigation Monitoring Program - Hydrology and Water Quality

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM HWQ-1: Implement BMPs from the Water Quality Construction Best Management Practices Manual	Entire alignment	Verification of BMPs	Prevents Project-related erosion and sedimentation	CSLC RWQCB	During construction
	APM HWQ-2: Implement a hazardous substances control and emergency response plan	Entire alignment	Review and verification of plan	Minimizes personal injury, death, or property damage from hazardous material spills	CSLC RWQCB	During construction
	APM HWQ-3: Perform open-cut crossings of water bodies using a dry-crossing method	Entire alignment	Observe operation activities for compliance	Minimizes effects of construction activities on the waterbody	CSLC RWQCB	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM HWQ-4: Cross larger and/or more sensitive waterways with HDD or bores	HDD locations	Verify HDD locations	Minimizes effects to sensitive waterways	CSLC RWQCB	During construction
	APM HWQ-5: Prepare an HDD fluid release contingency plan	HDD locations	Review and verification of plan	Minimize effects to waterways in the event of a frac-out	CSLC RWQCB	During construction
HWQ-1: Federal or state water quality standards	HWQ-1: Response to unanticipated release of drilling fluids	Entire alignment	Adherence to drilling fluid release plan	Prevents and responds to unintended frac-outs	CSLC USACE CDFG County Agencies	During construction
HWQ-2: Groundwater for private or municipal purposes	HWQ-2: Verify well locations and irrigation systems	Entire alignment	Verify well location and testing; verify irrigation system locations and need for temporary or permanent reconfiguration	Monitors potential effects to groundwater wells and irrigation systems	CSLC	Before, during and after construction
HWQ-3: 100-year floodplain	HWQ-3: Flood-proof pump houses within 100-year flood plain	Entire alignment	Verify above ground structures are flood-proof	Reduce the risk of catastrophic damage due to 100-year flood	CSLC County Agencies	During construction and operation

Table C-9: Mitigation Monitoring Program - Land Use and Planning

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
LU-1: Conflict with adjacent land uses	LU-1a: Mitigation for impacts to the Natomas Basin Conservancy mitigation lands	Entire alignment	Verify that MM BIO-4b has been implemented	Reduces any impacts to mitigation lands	CSLC	During and after construction
	LU-1b: Mitigation for impacts to the Sacramento River Ranch Conservation Bank mitigation lands	Entire alignment	Verify that MM BIO-4c has been implemented	Reduces any impacts to mitigation lands	CSLC	During and after construction
	LU-1c: WAPA license agreement	Entire alignment	Verify submittal of Project plans	Reduces any impacts to WAPA power line operations	CSLC	Before construction
	LU-1d: Potential Conflicts with other Utilities	Entire alignment	Verify coordination with local agencies and utility separation requirements are met	Reduces any impacts to other utilities and reduces third-party incidents to pipeline when other utilities are installed	CSLC County Agencies Roseville	Before construction
LU-2: Result in safety risk to nearby land uses	LU-2a: Implement MM HAZ-2a, corrosion mitigation	Entire alignment	Verify that MM HAZ-2a has been implemented	Reduces incidences of leaks caused by corrosion	CSLC	During and after construction
	LU-2b: Implement HAZ-2b, installation of automatic shut-down valves	Entire alignment	Verify that MM HAZ-2b has been implemented	Ensures enhanced public safety through ability to shutdown pipeline during emergencies	CSLC	During construction and operation

Table C-10: Mitigation Monitoring Program - Noise

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM NOI-1: Limit construction hours and apply noise control best management practices	Alignment in the vicinity of residences	Verify construction schedule; verify best management practices	Avoids nighttime noise where feasible; reduces noise from construction	CSLC	During construction
	APM NOI-2: Coordinate drilling activities	HDD and tie-in areas	Verify coordination with residences	Provides advanced notice of nighttime noise	CSLC	During construction
NOI-1: Project construction	NOI-1a: Limited construction hours	Entire alignment	Verify construction schedule	Avoids nighttime noise where feasible	CSLC	During construction
	NOI-1b: Best management practices	Entire alignment	Verify best management practices	Provides maximum practical noise reduction	CSLC	During construction
	NOI-1c: Noise reduction plan	Entire alignment	Verify acoustical analysis and implementation	Minimizes nighttime construction noise	CSLC	During construction
NOI-2 Groundborne vibration or noise	NOI-2a: Distance from residences	Entire alignment	Verify distance	Reduces severity of groundborne vibration and noise near residences	CSLC	During construction
	NOI-2b: Heavy-loaded trucks	Entire alignment	Verify routes	Reduces severity of groundborne vibration and noise near residences	CSLC	During construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	NOI-2c: Earth moving equipment / distance from vibration-sensitive sites	Entire alignment	Verify distance	Reduces severity of groundborne vibration near sensitive sites	CSLC	During construction
	NOI-2d: Nighttime construction	Entire alignment	Verify construction schedule	Avoids nighttime groundborne vibration or where feasible	CSLC	During construction

Table C-11: Mitigation Monitoring Program - Transportation and Traffic

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Applicant Proposed Measures	APM TRANS-1: Travel lane capacity and traffic control	Entire alignment	Verify capacity and traffic control	Reduces effect of Project on local traffic	CSLC County Agencies	During construction
	APM TRANS-2: Work zone	Entire alignment	Verify work zone	Reduces effect of Project on local traffic	CSLC County Agencies	During construction
	APM TRANS-3: Permits and transportation management plan (TMP)	Entire alignment.	Review and verification of plan; verification of permits	Reduces effect of Project on local traffic	CSLC County Agencies	Before construction

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	APM TRANS-4: Coordinate construction activities with local law enforcement and fire protection agencies	Entire alignment	Verify coordination and notification	Increases awareness of emergency service providers	CSLC County Agencies	Before and during construction
	APM TRANS-5: Consult with the Center Joint Unified School District and Yuba-Sutter Transit	Entire alignment	Verify consultation	Reduces effect of Project on school and local bus transit	CSLC	Before construction
	APM TRANS-6: Notification of access restrictions	Entire alignment	Verify notice to residents	Reduces inconvenience to local residents	CSLC	Before construction
	APM TRANS-7: Notification of temporary parking	Entire alignment	Verify notice to residents	Reduces inconvenience to local residents	CSLC	During construction
	APM TRANS-8: Temporary pedestrian access	Entire alignment	Verify detours and safe areas	Reduces inconvenience to pedestrians	CSLC County Agencies	During construction

Table C-12: Additional Mitigation Monitoring Program - Alternatives Options A, B, D, E, H

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
CR-1: Impact to unknown cultural resources	MM CR-1: Alternative option pre-construction cultural resource surveys	Alternative Options A, B, D, E, H	Verify completion of surveys	Avoids impacts to cultural resources near Options A, B, D, E, H	CLSC	Before construction

Table C-13: Additional Mitigation Monitoring Program - Alternative Options A, B

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
TRANS-1: Project related traffic restricts travel lanes	MM TRANS-1. Mitigation for potential impacts to Durst Organic Growers	Alternative Options A, B	Verify coordination of construction activities with Durst Organic Growers	Reduced impacts to travel lanes near Durst Organic Growers	CSLC	Before construction