CALENDAR ITEM

C36

A 25, 29 02/01/10
W 26343
S 14,16 S.Young

GENERAL LEASE - RIGHT OF WAY USE

APPLICANT:

Gill Ranch Storage LLC
220 NW Second Avenue
Portland, OR 97209

AREA, LAND TYPE, AND LOCATION:

Sovereign lands in the San Joaquin River and in Fresno Slough, near the town of Mendota, Madera and Fresno Counties.

AUTHORIZED USE:

Construction, use, operation, and maintenance of a 30-inch diameter steel natural gas pipeline shown on the attached Exhibit A, and described in Exhibit B.

LEASE TERM:

20 years, beginning February 1, 2010.

CONSIDERATION:

$275 per year; with the State reserving the right to fix a different rent periodically during the lease term, as provided in the lease.

SPECIFIC LEASE PROVISIONS:

Insurance:

Liability insurance in the amount of no less than $10,000,000.

Bond:

1. Surety Bonds: $150,000
2. Construction Performance Bond: $250,000

Other:

1. Applicant is required to submit for Commission staff's review and approval the final engineering design and construction plans at least 90 days prior to construction for those portions of the project crossing sovereign lands.

2. Applicant will comply with all existing and subsequently enacted laws or regulations promulgated by the Federal government including, but not limited to the Department of Transportation or the National Transportation Safety Board or any other governmental agency, whether Federal, State or local, having lawful authority and jurisdiction over the pipelines.

3. Applicant will comply with the mitigation-monitoring program as contained in Exhibit C.

4. Applicant will indemnify the Commission from liability and agrees to reimburse the Commission for all reasonable costs and attorney's fees that the Commission may incur in connection with the defense of any action brought against the Commission challenging the issuance of the Lease, any provision of the Lease, the interpretation or enforcement of the conditions of the Lease, or any other matter related to the Lease or its issuance. The total obligation will not exceed $1,000,000.

5. All plans for the future abandonment and/or removal of the pipelines within the Lease Premises must be reviewed and approved by the Commission. The Commission may, at its discretion, require the Lessee to enter into an abandonment agreement and to reimburse the Commission for all costs associated with the preparation of the agreement.

6. During the construction and installation of the pipeline, Applicant will take appropriate safety measures to insure the integrity of the existing six-inch diameter natural gas pipeline, located on the Lease Premises beneath the bed of the San Joaquin River, and subject to Lease No. PRC 7410.1, issued to California Gas Gathering.

BACKGROUND INFORMATION:

Gill Ranch and Pacific Gas and Electric Company (PG&E), under a Joint Project Agreement, are proposing development, construction, and operation of the Gill Ranch Gas Storage Project (Project). Gill Ranch is a subsidiary of Northwest Natural Gas Company. The Project is a planned underground natural gas storage facility to be located primarily in Madera County. As part of the Project, PG&E will construct an electric substation and an 115kV electric power line that will deliver electricity to the Project's central compressor station and other facilities at the station site. The power line will be co-located with existing PG&E distribution lines along county roads for nearly 80 percent of the proposed route.

The Project will utilize depleted reservoirs in the existing gas field, the Gill Ranch Gas Field (Gas Field). The Gill Ranch Storage Field (Storage Field) is located within the Gas Field approximately 20 miles west of Fresno. The Project is designed for 20 billion cubic feet (Bcf) of working gas and 650 million cubic feet per day (MMcfd) of peak deliverability.

Elements of the Project include the Storage Field, gas injection and withdrawal wells, observation and monitoring wells, salt-water disposal well, a compressor station, the 27-mile 30-inch diameter natural gas pipeline, a 9.75-mile 115-kV transmission line, and an electric substation. The Storage Field (the wells and compressor station) is located primarily in western Madera County and a portion crosses under the San Joaquin River into Fresno County. The town of Firebaugh is located approximately eight miles southeast of the Storage Field. The total acreage for surface facilities within the Storage Field would be approximately 22 acres. The land surface within the boundary of the Storage Field is approximately 5,020 acres. Existing gas production will continue from two wells in the Storage Field.

Gill Ranch is proposing to construct an approximate 27-mile, 30-inch diameter steel natural gas pipeline, as part of the Project, between PG&E's existing Line 401 near Interstate 5 and a proposed compressor station site near the town of Mendota. The pipeline would be designed to transport up to 650 Million Standard Cubic Feet per Day of gas (MMscfd). The pipeline would be constructed under the San Joaquin River and Fresno Slough, within the Commission's leasing jurisdiction, using horizontal directional drilling (HDD) techniques. Approximately 25 miles of pipeline would be located in Fresno County and approximately two miles would be located in Madera County. The pipeline would pass approximately two miles south of the town of Mendota. Gill Ranch would have 75 percent ownership of the pipeline, and PG&E would have 25 percent ownership of the pipeline. Gill Ranch is the sole applicant for the General Lease- Right-of Way Use (Lease). On the Commission's consideration and authorization of the Lease, Gill Ranch will submit an application to the Commission for an assignment to PG&E of a 25% interest in the Lease. The proposed application for the assignment would be scheduled for the Commission's consideration at a later date.

Land uses along the pipeline corridor are primarily agriculture or agricultural processing facilities. Other land uses along the pipeline corridor include the Mendota Wildlife Management Area and the Alkali Sink Ecological Reserve. The pipeline would avoid construction in both areas. The pipeline crossing at the San Joaquin River is within the area of the San Joaquin River Restoration

Program – Mendota Pool Bypass, and Reach 2B Channel Improvements Project. This project is currently in the planning and environmental review phase.

A portion of the proposed pipeline within the bed of the San Joaquin River will be installed approximately 35 feet below an existing six-inch diameter natural gas pipeline subject to General Lease – Right of Way, No. PRC 7410.1, issued to California Gas Gathering, Inc. and authorized by the Commission in 1990. The existing lease expires on June 30, 2020.

The Commission's Mineral Resource Management Division is currently processing a request from Gill Ranch for a Natural Gas Storage Lease (sub-surface development only) for gas storage under the San Joaquin River in Fresno and Madera Counties. This item will be scheduled for consideration by the Commission at a future meeting.

Gill Ranch and PG&E submitted applications to the California Public Utilities Commission (CPUC) in 2008 for this project. On October 29, 2009, the CPUC, the project's lead agency under the California Environmental Quality Act (CEQA), adopted a Mitigated Negative Declaration and issued a Certificate of Public Necessity for the project.

OTHER PERTINENT INFORMATION:

1. Applicant has the right to use the uplands adjoining the lease premises.

2. A Mitigated Negative Declaration (MND) SCH# 2009071057 was prepared by the California Public Utilities Commission and adopted on October 29, 2009 for this project. California State Lands Commission's staff has reviewed such document.

3. A Mitigation Monitoring Program was adopted by the CPUC on October 29, 2009 (attached as Exhibit C). The California State Lands Commission has reviewed such document.

4. This activity involves lands which have NOT been identified as possessing significant environmental values pursuant to Public Resources Code sections 6370, et. seq. However, the Commission has declared that all lands are "significant" by nature of their public ownership (as opposed to "environmentally significant"). Since such declaration of significance is not based upon the requirements and criteria of Public Resources Code Sections 6370, et seq., use classifications for such lands have not been designated. Therefore, the finding of the project's consistency with the use classification as required by Title 2, California Code of Regulations, Section 2954 is not applicable.

APPROVALS OBTAINED:

California Public Utilities Commission, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, State Historic Preservation Officer, Central Valley, Regional Water Quality Control Board, State Water Resources Control Board, California Department of Conservation-Division of Oil, Gas, and Geothermal Resources, California Department of Transportation, California Department of Fish and Game, San Joaquin Valley Air Pollution Control District, County of Madera, County of Fresno.

EXHIBITS:

A. Location and Site Map
B. Land Description
C. Mitigation Monitoring Program

PERMIT STREAMLINING ACT DEADLINE:

June 8, 2010

RECOMMENDED ACTION:

IT IS RECOMMENDED THAT THE COMMISSION:

CEQA FINDING:

Find that a Mitigated Negative Declaration SCH# 2009071057 and a Mitigation Monitoring Program were prepared by the California Public Utilities Commission and adopted on October 29, 2009 for this project and that the Commission has reviewed and considered the information contained therein.

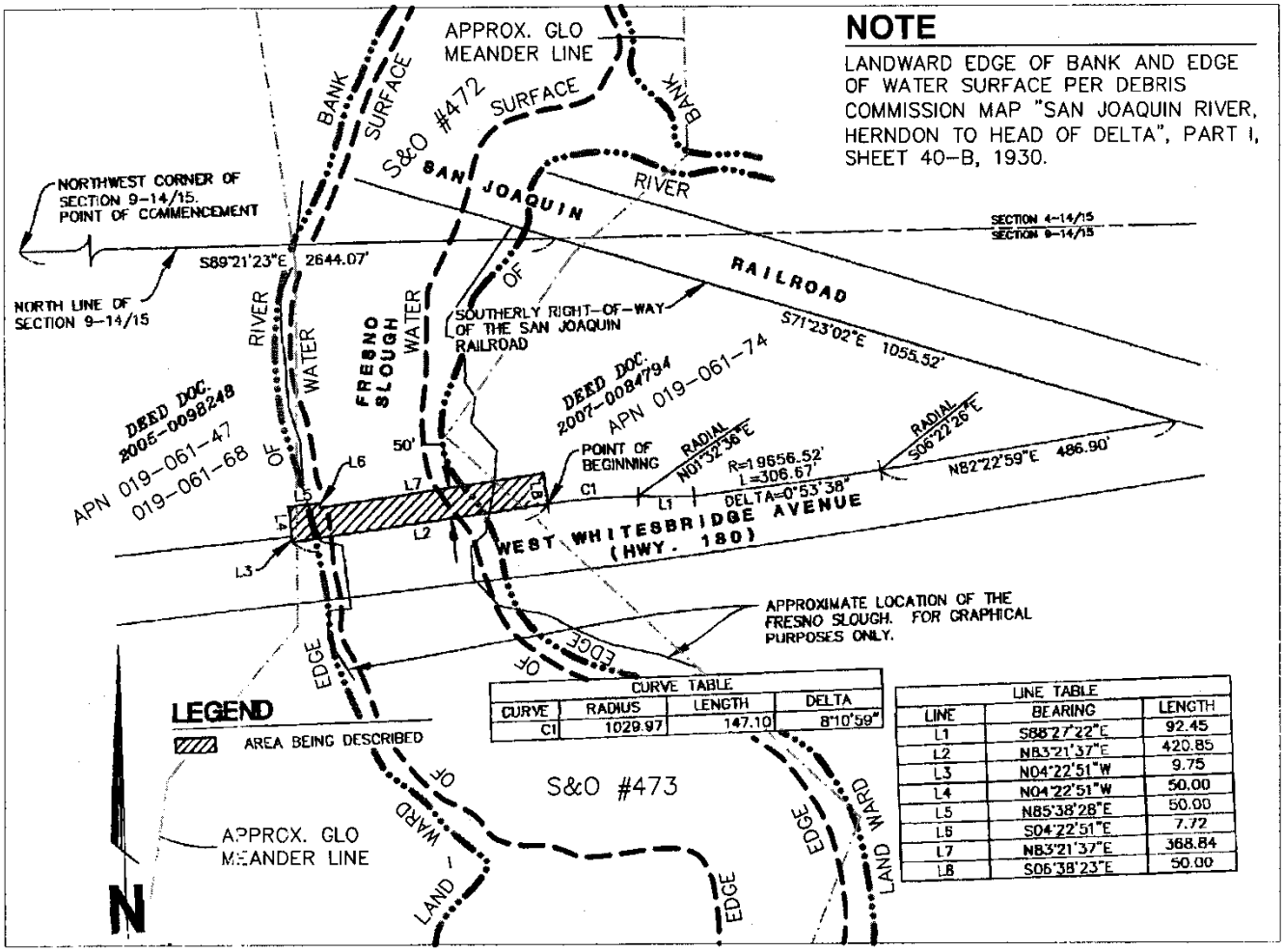
Adopt the Mitigation Monitoring Program, as contained in Exhibit C, attached hereto.

AUTHORIZATION:

Authorize issuance of a General Lease – Right of Way Use, to Gill Ranch Storage LLC, beginning February 1, 2010, for a term of 20 years, for the construction, use, operation, and maintenance of a 30-inch diameter steel natural gas pipeline as shown on Exhibit A (for reference purposes only) and described in Exhibit B attached and by this reference made a part hereof; consideration in the amount of $275 per year; with the State reserving the right to fix a different rent periodically during the lease term, as provided in the Lease; General Liability Insurance in the amount of no less than $10,000,000; Surety Bonds totaling $150,000; and a Construction Performance Bond in the amount of $250,000.

NO SCALE

SHEET 1 of 2



NOTE

LANDWARD EDGE OF BANK AND EDGE OF WATER SURFACE PER DEBRIS COMMISSION MAP "SAN JOAQUIN RIVER, HERNDON TO HEAD OF DELTA", PART I, SHEET 40-B, 1930.

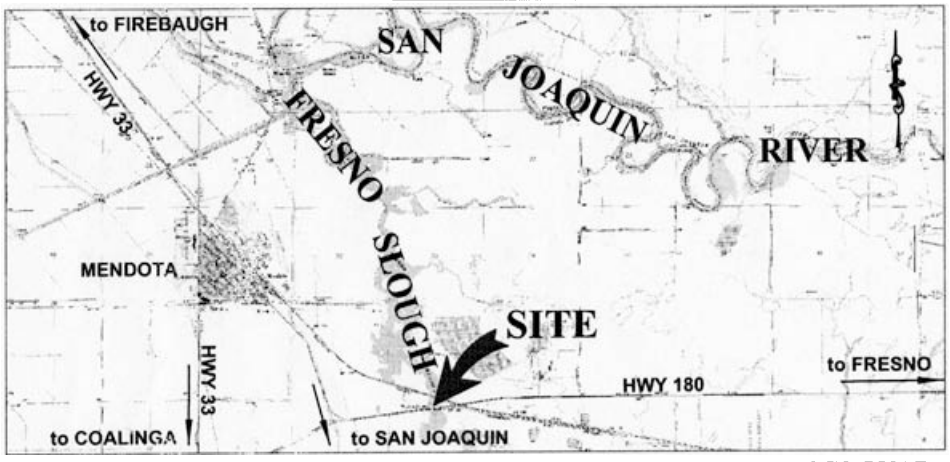
CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	1029.97	147.10	8°10'59"

LINE TABLE		
LINE	BEARING	LENGTH
L1	S88°27'22"E	92.45
L2	N83°21'37"E	420.85
L3	N04°22'51"W	9.75
L4	N04°22'51"W	50.00
L5	N85°38'28"E	50.00
L6	S04°22'51"E	7.72
L7	N83°21'37"E	368.84
L8	S06°38'23"E	50.00

GILL RANCH STORAGE LLC, PIPELINE CROSSING

NO SCALE

LOCATION



MAP SOURCE: USGS QUAD

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

Exhibit A

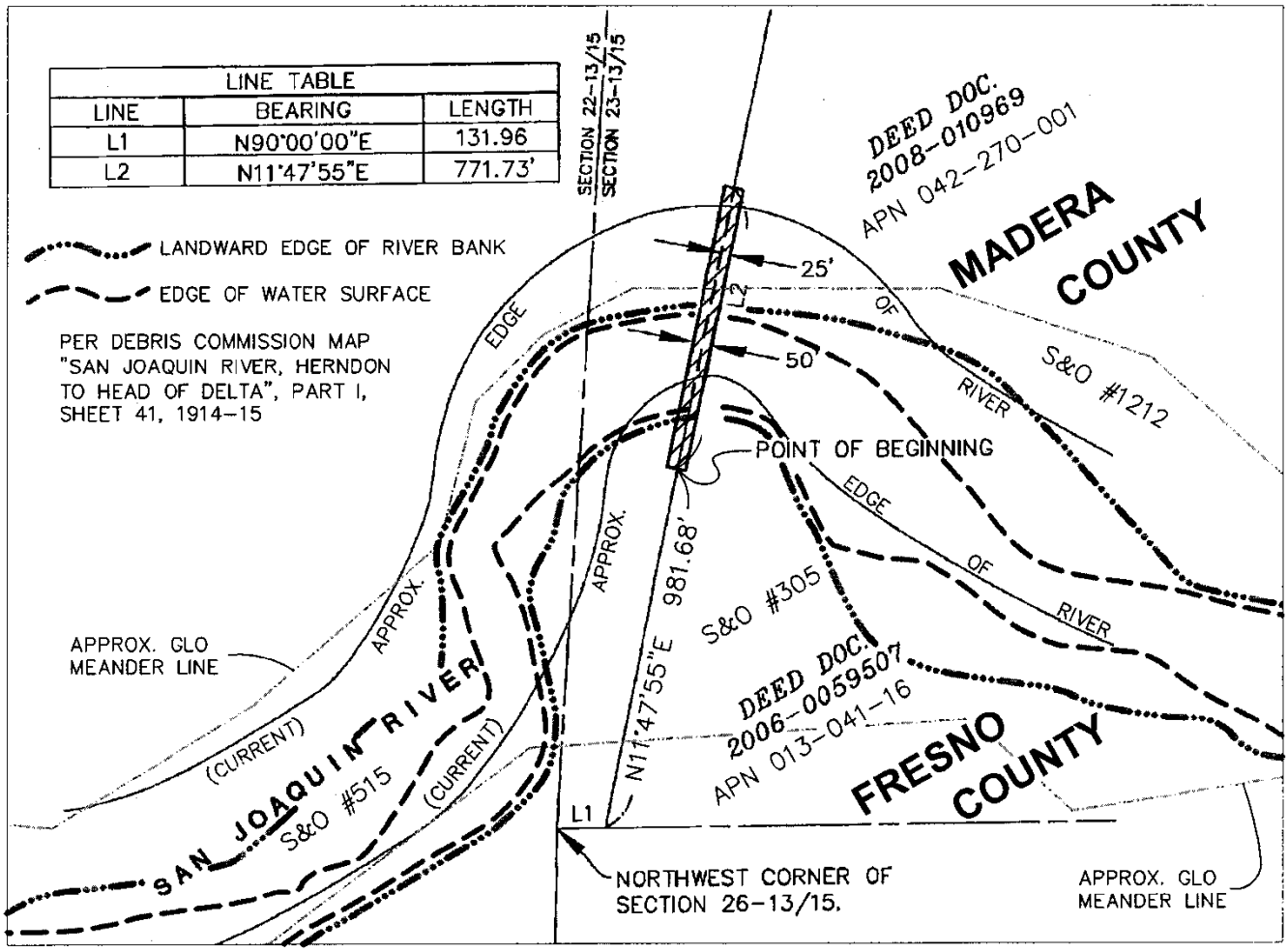
W 26343
GILL RANCH
STORAGE LLC
GENERAL LEASE
RIGHT OF WAY USE
FRESNO COUNTY

EAP 12/09

NO SCALE

SHEET 2 of 2

LINE TABLE		
LINE	BEARING	LENGTH
L1	N90°00'00"E	131.96
L2	N11°47'55"E	771.73'



GILL RANCH STORAGE LLC, PIPELINE CROSSING

NO SCALE

LOCATION

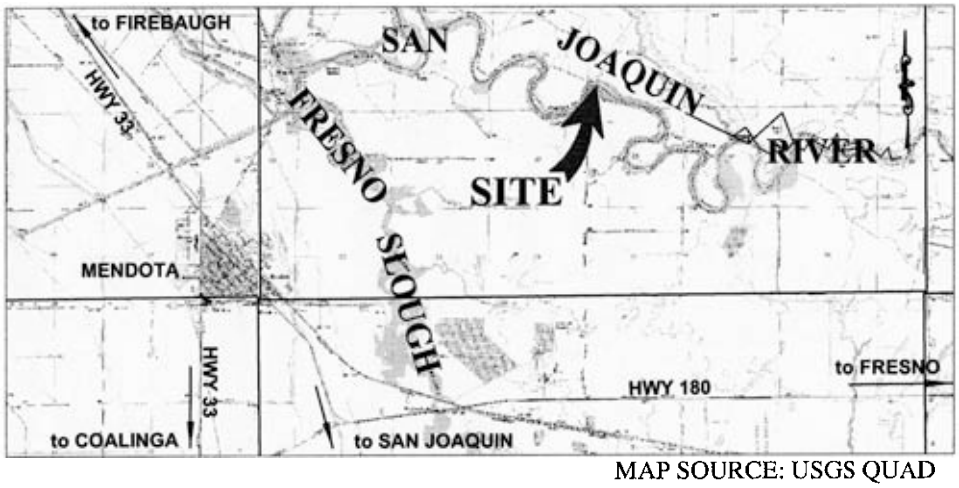


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Exhibit A

W 26343
GILL RANCH STORAGE LLC
GENERAL LEASE
RIGHT OF WAY USE
FRESNO & MADERA
COUNTIES

EAP 12/09

Exhibit C
W 26343 – GILL RANCH STORAGE LLC

APPENDIX I
MMRP

1: INTRODUCTION TO MMRP

1.1 Project Summary

Gill Ranch Gas Storage, LLC (GRS) is proposing to develop the Gill Ranch Gas Storage Project (Project), located approximately 20 miles west of Fresno, near the town of Mendota. The Project includes the storage of natural gas in depleted reservoirs in an existing natural gas production field known as the Gill Ranch Gas Field (Gas Field). The storage and delivery capability of the gas field would be 20 billion cubic feet (Bcf) of working gas and 650 million cubic feet per day (MMcfd) of peak deliverability.

The Project would include new high deliverability Injection/Withdrawal (IW) wells, wellhead surface facilities, and gathering pipelines from each well pad. Up to 15 new IW wells would be drilled in three separate reservoirs. Existing well sites would be used to the extent practical. Only one Project-related well would be located in Fresno County.

Up to seven new Observation/Monitoring (OM) wells would be drilled into the storage formations, outside of the active working gas portion of the reservoirs. One salt-water disposal well would be constructed to properly dispose of water from the IW wells during withdrawal operations.

The operating facility and compressor would be located near the center of the Project Area. The facilities would be located on a 10-acre site and include:

- Control room
- Approximately 45,000 brake horsepower (BHP) compressor station
- Gas dehydration and processing equipment
- Flow and pressure equipment
- Metering
- Communication equipment
- Maintenance facility
- Substation
- Salt water disposal well

An approximately 27-mile, 30-inch diameter gas transmission pipeline would be constructed between Pacific Gas and Electric's (PG&E) existing Line 401 near Interstate 5 and the proposed compressor station site. The pipeline would be designed to transport up to 650 MMcfd.

An approximately 9.75-mile electric power line would be constructed between PG&E's existing Dairyland-Mendota 115-kV power line on Avenue 7½ and the Storage Field central compressor station site. Approximately 4.3 miles of the new power line would be installed by replacing old poles with new wood poles in existing PG&E electric distribution line corridors. No power lines or electric distribution lines currently exist along approximately 1 mile of the proposed power line route along Avenue 7½.

GRGS and PG&E submitted applications to the California Public Utilities Commission (CPUC) for a Certificate of Public Necessity on July 29, 2008. GRS would be the operator of the Project during the development, permitting, and construction phases, and from at least 3 years from the date commercial operation begins.

1.2 Mitigation Monitoring and Reporting Requirements

The California Public Utilities Commission (CPUC) has prepared an Initial Study (IS)/Mitigated Negative Declaration (MND) (with the assistance of RMT, Inc.), pursuant to the California Environmental Quality Act (CEQA) to identify and evaluate potential environmental impacts associated with the Project. Mitigation measures are defined in the IS to reduce potentially significant impacts of Project construction and operation. All measures designated as mitigation measures reduce potential impacts to the associated resource to less than significant levels.

Approval of the project would require implementation and monitoring of all of the mitigation measures identified in the IS. CEQA Section 15097(a) requires that:

> "...In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

CEQA Section 15097(c) defines monitoring and reporting responsibilities of the lead agency.

> "(c) The public agency may choose whether its program will monitor mitigation, report on mitigation, or both. "Reporting" generally consists of a written compliance review that is presented to the decision making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. "Monitoring" is generally an ongoing or periodic process of project oversight. There is often no clear distinction between monitoring and reporting and the program best suited to ensuring compliance in any given instance will usually involve elements of both. The choice of program may be guided by the following:
>
> > (1) Reporting is suited to projects which have readily measurable or quantitative mitigation measures or which already involve regular review. For example, a report may be required upon issuance of final occupancy to a project whose mitigation measures were confirmed by building inspection.
> >
> > (2) Monitoring is suited to projects with complex mitigation measures, such as wetlands restoration or archeological protection, which may exceed the expertise of

the local agency to oversee, are expected to be implemented over a period of time, or require careful implementation to assure compliance.

(3) Reporting and monitoring are suited to all but the most simple projects. Monitoring ensures that project compliance is checked on a regular basis during and, if necessary after, implementation. Reporting ensures that the approving agency is informed of compliance with mitigation requirements."

1.3 Purpose of MMRP

This Mitigation Monitoring and Reporting Program (MMRP) is meant to facilitate implementation and monitoring of the mitigation measures to ensure that measures are executed. This process protects against the risks of non-compliance.

The purpose of the MMRP is to:

- Summarize the mitigation required for the project
- Comply with the requirements of CEQA and the CEQA Guidelines
- Clearly define parties responsible for implementing and monitoring the mitigation measures
- Provide a clear methodology and framework for verifying and reporting that the mitigation measures were implemented on a timely basis

1.4 MMRP Execution

1.4.1 OVERVIEW

This MMRP system is designed to assist the Applicants in implementing and reporting on the mitigation measures defined in the IS/MND. The MMRP would also facilitate monitoring of the measures by the CPUC, who would have the ultimate discretion in designating and approving the Environmental Monitor(s) and Environmental Inspector(s), to ensure compliance. Implementation of the MMRP requires close coordination between the CPUC and the Applicants.

As the lead agency under CEQA, the CPUC is required to monitor the Project to ensure that the required mitigation measures and Applicant Proposed Measures are implemented during construction and operation. The CPUC would be responsible for ensuring full compliance with the provisions of the MMRP and has primary responsibility for its implementation. The purpose of the MMRP is to document that the mitigation measures required and adopted by the CPUC are implemented, and that mitigated environmental impacts are reduced to the level identified in the certified MND.

As provided by the California Environmental Quality Act (CEQA) (see Guidelines section 15097(a)), the CPUC may delegate duties and responsibilities for monitoring to other environmental monitors or consultants, or public agencies, as deemed necessary. The number of construction monitors assigned to the project will depend on the number of concurrent construction activities and their locations. The CPUC, however, will ensure that each person with delegated duties or responsibilities is qualified to monitor compliance.

Any study or plan required by a mitigation measure may also require the approval of the CPUC and must allow the noted amount of time for an adequate review. When a mitigation measure requires that a mitigation action or program be developed during the design phase of the project, the Applicants must submit the final program to the CPUC for review and approval at least 60 days before the start of construction, and/or implementation of that program, whichever comes first.

Other agencies and jurisdictions may require additional review time. It is the responsibility of the environmental monitor assigned to the project to ensure that appropriate agency reviews and approvals are obtained.

The CPUC along with its environmental monitors would also ensure that any variance process or deviation from the procedures identified under the MMRP is consistent with CEQA requirements; no project variance would be approved by the CPUC if it creates new significant impacts. As defined in this section, a variance should be strictly limited to minor project changes that would not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A proposed Project change that has the potential for creating significant environmental effects would be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved Project, adopted mitigation measures, and Applicant-Proposed Measures, and correction of such deviation, shall be reported immediately to the CPUC and the environmental monitor assigned to the construction spread for their review and approval. In some cases, a variance may also require approval by a CEQA responsible agency.

1.4.2 ENFORCEMENT RESPONSIBILITY

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

The CPUC has the authority to halt any construction, operation, or maintenance activity associated with the Project if the activity is determined to be a deviation from the approved project or adopted mitigation measures. The CPUC may assign this authority to the environmental monitor for each construction phase or spread.

1.4.3 MITIGATION COMPLIANCE RESPONSIBILITY

The Applicants are responsible for successfully implementing all adopted mitigation measures in the MMRP. The MMRP contains criteria that define adequate implementation. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely.

Additional mitigation success thresholds would 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.

The Applicant shall inform the CPUC and its monitors in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC in coordination with its monitors would assess whether alternative mitigation is appropriate and specify to the Applicants the subsequent actions required.

1.4.4 DISPUTE RESOLUTION

It is expected that the adopted MMRP would reduce or eliminate many potential disputes. However, even with the best preparation, disputes may occur. In such event, the following procedure will be observed:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC's designated Project Manager for resolution. The Project Manager would attempt to resolve the dispute.

- **Step 2.** Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted MMRP.
- **Step 3.** If a dispute or complaint regarding the implementation or evaluation of the MMRP or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.
- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission. Parties may also seek review by the Commission through existing procedures specified in the Commission's Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

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2: IMPLEMENTATION TABLES

2.1 Introduction

This chapter of the MMRP includes tables that facilitate the implementation of all mitigation measures presented in the IS/MND.

The measures are identified by environmental resources. Mitigation measures span all phases of the project, including pre-construction, construction, and project operation.

Each table is further divided into the following columns:

1) Column 1 includes the text of the mitigation measure to be implemented.
2) Column 2 includes the method of implementation
3) Column 3 includes the entity responsible for monitoring implementation, it is assumed that the Applicants would be responsible for implementation of all measures.
4) Column 4 includes the implementation schedule

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2.2 Gill Ranch Gas Storage Project MMRP Table

Table 2.2-1: Mitigation Monitoring and Reporting Plan

Aesthetics			
Mitigation Measure Aesthetics-1: All compressor station structures shall be painted or use integral coloring that is a shade of "Carlsbad Canyon" as identified in the Bureau of Land Management's (BLM's) published color chart (Standard Environmental Colors Chart CC-001). All finishes shall be flat and non-reflective. Compressor station structures that shall be painted include, but are not limited to: a) Compressor station and operations buildings b) Exposed auxiliary equipment or equipment housings c) Contact towers d) Exposed piping, tanks and vessels	CPUC to approve color scheme prior to painting CPUC to confirm structures have been painted with approved color scheme.	CPUC Project Manager and designated monitor	During construction
Galvanized equipment need not be painted. The Applicants shall provide to the California Public Utilities Commission (CPUC) materials samples for CPUC staff review and approval at least 30 days prior to construction of the compressor station.	CPUC to approve materials samples	CPUC Project Manager	30 days prior to construction of compressor station
Mitigation Measure Aesthetics-2: Security fencing shall be galvanized with a flat, low reflective finish.	CPUC to approve fencing design prior to installation CPUC to confirm presence of appropriate fencing	CPUC Project Manager or designated monitor	During construction
Mitigation Measure Aesthetics-3: Gas interconnection facilities shall be painted a shade of "Covert Green" as identified in the BLM's published color chart (Standard Environmental Colors Chart CC-001). All finishes shall be flat and non-reflective.	CPUC to approve color scheme prior to painting CPUC to confirm that structures have been painted appropriately with approved color scheme	CPUC Project Manager or designated monitor	During construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Materials samples will be provided to CPUC for CPUC staff review and approval at least 30 days prior to construction of the interconnect facilities.	CPUC to approve materials samples	CPUC staff	30 days prior to construction of interconnect facilities
Mitigation Measure Aesthetics-4: Night lighting for construction at the horizontal directional drilling (HDD) site, if required, shall be fully shielded and directed away from residential areas. Lights shall be turned out in areas where they are no longer needed.	CPUC on-site monitor to check lighting during construction	CPUC designated monitor	During nighttime construction periods
Mitigation Measure Aesthetics-5: The Applicants' drilling plan shall specify that lights shall be fully shielded and directed inward on the work area.	CPUC shall confirm the directive is present in the drilling plan	CPUC Project Manager	Prior to construction
Mitigation Measure Aesthetics-6: Injection and Withdrawal (IW) and observation and monitoring (OM) well pad lighting shall be used only when the site is accessed for monitoring or servicing.	CPUC shall confirm with appropriate GRS personnel	CPUC Project Manager or designated monitor	During nighttime monitoring and servicing (project operations phase) at IW and OM well pads
Mitigation Measure Aesthetics-7: All permanent outdoor site and building lighting shall be directed at the ground and immediate area around the mounting pole or building wall. All permanent outdoor lighting shall be fully shielded such that all light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal. Poles used for site lighting shall not exceed a height of 35 ft.	CPUC shall review lighting design prior to construction. CPUC shall confirm appropriate lighting is installed	CPUC Project Manager or designated monitor	Prior to construction and just after construction
Mitigation Measure Aesthetics-8: The pipeline interconnect site lighting shall only be used when the site is accessed for monitoring or servicing.	CPUC shall confirm with appropriate GRS personnel	CPUC Project Manager	During nighttime monitoring and servicing (during project operations) at pipeline interconnect site

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Agricultural Resources			
Mitigation Measure Agriculture-1: The Applicants shall prepare and implement an Agricultural Impact Mitigation Plan. The Plan shall be submitted to the CPUC for CPUC staff review and approval at least 45 days prior to the start of construction.[1]	CPUC shall review the Agricultural Impact Mitigation Plan	CPUC staff	45 days prior to construction
The Plan shall include measures that will reduce impacts to agricultural operations during construction of the proposed facilities, in coordination with landowners. Measures shall include, but are not limited to: a) Farmers shall be compensated for the loss of crops during construction of the proposed facilities. b) Agricultural fields shall be surveyed and regraded where needed to their original elevation following construction where needed. c) Follow-up elevation surveys and finish grading shall be provided, if necessary, to ensure that the field grading and irrigation flows are not adversely affected. d) Fences and irrigation facilities shall be replaced or repaired to their original condition following construction. e) The Applicants shall coordinate with owners of land adjacent to the pipeline route regarding temporary blockage of access to the owner's parcel due to pipeline construction. Alternative access routes shall be provided, or farmers shall be provided breaks in spoil piles, trenches, or pipe strings to accommodate their need for field access during construction. f) Topsoil shall be restored to preconstruction conditions as soon after construction is completed as practical. g) Soils in the temporary construction easements located above the Westland Water District water pipeline shall not be	CPUC shall confirm measures are in plan	CPUC staff	45 days prior to construction

[1] Throughout this MMRP, where Applicants are required to submit plans for CPUC staff review and approval by a specified date, it is anticipated that such review and approval will occur after the specified date for submittal.

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

scrapped, leveled, or removed during construction			
Mitigation Measure Agriculture-2: The Applicants shall prepare and implement a Post-Construction Crop Monitoring and Mitigation Plan.	CPUC shall review plan prior to completion of construction and shall verify that the plan is implemented after construction through an on-site monitor	CPUC designated monitor	Prior to and during construction
The Plan shall be submitted to the CPUC for CPUC staff review and approval at least 45 days prior to the start of construction.	CPUC shall review the Post-Construction Crop Monitoring and Mitigation Plan	CPUC staff	45 days prior to construction
The Plan shall include measures that will reduce impacts to agricultural operations after construction of the proposed facilities, in coordination with landowners. The Applicants shall identify remaining soils and agricultural impacts associated with construction that require mitigation and shall implement the measures in the Plan.			
Follow-up restoration or appropriate measures included in the Plan shall include, but shall not be limited to: a) Crop monitoring shall be conducted for two consecutive cropping seasons following the completion of facility construction and restoration of construction areas and construction staging areas. b) On-site monitoring of growing crops shall be conducted at least two times during each growing season during the two-season crop monitoring period. c) Gill Ranch Storage, LLC (GRS) shall correct trench settlement, as necessary, to maintain pre-construction grades. In agricultural land where trench settling is excessive and cannot be restored by touch-up surface grading, GRS shall import topsoil. d) GRS shall require the contractor to remove all imported rock material during Easement Area restoration activities. GRS	CPUC shall confirm measures are in plan	CPUC staff	45 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

shall remove and dispose the excess rock from the Easement Area where cultivation or soil settlement results in excessive surface rock compared to adjacent areas not disturbed by construction. e) GRS shall correct irrigation system deficiencies/problems resulting from pipeline construction. f) GRS shall correct subsurface drainage systems repairs that fail due to pipeline construction, provided those repairs were made by GRS. Subsurface drain line breaks or other damages to subsurface drainage systems that occur within the Easement Area shall be corrected to the extent that such breaks are the result of pipeline construction. g) Subsurface drainage facilities or other measures shall be installed to restore these affected areas to pre-construction conditions. h) GRS shall monitor the Easement Area for noxious weed infestations in conjunction with crop production monitoring described above. GRS shall take the appropriate measures to control any new noxious weed infestations that were not occurring within the Easement Area prior to pipeline construction.			
Mitigation Measure Agriculture-3: The Applicants shall participate in land conservation programs that are currently being developed in Fresno and Madera Counties. Madera County's program will create permanent conservation easements to preserve agricultural land and native habitat. Madera County will manage the program and the easements. Fresno County is developing a similar program that will be administered by a qualified land trust.	CPUC shall confirm Applicant participation in land conservation programs in Fresno and Madera counties	CPUC Project Manager	During appropriate phase of project
The Applicants' participation in the programs shall comply with the following guidelines: a) The Applicants shall pay fees into the conservation program to permanently preserve an appropriate quantity of land to fully mitigate Project impacts. The Applicants shall permanently	CPUC shall confirm measures are in conservation agreement	CPUC staff	During project operation

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

preserve at least 20.35 ac (19.54 ac in Madera County and 0.81 ac in Fresno County). Additional land, included as 1.00 ac of contingency and access road land in this Project's Initial Study analysis of impacts to agriculture, shall be preserved at a 1:1 ratio in the county in which the land was converted to non-agricultural use. b) Prior to construction, the Applicants shall enter into an agreement with each County to fully mitigate the farmland that is actually converted within that County either through acquisition of easements or other real property interests in prime farmland to ensure that the required acreage is permanently retained in productive agriculture (County Farmland Mitigation Agreement). The County Farmland Mitigation Agreement shall provide that in lieu of actually acquiring interest in real property, the Applicants shall either pay a fee to the County to fund a County agricultural land preservation program or directly fund a qualified third party approved by the County that will acquire easements or other real property interests in prime farmland. c) To the extent that a suitable conservation program is available in either County prior to construction of the Project, all payments of fees or funding for easement acquisition required by the County Farmland Mitigation Agreement for that County shall be completed by the Applicants prior to commencement of construction. d) If a suitable conservation program is not available in either County prior to commencement of construction of the Project, the Applicants shall post a bond prior to construction, in an amount reasonably determined by the County to provide for implementation of the farmland mitigation described above. The Applicants shall use the bond money to participate in a suitable farmland conservation program or regional land trust, following the above guidance for the area of land to be preserved. The conservation agreement shall be in place prior to the start of Project operations. The Applicants shall submit			

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

the name of the trust/conservation program, prior to the signing of the agreement, to the CPUC for approval. e) If the Applicants find that the desired amount of conservation in each county cannot be obtained with a good faith effort (e.g., if a County does not contain land available for conservation, or if programs require a purchase of a denomination of land so as to make purchase in both counties inappropriate), then the amount of land to be preserved in each County may be adjusted with the approval of CPUC staff. The amount of land to be preserved shall still be at least 20.35 ac.			
Air Quality			
Mitigation Measure Air Quality-1: The Applicants shall participate in the San Joaquin Valley Air Pollution Control District's (SJVAPCD's) Voluntary Emission Reduction Agreement program to offset construction-generated emissions of NOX. An agreement for the Applicant to make a one-time payment that will result in NO_X emission reductions equivalent to at least 26 tons shall be signed prior to the commencement of construction activities. The payment shall be the amount that has been determined by the District to be sufficient to fund projects resulting in equivalent emission reductions of 26 tons of NO_x.	CPUC shall confirm signed agreements between Applicants and SJVAPCD	CPUC Project Manager	Prior to construction
Mitigation Measure Air Quality-2: Construction workers shall meet at staging areas and be transported (in carpools) to jobsites, as practicable. These staging areas will be located in Fresno and Madera Counties, as shown in Figure 2.3-4..	CPUC shall confirm carpooling is taking place through coordination with appropriate GRS personnel	CPUC Project Manager	During project construction
Mitigation Measure Air Quality-3: Unnecessary construction vehicle and equipment idling shall be minimized.	CPUC to verify through on-site monitoring	CPUC designated monitor	During construction
Construction foremen shall include briefing to crews on vehicle use as part of pre-construction conferences. Those briefings shall include discussion of limiting idling.	CPUC shall verify with construction foreman	CPUC Project Manager	Prior to construction
Mitigation Measure Air Quality-4: All off-road construction diesel engines shall meet Tier 2 California Emission Standards for Off-Road CI Engines.	CPUC shall confirm engine standards met through documentation	CPUC Project Manager or designated monitor	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Air Quality-5: The Applicants shall participate in US EPA's Natural Gas STAR Program. A memorandum of understanding (MOU) with the US EPA shall be signed prior to initial startup of the compressor station. Within 6 months after signing the MOU, the Applicants shall prepare an implementation plan that includes best management practices (BMPs) identified by the Natural Gas STAR program for transmission and distribution facilities. The implementation plan shall incorporate Partner Reported Opportunities that cost-effectively reduce methane emissions.	CPUC shall verify through review of the MOU and implementation plan	CPUC Project Manager	Prior to start of operations
Within 45 days after completion of one calendar year of participation in the program, the Applicants shall submit an annual report documenting the previous year's emission-reduction activities and corresponding methane emission reductions.	CPUC shall verify through review of documentation	CPUC Project Manager	Within 45 days of construction of one calendar year of participation in the program
Copies of all documents shall be submitted to the CPUC.	CPUC shall verify through review of documentation	CPUC Project Manager	Upon completion of each document or report
Mitigation Measure Air Quality-6: GRS shall enter into an agreement with Pacific Gas & Electric Company (PG&E) to participate in the ClimateSmart™ Program. A copy of the agreement shall be provided to CPUC prior to the start of operation of the compressor station. If a future program renders this agreement redundant (e.g., if GRS can demonstrate that the same benefits are achieved via PG&E's participation in a future cap and trade program), then the GRS agreement may be terminated, subject to review and approval by the CPUC.	CPUC shall verify through review of documentation/ agreements	CPUC Project Manager	Prior to start of operations
Mitigation Measure Air Quality-7: The Applicants shall use alternate fuels, such as biodiesel, where feasible (e.g. fire water pump).	CPUC shall confirm alternate fuel use through contractor documentation	CPUC Project Manager	All phases of project, as appropriate
Mitigation Measure Air Quality-8: GRS shall conduct a greenhouse gas emissions and facility-wide energy efficiency audit.	CPUC shall confirm energy audit has occurred through review of audit documentation	CPUC Project Manager	During project operation
Mitigation Measure Air Quality-9: The Applicants shall replace breakers within 30 days once sulfur hexafluoride (SF_6) leakage rates exceed one percent.	CPUC shall confirm status/documentation	CPUC Project Manager	During project operation

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan			
Mitigation Measure Air Quality-10: GRS shall develop a sulfur hexafluoride (SF_6) inventory and participate in the SF_6 Emission Reduction Partnership for Electric Power Systems.	Applicant shall confirm replacement with documentation submitted to the CPUC	CPUC staff	During project operation
Biological Resources			
Mitigation Measure Biology-1 (APM Biology-1): Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) The Applicants shall develop a BRMIMP in advance of any Project-related ground disturbance activities, to fully disclose the required mitigation measures with which the Project must comply during Project construction and operation. The BRMIMP shall be developed in consultation with the CPUC and biological resource agencies and include the protection measures identified in this IS/MND.	CPUC shall confirm preparation of the BRMIMP through review of the document	CPUC Project Manager	Prior to construction
The BRMIMP shall include, but not be limited to: a) Species impact avoidance and minimization measures; b) Habitat compensation strategy; c) Environmental compliance reporting requirements; d) Pre-construction survey methods; e) Construction monitoring procedures; f) Worker Environmental Awareness Program; g) Frac-out contingency plan; h) Post-construction clean-up plan; i) Restoration plan. The BRMIMP shall identify: j) All biological resources mitigation, monitoring, and compliance conditions specified in any acquired permits for the Project; k) All sensitive biological resources that may be impacted by the Project, or that will be avoided or mitigated by the Applicants;	CPUC shall verify inclusion of all requirements in BRMIMP	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan			
l) All required mitigation measures/avoidance strategies for each sensitive biological resource; m) All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction; n) Pre- and post-construction site photographs of all natural areas disturbed during Project construction activities; o) Duration of biological, cultural resource, and paleontological monitoring and a description of monitoring methodologies and frequency; p) Success criteria; q) Remedial measures to be implemented if success criteria are not met; and r) A discussion of biological resource-related facility closure measures.			
Mitigation Measure Biology-2 (APM Biology-2a): The following measures shall be applied during construction: a) All construction activities shall be limited to the Project right of way (ROW), designated staging areas, and access roads. b) No pets or firearms shall be permitted on the Project site. c) In sensitive habitat areas (i.e., habitats that potentially support listed species or sensitive habitat), orange construction fencing shall be installed to delineate the work area and prevent equipment from entering sensitive areas. All site workers shall be informed about the importance of maintaining any designated protection or exclusion areas. Sensitive resource areas shall be identified by a qualified biologist to reduce the potential for degrading existing habitat and attracting sensitive wildlife species and their predators to the area, and all trash shall be properly contained and removed from the work site and disposed of	CPUC shall verify implementation through on-site monitoring	CPUC designated monitor	During construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

regularly. d) All construction debris and trash shall be disposed of properly, and food-related trash shall be removed from the site when work activities are complete at the end of each day. e) During construction, all Project-related vehicle and equipment traffic shall be restricted to established roads or access routes, and shall observe a maximum 15 miles per hour speed limit within the work areas, except on County roads and highways.			
Mitigation Measure Biology-3 (APM Biology-2b): The vehicle and equipment access routes and work area shall be delineated in the field (e.g., by staking, flagging, or fencing, as appropriate) prior to initiating pipeline construction.	CPUC shall verify implementation through on-site monitoring	CPUC designated monitor	Prior to pipeline construction
Mitigation Measure Biology-4 (APM Biology-3): The Applicants shall develop and implement a Worker Environmental Awareness Program (WEAP) pursuant to which each of their employees, as well as employees of contractors and subcontractors who work on the Project site or related facilities during construction and operation, are informed about the sensitive biological resources potentially occurring in the Project Area. A copy of the WEAP shall be submitted to the CPUC at least 30 days prior to construction.	CPUC shall confirm preparation and implementation of WEAP through review of the WEAP and on-site monitoring during construction	CPUC staff and designated monitor	Review WEAP 30 days prior to construction and monitor during construction
An employee training session shall be conducted before groundbreaking to explain any sensitive biological resource and special-status species concerns as well as applicable regulations.	On-site monitoring	CPUC designated monitor	Prior to construction
The WEAP shall: a) Provide for on-site or classroom presentation in which supporting written material is made available to all participants; b) Discuss the locations and types of sensitive biological resources within the Project area and adjacent areas; c) Present the reasons for protecting these resources; d) Present the meaning of various temporary and permanent habitat protection measures; e) Present what to do if previously unidentified sensitive resources	CPUC shall review WEAP to confirm measures are included	CPUC staff	30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

are encountered; and f) Identify whom to contact if there are further comments and questions about the material discussed in the program.			
The program shall be administered by a field contract representative or qualified biologist with knowledge of the local area and associated sensitive resources.	CPUC shall review qualifications of trainer	CPUC staff	30 days prior to construction
Each participant in the on-site WEAP shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The Designated Biologist or Field Representative administering the program shall also sign each statement.	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction
Mitigation Measure Biology-5 (APM Biology-4): The Applicants shall select a Designated Biologist prior to the start of any ground disturbance activities. The Designated Biologist shall meet the following minimum qualifications: a) A bachelor's degree in wildlife biology, zoology, botany, ecology, or a closely related major; b) Three years of experience in field biology; c) One year of field experience with resources found in or near the Project Area; and d) Additional education and experience appropriate for the biological resource tasks that must be addressed during Project construction and operation.	CPUC shall review qualifications of selected biologist	CPUC Project Manager	Prior to construction
The Designated Biologist shall be present onsite during all ground disturbing activities that have the potential to impact plants, wildlife or sensitive habitat (i.e., habitats that potentially support listed species or sensitive habitat). The Designated Biologist shall: a) Ensure compliance with environmental permits and approvals as summarized in the BRMIMP; b) Ensure implementation and compliance with the WEAP; and c) Have the authority to halt construction at any time if biological resources are in being negatively impacted.	*CPUC shall verify through* on-site monitor	*CPUC designated* monitor	*During* construction related ground disturbing activities

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Biology-6 (APM Biology-5): Wildlife entrapment prevention measures shall be employed during construction, operation and maintenance of the Project in order to prevent wildlife entrapment. Such measures shall include but shall not be limited to the following: a) Stored piping shall be temporarily capped in order to prevent wildlife from taking up residence within construction materials. b) Well cellars and other cavities associated with the Project shall be appropriately designed and managed to prevent entrapment. c) Potential entrapment of ground dwelling and burrowing species in open trenches during construction shall be avoided by providing covers over short spans of open trench or providing escape ramps at regular intervals in long spans. d) Trenches shall be inspected on a daily basis by a biological monitor prior to onset of construction or backfilling.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction, operation, and maintenance
Mitigation Measure Biology-7 (APM Biology-7): No fewer than 14 days and no more than 30 days prior to the onset of any Project-related ground or vegetation disturbing activity during the life of the Project, qualified biologist shall survey the impact area for presence of special-status animals as identified in Table 3.5-2.	CPUC shall confirm appropriate surveys and documentation have been submitted	CPUC Project Manager	No fewer than 14 days and no more than 30 days prior to the onset of construction
In the event that special-status animals are detected during these surveys, appropriate impact avoidance, protection, and/or compensation measures shall be developed in consultation with the California Department of Fish and Game (CDFG) and the US Fish and Wildlife Service (USFWS). Proof of consultation shall be submitted to the CPUC within 30 days of the beginning of construction. Examples of measures to be considered and implemented based on agency consultations include, but are not limited to: a) Project scheduling to avoid active nesting/breeding/aestivation/refugia sites; b) Project modifications to avoid active nests or burrows of protected species; c) Inspection or observation of burrows (e.g., with tracking medium or	CPUC shall verify that appropriate measures have been negotiated through review of documentation/proof of consultation	CPUC Project Manager	30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

using a fiber-optic endoscope) to determine occupancy; d) Hand excavation and collapsing of burrows to allow animals to escape and avoid subsequent occupancy during construction; e) Capture and relocation of animals from affected areas; f) Installation of exclusionary fencing.			
Mitigation Measure Biology-8 (APM Biology-15): Areas subject to ground or vegetation disturbance shall be surveyed for active nests by a qualified biologist within 15 days of the start of construction when construction is scheduled to occur during the bird nesting season (February 1 to September 30). If an active nest of protected bird species is observed, the location shall be recorded with a Global Positioning System (GPS) unit and the avoidance area shall be delineated at the required distance from the nest (e.g., with staking and flagging), and awareness of the avoidance area shall be included in the regular construction briefings.	CPUC shall confirm surveys have taken place within the appropriate time frame through review of documentation	CPUC Project Manager	Within 15 days prior to construction
The nest shall be avoided (no construction activities or surface disturbance within 200 ft, or the distance specified in the BRMIMP) until no longer occupied (as determined by the biological monitor) unless a special purpose permit for removal of the nest is obtained from the USFWS.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Biology-9 (APM Biology-13): Preconstruction surveys for nesting Swainson's hawks shall be performed within 0.5 mi of the Project Area according to established protocol (Entrix 2008). Surveys shall be timed to allow for full completion as specified in the protocol, before the onset of construction, using the CDFG-endorsed protocol in effect at that time.	CPUC shall confirm surveys have taken place within the appropriate time frame through review of reports	CPUC Project Manager	Prior to construction
If any nests are located in the survey area, no construction activities shall occur within 500 ft of the nest until such time that the young have fledged or the nest has been abandoned as determined by a qualified biological monitor.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Biology-10 (APM Biology-16): Areas subject to ground disturbance shall be surveyed for nesting burrowing owls prior to start of construction according to established guidelines (CDFG 1995).	CPUC shall confirm surveys have taken place within the appropriate time frame through review of reports	CPUC Project Manager	Prior to construction
Appropriate avoidance, minimization, or protection measures shall be determined	CPUC shall confirm that	CPUC Project	Prior to

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

in consultation with CDFG in the event an active nest is located in an area subject to disturbance, or within the typical setback (i.e., occupied burrows or nests within 150 feet of an area subject to disturbance during the non-breeding season, or within 250 ft of an area subject to disturbance during the breeding season).	appropriate mitigation has been negotiated through review of documentation of consultation	Manager	construction
Mitigation Measure Biology-11 (Addendum to APM Biology-15): An appropriate buffer shall be established around active avian nests in consultation with CDFG if an active avian nest is identified during nesting season (February 1 through September 30). The buffer will vary by species, but raptors typically require a 250-ft buffer whereas smaller migratory birds may only require a 50-ft buffer.	CPUC shall confirm appropriate buffers have been negotiated through review of documentation of consultation CPUC shall verify through on-site monitoring	CPUC Project Manager and designated monitor	Prior to and during construction
Mitigation Measure Biology-12 (Addendum to APM Biology-16): A protocol-level pre-construction burrowing owl survey shall be conducted within 250 ft of areas subject to disturbance. The survey shall occur between February 1 and September 30. Appropriate avoidance, minimization, or protection measures shall be determined in consultation with CDFG in the event that construction is located within 150 feet of occupied burrows or nests during the non-breeding season, or within 250 ft of an area subject to disturbance during the breeding season.	CPUC shall confirm surveys have taken place within the appropriate time frame through review of reports	CPUC Project Manager	Prior to construction
Mitigation Measure Biology-13: A protocol-level pre-construction burrowing owl survey shall be conducted within 250 ft of areas subject to disturbance during the non-breeding season (October 1 through January 31).	CPUC shall confirm surveys have taken place within the appropriate time frame through review of reports	CPUC Project Manager	Prior to construction
Appropriate avoidance, minimization, or protection measures shall be determined in consultation with CDFG in the event that an active burrow is located within 150 feet of occupied burrows or nests during the non-breeding season, or within 250 ft of an area subject to disturbance during the breeding season. This may require the passive relocation of the owls and the purchase of compensation mitigation at a ratio of 6.5 ac per pair or unpaired individual.	CPUC shall confirm that appropriate mitigation has been negotiated through review of documentation of consultation and review of agreements if compensation mitigation is required CPUC shall verify through on-site monitoring	CPUC Project Manager and designated monitor	Prior to and during construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Biology-14 (APM Biology-12): A 100-ft diameter buffer shall be established and maintained around all elderberry plants with a stem diameter of 1.0 in or greater at ground level as described in *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS 1999a). These buffers shall be delineated using construction fencing. In the event that complete avoidance of elderberry shrubs, including a 100 ft buffer, is not possible, surveys for beetle exit holes shall be performed on all elderberry plants with a stem diameter of 1.0 in or greater at ground level and all minimization, protection, and compensation measures shall be implemented as described in the Conservation Guidelines.	CPUC shall confirm appropriate buffer will be marked and protected, as specified through on-site monitoring	CPUC Project Manager and designated monitor	Prior to and during construction
Mitigation Measure Biology-15 (APM Biology-20): Giant Garter Snake Impact Avoidance and Minimization Standard avoidance and minimization measures shall be implemented in suitable habitat as described in Appendix C of the USFWS Programmatic Consultation with the US Army Corps of Engineers (USACE) for 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, and Yolo Counties, California (1997). These measures include, but are not limited to:	CPUC shall confirm appropriate implementation through on-site monitoring	CPUC Project Manager and designated monitor	Prior to and during construction
a) Schedule construction activity within suitable habitat to occur during the active period for giant garter snake (between May 1 and October 1). The USFWS shall be consulted to determine if additional measures are necessary to minimize and avoid take if activities cannot be avoided in suitable habitat between October 2 and April 30.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC Project Manager	Prior to and during construction
b) Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent to the Project area as Environmentally Sensitive Areas. This area shall be avoided by all construction personnel and equipment.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC designated monitor	During construction
c) Construction personnel shall receive USFWS approved worker environmental awareness training. This training instructs workers to recognize giant garter snakes and their habitat(s).	CPUC shall verify through review of documentation	CPUC designated monitor	Prior to construction
d) Suitable habitat shall be surveyed for giant garter snakes within 24 hours prior to construction activities and repeated if a	CPUC shall verify through review of documentation	CPUC Project Manager	24 hours prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

lapse in construction activity of 2 weeks or greater has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake will not be harmed. Any sightings or incidental take shall be reported to the USFWS within 24 hours.			
e) Any dewatered habitat shall be left dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC designated monitor	During construction
f) After completion of construction activities, remove any temporary fill and construction debris and, wherever feasible, restore disturbed areas to pre-project conditions. Restoration work may include such activities as replanting species removed from banks or replanting emergent vegetation in the active channel.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC designated monitor	Post construction
Mitigation Measure Biology-16 (APM Biology-8): Following the completion of construction in natural areas, the ROW shall be recontoured to pre-Project contours, and sequestered top soil shall be replaced in such a manner that historic drainage patterns are maintained. All graded areas shall be revegetated with an appropriate native seed mix specific to the surrounding vegetation community. Revegetation of all disturbed sites shall be maintained and monitored for an appropriate period of time to ensure successful restoration.	CPUC shall confirm all specified contouring and revegetation activities have taken place as specified through on-site monitoring	CPUC Designated monitor	Post construction
Mitigation Measure Biology-17 (APM Biology-18): Qualified biologists shall survey the area to be directly impacted by construction in order to determine presence of potentially suitable habitat for Nelson's antelope ground squirrel. Pre-construction surveys shall be performed at appropriate times and under appropriate environmental conditions, in consultation with CDFG during the life of the Project. Potentially suitable habitat is defined as non-cultivated areas with sandy loam soils, widely-spaced alkali scrub vegetation, and dry washes. Appropriate measures shall be determined and implemented in consultation with CDFG to avoid impacts if surveys indicate presence of Nelson's antelope squirrel in the Project Area.	CPUC shall confirm surveys have taken place within the appropriate time frame through review of documentation	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Biology-18 (APM Biology-19): Pre-construction/pre-activity surveys for San Joaquin kit fox active dens shall be conducted no fewer than 14 days and no more than 30 days prior to the onset of any ground-disturbing activity. Surveys will identify and characterize all potential den sites. Pre-construction surveys for active dens of San Joaquin kit fox shall follow CDFG and/or USFWS approved protocols currently in effect at the time of the survey and standardized recommendations for protection of the species prior to or during ground disturbance.	CPUC shall confirm surveys have taken place within the appropriate time frame through review of report	CPUC Project Manager	No fewer than 14 days and no more than 30 days prior to construction
Appropriate mitigation measures shall be implemented as specified in any USFWS Biological Opinion/Incidental Take Statement and the CDFG 2081(b)-(c) Incidental Take Permit and associated mitigation plan that may be issued for the Project if active dens are located in the Project Area. Documentation shall be submitted to the CPUC to confirm compliance.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Biology-19 (APM Biology-10): Vehicle movements and ground-disturbing activities in biologically sensitive areas along the gas pipeline and electric power line shall be conducted in such a way as to avoid or minimize the mobilization of sediment. Appropriate Best Management Practices (BMPs) shall be employed. The BMPs shall be presented in the Erosion and Sediment Control Plan, which would be reviewed and approved by the CPUC, as described in Mitigation Hydrology-4. This mitigation shall apply to construction in the following areas, at a minimum: a) Wetlands feature on west side of Fresno Slough at MP 17.5; b) Power line alignment across Chowchilla Bypass Canal.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Biology-20: An onsite restoration program shall be developed for the wetland near MP 17.5 and submitted to the responsible agency (i.e., including but not limited to the USACE, CDFG, and the Regional Water Quality Control Board [RWQCB]) and the CPUC at least 45 days prior to the start of Project activities in this area.	CPUC shall review restoration program	CPUC Project Manager	Prior to construction
The objective of this mitigation measure is to replace the habitat impacted as a result of gas pipeline construction at a 1:1 ratio. The restoration plan shall include but shall not be limited to the following information: a) Designate locations onsite to restore lost habitat. Appropriate	CPUC shall verify that all measures are in plan	CPUC staff	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

habitat shall be created in the exact project footprint of areas temporarily impacted or in suitable areas with similar characteristics to those areas impacted. b) Describe the methods by which the restoration will occur, including area to be restored, species to be planted, and plant installation guidelines. c) Develop a timetable for implementation of the restoration plan. All plantings shall be installed at the beginning of the year's rainy season, between November and January, to maximize natural watering and optimal temperatures. d) Develop a monitoring plan and performance criteria. The mitigation site shall be monitored for a 5-year period. e) Describe remedial measures to be performed in the event that initial restoration measures are unsuccessful in meeting the performance criteria, including the resetting of the five year monitoring period if established criteria are not satisfied. f) Describe activities to follow restoration activities. These shall include weed control, removal of tamarisk, irrigation, and control of herbivory by livestock and wildlife.			

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Biology-21 (APM Biology-6): The following measures shall be implemented during construction to minimize the incidence of sediment mobilization: a) Clearing of vegetation shall be confined to the minimal area needed to conduct the construction activities; b) All excavated material shall be sidecast in upland habitat areas within the work area; c) Drainages and wetlands shall be protected from potential impacts from construction activities through installation of orange construction fencing backed by silt fencing. This shall prevent all excavated material, Project equipment, and sediment from impacting sensitive habitat adjacent to or downslope from construction sites; and d) At completion of the construction work all disturbed soils shall be stabilized by compaction and the entire construction site shall be recontoured to preconstruction grades.	CPUC shall confirm measure has been implemented through on-site monitoring	CPUC designated monitor	During construction
Cultural Resources			
Mitigation Measure Cultural-1 (APM Cultural-1) a) Additional studies shall be conducted in areas where cultural resources were previously identified prior to construction to determine potential Project-specific direct and indirect impacts on *historical resources and develop appropriate mitigation measures* in order to comply with federal and state laws. Any cultural resources that will be directly affected by the Project shall be evaluated for significance according to the criteria of the National Register of Historic Places (NRHP) and/or California Register of Historic Resources (CRHR), as appropriate. Boundary definition using more detailed surface and subsurface investigations shall be required at each previously documented site because the boundaries of these resources and their spatial relationship to the impact area are unclear. Significance evaluations shall be conducted to determine whether an isolate qualifies as a historical	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

resource or if it is determined that a cultural resources site occurs within the Project Area boundaries. The Applicants shall coordinate with the CPUC and the CSLC with respect to lands under its jurisdiction to determine the disposition of any artifacts or resources that may be collected.			
b) Subsurface testing shall be conducted at each isolate location to determine if buried cultural deposits are associated with it because of the high potential for buried cultural deposits. An isolated artifact does not qualify as a historical resource under the California Environmental Quality Act (CEQA). Further management of the isolate shall not be required if no buried cultural deposits are observed during subsurface testing at the isolate locations. The site shall be evaluated and its significance determined if subsurface testing reveals that the isolate is associated with a larger buried deposit.	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction
c) Significance evaluations may require additional archival and background research, additional field documentation, or other studies. Evaluation of archaeological properties may require test excavations, backhoe trenching, or other forms of subsurface investigation; laboratory processing and analysis of recovered remains; and a variety of special technical studies. These evaluations shall define the qualities of the resource that make it significant and assess site integrity as a means for judging the nature and extent of Project impacts. Significance evaluations and impact assessments shall be performed by appropriately qualified specialists meeting the Secretary of Interior's Professional Qualifications Standards (CFR 190: 44740–44741). Any artifacts and other remains that may be collected from the field, along with field records and other documentation, shall be curated at an institution capable of providing secure, long-term storage, care, and access to the public.	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

d) A technical report documenting the results of isolate testing, subsurface boundary definition, resource evaluations, and other studies shall be prepared and provided to the relevant professional at the County, the State Historic Preservation Officer (SHPO), and the CPUC. The confidential technical report sections shall discuss the importance of historical and archaeological resources identified during the study, identify the potential for significant impacts, and discuss adequate and feasible mitigation measures. The report shall adhere to professional standards outlined by SHPO in Archaeological Resource Management Reports (ARMR): Recommended Contents and Format (Jackson 1990 as cited in Entrix 2008).	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction
e) Additional impact mitigation shall be required if the Project cannot be redesigned to avoid the resource if studies determine that "historic properties', or "unique archaeological resources" will be affected by the proposed Project. Impact mitigation may take a variety of forms depending on the nature of the site and the nature and extent of impacts. Site avoidance is the preferred mitigation measure. Portions of the resources outside the impact area may be preserved in an exclusion zone—a fenced area where construction equipment and personnel are not permitted – if historical or unique archaeological resources cannot be avoided entirely. One or a combination of the following measures shall be implemented where avoidance is infeasible and historical and unique archaeological resources will be jeopardized by the Project: 1) Data recovery excavation; 2) Additional analysis of existing collections; 3) Additional archival/historical research; 4) Photographic documentation; 5) Archaeological monitoring during construction,	CPUC shall verify the development of appropriate mitigation	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

followed by data recovery excavation or other appropriate measures if significant archaeological remains are exposed.			
Final decisions regarding impact mitigation shall be made in consultation with the Applicants, regulatory agencies, the county involved, technical specialists, Native American tribes, and other interested parties.	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction
f) A Data Recovery Plan shall be prepared and implemented if data recovery is the recommended mitigation, and shall detail how mitigation will be conducted, procedures for protection and avoidance for cultural resources, and curation of cultural materials collected during the project. The plan, if required, shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to ground-disturbing activity. Data recovery performed in association with the Project shall be supervised by appropriately qualified specialists meeting the Secretary of Interior's Professional Qualifications Standards (CFR 190: 44740–44741).	CPUC shall verify through review of the plan	CPUC staff	30 days prior to construction
g) Artifacts and other remains collected from the field, along with field records and other documentation, shall be curated at an institution capable of providing secure, long-term storage, care, and access to the public.			
Mitigation Measure Cultural-2 (APM Cultural-2): A buried site testing (BST) plan shall be prepared and implemented prior to construction in Project areas sensitive for buried archaeological sites. The plan shall be submitted to the CPUC at least 60 days prior to construction for CPUC staff review and approval.	CPUC shall review the Buried Site Testing Plan	CPUC staff	Prior to construction
The plan shall specify the areas to be tested, the methods and procedures to be used, and the protocols to follow upon discovery of cultural materials. Highly sensitive areas for buried archaeological sites that will require BST include those portions of the project that are adjacent to the San Joaquin River, Fresno Slough, and other active and remnant waterways within the Project boundaries. The BST shall utilize the combination of controlled mechanical sampling of sediments and the manual screening of those sediments in an effort to locate buried	CPUC shall verify inclusion of measures in plan	CPUC staff	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

archaeological deposits. The following procedures and measures shall be followed: a) Mechanized sampling shall be accomplished principally by using a backhoe to excavate trenches approximately 15 ft long at standard intervals within the target area. b) Sampling of the backhoe trenches shall be controlled by mechanically excavating the sediments in standard levels, and in the process, setting aside one backhoe bucket load of sediment from each level for manual screening through 0.25-inch mesh. c) Test units (1 meter by 1 meter) shall be excavated by hand to further explore the site's depositional history, cultural and natural stratigraphy, and to gather data for site evaluation when intact cultural deposits are uncovered during the exploratory backhoe trenching. d) Further investigations or mitigation shall not be necessary if BST indicates that a cultural resource does not meet established significance criteria, lacks integrity, or will not be impacted by the Project. e) Mitigative treatment shall be required if significant buried cultural resources will be impacted by construction. f) The BST shall be performed by appropriately qualified specialists meeting the Secretary of Interior's Professional Qualifications Standards (CFR 190: 44740–44741). Significance evaluation and treatment measures shall follow protocols described in Mitigation Measure Cultural-1.			

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Cultural-3 (APM Cultural-3) a) The Applicants shall retain the services of a qualified professional archaeologist (as defined above) to monitor trenching, grading, or other ground disturbance within Project areas that were not subject to the subsurface investigations proposed in Mitigation Measures Cultural-1 and -2. The archaeologist shall have the authority to halt construction should a potential historic resource be located during construction activities.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
b) The Applicants shall educate all contractors and subcontractors employees about the potential for archaeological discoveries during construction. An archaeologist shall provide a brief training session to all construction personnel on the appropriate responses to such discoveries. The orientation shall include a description of the kinds of cultural resources that might be encountered during construction and the steps to be taken if such finds are unearthed.	CPUC shall verify through review of training documentation	CPUC Project Manager	Prior to construction
c) All excavation, construction, and related development work shall cease in the vicinity of a find if buried or concealed cultural resources are discovered during excavation, construction, or related development work until a qualified archaeologist properly investigates the find using the identification and evaluation procedures discussed in Mitigation Measure Cultural-1. Appropriate mitigation or protective measures shall be taken following any procedures described in Mitigation Measure Cultural-1 if the discovery is determined to be a significant historical resource that will be affected by the Project.	CPUC shall verify compliance through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Cultural-4: The Applicants shall continue Native American consultation to identify those areas that may be culturally sensitive.	CPUC shall confirm continued Native American consultation through review of documentation	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

The report required under Mitigation Measure Cultural-1(f) shall report on specific measures taken in order to avoid, minimize, mitigate, and compensate for any disruption of cultural resources.	CPUC shall verify inclusion in report through review of report	CPUC staff	Prior to construction
Mitigation Measure Cultural-5: The Applicants shall prepare and implement a Paleontological Resources Discovery and Management Plan. The plan shall include guidelines for recognition of high value fossil remains for site employees. The plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to the start of construction.	CPUC shall confirm the preparation of the plan	CPUC staff	Prior to construction
a) Employees shall undergo, as a part of their site-specific training, a short class (less than 1 day) on recognizing paleontological resources in the area, and on how to report their findings. b) The on-site environmental monitor shall have the authority to stop excavation in the event of discovery of a suspected paleontological resource. The following steps shall be taken if a suspected high-value fossil (such as a vertebrate) is found: 1) The environmental inspector shall be notified of the potential find, its location and time of finding. The find shall initially be documented in a daily field report. 2) All construction activity related to excavation in the area shall cease until further notice. 3) A qualified paleontologist shall be contacted to arrive on-site to inspect the potential find. 4) If the suspected find is deemed a unique paleontological resource, the area shall then be excavated under the direction of a qualified paleontologist, and remains shall be catalogued and removed from the site to an appropriate facility (a local university, museum, or other institution dedicated to the preservation of paleontological artifacts).	CPUC shall verify measures are included in plan through review of plan	CPUC staff	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

5) Further construction at the site may begin at the discretion of the qualified paleontologist. c) Security measures shall be enacted during the course of a paleontological excavation to protect the resource from vandalism and theft.			
Mitigation Measure Cultural-6 (APM Cultural-4): State Health and Safety Code Section 7050.5 requires that work stop immediately if human remains are found. No further disturbance shall occur until the Fresno or Madera County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. The coroner has 24 hours to notify the NAHC if the remains are determined to be of Native American descent. The commission shall then contact the most likely descendent (MLD) of the deceased Native American, who will then serve as a consultant on how to proceed with the remains (e.g., avoidance, reburial). Work at the site shall not resume until such remains have been treated in the manner agreed upon by all interested parties. The Applicants shall ensure that a burial agreement has been drafted prior to construction, and shall submit a copy to the CPUC prior to construction. A burial agreement is a signed agreement between the Applicants and the Native American party designated by the NAHC as the MLD to specify the procedures and protocols to follow upon discovery of aboriginal human remains and associated funerary objects during construction or Project related activities.	CPUC shall confirm that appropriate measures have been taken through review of documentation	CPUC Project Manager	During construction, if necessary
Geology and Soils			
Mitigation Measure Geology-1: At least 30 days prior to construction, the Applicants shall prepare and submit to the CPUC for CPUC staff review and approval an Earthquake Response Plan for responding to and reducing effects from earthquakes and earthquake-related hazards during construction and operations, such as increased pipe stress due to liquefaction, and landslides in trenches or effects to wells and well casing.	CPUC shall confirm the preparation of the plan	CPUC staff	At least 30 days prior to construction
Mitigation measures shall include shoring trenches, blowout prevention, and methods to complete, re-complete, abandon, or re-abandon wells to mitigate the impacts of a seismic event.	CPUC shall verify inclusion of measures in plan through review of plan	CPUC staff	At least 30 days prior to construction
Mitigation Measure Geology-2: A Seismic Monitoring Plan shall be prepared by the Applicants and submitted to the CPUC for CPUC staff review and approval at	CPUC shall confirm the	CPUC staff	At least 30 days prior to

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

least 30 days prior to construction.	preparation of the plan		construction
The Plan shall include, but is not limited to, the following measures: a) Seismic shaking conditions shall be monitored in areas underlain by unconsolidated sediment, as mapped by pre-construction geotechnical studies. b) Structures shall be routinely monitored, and shall be inspected as soon as possible after seismic events. c) Monitoring shall utilize available instrumentation (e.g., accelerographs) monitored by the California Integrated Seismic Network, or accelerographs installed for the Project. d) Reported observations shall be further inspected and any necessary corrective actions shall be taken to avoid, reduce, or remediate impacts to facilities, including, wells, pipelines, and public health and safety as soon as practicable. e) Seismic monitoring results shall be compiled into an annual report and presented to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) and the CPUC within 60 days of the end of the reporting period. Results of monitoring after a significant seismic event, and any repairs required, shall be reported to the DOGGR and CPUC within 1 month of the event.	CPUC shall verify inclusion of measures through review of report	CPUC staff	At least 30 days prior to construction
Mitigation Measure Geology-3: Recommendations presented in the geotechnical report (URS 2008) shall be implemented, including but not limited to the following: a) A geotechnical investigation shall be conducted for the HDD (horizontally directional drilling) crossings at the California Aqueduct and the San Joaquin River, to provide data for a liquefaction analysis for those locations. b) The depth and setback of the HDD crossings shall be adjusted as necessary to avoid potential impacts to the pipeline caused by liquefaction.	CPUC shall verify implementation through on-site monitoring	Designated monitor	Prior to and during construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Geology-4: The Applicants shall implement a monitoring inspection, maintenance, and repair program for the pipeline, surface facilities (including wells), and electric power line. The program shall include various methods to detect and measure potential effects of subsidence, such as deflections of the pipeline or wells due to differential settlement. The plan shall include actions the Applicants will take to correct or mitigate identified subsidence. Actions will include excavation and recompaction, as appropriate, of areas subject to subsidence that could result in damage to project facilities, or repairs to wells.	CPUC shall confirm inclusion of measures in plan through review of plan	CPUC staff	At least 30 days prior to construction
The plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to operation	CPUC shall verify submittal	CPUC staff	At least 30 days prior to construction
For well repairs, the Applicants shall implement the appropriate remedial actions consistent with DOGGR procedures outlined in California Code of Regulations §1723 *et. seq.* in consultation with the DOGGR.	DOGGR shall verify adherence to regulations through review of documentation	DOGGR	During well repairs
Hazards and Hazardous Materials			
Mitigation Measure Hazards-1: The Applicants shall prepare a Hazardous Materials and Waste Management Plan. The plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to Project construction.	CPUC shall confirm the preparation of the plan	CPUC staff	At least 30 days prior to construction
The plan shall include, but not be limited to, the following: a) No refueling or servicing shall be done within the Project work area without absorbent material or drip pans underneath to contain spilled fuel or lubricants. b) Any fluids drained from machinery during servicing shall be collected in leak-proof containers and taken to an appropriate disposal or recycling facility. If such activities result in spillage or accumulation of a product on the soil, the contaminated soil shall be assessed and disposed of properly. Under no circumstances shall contaminated soils be added to a construction spoils pile. c) Mobile refueling trucks shall be independently licensed and regulated to haul and dispense fuels, to ensure that the	CPCU shall confirm inclusion of measures in plan through review of plan	CPUC staff	At least 30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

appropriate spill prevention techniques are implemented. d) All maintenance materials (i.e., oils, grease, lubricants, antifreeze, and similar materials) shall be stored at designated staging areas. These materials shall be placed in a designated area away from site activities and sensitive resources if they are required during field operations. e) During construction, all vehicles and equipment required on site shall be parked or stored at least 100 feet from water bodies, wetlands, known archaeological sites, and other sensitive resource areas during construction. These areas shall be identified on the construction drawings, as appropriate. All wash-down activities shall be conducted at least 100 feet from sensitive environmental resources. f) Fluids drained for maintenance shall be either transferred directly into disposal trucks for immediate transportation or shall be temporarily stored in appropriate tanks on site until regularly scheduled trucks can haul it away. g) Used fluids removed from site shall be delivered to an appropriate disposal or recycling facility. h) Storage tanks for both new and used fluids shall be installed with secondary containment, either integral to the tanks or external. i) Diesel fuel and petroleum-based lubricants shall be stored only at designated staging areas.			
Mitigation Measure Hazards-2: A Hazardous Materials Contingency Plan shall be created, and submitted to the CPUC at least 30 days prior to the start of construction for CPUC staff review and approval.	CPUC shall confirm the preparation of plan	CPUC staff	At least 30 days prior to construction
The plan shall be implemented if an accidental spill occurs or if any subsurface hazardous materials are encountered during construction.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
Provisions outlined in this plan shall include phone numbers of county and state agencies and primary, secondary, and final cleanup procedures. The plan shall include but not be limited to the following:	CPUC shall confirm inclusion of measures through review of plan	CPUC staff	At least 30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

a) All hazardous material spills or threatened releases, including those of petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled, shall be immediately reported if the spill has entered or threatens to enter a water of the state, or has caused injury to a person or threatens injury to public health. b) If asbestos containing transite pipe is encountered, the pipe shall be removed by Hazmat trained employees from the path of the trench and stockpiled to the side. Containment and removal may be carried out simultaneously with the continuation of the trenching. c) If hydrocarbon contaminated soils are encountered, they shall be stockpiled, sampled, labeled, and removed. If groundwater is encountered with identifiable hydrocarbons, samples shall be obtained, and the area of the contamination shall be demarcated, and work may continue outside that zone, until remedial measures make it safe to proceed in that area. d) If natural gas or volatiles are encountered in the soil or ambient air, then air monitoring shall be conducted. If it is in a trench or excavation, that area shall be considered a permit-required confined space, and no one shall enter, until all permit-required confined space procedures are carried out, or until the atmosphere has been shown to be safe, and the space is reclassified as non-permit (per 8CCR 5157/ 29CFR 1910.146). e) In cases where an unknown material is discovered, the area shall be shut down until fully assessed. Work may continue in areas that are not affected.			
Mitigation Measure Hazards-3: Project contractors shall prepare a site-specific Health and Safety Plan (HSP) to ensure that no impacts shall occur if hazardous soils or other materials are encountered during construction or operation of the Project.	CPUC shall confirm the preparation of plan	CPUC staff	At least 30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

The HSP shall include elements that establish worker training, engineering controls, and monitoring. The HSP also shall establish emergency response procedures and security measures to prevent unauthorized entry to cleanup sites and to reduce hazards outside the investigation/cleanup area.	CPUC shall verify inclusion of measures through review of plan	CPUC staff	At least 30 days prior to construction
The plan shall be submitted to the CPUC at least 30 days prior to construction for CPUC staff review and approval.	CPUC shall confirm the preparation of plan	CPUC staff	At least 30 days prior to construction
Mitigation Measure Hazards-4: Chemicals stored on-site shall be managed by inventory and periodic inspection. Material Safety Data Sheets and a location map of chemicals stored and/or used on-site shall be maintained and kept available on-site.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Hazards-5: All personnel working at the facility shall be trained in general and specific hazardous chemical safety issues and response procedures.	CPUC shall verify through review of documentation	CPUC Project Manager	Prior to construction
Mitigation Measure Hazards-6: The Applicant shall use the DigAlert System to identify foreign underground structures prior to pipeline trenching. The owners of all foreign underground structures shall be notified in writing and shall be telephoned prior to excavating near their facilities.	CPUC shall verify through on-site monitoring	CPUC designated monitor	Prior to construction
Mitigation Measure Hazards-7: Underground structures shall be crossed by boring or ditching under them unless the owner of the structures allows the natural gas pipeline to be installed over them.	CPUC shall confirm compliance through review of project plans	CPUC Project Manager	Prior to construction
The trench shall be hand dug in areas in close proximity to existing pipelines and other structures.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
A minimum clearance of 1 foot shall be maintained, where feasible, between such lines or structures and the line being laid, unless otherwise specified.	CPUC shall confirm compliance through review of project plans	CPUC Project Manager	Prior to construction
Special procedures, such as placement of protective materials between the pipeline and existing structure, shall be followed to protect existing structures where this clearance is not feasible.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Hazards-8: Pipe and/or pipe coating damaged by construction work shall be repaired. Special care shall be taken to protect other	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

pipelines and coatings in the vicinity of the new pipeline construction.			
Mitigation Measure Hazards-9: In the event that soils suspected of being contaminated, based on evidence from visual, olfactory, or from portable chemical monitoring devices, are removed during excavation activities along the pipeline corridor, the excavated soil shall be tested and, if contaminated above soil action levels, shall be disposed of at a licensed waste facility. Any excavated areas which have an odor due to contaminated soil shall be covered while one or more samples are being tested to determine the level of contamination. The presence of known or suspected contaminated soil or groundwater shall require the supervision of testing and investigation by a licensed professional geologist or engineer, as appropriate to meet state and federal regulations.	CPUC shall verify through on-site monitoring	CPUC designated monitor	During construction
Mitigation Measure Hazards-10: The Applicants shall prepare an Emergency Response Plan. The plan shall be submitted at least 30 days prior to Project construction to the CPUC for CPUC staff approval, and to other agencies for approval, as appropriate.	CPUC shall confirm the preparation of plan	CPUC staff	At least 30 days prior to construction
The plan shall include, but not be limited to, the following sections: a) **Initial Response:** This section shall include the procedures for the immediate internal and external notifications of the appropriate facility personnel at Gill Ranch Storage and response organizations including local fire departments in the event of an accident. These notification procedures shall include a description of the information that should be reported and the applicable reporting requirements. This section shall also include notification names and phone numbers (agencies, employees, emergency medical personnel, public, and media). This section shall include the procedures for the establishment of a response management system, a preliminary assessment of the situation, and the response resources and mitigating actions including the implementation of a tactical plan and mobilization of resources. This section shall include response checklists and decision flowcharts and brief descriptions of actions to be taken to control different types of incidents. References to information contained in other sections of the plan shall be included in the checklists. This section shall identify potential hazards and the associated initial	CPUC shall verify inclusion of measures through review of plan	CPUC staff	At least 30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

response steps for each event. b) **Sustained Actions:** This section shall address the transition of a response from the initial emergency stage to the sustained action stage where more prolonged mitigation and recovery actions progress under a response management structure, if applicable. In addition, mobilization, evacuation, or shelter-in-place procedures that involve the surrounding community or areas of the facility other than the immediate vicinity of the release shall be addressed in this section. c) **Termination and Follow-up Procedures:** This section shall include procedures to ensure that the person in charge of mitigating the incident can, in coordination with federal, state, or local emergency responders, terminate the response. Follow-up actions associated with termination of a response (e.g. accident investigation, response critique, plan review, follow-up reports) shall also be outlined in this section.			
Mitigation Measure Hazards-11: The Applicants shall implement a Gas Monitoring Plan (Appendix G) that is summarized briefly here. The Gas Monitoring Plan shall address the type and frequency of gas monitoring locations and well tests, both surface and subsurface; the frequency of well-site inspections by a qualified operator; monitoring requirements for abandoned well-sites; and reporting requirements. The Plan shall include appropriate designs for gas monitoring probes that may be permanent or temporary designs, which are constructed to *collect representative samples of soil gas from shallow soil depths within* approximately 5 feet of the ground surface. Details of the design of the probes shall be presented in the Gas Monitoring Plan. Permanent or temporary gas monitoring probes shall be constructed in accordance with specifications cited in California's Advisory for Active Soil Gas Investigations (California EPA 2003), Section 2.2. Any proposed revisions to the Gas Monitoring Plan presented in Appendix G shall be submitted to CPUC for CPUC staff approval and to DOGGR for approval at least 45 days prior to operation. The data gathered from the first phase of the plan shall establish the baseline methane gas levels in the shallow soil at key locations on site, including each IW well and the existing 17 wells that penetrate the Starkey Formation, and document	CPUC shall confirm through review of documentation	CPUC Project Manager	During operation

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

gas composition information. Any residence or other building located within the boundaries of the Gill Ranch Storage Field that is occupied at some point during the period of measurement (quarterly, or as modified) shall also be included as a monitoring point. After completing the first fill cycle, additional gas monitoring data shall be collected at regular (quarterly) intervals for the first year from each IW well, the existing 17 wells, and any other identified monitoring point such as occupied buildings, and shall be compared to the baseline data. Following the first year and annually thereafter, provided there is no or *de minimus* evidence of gas migration to the surface, the Project operator may provide the CPUC Energy Division with information demonstrating the *de minimus* change in concentrations and may request approval from the Energy Division for a change in monitoring frequency. In the event any gas monitoring data exceeds an acceptable quantifiable concentration, the plan shall outline the next steps in the response, such as evaluating whether the concentrations constitute a risk to health and safety or the environment, and evaluating the composition of the gas to evaluate whether it is the injected gas or gas from another source. In addition, leakage surveys shall be conducted along existing County and private farm roads in the Project Area. The leakage surveys will be conducted annually in conjunction with the transmission pipeline leakage surveys. In the event an anomaly is identified, or elevated gas concentrations above background are detected in the shallow soils during monitoring, the Applicants shall further investigate to determine the cause and source of the anomaly. The Gas Monitoring Plan outlines conditions that require Immediate Action to protect human health and safety and property, and those which require Timed Action (within 6 months or less) to remedy any identified leaks. Documentation of monitoring results shall be sent to DOGGR and the CPUC at quarterly intervals (or as modified) at a minimum.			
Mitigation Measure Hazards-12: The Applicants shall drill an early test well in an optimum location to gather geologic data, information and rock and core samples. The location of the early test well shall be approved by the DOGGR prior to drilling. Cores of the cap rock from depths above the First Starkey and Second Starkey and reservoir rock shall be collected and sent to a testing lab for extensive studies of various parameters including threshold pressure. Test data on new core samples shall be sent to the CPUC technical team and the DOGGR for review. The Applicants shall use this information to refine the development plans in	Applicant shall provide all criteria information to DOGGR	DOGGR	Prior to drilling for project development

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

coordination with the DOGGR, and define the cap rock threshold pressure and a margin of safety for storage operations. If new data indicates that cap rock strength is different (substantially lower) than indicated by previous tests, operating and injection pressures shall be reduced to maintain an appropriate level of safety consistent with DOGGR safety guidelines.			
Mitigation Measure Hazards-13: The Applicants shall conduct annual temperature monitoring inside IW well casings. A temperature tool shall be run into each injection and observation well to measure temperature anomalies. In the event an anomaly is identified, or elevated gas concentrations are detected in the shallow soils during monitoring conducted as part of Mitigation Measure Hazards-11, the Applicants shall further investigate to determine the cause and source of the anomaly. In the event there is a casing integrity issue, practicable steps shall be taken in a concerted effort to minimize the impact of the leak until repairs can be made. Leaks shall be repaired as soon as possible in the case of a leak that is potentially hazardous to human health, as soon as reasonable without causing additional hazards, and no later than 4 months and the documentation shall be sent to DOGGR; a copy shall be submitted to the CPUC.	CPUC shall confirm through review of documentation	CPUC Project Manager	Post construction
Mitigation Measure Hazards-14: The Applicants shall come to a written agreement with the DOGGR regarding the alternative methods proposed for well casing construction and the DOGGR Field Rule 507-003 requirement to un-land the well casings every 5 years. The agreement shall be completed prior to construction, or the casing shall be constructed in accordance with DOGGR Field Rule 507-003.	Applicant will supply evidence of a written agreement with the DOGGR containing all specified criteria	CPUC	Prior to construction
Mitigation Measure Hazards-15: As provided in the Gas Monitoring Plan (Appendix G), the Applicants shall conduct a quarterly leak detection survey on the 11 wells located off of the Storage Field structure for the first year of operation. Once the wells are located, the site coordinates shall be recorded and a leakage survey shall be conducted within a 15-ft radius around the well. The first survey shall be conducted, and the results provided to the CPUC, at least 2 weeks prior to initial injection. If after the first year no leaks have been recorded, then the Applicants may petition the DOGGR for the leak detection survey at these locations to be conducted less frequently.	CPUC shall verify through review of documentation	CPUC	Prior to construction and ongoing for 5 years after project completion
Mitigation Measure Hazards-16: If routine surface or subsurface gas monitoring indicates that a well may be leaking (methane concentrations above background,	Applicant shall provide documentation confirming	CPUC Project Manager	During operation

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

gas bubbles, distressed vegetation), the Applicants shall report it immediately to the DOGGR and implement the appropriate remedial actions consistent with DOGGR procedures outlined in California Code of Regulations Section 1723 *et. seq.* in consultation with the DOGGR. The Applicants shall submit all well remediation and repair records to the DOGGR. Well repairs shall be made as soon as possible in the case of a leak requires immediate action according to the Gas Monitoring Plan, and as soon as practicable, and no longer than 6 months in the case of a leak that requires timed action according to the Gas Monitoring Plan. The documentation shall be sent to DOGGR and the CPUC.	specified actions have taken place to the CPUC		
Mitigation Measure Hazards-17: The proposed pipeline shall be designed, constructed, and operated with the specific intent of minimizing the probability of dig-in damage or rupture using the following measures: a) The proposed pipeline shall be located in a private easement unless environmental issues or conflicts with existing infrastructure necessitate placement within the public right-of-way. b) The proposed pipeline shall be buried with a minimum depth of cover of 60 inches. National codes generally require a minimum of 36 inches. c) The proposed pipeline shall have a warning tape placed in the pipeline trench approximately 2 feet above the pipe. d) The proposed pipeline shall have warning signs and markers as required by applicable codes. e) The Applicants shall become members of the Underground Service Alert (USA North) Underground Facility Damage Prevention Service that provides facility marking, information, or clearance to dig to excavators and facility owners.	CPUC shall confirm through review of documentation	CPUC Project Manager	Prior to construction
Mitigation Measure Hazards-18: The gas transmission pipeline design shall exceed that required by the US Department of Transportation (DOT) 49 CFR §192 for the Project area. In Class 1 locations, the pipeline shall be designed to meet Class 2 requirements utilizing a minimum design factor of 0.6, and in Class 2 locations, the pipeline shall be designed to meet Class 3 requirements utilizing a minimum design factor of 0.5.	CPUC shall confirm through review of documentation	CPUC Project Manager	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Pipeline designations are listed in Table 3.8-3.			
Mitigation Measure Hazards-19: The Applicants shall prepare a Pipeline Integrity Management Plan in accordance with DOT regulations. The plan shall be submitted to the CPUC and the DOT for review and approval at least 30 days prior to Project operation.	CPUC shall confirm the preparation of plan	CPUC staff	At least 30 days prior to operation
The plan shall include, but not be limited to, the following: a) Identification of all Covered Segments; b) A baseline assessment plan for Covered Segments; c) Identification of potential threats to Covered Segments; d) A direct assessment plan; e) Provisions for remediating conditions found during an integrity assessment; f) A process for continual evaluation and assessment; g) Preventative and mitigative measures to protect covered segments; h) Performance measures to assess whether the integrity management program is effective; i) Record keeping requirements; j) A management of change process; k) A quality assurance process; l) A communication plan; m) A process for ensuring that each integrity assessment is conducted in a manner that minimizes environmental and safety risks; n) A baseline assessment plan which identifies segments to be assessed, methods selected to assess each pipeline segment, the basis for selecting each assessment method, and a priority-based	CPUC shall verify inclusion of measures in plan through review of plan	CPUC staff	At least 30 days prior to operation

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

schedule for completing the assessment.			
Mitigation Measure Hazards-20: The Applicants shall prepare a Fire Protection Plan. The plan shall be submitted to the CPUC for CPUC staff review and approval and local fire protection authorities for review and approval at least 30 days prior to Project construction.	CPUC shall confirm the preparation of plan	CPUC staff	At least 30 days prior to construction
The plan shall include fire protection and prevention methods for all components of the project during construction and operation and maintenance.	CPUC shall confirm inclusion of measures in plan through review of plan	CPUC staff	At least 30 days prior to construction
Hydrology and Water Quality			
Mitigation Measure Hydrology-1: The Applicants shall prepare a Construction Groundwater Management Plan that includes a protocol for sampling and analyzing the quality of dewatering effluent during construction for comparison with existing ground water.	CPUC shall confirm the preparation through review of the plan	CPUC staff	At least 30 days prior to construction
The Plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to construction.	CPUC shall verify submittal of plan	CPUC staff	At least 30 days prior to construction
If effluent quality is questionable (i.e., if the concentration levels of various contaminants are greater than concentrations required by drinking water standards), the Applicant shall comply with applicable RWQCB regulations (e.g., Resolution Nos. R5-2006-0061, R5-2003-0008, and R5-2008-0081, as appropriate), and coordinate with the RWQCB as needed to design and implement approved treatment methods and disposal options.	CPUC shall verify inclusion of measures through review of plan	CPUC staff	At least 30 days prior to construction
Mitigation Measure Hydrology-2: The Applicants shall prepare a Hydrostatic Test Water Management Plan that specifies the source(s) of raw water to be used for hydrostatic testing, includes a representative chemical analysis of the water quality from each proposed source, and describes how and where the hydrotest water shall be disposed of once testing is completed.	CPUC shall verify inclusion of measures in plan	CPUC staff	At least 30 days prior to hydrostatic testing
The Plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to any hydrostatic testing.	CPUC shall confirm the preparation of plan through review of plan	CPUC staff	At least 30 days prior to hydrostatic testing

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

Mitigation Measure Hydrology-3: The Applicants shall prepare a Construction Groundwater Management Plan covering the entire length of pipeline that specifies appropriate measures to minimize impacts of trench dewatering on local groundwater and wetland or groundwater-dependent habitats. The Plan shall include both management measures, such as scheduling trench construction during the dry season, as well as construction methods, such as limiting the length of open trench in sensitive areas.	CPUC shall verify inclusion of measures in plan through review of plan	CPUC staff	Prior to construction
The Plan shall be submitted to the CPUC for review and approval.	CPUC shall verify submittal of plan	CPUC staff	Prior to construction
Mitigation Measure Hydrology-4: The Applicant shall prepare an Erosion and Sediment Control Plan describing best management practices (BMPs), such as shallow retention/infiltration basins, bioswales, and infiltration trenches, to be used at the gas storage field site to control and manage erosion and sediment, control and treat runoff, and promote infiltration of runoff from new impervious surfaces. The plan shall also address construction within the pipeline and power line corridors, with particular emphasis on construction in sensitive areas, as described in Mitigation Measure Biology-19. BMPs, where applicable (e.g., for bioswales) shall be designed based on specific criteria from recognized BMP design guidance manuals. The Plan shall also include "housekeeping" measures to prevent rainfall contacting building materials and avoid introducing chemicals into runoff during project construction. Locations and designs of specific BMPs shall be provided in the Grading and Drainage Plan for the Project.	CPUC shall verify inclusion of measures in plan through review of plan	CPUC staff	At least 30 days prior to construction
The Erosion and Sediment Control Plan shall be submitted to the CPUC, Madera County and Fresno County for review and approval at least 30 days prior to the commencement of construction.	Named agencies shall verify submittal	CPUC staff, Madera County, Fresno County	At least 30 days prior to construction
The Erosion and Sediment Control Plan shall be revised and updated as needed, and re-submitted to the CPUC, Madera County, and Fresno County, if the nature of the construction or operation activities evolve and are not adequately addressed by the existing approved Erosion and Sediment Control Plan.	CPUC shall verify through on-site monitoring	Designated monitor	During construction
Mitigation Measure Hydrology-5: The Applicants shall prepare a Frac-Out Contingency Plan which outlines how boring entry and exit points shall be sited, proposed depths of drilling, how HDD progress will be monitored, and how inadvertent releases of drilling fluids to surface waters will be contained.	CPUC shall verify inclusion of measures in plan through review of plan	CPUC staff	Prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

The Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of HDD activity.	CPUC shall verify submittal of plan	CPUC staff	Prior to construction
Mitigation Measure Hydrology-6: The Applicants shall prepare and implement a Grading and Drainage Plan that incorporates detailed engineering plans for grading of the site in order to preserve existing drainage patterns to the extent feasible and direct runoff away from active construction areas.	CPUC shall verify inclusion of measures in plan through review of plan	CPUC staff	Prior to construction
The plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction.	CPUC shall verify submittal of plan	CPUC staff	Prior to construction
Noise			
Mitigation Measure Noise-1: The contractor shall prepare and implement a Noise Control Plan during construction to avoid or reduce noise impacts on nearby residents. The plan shall be submitted to the CPUC for CPUC staff review and approval at least 45 days prior to construction.	CPUC shall verify submittal of plan	CPUC staff	At least 45 days prior to construction
The following specific measures shall be incorporated into the construction contract specifications to reduce and control noise generated from construction-related activities; however, the Noise Control Plan is not limited to these measures: a) Stationary construction equipment shall be located as far from sensitive receptors as feasible. b) Equipment shall be turned off when not in use and not allowed to idle. c) Temporary equipment enclosures or noise barriers shall be used where required to avoid exceeding local standards. d) Haul truck trips shall occur primarily during daytime hours, however after daytime trips shall be permitted for those trips used in support of 24 hour operations (e.g., well drilling, HDD construction, etc.). Other noise-generating activities associated with construction (e.g., equipment movement for maintenance purposes, or to relocate equipment from one area of the project to another) shall be limited to the hours of 6 am to 9 pm during weekdays, and between the hours of 7am to 5 pm on weekends, with special allowance for safety considerations.	CPUC shall verify inclusion of measures through review of plan.	CPUC staff	At least 45 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

e) Best available noise control techniques (including mufflers, intake silencers, ducts, engine closures, and acoustically attenuating shields or shrouds) shall be required for all construction equipment and trucks. The construction contractor(s) shall retain an acoustical engineer to design sound abatement measures that will meet the local noise standards if needed. f) If impact equipment (e.g., jack hammers and pavement breakers) is used during construction, hydraulically or electric-powered equipment shall be used wherever practical to avoid the noise associated with compressed-air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used (a muffler can lower noise levels from the exhaust by up to about 10 decibels [dB]). External jackets on the tools themselves shall be used, where feasible, which can achieve a reduction of 5 dB. Quieter procedures, such as drilling rather than impact equipment, shall be used whenever construction comes within 900 ft of sensitive receptors. g) Stationary noise sources (e.g., pumps, generators, and compressors) shall be located as far from sensitive receptors as possible. If such equipment must be located within 900 ft of receptors, adequate muffling, enclosures and/or barriers shall be used as needed to ensure that local noise standards are met. Enclosure openings or venting shall face away from sensitive receptors. Enclosures shall be designed by a registered engineer regularly involved in noise control analysis and design. Operation of any stationary equipment beyond the time limits specified shall meet applicable noise ordinance noise limits. h) Material stockpiles and maintenance/equipment staging shall be located as far as possible from residences within the designated staging areas. i) Construction notification shall be sent to all residences within 900 ft of the construction location at least 7-days prior to the beginning of construction.			

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

j) An operator contact person shall be designated for responding to construction-related issues, including noise. The name and phone number of the liaison shall be clearly posted at construction areas and on all advance notifications. This person shall take steps to resolve complaints, including periodic noise monitoring, if necessary. k) An acoustical engineer shall measure actual sound levels at the short-term and long-term monitoring stations as shown in Figure 3.12-2 within 2 weeks of construction. Necessary sound abatement features shall be designed, if necessary, to ensure that long-term operations meet or exceed the local ordinance limits. Additional design features may include use of quieter equipment or further insulation of noise-generating equipment.			
Transportation and Traffic			
Mitigation Measure Traffic-1: A Traffic Control Plan shall be developed prior to Project construction. The plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to construction.	CPUC shall verify submittal of plan.	CPUC staff	At least 30 days prior to construction.
The Traffic Control Plan shall conform to the state's *Manual of Temporary Traffic Controls for Construction and Maintenance Work Areas*. Elements of the Traffic Control Plan shall include, but not necessarily be limited to, the following: a) Circulation and detour plans shall be developed to minimize impacts on street circulation. Flaggers and/or signage shall be used to guide vehicles through or around the construction zone. b) Sufficient staging areas for trucks accessing construction zones shall be provided to minimize disruption of access to adjacent land uses, particularly at entries to on-site pipeline construction near residences. c) All access restrictions expected to occur during construction shall be identified. A plan for notifying the affected businesses, homes, emergency services, and other facilities and for ensuring adequate access at all times shall be developed and implemented.	CPUC shall verify inclusion of measures in plan through review of plan.	CPUC staff	At least 30 days prior to construction.

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

d) Construction vehicle movements shall be controlled and monitored through the enforcement of standard construction specifications by on-site inspectors. e) Along roads with volume/capacity (V/C) ratios corresponding with level of service (LOS) D or a poorer rating during peak traffic hours, worker vehicles and truck trips shall be scheduled outside the peak morning and evening commute hours to the extent feasible. f) Lane closures during peak hours shall be avoided to the extent feasible. Outside of allowed working hours or when work is not in progress, roads shall be restored to normal operations, and any open trenches on roadways or access ways shall be plated. g) Where possible, pipeline construction work in roadways shall be limited to a width that, at a minimum, maintains alternating one-way traffic flow past the construction zone. If the work zone width will not allow a 10-ft-wide paved travel lane, then the road shall be closed to through-traffic (except emergency vehicles), and detour signing on alternative access roads shall be used. h) All equipment and materials shall be stored in designated contractor staging areas on or adjacent to the worksite in a manner that minimizes traffic obstructions and maximizes sign visibility. i) Parking areas for construction workers shall be identified, either within the construction staging area and construction zone or, if necessary, at a nearby location, with mass transportation provided between the parking area and the worksite. j) Roadside safety protocols shall be implemented pursuant to the *Manual of Uniform Traffic Control Devices* and in consultation with Fresno County and Madera County Public Works Departments. Advance "Road Work Ahead" warning signs and speed control (including signs informing drivers of state-legislated doubled fines for speed infractions in a construction zone) shall be provided to achieve required speed reductions for safe traffic flow through the			

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan			
work zone. k) Roadway rights-of-way shall be repaired and restored to their original conditions or better upon completion of construction. l) Project-related information signs at each construction spread shall contain a contact number for the public to call to report traffic problems at construction sites to applicable local jurisdictions and to a Project phone number that is staffed 24 hours per day, 7 days per week. m) The first 100 ft of all gravel/dirt access ways created at the project site shall be stabilized so as to reduce wear on existing paved surfaces (e.g., with use of track-out devices). Track-out devices or other stabilizing surface materials shall be removed following construction completion, subject to landowner agreement.			
Utilities and Service Systems			
Mitigation Measure Utilities-1: The Applicants shall develop a Water Conservation and Solid Waste Minimization Plan. The plan shall be submitted to the CPUC for CPUC staff review and approval at least 30 days prior to the start of the construction phase of the Project.	CPUC shall verify submittal of plan	CPUC staff	At least 30 days prior to construction
The plan shall include, but not be limited to, the following: a) The pipeline shall be tested in at least three segments, and the water from one segment shall be reused, if feasible, in one or both of the other two segments. b) The Applicants shall improve existing roads within the Gill Ranch Storage Field that access the injection/withdrawal well sites and the central compressor facility from the existing main access roads with all-weather surface material to reduce the amount of water that would be used for dust suppression in compliance with air quality regulations. c) Onsite operation personnel shall be served by an onsite sanitary disposal system that includes a tank that shall be periodically cleaned and wastes disposed of at an appropriate offsite facility.	CPUC shall verify inclusion of measures through review of plan	CPUC staff	At least 30 days prior to construction

Table 2.2-1(Continued): Mitigation Monitoring and Reporting Plan

d) Drought-tolerant landscaping shall be used if landscaping is installed. e) The Applicants shall provide adequate onsite trash collection and service to maintain a healthy and sanitary environment. f) The Applicants shall maintain proper storage and containment of solid waste. g) The Applicants shall provide adequate separation receptacles to facilitate recycling. h) The Applicants shall use post-consumer recycled products to the extent feasible during construction and operation. i) The Applicants shall reuse and/or recycle construction and demolition waste including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard to the extent feasible. If recycling and/or reuse is not feasible, Applicants shall properly dispose of construction and demolition waste.			