

Chapter 5. Environmental Impacts and Mitigation Measures

INTRODUCTION

Like Chapter 4, “Environmental Setting,” this discussion of impacts and mitigation measures is organized by resource topic, corresponding to Appendix G, Environmental Checklist Form, of the amended California Environmental Quality Act (CEQA) Guidelines. A completed checklist for the proposed project is provided in **Appendix A. Table 5-1** lists sensitive and protected resources by regenerator/optical amplification (OP-AMP) station site, along with any applicable mitigation measures.

Table 5-1. Sensitive or Protected Resources Identified at the Regenerator/OP-AMP Station Sites during Field Surveys and Site Visits

Regenerator/OP-AMP Station Site	Associated Resources	Applicable Mitigation
Point Arena to Sacramento		
Mountain House	Potential riparian habitat	Avoid
Clearlake	None identified	N/A
Guinda	Potential habitat for valley elderberry longhorn beetle	Avoid
Robbins	None identified	Avoid
Yorkville	Potential riparian habitat	Avoid
Sacramento to the California/Nevada Border		
Blue Canyon	None identified	N/A
Bowman-Auburn	None identified	N/A
Truckee	One individual of Plumas ivesia (<i>Ivesia sericoleuca</i>) confirmed at a distance of over 250 feet from the site	None required
	Long, narrow (approximately 30-foot-wide, 1-acre) wet meadow approximately 200 feet from the site	No mitigation is required
	Small portion of the site located on a designated deer migration corridor	None required
San Francisco to Santa Clara		
None	N/A	N/A
Pittsburg to Sacramento		
Honker Bay	None identified	N/A
Birds Landing	None identified	N/A

Table 5-1. Sensitive or Protected Resources Identified at the Regenerator/OP-AMP Station Sites during Field Surveys and Site Visits

Regenerator/OP-AMP Station Site	Associated Resources	Applicable Mitigation
San Luis Obispo to Bakersfield		
Shandon	Historic pumping station	Document and evaluate according to either CEQA or NRHP criteria
Middle	Historic pumping station	Document and evaluate according to either CEQA or NRHP criteria
McGarvey	Scattered and diffuse cultural material	Preconstruction surveys with limited testing to determine significance of the site
Riverside to the California/Arizona Border		
Ogilby (regenerator)	None identified	N/A
Flowing Wells	None identified	N/A
Mortmar	None identified	N/A
Thousand Palms	None identified (heavily disturbed site)	N/A
Banning	None identified (developed site)	N/A
Los Angeles to Riverside		
Pomona	None identified	N/A
Los Angeles to Anaheim		
None	N/A	N/A

For each resource discussion, the relevant portion of the state environmental checklist form is provided and the significance criteria used in the impact evaluation (i.e., checklist criteria and local agency or professional standards) are identified. Each entry on the environmental checklist form has a corresponding impact discussion.

Pursuant to the CEQA Guidelines, a project's physical effects on the environment can be characterized as having either:

- # no impact - the proposed project would not result in an impact;
- # a less-than-significant impact - the proposed project would result in an impact, but at a level that is not considered significant;
- # a potentially significant impact unless mitigation is incorporated - absent mitigation measures or project revisions, the impact of the proposed project would be considered significant; or
- # a potentially significant impact - there is substantial evidence that the impact of the proposed project may be significant and cannot be avoided or reduced to a less-than-significant level.

Mechanisms that could cause impacts are discussed for each resource area. Besides installation of the fiber optic cable system, the proposed project will require minor activities related to future operation and maintenance, as described in Chapter 2. Project effects fall into the following three categories: temporary, short-term, and long-term. These categories are defined as follows:

- # A “temporary” effect would occur only during construction and/or subsequent restoration.
- # A “short-term” effect would last from the time construction ceases to within 3 years following construction and/or subsequent restoration.
- # A “long-term” effect would last longer than three years following construction and/or subsequent restoration and is typically associated with operation and maintenance of the fiber optic cable system. In some cases, a long-term effect could be considered a “permanent” effect.

Implementation of the mitigation measures specified in this initial study/mitigated negative declaration (IS/MND) will either avoid the impacts completely or reduce all temporary and short-term construction impacts and any long-term operational impacts to less-than-significant levels. Williams has adopted all of the mitigation measures recommended in this IS/MND in addition to those mitigation measures incorporated into the project design and construction approaches in Chapter 2 as part of the construction mitigation strategy for the proposed project.

Pursuant to Public Resources Code Section 21081.6, the CPUC will adopt a Mitigation monitoring program at the time it approves the CPCN and adopts this mitigated negative declaration. The purpose of the plan is to ensure that the mitigation measures being adopted as part of this project approval will be complied with when the project is implemented. The plan identifies each of the mitigation measures and describes the party responsible for monitoring, the time frame for implementation, and the program for monitoring compliance. A mitigation monitoring plan has been developed and is included in **Appendix I**.

The following terminology is also used to describe impacts:

- # A “cumulative” impact is an impact of the proposed project that is cumulatively considerable when compounded with impacts from other past, present, or reasonably foreseeable future projects. A project’s incremental effects are not “cumulatively considerable” solely because other projects would have a significant cumulative impact.
- # “Construction” applies to activities associated with installation of the fiber optic conduit and cable, construction of the regenerator/OP-AMP stations, and/or subsequent restoration.
- # “Preproject conditions” refer to conditions before installation of the fiber optic cable system. It does not refer to conditions before construction of the existing facilities in a disturbed right-of-way (i.e., road, railroad, pipeline, or other utility).
- # “No further mitigation is required” is stated if the impact has been premitigated by Williams’ incorporating specific measures into the project design and construction approaches.
- # “None required” is stated if the impact is considered minimal or less than significant and does not require mitigation.

This document examines potential impacts and, where necessary, identifies mitigation measures on a projectwide, programmatic basis. In some instances, further impact analysis was warranted on a route-specific basis. The following discriminators were used to determine the need for route-specific analysis.

- # Issue relevance - those issues that were determined not to be relevant to the proposed project are discussed at the projectwide, programmatic level only.
- # Route specificity - some impacts, such as those on biological resources, vary in importance and detail by route and are analyzed at a route-specific level.
- # Issue specificity - some issues, such as agricultural resources, because of their nature or the consistency of the applicable regulatory scheme statewide, can be effectively described, analyzed, and mitigated at the projectwide, programmatic level, and no route-specific discussion is necessary.
- # Issue scope - some issues, such as aesthetics, vary in importance by area and route-specific analyses, and mitigation measures are necessary when area-specific importance is known to exist.

Williams has committed as its preference to avoid all significant impacts. Where all avoidance is not possible, Williams has committed to reducing all potentially significant impacts to less-than-significant levels by:

- # undertaking all impact avoidance measures described in Chapter 2, "Project Description," and elsewhere in this IS/ND;
- # implementing various plans (i.e., storm water pollution prevention, fire prevention and management, and reclamation plans), where necessary;
- # committing to either rerouting the conduit and cable around sensitive resources, boring the conduit under sensitive resources, or attaching it to existing bridges, where available;
- # siting the cable system (conduit and cable and regenerator/OP-AMP sites) in the field in areas that do not support sensitive resources with support from qualified biologists, archeologists, and other resource personnel;
- # staking and flagging resources in the field and locating sensitive resources on construction drawings before construction;
- # conducting an environmental training and awareness program;
- # establishing a construction management structure in the field to ensure avoidance; and
- # adopting and implementing all the mitigation measures identified in the mitigation monitoring plan (**Appendix I**).

I. AESTHETICS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
I. AESTHETICS - Would the project:				
a. Have a substantial adverse effect on a scenic vista?	_____	_____	_____√_____	_____
b. Substantially damage scenic resources along a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings?	_____	_____	_____√_____	_____
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	_____	_____√_____	_____	_____
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	_____	_____	_____√_____	_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria *I. a-d* described in the environmental checklist. In general, however, projects that result in substantial changes to land forms, remove or add significant structures, result in visual clutter or disorder, or substantially disrupt the visual context with their surroundings would be considered to have a significant visual impact.

Impact Mechanisms

Structures and changes in land forms have some impact on the visual environment. The extent of the impact is based on several factors, such as the existing visual character of the areas, the expectations of individuals viewing the areas, and the location of the impact (foreground, middle ground, and background). Potential visual impacts associated with the proposed project could result from ground disturbance and vegetation removal associated with construction, installation of cable markers, and construction of regenerator/OP-AMP stations.

Impact Assessment

Aesthetic values differ between areas. Tolerance for visual clutter, expectations for landscaping, and preferred types of architecture are common discriminators of aesthetic values. Context is also important. For example, large office structures that would have little visual impact in a large city might have a significant visual impact in a suburban community.

To assess effects on visual resources, two factors were considered:

- # the sensitivity of the proposed project study area to disturbances and
- # the type and duration of the disturbance associated with the proposed project.

In general, the proposed project will have a minimal aesthetic impact. Cable either will be installed within existing, idle pipelines, will be buried by plowing or trenching, or will be attached to existing transmission towers. Minimal surface disturbance will be needed for a short period during installation. Twenty-three regenerator/OP-AMP stations will be constructed statewide as part of the proposed project. These structures can be designed to be unobtrusive, with exteriors that match their surroundings.

a. *Have a substantial adverse effect on a scenic vista?*

As detailed in Chapter 3, the various project routes traverse large parts of northern, central, and southern California. Although aesthetics is essentially a qualitative issue, scenic vistas are usually considered those that offer high-quality views of the natural environment. On this basis, the most scenic portions of these routes are as follows:

- # Point Arena to Sacramento: crossing the Coast Ranges from Point Arena to Clear Lake.
- # Sacramento to California/Nevada border: crossing the Sierra Nevada along the railroad and Pacific Gas and Electric Company rights-of-way from the border to Colfax.
- # Pittsburg to Sacramento: from the north side of the Sacramento River to south of West Sacramento.
- # San Francisco to Santa Clara: none.
- # San Luis Obispo to Bakersfield: from north of San Luis Obispo, across Cuesta Grade, to south of Atascadero; east from Atascadero through the rural Community of Shandon to the San Joaquin Valley.
- # San Luis Obispo/Los Osos Loop: the agricultural valley northwest of San Luis Obispo and towards Los Osos.
- # Riverside to the California/Arizona border: along the northeast shore of the Salton Sea; the Coachella Valley.
- # Riverside to Los Angeles: none.
- # Los Angeles to Anaheim: none.

Fiber optic cable and conduit will be placed inside existing idle pipelines, buried, or attached to existing electrical transmission towers and bridges. Approximately 99 percent of all work will occur within existing pipeline, utility, railroad, or road rights-of-way. As discussed in Chapter 2, installation involves only limited machinery and construction disturbance and will occur for only a short time. Trenches, bore pits, and areas where potholes are dug for installing manholes or handholes or to provide access to pipelines will be restored as close to preproject conditions as possible or practicable. Installation of conduit and fiber optic cable will have no long-term aesthetic impacts.

b. *Substantially damage scenic resources along a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings?*

As described above, 99 percent of the project routes will be installed within disturbed rights-of-way and below ground where they will have minimal visual impact. Because the project routes will be installed in already disturbed rights-of-way, the cable markers will blend with existing utility marker posts and markers demarcating the roads. The discussion of “Aesthetics” in Chapter 4 identifies the locales where several of the project routes will parallel or pass near designated state scenic highways.

Impact: Possible Minor Changes in Landscape from Trenching Operations (Applicable to all project routes)

Conduit and cable installation will have a temporary visual impact during construction. The conduit and cable, however, will be located in already visually disturbed rights-of-way. No historic resources along scenic highways will be adversely affected. (Refer to “Cultural Resources” later in this document for further detail.) In general, installation by trenching may have an aesthetic impact beyond the construction period in rural areas if trenching leaves a landscape scar for a short duration (i.e., for less than 3 years). This type of impact is related only to trenching, not plowing or installing within idle pipelines. The effects of trenching could be particularly visible when trenches run up steep slopes. However, Williams plans to avoid trenching steep slopes, where feasible. Also, as detailed in Chapter 2, the proposed project will be built with minimum disturbance to the existing landscape by using plowing and boring construction techniques, where possible. Measures to minimize possible temporary changes in landscape from trenching operations are included in the reclamation plans prepared for the project routes, as required by the California Public Utilities Commission (CPUC) and other jurisdictional agencies (refer to the sample reclamation plan in **Appendix H** for further details). Implementation of the construction techniques associated with the proposed project will result in a less-than-significant impact on scenic resources.

Mitigation Measure. No further mitigation is required.

c. *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Impact: Possible Minor Changes in the Existing Visual Character or Quality of a Site (Applicable to all project routes)

As discussed above, in general, the proposed project will not substantially degrade the existing visual character or quality of areas surrounding the routes because the routes will be located within previously disturbed rights-of-way, most of the installation and subsequent restoration will be buried and therefore not visible, except for the cable markers and regenerator/OP-AMP stations (described separately), and the installation methods described in Chapter 2 will ensure avoidance of visual impacts beyond the construction period. Nonetheless, locating a regenerator/OP-AMP station in scenic rural areas may affect the existing visual character or quality of an area.

For example, San Luis Obispo County has had visual quality concerns in the past over similar telecommunications projects, and there may be other local jurisdictions that may have similar concerns.

The proposed project’s visual impacts will be minimal. When located within an existing underground duct or idle pipeline, no change to the physical environment will result other than that caused by digging potholes or assist points at intervals along the pipeline for the installation of conduit and cable and maintenance manholes/handholes or by digging bore pits for boring operations. New underground installation will have minimal impact because the installation will be within an already disturbed right-of-way, installation methods described in Chapter 2 will ensure that surface disruptions are returned as close as possible or practicable to preproject grade, and disturbed areas will be reseeded as necessary. Placing regenerator/OP-AMP stations at existing utility or pipeline stations will limit new visual impacts in comparison to locating them independently. However, if existing utility or pipeline stations are not available, Williams will site the facilities in areas that do not support sensitive resources and will adhere to any local permit conditions regarding design (if they exist).

The conduit and cable will often be installed by plowing or trenching within road rights-of-way, which will have minimal visual impacts in urban areas. Plowed installation inserts conduit below ground level with minimal surface disturbance. Trenching generally creates a 1-foot-wide by 4-foot-deep trench into which cable and conduit is placed. Although installation will be limited to road rights-of-way, this alone will not ensure that there will be no visual impact in rural areas because installation may use vegetated portions of the right-of-way. However, the disturbance will be temporary and the placement of cable markers will be consistent with existing road and other utility markers that are typically already existing within road rights-of-way. As detailed in Chapter 2, the proposed project has been designed so that disturbance to the existing landscape will be minimized because plowing is the preferred method of installation. In areas where trenching is employed, impacts will be minimized by replacing existing topsoil, using stringent erosion control methods, and reseeding disturbed areas where necessary, as outlined in the sample storm water pollution prevention plan (SWPPP) and reclamation plan (**Appendix E** and **Appendix H**). For these reasons, this impact is considered less than significant.

Mitigation Measure. No further mitigation is required.

Impact: Possible Minimal Visual Effect Resulting from Construction of Regenerator/OP-AMP Stations (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburgh to Sacramento, San Luis Obispo to Bakersfield, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

Visual impacts may result in rural areas where a facility is constructed where no substation or other structures currently exist. This impact is considered less than significant because these facilities will not be sited on sites supporting sensitive resources and because Williams has committed to minimizing this impact by adopting the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure A-1: Design Regenerator/OP-AMP Stations to Be Unobtrusive. When constructing regenerator/OP-AMP stations in rural areas, Williams will implement various measures to reduce the visual impact of the facility, such as siting the facility where it will be screened by existing vegetation or topography, and will design the exterior to blend with the surroundings. (“Rural areas” are those sites located outside the corporate limits of a city or that are zoned for agricultural use.) The buildings will be colored in the predominant shade of their surroundings. However, because of the distance between stations and the innocuous design of the structures (**Figure 2-5**), this impact is considered less than significant. Compliance with this measure will be monitored by the environmental resource coordinator on each project route and reported to the CPUC. Williams will comply with any local permit design requirements and conditions and report compliance with those measures to the appropriate local agency. Implementation of this mitigation measure will reduce this impact to a less-than-significant level.

d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The single security light and exterior door lights at regenerator/OP-AMP stations will introduce a new low-level source of light. However, because this lighting will be similar to a standard porch light and will not produce substantial light or glare, it will have no impact.

Cumulative Impacts

On completion of the proposed project, only the regenerator/OP-AMP stations and cable markers will be visible. The stations will be sited only in areas that do not support sensitive resources and will be designed to be unobtrusive. Cable markers indicating the existence of underground cable will be installed along the project routes; however, they will be within existing rights-of-way containing either roads, railroads, pipelines, utility lines, or other facilities and will be consistent with the existing road/railroad and utility markers already located within these disturbed rights-of-way. The proposed project will not make a cumulative considerable contribution to any impact on aesthetics.

II. AGRICULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<p>II. <u>AGRICULTURAL RESOURCES</u> - In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:</p>				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	_____	_____	_____√_____	_____
b. Conflict with existing zoning for agricultural use or with a Williamson Act contract?	_____	_____	_____	_____√_____
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	_____	_____	_____	_____√_____

Criteria for Determining Significance

The analysis of significance of impacts on agricultural resources is based on criteria *II. a-c* in the environmental checklist.

Impact Mechanisms

Projects that have a significant effect on agricultural resources are those that result in a long-term or permanent loss of agricultural land. Conversion of agricultural land may result in a significant impact. Conversion may be direct, through construction over the land or removal of land from Williamson Act contract in anticipation of development, or indirect, through the incremental loss of agricultural land or restriction of agricultural use.

Impact Assessment

In general, the proposed project will have a minimal impact on agricultural resources. Conduit and cable will either be installed within existing, idle pipelines; buried by plowing or trenching; or by attached to existing

transmission towers. Minimal surface disturbance is needed for a short period during installation. The proposed project will not result in the permanent conversion of farmland.

- a. *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

The proposed project will not result in the permanent conversion of significant amounts of prime or unique farmland or farmland of statewide importance to nonagricultural use. The conduit and cable will be installed in idle pipelines, underground, by plowing or trenching within existing disturbed rights-of-way, or by attaching to transmission towers. Construction may temporarily disrupt agricultural activities only in the immediate area of the disturbed right-of-way, but will have no permanent impact on operations. Once installed, the fiber optic cable will have no long-term impact on agricultural operations beyond that already inherent in the existing right-of-way. Additionally, because the conduit and cable will be installed within existing disturbed rights-of-way, disruption of agricultural activities is unlikely because these disturbed rights-of-way are not currently in agricultural production.

Regenerator/OP-AMP stations, when located outside existing developed areas, will typically require about 1 acre (150 feet by 275 feet) in land area (within the fencing). The few stations needed in agricultural areas will not require conversion of significant amounts of land from agricultural use and will be considered an “allowable” use within agricultural preserve areas (described further below).

The total area of Prime Farmland to be converted to regenerator/OP-AMP station use for all projects routes is approximately 1 acre. The total Farmland of Local Importance (which can include prime farmland that lacks irrigation water) being converted along all routes is approximately 23 acres at one site. Approximately 3 acres total of grazing land will be lost, at three sites. These losses of farmland are less than significant.

- b. *Conflict with existing zoning for agricultural use or with a Williamson Act contract?*

Communications facilities such as these stations are considered a “compatible” (i.e., allowable) use in agricultural preserves under Government Code Section 51238 and are therefore allowed on agricultural land that is subject to California Land Conservation Act (Williamson Act) contract (Getz pers. comm.). Construction of regenerator/OP-AMP stations will be consistent with the above government code and will not have an impact on Williamson Act land by requiring or resulting in its conversion to other nonagricultural uses.

- c. *Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use?*

The proposed project will create no demand on agricultural land and exert no pressure for conversion of agricultural land to another use. The fiber optic cable system simply transmits data across agricultural land. The proposed project will not result in an impact on agricultural resources.

Cumulative Impacts

The proposed project could possibly result in, at most, temporary disruption of agricultural activities during construction only in the areas of the disturbed right-of-way, although this would be highly unlikely. Any agricultural activities allowed within the right-of-way before the cable installation will be allowed to continue

after its installation. However, it is unlikely that agricultural activities currently occur within these road, pipeline, or railroad rights-of-way. The proposed project will not contribute to the loss of agricultural land in California.

III. AIR QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY - When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	_____	_____	_____	_____√
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	_____	_____√	_____	_____
c. Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	_____	_____√	_____	_____
d. Expose sensitive receptors to substantial pollutant concentrations?	_____	_____√	_____	_____
e. Create objectionable odors affecting a substantial number of people?	_____	_____	_____√	_____

Criteria for Determining Significance

The primary air emissions generated by the proposed project in California will be temporary, resulting from construction activities associated with installation. Emissions will also be produced by the infrequent operation of emergency backup generators at the regenerator/OP-AMP stations. The emergency backup generators will operate only during electrical outages. The evaluation of impact significance is based on criteria *III. a-e* described in the environmental checklist.

Many individual air districts have developed air quality thresholds of significance used to determine whether project-related air quality impacts need to be mitigated. Those thresholds vary by air district and are summarized in **Table 5.III-1**. Some thresholds shown in **Table 5.III-1** are based on CEQA air quality guidelines published by individual air districts; others are inferred from existing air district rules and regulations. Construction-related significance thresholds include pounds-per-day, tons-per-quarter, and tons-per-year values. A few air districts have opted not to set significance thresholds for construction. Instead, they have identified mitigation measures that will reduce impacts to less-than-significant levels.

Methodology Used to Estimate Air Emissions

Construction Emissions. Construction equipment, including backhoes, excavators, tractors, and other vehicles, will be used during construction. The heavy equipment will produce temporary air pollutants during the proposed project's construction phase.

Table 5.III-1. Construction Emission Offset Significance Thresholds

Local Air Districts ^a	Applicable Project Route	ROG	NO _x	PM10	CO	Basis
Colusa County APCD	Point Arena to Sacramento	25 tons/year	25 tons/year	25 tons/year	25 tons/year	Authority to construct rule
Feather River AQMD	Point Arena to Sacramento	25 tons/year	25 tons/year	25 tons/year	25 tons/year	New source review emission offset threshold
Lake County AQMD	Point Arena to Sacramento	150 lbs/day	150 lbs/day	150 lbs/day	150 lbs/day	Authority to construct rule
Mendocino County AQMD	Point Arena to Sacramento	40 tons/year	40 tons/year	40 tons/year	40 tons/year	Based on northern Sonoma's thresholds
Northern Sonoma County APCD	Point Arena to Sacramento	40 tons/year	40 tons/year	40 tons/year	40 tons/year	New source review thresholds
Sacramento Metropolitan AQMD	Point Arena to Sacramento, Sacramento to CA/NV border, Pittsburg to Sacramento	85 lbs/day	85 lbs/day	275 lbs/day	N/A	CEQA
Yolo-Solano AQMD	Point Arena to Sacramento, Pittsburg to Sacramento	82 lbs/day	82 lbs/day	82 lbs/day	N/A	CEQA
Northern Sierra AQMD	Sacramento to CA/NV border	80 lbs/day	80 lbs/day	80 lbs/day	550 lbs/day	Based on Placer County APCD's thresholds
Placer County APCD	Sacramento to CA/NV border	80 lbs/day	80 lbs/day	80 lbs/day	550 lbs/day	(Vintze pers. comm.)
Bay Area AQMD	Pittsburg to Sacramento	N/A ^b	N/A ^b	N/A ^b	N/A ^b	Bay Area AQMD's CEQA handbook
San Joaquin Valley Unified APCD	San Luis Obispo to Bakersfield	N/A ^b	N/A ^b	N/A ^b	N/A ^b	CEQA manual
San Luis Obispo County APCD	San Luis Obispo to Bakersfield	185 lbs/day	185 lbs/day	N/A	N/A	CEQA manual
South Coast AQMD	Riverside to CA/AZ border	2.5 tons/quarter	2.5 tons/quarter	6.75 tons/quarter	24.75 tons/quarter	CEQA manual
Imperial County APCD	Los Angeles to Riverside, Los Angeles to Anaheim, Riverside to CA/NV border	2.5 tons/quarter	2.5 tons/quarter	6.75 tons/quarter	24.75 tons/quarter	SCAQMD's CEQA manual

^a APCD = air pollution control district; AQMD = air quality management district

^b Emission estimates are not required. Instead, application of mitigation measures is required.

Sources: Bay Area Air Quality Management District 1996; Sacramento Metropolitan Air Quality Management District 1994; San Joaquin Valley Unified Air Pollution Control District 1998; San Luis Obispo County Air Pollution Control District 1995; South Coast Air Quality Management District 1993; Yolo-Solano Air Quality Management District 1996; Vintze pers. comm.

Table 5.III-2 summarizes estimated emissions associated with typical construction activities for fiber optic cable installation projects. The emissions include both exhaust emissions from construction equipment and fugitive PM10 dust from vehicle activity on exposed earth. The emission estimates are reasonable worst-case emissions associated with construction methods. Installation of cable in existing pipelines, through the use of boring techniques, or aerially, will result in PM10 emission levels lower than those shown in **Table 5.III-2** because of lessened soil disturbance.

One diesel-powered backup generator will be located at each regenerator/OP-AMP station to provide emergency electrical power. A 255-horsepower (hp) engine is the largest diesel engine expected to be used for backup generators. Smaller engines may ultimately be used in some areas. Air pollutants will be produced intermittently by use of the backup generators during power interruptions. **Table 5.III-3** summarizes emissions associated with a typical backup generator operated for 24 hours.

Table 5.III-2. Estimated Construction Emissions Associated with Typical Fiber Optic Cable Installation Projects

Emissions	ROG	NO _x	PM10
Pounds per day	3.4	29.2	53.0
Tons per quarter	0.1	1.0	1.7
Tons per year	0.4	3.7	6.6

Notes: Quarterly emissions assume pounds per day at 66 days per quarter. Tons per year assumes pounds per day at 250 days per year. Emission estimates assume disturbance of 5 acres per day, estimated by multiplying an installation rate of 1 mile per day by a construction corridor of 40 feet. Construction emissions assume equipment typically used for construction. The URBEMIS7G model was used to estimate construction-related emissions. Typical construction-related mitigation measures can be used to reduce PM10 emissions shown above by 50 percent and ROG and NO_x emissions by 5 percent.

Table 5.III-3. Operational Emissions Associated with a 255-hp Diesel Generator (in pounds per day)

ROG	NO _x	SO _x	CO	PM10
9.4	88.1	6.2	18.5	3.8

Note: SO_x was estimated using AP-42 emission factors (U.S. Environmental Protection Agency 1998). All other emissions rates are based on Generec engine model emissions data (GENEREC Corporation, P.O. Box B, Walikesha, WI).

Odors. Construction activities will generate temporary diesel exhaust emissions. Operational activities will not normally generate odors although some diesel exhaust will be released during emergency electrical outages by the operation of diesel backup generators at regenerator/OP-AMP stations. In this analysis, odor impacts are evaluated qualitatively.

Impact Mechanisms

As described in the methodology section above, air quality significance thresholds vary among the air districts. The lowest of those thresholds requires impact assessment and mitigation for any increase in construction emissions. Consequently, for the proposed project, any construction activity within an air district is considered the trigger that requires an impact assessment.

Impact Assessment

a. *Conflict with or obstruct implementation of the applicable air quality plan?*

The primary air emissions generated by the proposed project in California will be temporary, resulting from construction activities associated with installation. Emissions will also be produced by the infrequent operation of emergency backup generators at the regenerator/OP-AMP stations. Neither of these activities will conflict with or obstruct implementation of an applicable air quality plan. Therefore, no impact will occur.

b. *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Impact: Temporarily Increased Levels of Air Pollutants during Construction Exceeding Air District Thresholds (Applicable to all project routes)

Heavy equipment will produce temporarily increased levels of air pollutants during construction. In some meteorological conditions, these levels may result in temporary exceedances of the limits established in the affected air quality basin and may lead to violations of applicable air quality standards, potentially exposing sensitive receptors to elevated levels of exposure. This impact is considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure AQ-1: Implement Construction Best Management Practices. Williams will use best management practices, as required in the respective air pollution control district or air quality management district, for construction activities and will train work crews in those measures before beginning work. The available best management practices will, at a minimum, include the practices listed below in combination with any additional practices required by the presiding air district.

- # Water construction areas to minimize visible dust emissions.
- # Apply approved nontoxic chemical soil stabilizers according to manufacturer specifications to all inactive construction areas (previously graded areas that remain inactive for 96 hours).
- # Reestablish ground cover on the construction site through seeding, as required for erosion control.
- # Maintain truck and equipment engines in good running condition.
- # Clean equipment daily or as needed to reduce tracking of soil onto adjacent roads.
- # Clean adjacent roads daily or as needed to remove accumulated soil.
- # Limit maximum speed to 15 miles per hour (mph) on unpaved roads.
- # Suspend all grading operations when wind gusts exceed 25 mph.

Impact: Temporary Emissions Exceeding Limits from Operating Emergency Backup Generators
(Applicable to all project routes)

The diesel-powered engines running the emergency backup generators at the regenerator/OP-AMP stations will emit air pollutants during the infrequent periods they are in use. An authority to construct and a permit to operate will need to be obtained from the appropriate agency. Williams is currently coordinating with the air pollution control and air quality management districts on the need to obtain an authority to construct and permits. This impact is considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure AQ-2: Obtain Authority to Construct and Permit to Operate Emergency Backup Generators, Where Required. Before construction and operation of any emergency backup generators in districts requiring permits for such facilities, Williams will obtain an authority to construct permit and a permit to operate from the appropriate air pollution control or air quality management district.

c. Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Refer to the discussion below under “Cumulative Impacts.”

d. Expose sensitive receptors to substantial pollutant concentrations?

Refer to the response to criterion *b* above.

e. Create objectionable odors affecting a substantial number of people?

Impact: Temporary Generation of Odors from Diesel Exhaust during Construction and from Diesel Backup Generators at Regenerator/OP-AMP Stations (Applicable to all project routes)

The proposed project will generate odors temporarily from diesel exhaust during construction activities. Odors will also be produced temporarily from diesel exhaust emitted during the operation of emergency backup generators. These odor impacts are considered less than significant because construction odors will be temporary and operational odors will be infrequent, and neither odor source will be severe or will affect a substantial number of people.

Mitigation Measure. None required.

Cumulative Impacts

Section 15064(h) of the State CEQA Guidelines provides that a change in the environment is not significant if it complies with an applicable, publicly adopted, regulatory standard that has been adopted for the purpose of environmental protection and that governs the same environmental effect being adversely affected. With implementation of the identified mitigation measures, the proposed project will comply with all air quality standards. Therefore, construction and operation of the proposed fiber optic cable system will not conflict with or obstruct implementation of any applicable air quality plan, nor violate any air quality standard or contribute substantially to an air quality violation. It will not result in a cumulatively considerable net increase of a

criteria pollutant in a nonattainment area and will not expose sensitive receptors to substantial pollutant concentrations.

IV. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
IV. <u>BIOLOGICAL RESOURCES</u> - Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	_____	_____√_____	_____	_____
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	_____	_____√_____	_____	_____
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	_____	_____√_____	_____	_____
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	_____	_____√_____	_____	_____
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	_____	_____√_____	_____	_____
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	_____	_____√_____	_____	_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on the criteria described in the environmental checklist above. Additionally, the following general criteria were also considered in determining whether an impact on biological resources would be significant:

- # federal or state legal protection of the resource or species,
- # federal or state agency regulations and policies,
- # local regulations and policies,
- # documented resource scarcity and sensitivity both locally and regionally, and
- # local and regional distribution and extent of biological resources.

Based on the State CEQA Guidelines and the general criteria identified above, impacts on biological resources were considered significant if the proposed project will result in any of the following:

- # long-term degradation of a sensitive plant community because of substantial alteration of land form or site conditions (e.g., alteration of wetland hydrology);
- # substantial loss of a plant community and associated wildlife habitat;
- # fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- # substantial disturbance of wildlife resulting from human activities;
- # avoidance by fish of biologically important habitat for substantial periods, which may increase mortality or reduce reproductive success;
- # disruption of natural wildlife movement corridors;
- # substantial reduction in local population size attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
 - species qualifying as rare and endangered under CEQA,
 - species that are state-listed or federally listed as threatened or endangered, or
 - portions of local populations that are candidates for state or federal listing and federal and state species of concern;
- # substantial reduction or elimination of species diversity or abundance.

Impact Mechanisms

Biological resources could be directly affected by construction activities during conduit and cable installation, by construction of associated facilities (i.e., regenerator/OP-AMP stations), and by ongoing operational and maintenance activities along the fiber optic cable routes.

Direct and indirect disturbance from construction activities could result in the loss or degradation of biological resources from cable system installation (including cable, conduit, and associated facilities) through the following ground-disturbing activities:

- # plowing or trenching during conduit and cable installation;
- # temporary stockpiling of soil or construction materials and sidecasting of soil and other construction wastes;
- # excavation for bore pits and assist points;

- # use of designated equipment staging areas (impacts on biological resources are unlikely because locations that are already heavily disturbed, including those that are paved or have compacted dirt and gravel, will be used as staging areas);
- # soil compaction, dust, and water runoff;
- # equipment access through nonsensitive stream channels (streams that do not support sensitive species, critical habitat, or riparian woody vegetation);
- # vehicle traffic and equipment and materials transport along the right-of-way;
- # noise disturbance to wildlife species from construction activities; and
- # temporary parking of vehicles outside the construction zone on sites that support sensitive resources (sites not designated as equipment staging areas).

Impact Assessment

Approach and Methodology

Assumptions. Biological resources could be directly and indirectly affected by construction activities. Construction-related impacts could result in temporary, short-term, or long-term disturbance of biological resources in the proposed project study area. In assessing the magnitude of possible impacts, the following assumptions were made regarding construction-related (i.e., fiber optic cable installation and associated facilities) impacts on biological resources:

- # Plowing and trenching activities along the fiber optic cable system route will be limited to a 40-foot-wide right-of-way except in designated sensitive resource areas (e.g., wetlands and drainages), where the right-of-way will be 20 feet wide.
- # The actual extent of disturbance within the rights-of-way will likely be substantially less than the maximum rights-of-way width.
- # The rights-of-way will be accessible only from existing access roads. No new access roads will be constructed for the cable routes.
- # Regenerator/OP-AMP stations will be located every 40 miles; some will have and other may have permanent access roads constructed. These facilities will be constructed on disturbed sites that do not support sensitive biological resources. As discussed in Chapter 2, if any new station locations are identified, biologists will conduct surveys to determine the presence of sensitive biological resources and an environmental compliance checklist (**Appendix F**) will be submitted to the CPUC for review and approval. All regenerator/OP-AMP stations are subject to mitigation measures described in this chapter, including biological monitoring.
- # All material stockpiling areas and staging areas will be located either within the 40-foot-wide right-of-way, on non-sensitive areas, or at designated disturbed sites outside the right-of-way.

- # Removing portions of common and widespread habitat types, such as annual grassland, during conduit and cable installation activities will not lead to substantial local decreases in those habitat types.
- # In shrub and forested communities, construction activities will avoid or minimize removal of woody vegetation.
- # Removing portions of uncommon and biologically unique habitats, such as vernal pools, riparian woodland, and emergent wetland, during conduit and cable installation activities could lead to a localized decrease in those habitats and could result in the direct loss of special-status species or their habitats. However, direct effects on sensitive habitats (e.g., riparian, emergent marsh, vernal pools, and meadows) will be avoided as part of the proposed project through the following procedures:
 - having a biological monitor present during construction within natural areas;
 - limiting all activities to within a demarcated corridor to avoid effects on sensitive resources;
 - boring the fiber optic conduit and cable only as required beneath sensitive streams, vernal pools, and other sensitive resource sites (e.g., perennial streams, special-status plant populations, and special-status wildlife habitat); and
 - attaching the fiber optic cable to bridges to avoid sensitive perennial streams, where bridges are available.
- # A conservative approach was used in identifying potential presence of fish species in smaller drainages, particularly sensitive fish species. If tributaries to larger basins (for which fisheries information was known) appeared from topographic and other data to provide access to fish, it was assumed that these smaller drainages supported similar fish species as the larger connected basins. The fiber optic cable will be installed by boring under all flowing streams assumed to support sensitive fish species or by bridge attachment, where available.

The following analysis identifies which project routes will be affected. The corresponding mitigation measures will apply to the particular route identified.

- a. *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

The proposed project will not have a significant effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species because Williams will avoid (through rerouting around or boring under sensitive resources or by bridge attachment, where available, over sensitive waterbodies) and reduce impacts to less-than-significant levels through the application of the mitigation measures identified in this IS/MND. Williams has adopted all of the following recommended mitigation measures to either avoid or reduce significant impacts on these species to less-than-significant levels.

It should be noted that the mitigation measures described for potential impacts on special-status species have not been developed through formal consultation or coordination with resource agencies (e.g., California Department of Fish and Game [DFG] and the U.S. Fish and Wildlife Service [USFWS]). The mitigation measures may be modified during future project-specific coordination with the resource agencies. Additional

mitigation measures that may be identified as part of project permits (e.g., Section 404, 1603 streambed alteration agreement, or biological opinion, if needed) will be implemented as part of each project and monitored during construction to ensure compliance.

Impact: Possible Disturbance of Special-Status Plant Populations (Applicable to all project routes)

Special-status plant species that have been documented along each of the project routes are identified in **Appendix K-3** and discussed in the biological resources section in Chapter 4. Cable installation activities could result in the disturbance of special-status plants located within and adjacent to project routes, potentially reducing local populations of these species. These plants are found within both the proposed project corridor and outside the limits of disturbance. This impact is considered less than significant because Williams has committed to avoid significant impacts by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Williams will retain qualified biologists and other qualified resource specialists, as necessary, to monitor fiber optic cable installation activities on each project route where sensitive resources have been identified. Monitors will be hired and trained prior to construction and will be responsible for preconstruction surveys, staking resources, onsite monitoring, documentation of violations and compliance, coordination with contract compliance inspectors, and postconstruction documentation. Refer to the mitigation monitoring plan in **Appendix I** for more detailed information on monitoring procedures.

Biological monitors will locate and stake previously identified sensitive resources before construction activities begin in specified segments. Resource monitors/contract construction inspectors will patrol areas and work with contract compliance inspectors to ensure that barrier fencing, stakes, and required setback buffers are maintained. They will also be responsible for monitoring construction activities in areas that support special-status species, woody riparian vegetation, wetlands, and perennial (i.e., flowing at the time of construction) drainage crossings.

The field monitors will also be responsible for completing variance forms and obtaining clearance from the resource agencies for deviations from the mitigation measures (e.g., decreases in exclusion zones). The variance protocol is outlined in the mitigation monitoring plan in **Appendix I**.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Williams will conduct a biological resource education program for construction crews (primarily crew and construction foremen) before construction activities begin. The education program will include a brief review of the special-status species and other sensitive resources that could exist in the proposed project study area (including their life history and habitat requirements) and what portions of the proposed project study area they may be found in and their legal status and protection under the U.S. Endangered Species Act of 1973 (16 USC 1536). The education program will include materials describing sensitive resources, resource avoidance, permit conditions, and possible fines for violations of state or federal environmental laws. The program will also cover the mitigation measures, environmental permits, and proposed project plans, such as a SWPPP, reclamation plan, and any other required plans. The program will also cover interpretation of the construction drawings because sensitive resources will be marked on the drawings. The education program will inform construction personnel of possible fines for violations. The construction monitors will hand out written materials describing sensitive resources, resource avoidance, permit conditions, and fines. The crew foreman will be responsible for ensuring that crew members

adhere to the guidelines and restrictions. Multiple education programs will be conducted as needed to inform appropriate new personnel brought on the job during the construction period.

Mitigation Measure B-3: Avoid Impacts on State-Listed and Federally Listed and CNPS 1B Special-Status Plant Populations by Establishing and Observing Exclusion Zones. This mitigation measure focuses on avoiding all direct and indirect effects on threatened, endangered, and candidate and other special-status plants (California Native Plant Society [CNPS] List 1B) located during floristic surveys. Before construction, qualified biologists will establish exclusion zones around these special-status plant populations or areas identified as suitable habitat for special-status plants that were not identifiable at the time of the field surveys (e.g., along the San Luis Obispo to Bakersfield project route). Exclusion zones will have a minimum 20-foot radius and will be marked in the field with stakes and flagging and marked on the construction drawings. Construction-related activities will be prohibited within these zones. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Fiber optic cable installation near these resources will be accomplished by rerouting around the exclusion zone. If rerouting is not feasible, the fiber optic conduit will be bored beneath the exclusion zone. Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Mitigation Measure B-4: Avoid Impacts on CNPS Lists 2 and 4 Special-Status Plant Populations by Implementing Specific Measures. Complete avoidance of some nonlisted special-status plant populations may be considered unwarranted (e.g., certain locally common California Native Plant Society List 2 species). For some species, impacts of the proposed project will not be significant based on the distribution of the species, the narrow corridor of the cable route, and other factors (e.g., timing of installation may avoid the plants' critical reproductive period). For other species, the impact of construction activities could result in an impact on the local plant population. To avoid significant impacts on CNPS Lists 2 and 4 special-status plants (**Appendix K-3**), the following measures will be implemented:

- # Identify plant populations and areas identified as suitable habitat in the construction corridor and staging areas using staking and flagging.
- # Conduct construction activities during the period when the plant is not flowering or fruiting.
- # Minimize disturbance in areas that support special-status plants by limiting ground disturbance and other activities to the smallest possible corridor.
- # Identify CNPS List 2 plant populations that may be affected at least 2 weeks prior to disturbance to allow time for coordination with the appropriate land management and resource agencies (e.g., DFG, USFWS, U.S. Bureau of Land Management [BLM], and CPUC). The appropriate agencies will be contacted to discuss the most appropriate measures to use for minimizing impacts on CNPS List 2 species. In general, the measures will include excavating the appropriate topsoil depth (approximately 2 to 16 inches depending on the species) from the population site and stockpiling with intact roots, rhizomes, and seed bank in areas that will be trenched. The topsoil material will be replaced immediately during postremoval revegetation activities with little compaction in order to encourage water filtration and soil oxygenation. The contractor will also be directed to avoid replacing topsoil infested with exotic or noxious weed species. This revegetation activity will be monitored by a qualified botanist familiar with the local flora.

- # Contact the appropriate land management and/or resource agencies after restoration activities are complete and report findings.

Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources. Construction equipment will be confined to a 20-foot-wide work area in areas that support sensitive resources (e.g., in areas that support riparian and wetland communities and special-status species adjacent to the work area). This measure does not apply to resources that are being completely avoided by directional boring and drilling.

During the environmental training program, construction personnel will be informed about the importance of avoiding ground-disturbing activities outside of the designated work area. The contract compliance inspectors and environmental resource coordinator, with support from qualified biologists, if necessary, will ensure that construction equipment and associated activities avoid any disturbance of sensitive resources outside the cable rights-of-way.

Impact: Possible Introduction of New Noxious Weeds or Spread of Existing Noxious Weed Infestations (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

Construction activities could introduce or spread noxious weeds into currently uninfested areas (except on the urban routes [i.e., San Francisco to Santa Clara and Los Angeles to Anaheim]), possibly resulting in the displacement of special-status plant species and degradation of habitat for special-status wildlife. Plants or seeds may be dispersed on construction equipment if the appropriate measures are not implemented. The spread of noxious weeds is a particular concern on BLM and national forest lands. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy for the proposed project.

Mitigation Measure B-6: Avoid the Dispersal of Noxious Weeds in the Fiber Optic Cable and Associated Facility Rights-of-Way. Several noxious weed species have been documented along the project routes (Table 4.IV-2). Jones & Stokes Associates is currently mapping noxious weed infestations and potential wash stations along the project routes. Noxious weed and wash station locations should be finalized by early August. To avoid the introduction or spread of noxious weeds into previously uninfested areas, Williams will implement the following measures as part of the proposed project:

- # Continue to identify noxious weed infestation areas before construction activities and indicate locations on construction drawings.
- # Use certified weed-free imported materials (or rice straw in upland areas).
- # Continue to coordinate with land management agencies to ensure that the appropriate best management practices are implemented. County agricultural commissions and land management agencies were contacted to develop lists of target noxious weed species for each project route and discuss measures to avoid the dispersal of noxious weeds.
- # Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of noxious weed infestations.

- # Clean equipment at designated wash stations after leaving noxious weed infestation areas (these wash stations will be identified by the resource specialists before construction activities in a particular segment).

The contract compliance inspectors, with support from resource personnel, will routinely inspect installation activities to verify that construction equipment is being cleaned of soil and plant matter at designated wash stations.

Impact: Possible Disturbance of Vernal Pools and Associated Habitat for Special-Status Species (Applicable to Pittsburg to Sacramento and San Luis Obispo to Bakersfield project routes)

Vernal pools located along several project routes provide known or potential habitat for special-status species (e.g., vernal pool fairy shrimp, vernal pool tadpole shrimp, and San Diego mesa mint). Because several of the species that occur in vernal pools are federally listed, any ground-disturbing activities that directly or indirectly (e.g., activities within 250 feet of and hydrologically connected to potential habitat) affect potential habitat is considered significant. Potential construction effects on special-status species will include direct mortality if construction activities were to occur in vernal pool habitat, habitat degradation (e.g., dust deposition) resulting from construction activities in uplands adjacent to vernal pool habitat, degradation or permanent loss of vernal pool habitat from construction in sites that are hydrologically connected to the vernal pool (e.g., from sediment deposition or runoff of gasoline, oil, or other fluids), and degradation or permanent loss of vernal pool habitat from construction activities conducted in the habitat. This impact is considered less than significant because Williams has committed to avoiding these situations by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-7: Avoid Impacts on Vernal Pool Habitats by Establishing and Observing Exclusion Zones around Vernal Pools and Hydrologically Connected Areas. To avoid impacts on vernal pools and associated habitat for special-status species, before construction qualified biologists will establish exclusion zones around vernal pools and hydrologically connected areas within or near proposed project work areas. Exclusion zones will be marked in the field with staking and flagging or barrier fencing. Exclusion zones around vernal pools will normally have a 20-foot radius. During the wet season (November to May), however, exclusion zones around vernal pools will have a 250-foot radius. The larger radius will be applied during the wet season to avoid indirect effects on vernal pools from construction activities in areas that are hydrologically connected to the pools.

Construction-related activities will be prohibited within the exclusion zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the zones. Construction activities within an exclusion zone will be accomplished by rerouting around the exclusion zone.

Williams will remove all stakes, flagging, and barrier fencing demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Possible Disturbance to Delta Green Ground Beetle and Its Habitat (Applicable to the Pittsburg to Sacramento project route)

The Delta green ground beetle is a federally listed threatened species known to occur in wetland habitats in the vicinity of Jepson Prairie in Solano County. The species could occur in vernal pools and some roadside ditches along or near the route. A Jones & Stokes Associates invertebrate biologist conducted surveys during spring 1999 with a USFWS invertebrate biologist to identify potential habitat areas within the project route and to identify occupied sites. The wildlife resource tables in **Appendix G** provide specific sites identified as occupied or having potential to support the Delta green ground beetle. Potential construction impacts include direct mortality from construction activities in these occupied or potentially occupied sites and direct mortality from habitat degradation resulting from construction activities in uplands adjacent to occupied or potentially occupied sites. This impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-7: Avoid Impacts on Vernal Pool Habitat by Establishing and Observing Exclusion Zones around Vernal Pools and Hydrologically Connected Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Before construction, qualified biologists will stake and flag exclusion zones around all riparian and wetland areas. Exclusion zones will have a minimum 20-foot radius beyond the limits of riparian or wetland vegetation that support habitat for special-status species. Construction-related activities will be prohibited within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zone. Construction activities within an exclusion zone will be accomplished by boring under the zone. In seasonal streams that potentially support special-status amphibians and where boring is infeasible, Mitigation Measure B-13: “Avoid Disturbance to Special-Status Reptiles and Amphibians”, will be implemented. In streams that support special-status birds and where boring is infeasible, Mitigation Measure B-26: “Avoid Occupied Least Bell’s Vireo Habitat during the Nesting Season, and Implement Protection Measures, If Necessary” will be implemented.

Impact: Construction Activities Near Areas that are Habitat for the Valley Elderberry Longhorn Beetle (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, and Pittsburg to Sacramento project routes)

The valley elderberry longhorn beetle (VELB), a federally listed threatened species, is associated with elderberry shrubs along the project routes in the Sacramento Valley and coastal valleys of the inner Coast Ranges. Disturbance of an elderberry shrub within the range of VELB could result in a take of the species, as defined under the federal Endangered Species Act, which would require consultation with USFWS under Section 7 of the Endangered Species Act or preparation of an habitat conservation plan under Section 10 of the Endangered Species Act. Elderberry shrubs were located and mapped along all project routes within the range of VELB, including Point Arena to Sacramento, Sacramento to the California/Nevada border, and Pittsburg to Sacramento project routes. The wildlife resource tables in **Appendix G** provide specific locations of elderberry shrubs along these project routes. This impact is considered less than significant because

Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-9: Avoid Disturbance to Elderberry Shrubs by Establishing and Observing Exclusion Zones. To avoid impacts on VELB habitat, field resource specialists will identify and mark with flagging all elderberry shrubs within 50 feet of the affected proposed project right-of-way. Orange barrier fencing will be installed around all shrubs to further avoid inadvertent effects. No ground-disturbing activities will be permitted within 25 feet of the elderberry shrub. All shrubs within 25 feet of potential ground-disturbing activities will be avoided by boring under the affected elderberry shrub from a site outside the 25-foot exclusion zone at a depth of not less than 5 feet to avoid damage to the elderberry capillary root system.

Impact: Possible Disturbance to Delhi Sands Flower-Loving Fly Habitat (Applicable to the Riverside to California/Arizona border project route)

The Delhi Sands flower-loving fly is a federally listed endangered species that inhabits wind-blown sand deposits in the vicinity of Colton. Surveys were conducted to identify and map suitable habitat for this species along the Riverside to California/Arizona border project route. The wildlife resources tables in **Appendix G** provide specific locations of potentially occupied sites along the project route. This impact is considered less than significant because Williams has committed to avoiding impacts on Delhi Sands flower-loving fly habitat by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-10: Avoid Disturbance to Delhi Sands Flower-Loving Fly Habitat. The conduit will be installed into an existing, idle gas pipeline in areas of suitable Delhi Sands flower-loving fly habitat. Therefore, potential effects are limited to ground disturbances for handhole access points. Williams will avoid impacts on this species by siting handhole access points outside of the identified suitable Delhi Sands flower-loving fly habitat. To ensure handhole sites are not sited in suitable habitat, preconstruction surveys will be conducted by a qualified biologist holding a valid survey permit from the USFWS. All suitable habitat along the project route will be delineated and described during this survey. The biologist will assist Williams with site selection of handhole sites to ensure avoidance of all suitable habitat.

Impact: Possible Disturbance to Quino Checkerspot Butterfly Habitat (Applicable to the Riverside to California/Arizona border project route)

The Quino checkerspot butterfly is a federally listed endangered species that occurs in open or sparsely vegetated areas within native grassland, chaparral, and coastal scrub habitats in Riverside County. Its occurrence is based on the distribution of its host plant, *Plantago erecta*. A portion of the Riverside to California/Arizona border project route is within the "Potential Habitat Area" for Quino checkerspot butterfly as defined by the USFWS. General habitat surveys were conducted to identify and map potentially suitable habitat along the route (i.e., grasslands, chaparral communities, coastal scrub). No USFWS protocol habitat assessments were conducted. If suitable habitat occurs within a proposed project study area and that also falls within a Potential Habitat Area, the USFWS recommends protocol habitat assessments and focused surveys for the host plant and other habitat features, including identification of larval host plants, such as *Castilleja excerta*, and topographical features such as hill tops and rock outcrops. However, within the Potential Habitat Area, the fiber optic cable will be installed within an existing pipeline, and the only areas potentially disturbed will be handhole sites or regenerator/OP-AMP facilities. Implementation of the construction mitigation strategy, which includes that following measures, will ensure complete avoidance of suitable habitat for Quino checkerspot butterfly and potential impacts on this species. Therefore, this impact is considered less than significant.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-11: Avoid Disturbance to Quino Checkerspot Butterfly Habitat. Within the range of the Quino checkerspot butterfly, the fiber optic cable will be installed within an existing pipeline. Potential disturbance of suitable habitat in these areas include installation of handhole sites and regenerator/OP-AMP facilities. Williams will avoid impacts on this species by siting all handhole sites and regenerator/OP-AMP facilities in areas that do not provide suitable habitat conditions for Quino checkerspot butterfly. A qualified biologist holding a valid survey permit from the USFWS will assist Williams with siting these facilities by identifying appropriate sites that do not support suitable habitat.

Impact: Possible Disturbance to Morro Shoulderband Snail Habitat (Applicable to the San Luis Obispo to Los Osos Loop project route)

The Morro shoulderband snail, a federally listed threatened species, is known to occur along a portion of the proposed San Luis Obispo to Los Osos Loop project route along Los Osos Boulevard. Surveys for this species were conducted on February 11, 1999, by a Jones & Stokes Associates invertebrate biologist along the project route. The project route does not support habitat typically considered suitable for this species; however, the snail was found during surveys in ruderal habitat along the project route that is adjacent to typical Morro shoulderband snail habitat. All occupied and potentially occupied sites were described and mapped. The wildlife resources tables in **Appendix G** provide specific locations of occupied and potentially occupied sites along the project route. This impact is considered less than significant because Williams has committed to avoiding impacts on Morro shoulderband snail habitat by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-12: Avoid Morro Shoulderband Snail Habitat by Rerouting or Boring Under Suitable Habitat Areas. Surveys were conducted to identify all potentially suitable habitat for the Morro

shoulderband snail. Along the project route, suitable habitat includes ruderal habitats that are adjacent to typical suitable Morro shoulderband snail habitat along the edges of Los Osos Valley Road. Impacts on the Morro shoulderband snail will be avoided by either rerouting around or boring under all areas identified as suitable habitat for this species.

Impact: Possible Disturbance of Habitat for Non-Federally Listed Special-Status Amphibians and Reptiles (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, and Riverside to California/Arizona border project routes)

The mountain yellow-legged frog, foothill yellow-legged frog, northern red-legged frog, Couche's spadefoot toad, and western pond turtle are California state species of special concern and federal species of concern that potentially occur in stream and wetland habitats on the western slope of the Sierra Nevada, the Central Valley, Coast Ranges, or deserts. The mountain yellow-legged frog is found in perennial streams, lakes, and ponds above 4,500 feet elevation in the Sierra Nevada, potentially occurring along the Sacramento to California/Nevada border project route. The foothill yellow-legged frog is found in perennial and some ephemeral streams from the valley floor to about 6,000 feet elevation in the Sierra Nevada and Coast Ranges, potentially occurring along the Point Arena to Sacramento, Sacramento to California/Nevada border, and San Luis Obispo to Bakersfield project routes. The northern red-legged frog is found in coastal streams north of the San Francisco Bay, potentially occurring along the Point Arena to the Sacramento project route. Couche's spadefoot toad exists in temporary pools in the Colorado Desert, potentially occurring along the Riverside to California/Arizona border project route. The western pond turtle is found in ponds, streams, and marshes on the western slope of the Sierra Nevada, throughout the Central Valley and Coast Ranges; and Southern California, potentially occurring on the Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, and Riverside to California/Arizona border project routes.

The Natural Diversity Data Base, DFG, and U.S. Forest Service (USFS) were consulted to obtain information on known occurrences. Habitat surveys identified suitable streams for these species on several project routes. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat for each of these species along project routes. Construction activities in drainages supporting these species could disturb occupied habitat and temporarily displace individual animals. This impact is considered less than significant because Williams will not plow or trench perennial streams. Where boring is infeasible, Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-13: Avoid Disturbance to Special-Status Reptiles and Amphibians by Boring Under Streams or Constructing Barrier Fencing and Relocating Animals During Construction. Potential impacts on special-status reptiles and amphibians will be avoided by implementing Mitigation Measure B-8. However, at seasonally flowing streams that support suitable habitat for non-federally listed special-status amphibians and reptiles where boring is infeasible, impacts will be avoided by constructing barrier fencing and relocating individual animals during construction, as follows:

- # If the stream does not have flowing water during the time of construction and before construction activities begin, qualified and permitted biologists will survey the route to determine the potential for animals to exist in residual pools or vegetation within the affected project route. If special-status amphibians and reptiles continue to occupy habitats within the route, they will be captured by qualified, permitted wildlife biologists and relocated to the nearest suitable habitat upstream or downstream of the project route. Barrier fencing will be constructed along each side of the work area to prohibit animals from re-entering the work area during conduit and cable installation activities. Once the conduit is installed, the site will be immediately restored to its original scope and conditions, and the barrier fencing will be removed. Qualified biological monitors and wildlife biologists will be on site to identify and relocate any animals that move into the work area during construction activities.

- # Where other access is unavailable, vehicles may need to cross drainages. Williams will restrict vehicle crossings to existing crossing sites where feasible. If necessary, vehicle crossings will be constructed as described in Chapter 2. Qualified wildlife biologists will assist Williams in identifying suitable crossing locations to avoid impacts on vegetation and other habitat features. If impacts on vegetation or other habitat features is unavoidable, Williams will attempt to access the opposite side of the drainage by traveling around the site on existing roads or rights-of-way, or consult with DFG for a site-specific variance. If a drainage with flowing water requires a vehicle crossing, barrier fencing will be installed and animals relocated. Barrier fencing will be constructed of wire mesh material so that flows are not impeded but access into the disturbance area by amphibians and reptiles is restricted. If barrier fencing is required, it will be installed 4 days prior to use of the crossing site. Relocation surveys will be conducted for 3 consecutive days to verify that all animals are removed from the disturbance area. Temporary barriers will be removed immediately after the installation activities are completed, the crossing is no longer needed, and the site is restored.

Impact: Possible Disturbance to California Red-Legged Frogs in Drainages That Intersect the Project Route (Applicable to Sacramento to the California/Nevada border, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, and Riverside to California/Arizona border project routes)

The California red-legged frog, a federally listed threatened species, potentially exists in drainages that intersect the project route up to approximately 4,000 feet elevation on the west slope of the Sierra Nevada, the central Coast Ranges, and a few isolated sites in Southern California. This species could potentially occur along the Sacramento to California/Nevada border, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, and Riverside to California/Arizona border project routes. During surveys, potentially occupied sites were described and mapped. The wildlife resources tables in **Appendix G** provide specific locations of potentially occupied sites along the project routes. Potential construction effects on the California red-legged frog could include damage to or destruction of aquatic habitats and upland estivation sites, direct mortality from construction vehicles or heavy equipment, temporary disturbance from noise and human presence associated with construction activities, and temporary losses of riparian and associated upland habitat. However, this impact is considered less than significant because Williams has committed to avoiding affects

on California red-legged frogs by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Disturbance of Habitat for the Arroyo Southwestern Toad (Applicable to Riverside to California/Arizona border project route)

The arroyo southwestern toad is a federally listed endangered species that could exist along streams or dry washes and adjacent habitats in the vicinity of the Riverside to California/Arizona border project route. During surveys, potentially occupied sites were described and mapped. The wildlife resources tables in **Appendix G** provide specific locations of potentially occupied sites along the project routes.

Potential construction effects on the arroyo southwestern toad could include damage to or destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by construction crews, and temporary losses of riparian and associated upland habitat. Because the fiber optic cable will be installed within an existing, idle pipeline along the portion of the project route that potentially supports Arroyo southwestern toad, the only potential impacts are related to installation of handholes and regenerator/OP-AMP facilities. To avoid impacts on arroyo southwestern toad, handholes and regenerator/OP-AMP facilities will be sited, with the assistance of a qualified biologist, in areas that do not support suitable aquatic or upland habitat for this species. This impact is considered less than significant because Williams has committed to avoid effects on the arroyo southwestern toad by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Disturbance of Potentially Occupied Habitat for California Tiger Salamanders (Applicable to Point Arena to Sacramento, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, and San Luis Obispo to Los Osos Loop project routes)

The California tiger salamander, a federal candidate species for listing as threatened or endangered, potentially exists in seasonal wetland and pond habitats near the Point Arena to Sacramento, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, and San Luis Obispo to Los Osos Loop project routes in the San Joaquin Valley and coastal valleys and could be directly affected by proposed project construction activities. Surveys were conducted along these project routes to identify, describe, and map suitable habitat for this species. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat along each of these project routes.

Potential construction effects on the California tiger salamander include damage to or destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by construction crews, temporary losses of wetland and associated upland habitat, and degradation or permanent loss of wetland habitat. The project routes that are in the vicinity of potential breeding habitat for tiger salamanders occur along disturbed roadside edges or other disturbed utility corridors. Results of field surveys indicated that these areas are generally unsuitable as upland hibernation sites for tiger salamanders. In addition, the nature of the proposed project (i.e., narrow, linear disturbed corridor) is such that the potential for a substantial impact on tiger salamanders occupying uplands sites is further reduced. This impact is considered less than significant because Williams has committed to avoiding California tiger salamander occupied habitat by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-7: Avoid Impacts on Vernal Pool Habitat by Establishing and Observing Exclusion Zones around Vernal Pools and Hydrologically Connected Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Disturbance to Blunt-Nosed Leopard Lizard Habitat (Applicable to the San Luis Obispo to Bakersfield project route)

The blunt-nosed leopard lizard, a federal- and state-listed endangered species known to exist in the vicinity of the San Luis Obispo to Bakersfield project route, could be directly affected by proposed project construction and operation and maintenance activities in portions of the project routes within the San Joaquin Valley and coastal valleys. The species is designated as a fully protected species by DFG. Surveys were conducted along the San Luis Obispo to Bakersfield project route to identify, describe, and map suitable habitat for this species. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat along this project route.

The blunt-nosed leopard lizard could be adversely affected by construction activities associated with fiber optic cable installation if ground-disturbing activities occur in areas that provide suitable habitat for this species. Potential construction effects include damage to or destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by construction crews, and temporary and permanent losses of habitat. Where ground-disturbing activities along the project route will be small and localized (i.e., hand holes to assist points and regenerator/OP-AMP facilities), Williams will initially attempt to locate project features in habitat unsuitable for this and other listed species, and thereby avoid impacts and the need for mitigation. Potential impacts could occur only in suitable habitat areas that cannot be avoided.

In coordination with USFWS and DFG, Williams will develop a strategy to avoid take of the blunt-nosed leopard lizard. The following measures are among those that could be used to avoid take. Specific site conditions will dictate the applicability of these measures or the need for others. This impact is considered less than significant because Williams has committed to avoiding impacts on blunt-nosed leopard lizard habitat by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-14: Avoid Blunt-Nosed Leopard Lizard Habitat by Conducting Preconstruction Searches for Burrows and Implementing Protection Measures, If Necessary. According to USFWS protocol, within 30 days before the beginning of construction activities, qualified wildlife biologists will conduct systematic searches for active blunt-nosed leopard lizard burrows in all suitable habitat subject to ground disturbance and a 30-foot-wide buffer around this area. Biologists will conduct burrow searches by systematically walking 30- to 100-foot-wide transects throughout the survey area. Transect width will be adjusted based on vegetation height and topography (California Department of Fish and Game 1990). Biologists will conduct blunt-nosed leopard lizard burrow searches in conjunction with the preconstruction San Joaquin kit fox and special-status kangaroo rat burrow searches (see Mitigation Measure B-29: “Conduct Preconstruction San Joaquin Kit Fox Den Searches” and Mitigation Measure B-31: “Conduct Preconstruction Searches for Giant, Tipton, and Morro Bay Kangaroo Rat Burrows”, described below).

When a potential burrow is found, biologists will examine the burrow entrance for blunt-nosed leopard lizards and their tail drags and scat. A burrow will be considered active if a blunt-nosed leopard lizard or its sign is observed at the burrow.

All active burrows will be assigned a number and mapped on topographic maps. Active burrows will be flagged in the field with pin flags marked with the burrow number. Information on the size of the burrow, signs of activity, surrounding terrain and habitat type, presence of special habitat features (e.g., washes and playas), and distance to other burrows will be recorded.

Williams will provide USFWS and DFG with verbal notification of the results of preconstruction burrow searches within 5 days after these activities are completed and before the start of construction in the area. Williams will provide USFWS and DFG with written notification of the results within 30 days after these activities are completed.

Mitigation Measure B-15: Avoid Blunt-Nosed Leopard Lizard Burrows by Establishing and Observing Exclusion Zones Around Burrows. Following preconstruction searches for blunt-nosed leopard lizard burrows and before construction, qualified biologists will establish exclusion zones around active blunt-nosed leopard lizard burrows. Exclusion zones will have a 30-foot-wide radius and will be marked in the field with stakes and flagging.

Construction-related activities will be prohibited within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Impacts on the blunt-nosed leopard lizard will be avoided by routing around the exclusion zone or by boring under the exclusion zone.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Mitigation Measure B-16: Construct in Blunt-Nosed Leopard Lizard Habitat during the Lizard's Active Season. To the extent possible, Williams will confine construction activities within suitable habitat areas for the blunt-nosed leopard lizard to the lizard's active season between May 1 and September 30. This will maximize the potential for lizards to escape from construction areas or to be captured and relocated from construction areas (Kuritsubo and Saslaw pers. comms.).

Impact: Possible Disturbance to Coachella Valley Fringe-Toed Lizard and Its Habitat (Applicable to Riverside to California/Arizona border project route)

The Coachella Valley fringe-toed lizard is a federally listed threatened and state-listed endangered species. It occurs in arid dunes of windblown sand and sandy flats in the Coachella Valley, in the vicinity of the Riverside to California/Arizona border project route. Surveys were conducted to identify, describe, and map suitable habitat areas in the vicinity of the project right-of-way. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat along the project route. Potential construction impacts could include direct mortality from construction vehicles or heavy equipment, direct mortality during construction at access points and regenerator/OP-AMP facilities, disturbance from noise and human presence associated with construction activities, harassment by construction crews, temporary displacement of lizards from occupied habitat, and temporary loss of habitat. Because the fiber optic cable will be installed within an existing, idle pipeline along the portion of the project route that potentially supports Coachella Valley fringe-toed lizard, the only potential impacts are related to installation of handholes and regenerator/OP-AMP facilities. To avoid impacts on Coachella Valley fringe-toed lizard, handholes and regenerator/OP-AMP facilities will be sited, with the assistance of a qualified biologist, in areas that do not support suitable aquatic or upland habitat for this species. This impact is considered less than significant because Williams has committed to avoiding Coachella Valley fringe-toed lizard and its habitat by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-17: Avoid Potentially Occupied Coachella Valley Fringe-Toed Lizard Habitat by Establishing and Observing Exclusion Zones. Because habitat for Coachella Valley fringe-toed lizard can shift over time as wind-blown sands shift, qualified biologists will conduct preconstruction surveys to identify all potential habitat for the Coachella Valley fringe-toed lizard along the proposed project right-of-way. Surveys will be conducted within 30 days before the beginning of construction activities. Qualified wildlife biologists will conduct systematic searches in all suitable habitat subject to ground disturbance and a 30-foot-wide buffer around this area.

All potential habitat will be mapped on topographic maps and flagged in the field with pin flags marked with the resource site number.

Williams will provide USFWS and DFG with verbal notification of the results of preconstruction surveys within 5 days after these activities are completed and before the start of construction in the area. Williams will provide USFWS and DFG with written notification of the results within 30 days after these activities are completed.

Following preconstruction searches for Coachella Valley fringe-toed lizard and before construction, qualified biologists will establish exclusion zones around suitable habitat areas. Exclusion zones extend 100 feet from the edge of suitable habitat and will be marked in the field with stakes and flagging.

Construction-related activities will be prohibited within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Impacts on the Coachella Valley fringe-toed lizard will be avoided by routing around the exclusion zone or by boring under the exclusion zone.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Possible Disturbance to Flat-Tailed Horned Lizard and Its Habitat (Applicable to Riverside to California/Arizona border project route)

The flat-tailed horned lizard is a state species of special concern and a BLM sensitive species. It occurs in desert scrub habitat of the Sonoran Desert in central Riverside and Imperial counties of California. It is often associated with sandy flats with sparse vegetation. Habitat for this species is found along the Riverside to California/Arizona border project route. Surveys were conducted to identify, describe, and map suitable habitat areas in the vicinity of the project right-of-way. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat along the project route. Potential construction impacts could include direct mortality from construction vehicles or heavy equipment, direct mortality during construction and cable installation and at assist points and regenerator/OP-AMP facilities; disturbance from noise and human presence

associated with construction activities, harassment by construction crews, temporary displacement of lizards from occupied habitat, and temporary loss of habitat. This impact is considered less than significant because Williams has incorporated the following mitigation measures into the proposed project to avoid or minimize impacts on the flat-tailed horned lizard and its habitat.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-18: Implement the Flat-Tailed Horned Lizard Rangewide Management Strategy. To avoid, minimize, and offset potential impacts on the flat-tailed horned lizard, Williams will implement the standard mitigation measures described in the Flat-Tailed Horned Lizard Management Strategy prepared by the Working Group of Flat-Tailed Horned Lizard Interagency Coordinating Committee (1997). In addition to conducting a worker training program and having a qualified biologist on site, if necessary, additional possible mitigation measures include relocation of lizards found in the construction work area by qualified, permitted wildlife biologists, post-construction restoration, and habitat compensation.

Impact: Possible Disturbance to Desert Tortoise and Its Habitat (Applicable to Riverside to California/Arizona border project route)

The desert tortoise, a federal- and state-listed threatened species, exists in the Colorado Desert portion of the Riverside to California/Arizona border project route. Surveys were conducted to identify, describe, and map suitable habitat areas in the vicinity of the project route. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat along the project route. Potential construction impacts include destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, attraction of potential predators (e.g., ravens) to the work site because of increased human activity and refuse resulting in an increased risk of predation and mortality, harassment by construction crews, and temporary loss of habitat. Because the fiber optic cable will be installed within an existing, idle pipeline along the portion of the project route that potentially supports desert tortoise, the only potential impacts are related to installation of handholes and regenerator/OP-AMP facilities. To avoid impacts on desert tortoise, handholes and regenerator/OP-AMP facilities will be sited, with the assistance of a qualified biologist, in areas that do not support suitable habitat for this species. This impact is considered less than significant because Williams has committed to avoiding disturbance on desert tortoise and its habitat by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-19: Avoid Desert Tortoise Burrows by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary. All facilities, including handhole access points and regenerator facilities will be sited in areas that do not support suitable habitat for desert tortoise or that do not support active or potential burrows. However, to ensure clearance of all potential habitat areas within the construction right-of-way, within 30 days before the beginning of construction activities, qualified wildlife biologists, as described by USFWS (U.S. Fish and Wildlife Service 1992), will conduct initial systematic searches for desert tortoise burrows in all suitable habitat in the proposed project area and a 30-foot-wide buffer around this area. Biologists will conduct burrow searches by systematically walking 30-foot-wide transects throughout the survey area. Transect width will be reduced as needed, based on vegetation height and topography.

When a burrow is found, biologists will measure the size; evaluate the shape of the burrow entrance; and note tracks, scat, shells, bones, scutes, egg shell fragments, or any other potential tortoise sign at the site. All burrows will be assigned a number and mapped on topographic maps. Burrows will be flagged in the field with pin flags marked with the burrow number. Information on burrow dimensions and conditions, signs of activity, and surrounding terrain and habitat type will be recorded.

Within 24 hours before the beginning of construction activities, qualified wildlife biologists will conduct a follow-up systematic search for any desert tortoise burrows that may have become established within the survey area since the initial survey.

Disturbance and destruction of tortoise burrows will be avoided (e.g., by moving assist points for cable installation and siting regeneration facilities in non-tortoise habitat).

Williams will provide USFWS and DFG with verbal notification of the results of initial preconstruction burrow searches within 5 days after this activity is completed and before the start of construction in the area. Williams will provide USFWS and DFG with verbal notification of the results of follow-up preconstruction burrow searches within 3 days after this activity is completed. Williams will provide USFWS and DFG with written notification of the results of both the initial and follow-up surveys within 30 days after the follow-up surveys are completed.

Mitigation Measure B-20: Avoid Desert Tortoise Burrows by Establishing and Observing Exclusion Zones. Following preconstruction searches for desert tortoise burrows and before construction, qualified biologists will establish exclusion zones around active desert tortoise burrows. Exclusion zones will have a 30-foot-wide radius and will be marked in the field with stakes and flagging.

Construction-related activities will be prohibited or greatly restricted within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Fiber optic cable installation within an exclusion zone will be accomplished by boring from outside the zone or routing around the exclusion zone.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Construction Activities near Areas with Potentially Active Nonlisted Special-Status Raptor Nests and Other Potential Nesting Habitat (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

Potential nesting habitat for one or more nonlisted special-status raptor species (**Table 4.IV-2**), including golden eagle, prairie falcon, Cooper's hawk, sharp-shinned hawk, osprey, and white-tailed kite are located within or near the all of the project routes, except the San Francisco to Santa Clara and Los Angeles to Anaheim project routes. Active nests and potential nesting habitat were located and mapped for these species during the surveys. Golden eagle habitat is found in rock outcrop and oak woodlands throughout the desert and mountainous portions of the project routes. Prairie falcon habitat is also found in rock outcrops and cliffs in the desert, Transverse Ranges, Coast Ranges, and Sierra Nevada portions of the project routes. White-tailed kite habitat is found in annual grassland and agricultural habitats of the Central Valley and coastal valleys. Cooper's hawk habitat is found in woodlands of the Transverse Ranges, Coast Ranges, and Sierra Nevada, and osprey habitat is found along or near the coast, large rivers, or reservoirs or lakes. Surveys were conducted to locate active raptor nests in the vicinity of the project routes during spring 1999 surveys. Additional preconstruction surveys for these species will be conducted as needed if construction occurs during the breeding season in suitable habitat areas (See Mitigation Measure 21).

No nesting habitat will be directly affected by installation of the conduit or regeneration facilities. However, human disturbances from construction activities could cause nest abandonment and death of young or loss of reproductive potential at active nests located near the project routes. This impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-21: Avoid Disturbing Active Special-Status Raptor Nests. To avoid potential adverse effects on nesting special-status raptors, Williams will establish no-disturbance buffers around active nests during the breeding season. If construction activities are scheduled to occur during the breeding season, preconstruction surveys of all potentially active nest sites within 0.5 mile of the affected project routes will be conducted. If construction activities are scheduled to occur during the non-nesting season, then no surveys will be required. If surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation will be required. If active nests are found, Williams will establish a no-disturbance buffer around the active nest, as follows:

- # for the golden eagle and prairie falcon, the buffer will include a 0.5-mile radius around the nest; and
- # for the white-tailed kite, Cooper's hawk, sharp-shinned hawk, and osprey, the buffer will include a 500-foot radius around the nest.

The size of individual buffers can be adjusted based on an evaluation of the site by a qualified raptor biologist. The evaluation will be based on the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., farming activities or road traffic) and the observed sensitivity of the birds. Evaluations and buffer adjustments will be done in consultation with the local DFG and BLM or USFS (on those project routes that cross BLM or USFS lands) representative. The portion of the project route that is within the designated buffer will be identified in the field by staking and flagging. If construction activities occur only during the nonbreeding season between August 1 and February 1, no surveys will be conducted and no buffers will be required.

The preconstruction surveys will be conducted during spring and summer of the construction year. To avoid effects on active nest sites, no installation activities will occur within the specified buffer zone during the breeding season, between February 1 and August 1, or until it is determined that young have fledged. Surveys will not be conducted in areas where proposed project activities will occur only during the nonbreeding season between August 1 and February 1.

Impact: Possible Disturbance of Active Swainson's Hawk Nests (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, and San Luis Obispo to Bakersfield project routes)

The Swainson's hawk, a state-listed threatened species, nests in trees on the Central Valley floor in the vicinity of the Point Arena to Sacramento, Sacramento to the California/Nevada border, Pittsburg to Sacramento, and San Luis Obispo to Bakersfield project routes. Surveys were conducted to identify, describe, and map active nest sites in the vicinity of these project routes. The wildlife resources tables in **Appendix G** provide specific locations of active nest sites along the project routes. No nest trees will be removed or disturbed during installation of the conduit or during construction of regenerator facilities. However, human disturbances can cause the abandonment of active nests and death of young or loss of reproductive potential at active nests located near the project routes. This impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-22: Avoid Disturbing Active Swainson's Hawk Nests by Establishing and Observing Buffer Zones. To avoid disturbing active Swainson's hawk nests, Williams will establish 0.5-mile radius no-disturbance buffer zone around each active nest during the breeding season. All buffer zones will be based on line-of-sight. If topographical features obstruct the line-of-site of an active nest within the buffer zone, or if other factors reduce the likelihood of disturbance, then the buffer may be reduced based on consultation with DFG. The portion of the right-of-way that is within the designated buffer zone will be identified on the construction drawings and in the field by staking and flagging. If construction activities occur only during the nonbreeding season (from August 1 to February 28), no buffers or further mitigation is required.

If construction activities continue into the 2000 breeding season, surveys will be conducted again to determine activity at all potential nest sites. Qualified raptor biologists will conduct construction year surveys of all potentially active nest sites within 0.5 mile of the affected project route. Surveys will be conducted by

searching all suitable nest trees with binoculars to find active nests. If surveys indicate that nests are inactive or potential habitat is unoccupied during the construction year, no further mitigation measures will be required. If active nests are found, a 0.5-mile-wide no-disturbance buffer will be established around the active nest as described above.

To avoid effects on active nest sites, no construction activities will occur within the specified buffer zone during the breeding season, between March 1 and August 1, or until it is determined that young have fledged. Surveys will not be conducted in areas where proposed project activities will occur only during the nonbreeding season.

Impact: Possible Disturbance to Active Northern Spotted Owl Nests (Applicable to Point Arena to Sacramento project route)

The northern spotted owl, a federally listed threatened species, could potentially be present in mature conifer forest habitats along the Point Arena to Sacramento project route east of Point Arena. Surveys were conducted to identify, evaluate, and map suitable habitat for the northern spotted owl along this project route. The majority of conifer forest habitats along the project route are unsuitable for this species because of repeated harvesting of the forest stands and the resulting young stand age. Only two small areas, both protected as county or state parks, support suitable nesting/roosting habitat for northern spotted owls. The wildlife resource tables in **Appendix G** provide locations of potential habitat for this species. No direct impacts on this species or its habitat will occur because the fiber optic cable will be installed along road shoulders or other disturbed rights-of-way. However, noise disturbance from construction activities could result in the abandonment of active nests and the death of young or loss of reproductive potential at active nests located near the project route. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-23: Avoid Disturbing Northern Spotted Owl Nests by Constructing During the Non-Breeding Season or by Establishing and Observing Buffer Zones Around Active Nests. Protocol surveys for northern spotted owl were not conducted because installation of the conduit is scheduled for the fall and winter of 1999, during the northern spotted owl nonbreeding season. If construction activities occur during the nonbreeding season, between September 1 and March 15, then no mitigation is required. However, if construction continues into the 2000 breeding season, potentially occupied sites described in **Appendix G** will be avoided until after the breeding season or until after protocol surveys are conducted and indicate that no spotted owl nests occur within 0.25 mile of the project route (as described below).

Construction during the Breeding Season. If construction activities are scheduled to occur during the breeding season, to avoid impacts on the northern spotted owl, protocol surveys will be conducted by qualified raptor biologists to determine if active breeding sites are present.

Project-related disturbances to active northern spotted owl nests will be avoided by conducting protocol-level surveys in all potential habitat areas to determine the location of nests and establishing no-disturbance buffers around active sites. Protocol surveys are conducted using the USFWS's standard guidelines (U.S. Fish and Wildlife Service 1992). The guidelines require either six

independent surveys of the potentially affected area in one year or three surveys in two consecutive years. No construction activities will occur within 0.25 mile of potential habitat until after protocol surveys are complete. If no spotted owls are detected during surveys, no additional mitigation will be required. If spotted owls are detected during surveys and are found to be nesting within 0.25 mile of the right-of-way, field resource specialists will establish a 0.25-mile-radius buffer zone around the nest site. To avoid disturbing nesting spotted owls, proposed project activities will be postponed within the buffer zone during the breeding season.

Surveys for spotted owls will be conducted between March and August of the construction year. To avoid disturbing nesting spotted owls, no construction activities will be permitted within the buffer zone during the nesting season, between March 15 and August 30, or until it is determined that young have fledged.

Impact: Potential Disturbance of Active California Spotted Owl and Northern Goshawk Nests (Applicable to the Point Arena to Sacramento and Sacramento to California/Nevada border project routes)

The California spotted owl and the northern goshawk, both DFG species of special concern and forest service sensitive species, are known to be present in the conifer forest habitats in the vicinity of the Sacramento to the California/Nevada border project route in the mid- to high elevations of the Sierra Nevada. Northern goshawk nests also potentially occur along the Point Arena to Sacramento project route. Surveys were conducted to identify, evaluate, and map suitable habitat for these species along these project routes. The wildlife resource tables in **Appendix G** provide locations of potential habitat for these species. No direct impacts on these species or their habitat is expected because the fiber optic cable will be installed along road shoulders or other disturbed rights-of-way. However, noise disturbance from construction activities could result in the abandonment of active nests and the death of young or loss of reproductive potential at active nests located near the project routes. This impact is considered less than significant because Williams has adopted the following mitigation measures to avoid impacting nesting habitat for California spotted owl and northern goshawk as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-24: Avoid Disturbing California Spotted Owl and Northern Goshawk Nests by Establishing and Observing Buffer Zones and Avoid Construction Activities During the Breeding Season. Protocol surveys for California spotted owl and northern goshawk were not conducted because installation of the conduit is scheduled for the fall and winter of 1999, during the nonbreeding season. If construction activities occur during the nonbreeding season, between September 1 and March 15, then no mitigation is required. However, if construction continues into the 2000 breeding season, potentially occupied sites described in **Appendix G** will be avoided until after the breeding season or until after protocol surveys are conducted and indicate that no spotted owl or goshawk nests occur within 0.25 mile of the project route (as described below).

Construction during the Breeding Season. If construction activities are scheduled to occur during the breeding season, to avoid impacts on the California spotted owl and northern goshawk, protocol surveys will be conducted by qualified raptor biologists to determine if active breeding sites are present.

Project-related disturbances to active California spotted owl and northern goshawk nests will be avoided by conducting protocol-level surveys in all potential habitat areas to determine the location of nests and by establishing no-disturbance buffers around active sites. If no spotted owls or northern goshawks are detected during surveys, no additional mitigation will be required. If spotted owl or northern goshawk are detected during surveys and are found to be nesting within 0.25 mile of the affected right-of-way, field resource specialists will establish a 0.25-mile-radius buffer zone around the nest site. To avoid disturbing nesting spotted owls and northern goshawks, proposed project activities will be postponed within the buffer zone during the breeding season (from March to August).

Surveys for spotted owls and northern goshawks will be conducted between March and August of the construction year according to standard USFS survey protocol. To avoid disturbing nesting spotted owls and northern goshawks, no construction activity will be permitted within the buffer zone during the nesting season, between March 15 and August 30, or until it is determined that young have fledged.

Impact: Construction Activities in Areas near Potential Active Burrowing Owl Nests (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

The burrowing owl, a species of special concern, is a ground-nesting raptor that typically uses the burrows of other species, such as ground squirrels. This species potentially nests in the Central Valley, coastal valleys, and southern California; therefore, this species may be an issue on nearly all of the project routes. Active burrowing owl burrows could potentially occur within the proposed fiber optic cable routes, where installation activities could destroy active nest sites. Surveys were conducted to locate, describe, and map active burrowing owl nesting burrows along all of the project routes. The wildlife resources tables in **Appendix G** provide specific locations of active burrowing owl nest sites. This impact is considered less than significant because Williams has committed to avoid impacts on burrowing owl nest and winter burrows by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-25: Avoid Disturbing Active Burrowing Owl Nests and Implement Standard DFG Guidelines during the Nonbreeding Season. Surveys were conducted during spring and summer 1999 to locate active burrowing owl nesting burrows. Because construction is scheduled to occur during fall and winter of 1999, additional preconstruction surveys will be conducted to locate active nonbreeding burrows. If construction activities continue into the 2000 breeding season, preconstruction surveys will be conducted to locate active nesting burrows. Surveys consist of visually checking all potential sites within 500 feet of the proposed fiber optic cable rights-of-way within 30 days of construction. To avoid impacts on burrowing owls, no-disturbance buffers will be established around all active nesting burrows during the breeding season, and the DFG burrowing owl guidelines will be implemented during the nonbreeding season. If no burrowing owls are found, no further mitigation measures will be required.

Breeding Season. If active burrowing owl nests are found, biologists will establish a 250-foot buffer zone around the active burrow. No installation activities will be permitted within the specified buffer zone until after the breeding season, between February 1 and August 31, or until it is determined that young have fledged.

Wintering Season. Because adult burrowing owls can occupy burrows year round, before installation activities in active areas (and following the breeding season), DFG mitigation guidelines for burrowing owls (California Department of Fish and Game 1995) will be implemented. The guidelines require that one-way doors be installed at least 48 hours before construction at all active burrows that exist within the excavation area so that the burrows are not occupied during installation of the conduit. The guidelines also require the installation of two artificial burrows for each occupied burrow that is removed. Qualified wildlife biologists will conduct preconstruction surveys for burrowing owls within 1–2 weeks of installation activities. The one-way doors will be installed at that time to ensure that the owls can get out of the burrows but cannot get back in. Artificial burrows will be constructed within the project route prior to installation of one-way doors.

Habitat disturbance from construction activities will be minor, linear, and temporary. No permanent habitat loss will occur. Therefore, no habitat compensation is included as part of this mitigation measure.

Impact: Construction Activities Near Areas that are Habitat for California Condors (Applicable to the San Luis Obispo to Bakersfield project route)

The California condor is a state-listed and federally listed endangered species that could be present along the San Luis Obispo to Bakersfield project route in the Coast Ranges. Potential construction effects could include the temporary loss of potential foraging habitat (by displacement from construction activities); harassment and/or accidental flushing of perched birds; and accidental poisoning by chemicals associated with the use of heavy equipment, such as antifreeze, oil, and grease. However, this impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Temporary Construction Activities in Areas That are Potential Habitat for Willow Flycatcher and Least Bell's Vireo (Applicable to the San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, Riverside to California/Arizona border, and Sacramento to California/Nevada border project routes)

The southwestern willow flycatcher and least Bell's vireo, both federally listed as endangered species, potentially occur in riparian habitats associated with the San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, and Riverside to California/Arizona border project routes. The state-listed willow flycatcher also has potential to occur along the Sacramento to California/Nevada border project route. Surveys were conducted to identify, evaluate, and map potential habitat for these species along the project routes. The wildlife resources tables in **Appendix G** provide specific locations of potential habitat areas. No potential

habitat will be affected by construction activities. Potential construction effects on the southwestern willow flycatcher and the least Bell's vireo could include temporary disturbance of birds during the nesting season from noise and human presence associated with construction activities resulting in temporary displacement and possibly nest abandonment, and harassment by construction crews. However, this impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-26: Avoid Noise Disturbance Near Occupied Least Bell's Vireo Habitat during the Nesting Season, and Implement Protection Measures, If Necessary. Protocol surveys for least Bell's vireo were not conducted because construction is planned for the nonbreeding season (fall and winter 1999). However, if construction continues into the 2000 breeding season (April 10 through July 31) (Watkins pers. comm.), qualified wildlife biologists will conduct preconstruction surveys for nesting least Bell's vireos in all suitable habitat in the affected proposed project study area, and no-disturbance buffer zones will be established around all active sites. According to USFWS protocol, eight surveys will be conducted. Individual surveys will be conducted at least 10 days apart, with three conducted during the peak survey season (generally between May and June). Survey methodology will be consistent with that described in the USFWS's survey protocol for the species (U.S. Fish and Wildlife Service 1998). If least Bell's vireos are detected, construction activities will be prohibited within 1,000 feet of the area between April 1 and July 15. No construction activity will occur within this buffer area during the breeding season until surveys are complete. If construction activities near suitable habitat for the least Bell's vireo will only occur during the nonbreeding season, preconstruction surveys will not be needed.

Mitigation Measure B-27: Avoid Noise Disturbance Near Occupied Willow Flycatcher Habitat during the Nesting Season and Implement Protection Measures, If Necessary. Protocol surveys for southwestern willow flycatcher were not conducted because construction is planned for the nonbreeding season (fall and winter 1999). However, if construction continues into the 2000 breeding season (May 1 and August 15) (Sogge et al. 1997), qualified wildlife biologists will conduct preconstruction surveys for nesting willow flycatchers in all suitable habitat in the affected proposed project study area and no-disturbance buffer zones will be established around all active sites. According to USFWS protocol, one survey will be conducted during each of the following three periods: May 15-31, June 1-21, and June 22-July 10. Surveys will be conducted by qualified and permitted biologists in accordance with the USFWS protocol (Sogge et al. 1997). If willow flycatchers are detected, construction activities will be prohibited within 1,000 feet of the area between May 1 and August 15. No construction activity will occur within this buffer area during the breeding season until surveys are complete. If construction activities near suitable habitat for the willow flycatcher will only occur during the nonbreeding season, preconstruction surveys will not be needed.

Impact: Temporary Construction Activities Near Areas that are Potential Nesting Habitat for California Gnatcatcher (Applicable to the Riverside to California/Arizona border project route)

The California gnatcatcher is a federally listed threatened species that could exist in suitable habitats along the Riverside to California/Arizona border project route and vicinity throughout the year. Surveys were conducted to identify, evaluate, and map potential habitat for these species along the project route. The wildlife resources tables in **Appendix G** the specific locations of potential habitat areas. Potential construction impacts on the California gnatcatcher include temporary disturbance of birds from noise and human presence associated with construction activities resulting in temporary displacement and possibly nest abandonment during the nesting season, harassment by construction crews, and temporary losses of suitable habitat. Because the fiber optic cable will be installed within an existing, idle pipeline along the portion of the project route that potentially supports California gnatcatcher, the only potential impacts are related to installation of handholes and regenerator/OP-AMP facilities. To avoid impacts on California gnatcatcher, handholes and regenerator/OP-AMP facilities will be sited, with the assistance of a qualified biologist, in areas that do not support suitable habitat for this species. This impact is considered less than significant because Williams has committed to avoid impacts on California gnatcatchers by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-28: Avoid Noise Disturbance of Occupied California Gnatcatcher Habitat during the Nesting Season, and Implement Protection Measures, If Necessary. Protocol surveys for California gnatcatcher were not conducted because construction is planned for the nonbreeding season (July 1 through March 14). However, if construction continues into the 2000 breeding season (March 15 to June 30), qualified wildlife biologists will conduct preconstruction surveys for California gnatcatchers in all suitable coastal sage scrub habitat and adjacent riparian, grassland, and chaparral stands in the affected proposed project study area before construction begins to determine occupancy, and no-disturbance buffer zones will be established around each active site. Surveys will be conducted in accordance with the Coastal California Gnatcatcher [*Polioptila californica californica*] Presence/Absence Survey Guidelines, February 28, 1997 (U.S. Fish and Wildlife Service 1997a). Nine surveys will be conducted during the nonbreeding season (between July 1 through March 14) and six surveys will be conducted during the breeding season (between March 15 and June 30). Individual surveys will be conducted at least 2 weeks apart during the nonbreeding season and at least 1 week apart during the breeding season. If California gnatcatchers are detected, construction activities will be prohibited within 1,000 feet of the area between March 1 and July 15. If construction activities within suitable habitat for the California gnatcatcher will only occur during the nonbreeding season, preconstruction surveys will not be needed and no buffer zones are required.

Impact: Possible Disturbance to Kit Fox Den and Their Habitat (Applicable to the San Luis Obispo to Bakersfield project route)

The San Joaquin kit fox is a state-listed and federally listed endangered species known to exist in the San Joaquin Valley and coastal valleys in the vicinity of the San Luis Obispo to Bakersfield project route. Surveys

were conducted to identify, describe, and map all suitable habitat for the San Joaquin kit fox along the project route. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat for this species. Nearly all of the proposed project that occurs within the range of the San Joaquin kit fox is within an existing, idle pipeline; therefore, temporary ground disturbance will be minimal. However, vehicle access and siting of handhole and regenerator/OP-AMP facilities could potentially affect active sites. The San Joaquin kit fox could be adversely affected by construction activities associated with proposed fiber optic cable installation if these ground-disturbing activities occur in suitable habitat for this species. Potential construction effects include damage to or destruction of dens, direct mortality from construction vehicles or heavy equipment, direct mortality from den collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by construction crews, and temporary and permanent losses of habitat. Construction activities could also adversely affect kit foxes by reducing prey populations through temporary and permanent habitat losses and habitat disturbance. Where ground-disturbing activities along the project route will be small and localized (i.e., handholes to assist points and regenerator/OP-AMP facilities), Williams will initially attempt to locate project features in habitat unsuitable for this and other listed species; thereby avoiding impacts and the need for mitigation. Potential impacts could occur only in suitable habitat areas that cannot be avoided. This impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-29: Avoid San Joaquin Kit Fox Dens by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary. Within 30 days before the beginning of construction activities, qualified wildlife biologists (as defined by USFWS [U.S. Fish and Wildlife Service 1997b]) will conduct systematic kit fox den searches in all suitable habitat subject to ground-disturbing activities in the proposed project study area and a 200-foot-wide buffer around this area. Biologists will conduct den searches by systematically walking 30- to 100-foot-wide transects throughout the survey area. Transect width will be adjusted based on vegetation height and topography (California Department of Fish and Game 1990). If a den is found, biologists will measure the size; evaluate the shape of the den entrances; and note tracks, scat, prey remains, or recent excavations at the site.

Dens will be classified in one of three den status categories, consistent with those defined by USFWS (U.S. Fish and Wildlife Service 1997b):

- # Potential den - any burrow or artificial structure (e.g., a pipe or culvert) that has an entrance of at least 4 inches in diameter for its entire visible length; a collapsed den will not be considered a potential den site.
- # Known den - any natural den or artificial structure that is being used or has been used at any time in the past by a San Joaquin kit fox for any activity other than whelping or rearing pups. Fresh excavation alone will not be considered adequate sign to classify a den as “known.”

- # Natal or pupping den - any den or artificial structure that is being used or has been used at any time in the past by a kit fox to whelp or rear pups.

All dens will be assigned a number and mapped on topographic maps. Den sites will be flagged in the field with pin flags marked with the den number. Potential, known, and natal or pupping dens will be distinguished from each other in the field by the pin flag color. Information on the size and number of openings, signs of activity, surrounding terrain and habitat type, and distance to concentrations of small mammal prey and other den sites will be recorded.

Disturbance and destruction of dens will be avoided where possible (e.g., rerouting fiber optic cable around a den site or boring to install fiber optic cable under a den site). However, if dens are located within the proposed work area and cannot be avoided during construction, qualified wildlife biologists will remove these dens by carefully hand excavating them (U.S. Fish and Wildlife Service 1997b).

Williams will notify USFWS and DFG immediately if a natal or pupping den is found in the survey area. Williams will provide USFWS and DFG with verbal notification of the results of preconstruction den searches and den excavations within 5 days after these activities are completed and before the start of construction in the area. Williams will provide USFWS and DFG with written notification of the results within 30 days after these activities are completed.

Mitigation Measure B-30: Avoid San Joaquin Kit Fox Dens by Establishing and Observing Exclusion Zones. Following preconstruction kit fox den searches and den excavations and before construction, qualified wildlife biologists will establish exclusion zones around the remaining dens following the procedures described by USFWS (U.S. Fish and Wildlife Service 1997b). Exclusion zones will be marked in the field with stakes and flagging. The radius of these zones will be as follows:

- # potential den = 50 feet,
- # known den = 100 feet, and
- # natal or pupping den = to be determined in coordination with USFWS.

Construction-related activities will be prohibited or greatly restricted within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. To avoid affecting the exclusion zone, the fiber optic cable will be rerouted around the exclusion zone or will be bored under the zone.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Possible Disturbance to Active Special-Status Kangaroo Rat Burrows and Their Habitat (Applicable to the San Luis Obispo to Bakersfield and Luis Obispo to Los Osos Loop project routes)

The giant kangaroo rat is known to exist in the proposed project study area and vicinity and could be directly affected by proposed project construction and maintenance activities in the San Joaquin Valley and coastal valleys along the San Luis Obispo to Bakersfield project route. The Tipton kangaroo rat is also known to exist in the vicinity of the San Luis Obispo to Bakersfield project route and could be directly affected by proposed project construction and operation and maintenance activities in the San Joaquin Valley portion of the proposed project study area. The Morro Bay kangaroo rat could potentially occur in coastal scrub habitats

along the San Luis Obispo to Los Osos Loop project route. Surveys were conducted to identify, describe, and map all suitable habitat for these kangaroo rat species along the project routes. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat for these species.

These special-status kangaroo rats could be adversely affected by construction activities associated with proposed fiber optic cable installation if ground-disturbing activities occur in areas that provide suitable habitat for these species. Potential construction effects include damage to or destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by construction crews, and temporary and permanent losses of habitat. Where ground-disturbing activities along the project route will be small and localized (i.e., handholes to assist points and regenerator/OP-AMP facilities), Williams will initially attempt to locate project features in habitat unsuitable for this and other listed species; thereby avoiding impacts and the need for mitigation. Potential impacts could occur only in suitable habitat areas that cannot be avoided. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-31: Avoid Giant, Tipton, and Morro Bay Kangaroo Rat Burrows by Conducting Preconstruction Surveys and Implement Protection Measures, If Necessary. Within 30 days before the beginning of construction activities, qualified wildlife biologists will conduct systematic searches for giant kangaroo rat, Tipton kangaroo rat, and Morro Bay kangaroo rat burrows in all suitable habitat in the proposed project study area subject to ground-disturbing activities and a 30-foot-wide buffer around this area. Biologists will conduct giant and Tipton kangaroo rat burrow searches by systematically walking 30- to 100-foot-wide transects throughout the survey area. Transect width will be adjusted based on vegetation height and topography (California Department of Fish and Game 1990). Biologists will conduct kangaroo rat burrow searches in conjunction with the preconstruction San Joaquin kit fox den searches (see Mitigation Measure B-29: “Avoid San Joaquin Kit Fox Den by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary”, described above).

When a burrow or precinct is found, biologists will measure the diameter of the burrow(s); evaluate the shape of the burrow entrance(s); and note tracks, scat, tail drags, or presence of haystacks at the site. Scat may be collected for later confirmation of species by known experts. The presence of haystacks alone will not be considered adequate sign to confirm giant kangaroo rat presence.

All active and potential burrows or precincts will be assigned a number, mapped on topographic maps, and photographed. Burrows or precincts will be flagged in the field with pin flags marked with the burrow or precinct number and the species of kangaroo rat the structure is associated with. Active and potential burrows or precincts will be distinguished from each other in the field by the pin flag color. Information on the size and number of burrows, signs of activity, surrounding terrain and habitat type, and distance to other burrows or precincts will be recorded.

Williams will provide USFWS and DFG with verbal notification of the results of preconstruction burrow searches within 5 days after these activities are completed and before the start of construction in the area. Williams will provide USFWS and DFG with written notification of the results within 30 days after these activities are completed.

Mitigation Measure B-32: Avoid Giant, Tipton, and Morro Kangaroo Rat Burrows by Establishing and Observing Exclusion Zones. Following preconstruction searches for special-status kangaroo rat burrows

or precincts and before construction, qualified wildlife biologists will establish exclusion zones around inactive and active giant, Tipton, and Morro Bay kangaroo rat burrows or precincts. Exclusion zones will have a 30-foot radius and will be marked in the field with stakes and flagging.

Construction-related activities will be prohibited or greatly restricted within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Fiber optic cable installation within an exclusion zone will be accomplished by rerouting around the exclusion zone or by boring under the exclusion zone. Regenerator/OP-AMP facilities will not be sited in suitable habitat for these species.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Possible Disturbance to Active Stephens' Kangaroo Rat Burrows (Applicable to Riverside to California/Arizona border project route)

The Stephens' kangaroo rat is a state-listed threatened and federally listed endangered species that is known to occur in the vicinity of the Riverside to California/Arizona border project route. Surveys were conducted to identify, describe, and map all suitable habitat for the Steven's kangaroo rat along the project route. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat for this species.

The Stephens' kangaroo rat could be adversely affected by construction activities associated with proposed fiber optic cable installation if ground-disturbing activities occur in areas that provide suitable habitat for this species. Potential construction effects include damage to or destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by construction crews, and temporary and permanent losses of habitat. Because the fiber optic cable will be installed within an existing, idle pipeline along the portion of the project route that potentially supports Stephens' kangaroo rat, the only potential impacts are related to installation of handholes and regenerator/OP-AMP facilities. To avoid impacts on Stephens' kangaroo rat, handholes and regenerator/OP-AMP facilities will be sited, with the assistance of a qualified biologist, in areas that do not support suitable habitat for this species. This impact is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-33: Avoid Stephens' and Pacific Kangaroo Rat Burrows by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary. Within 30 days before the beginning of construction activities, qualified wildlife biologists will conduct systematic searches for kangaroo rat burrows (because the Stephens' kangaroo rat and the Pacific kangaroo rat both occur in the same

habitats and their burrows are identical, biologists will identify all kangaroo rat burrows as either occupied or potential Stephens' kangaroo rat) in all suitable habitat in the proposed project study area subject to ground-disturbing activities and a 30-foot-wide buffer around this area. Biologists will conduct burrow searches by systematically walking 30- to 100-foot-wide transects throughout the survey area. Transect width will be adjusted based on vegetation height and topography to ensure 100% coverage.

When a burrow or precinct is found, biologists will measure the diameter of the burrow(s) and indicate whether it shows any signs of activity (e.g., tracks, scat, dust baths, or tail drags) or is considered a potential burrow (no signs of activity).

All active and potential burrows or precincts will be assigned a number, mapped on topographic maps, and photographed. Burrows or precincts will be flagged in the field with pin flags marked with the burrow or precinct number. Information on the size and number of burrows, signs of activity, surrounding terrain and habitat type, and distance to other burrows or precincts will be recorded.

Williams will provide USFWS and DFG with verbal notification of the results of preconstruction burrow searches within 5 days after these activities are completed and before the start of construction in the area. Williams will provide USFWS and DFG with written notification of the results within 30 days after these activities are completed.

Mitigation Measure B-34: Avoid Stephens' Kangaroo Rat Burrows by Establishing and Observing Exclusion Zones. Following preconstruction searches for kangaroo rat burrows or precincts and before construction, qualified wildlife biologists will establish exclusion zones around potential and active kangaroo rat burrows or precincts. Exclusion zones will have a 30-foot radius and will be marked in the field with stakes and flagging.

Construction-related activities will be prohibited within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Regenerator/OP-AMP facilities and handhole sites will not be sited in occupied habitat for these species.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Possible Disturbance to Active San Joaquin Antelope Ground Squirrel Burrows (Applicable to the San Luis Obispo to Bakersfield project route)

The San Joaquin antelope ground squirrel is a state-listed threatened and federal species of concern that is known to exist in the San Joaquin Valley and coastal valley portions of the proposed project study area. This species could be adversely affected by construction activities associated with proposed fiber optic cable installation if ground-disturbing activities occur in suitable habitat for this species. Surveys were conducted to identify, describe, and map all suitable habitat for San Joaquin antelope ground squirrel along the project route. The wildlife resources tables in **Appendix G** provide specific locations of suitable habitat for this species.

Potential construction effects include damage to or destruction of burrows, direct mortality from construction vehicles or heavy equipment, direct mortality from burrow collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, harassment by

construction crews, and temporary and permanent losses of habitat. Where ground-disturbing activities along the project route will be small and localized (i.e., handholes to assist points and regenerator/OP-AMP facilities), Williams will initially attempt to locate project features in habitat unsuitable for this and other listed species; thereby avoiding impacts and the need for mitigation. Potential impacts could occur only in suitable habitat areas that cannot be avoided. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-35: Avoid San Joaquin Antelope Ground Squirrel Burrows by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary. Within 30 days before the beginning of construction activities, qualified wildlife biologists will conduct systematic searches for active San Joaquin antelope ground squirrel burrows in all suitable habitat in the proposed project study area subject to ground-disturbing and a 30-foot-wide buffer around this area. Biologists will conduct burrow searches by systematically walking 30- to 100-foot-wide transects throughout the survey area. Transect width will be adjusted based on vegetation height and topography. While walking the transects, biologists will scan the area for antelope ground squirrels and listen for their vocalizations. Biologists will conduct San Joaquin antelope ground squirrel burrow searches in conjunction with the preconstruction San Joaquin kit fox, special-status kangaroo rat, and blunt-nosed leopard lizard burrow searches (see Mitigation Measures B-12: “Conduct Preconstruction Searches for Blunt-Nosed Leopard Lizard Burrows and Implement Protection Measures, If Necessary,” B-28: “Conduct Preconstruction Searches for San Joaquin Kit Fox Dens and Implement Protection Measures, If Necessary,” and B-30: “Conduct Preconstruction Searches for Special-Status Kangaroo Rat Burrows and Implement Protection Measures, If Necessary,” described above).

When a potential burrow is found, biologists will examine the burrow entrance for San Joaquin antelope ground squirrels and their scat. A burrow will be considered active if a San Joaquin antelope ground squirrel or its sign is observed at the burrow.

All active burrows will be assigned a number and mapped on topographic maps. Active burrows will be flagged in the field with pin flags marked with the burrow number. Information on the size of the burrow, signs of activity, surrounding terrain and habitat type, presence of special habitat features (e.g., washes and playas), and distance to other burrows will be recorded.

Williams will provide DFG with verbal notification of the results of preconstruction burrow searches within 5 days after these activities are completed and prior to the start of construction in the area. Williams will provide DFG with written notification of the results within 30 days after these activities are completed.

Mitigation Measure B-36: Avoid San Joaquin Antelope Ground Squirrel Burrows by Establishing and Observing Exclusion Zones. Following preconstruction searches for San Joaquin antelope ground squirrel burrows and before construction, qualified wildlife biologists will establish exclusion zones around

active San Joaquin antelope ground squirrel burrows. Exclusion zones will have a 30-foot-wide radius and will be marked in the field with stakes and flagging.

Construction-related activities will be prohibited or greatly restricted within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. Fiber optic cable installation within an exclusion zone will be accomplished by rerouting around the exclusion zone or by boring under the exclusion zone.

Williams will remove all stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Impact: Construction Activities Near Active Breeding Sites for Northern Harrier, Snowshoe Hare, White-Tailed Jackrabbit, Sierra Nevada Mountain Beaver, and American Badger (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, San Luis Obispo to Bakersfield, San Luis Obispo to Los Osos Loop, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

These species could potentially nest or den within the right-of-way on the Sacramento to California/Nevada border project route. The northern harrier could nest in the pasture lands and agricultural lands west of Placerville in the Sierra Nevada foothills and Central Valley portions of the project route (Point Arena to Sacramento, Sacramento to California/Nevada border, Pittsburg to Sacramento, and San Luis Obispo to Bakersfield project routes); the American badger could den in open habitats of eastern California, Sierra Nevada foothills, and Southern California deserts (all project routes except the San Francisco to Santa Clara and Los Angeles to Anaheim routes); and the white-tailed jackrabbit, snowshoe hare, and Sierra Nevada mountain beaver could exist in the higher elevations of the Sierra Nevada (Sacramento to California/Nevada border project route). Although the potential is remote, proposed fiber optic installation activities conducted during the breeding season could inadvertently destroy active nests or dens of one or more of these species. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-37: Avoid Disturbance to Northern Harrier, Snowshoe Hare, White-Tailed Jackrabbit, Sierra Nevada Mountain Beaver, and American Badger by Conducting Preconstruction Surveys and Establishing No-Disturbance Buffers. To avoid impacts on these species, qualified wildlife biologists will conduct preconstruction surveys during the breeding season in all suitable habitat along the affected right-of-way and establish no-disturbance buffers until after the breeding season. If fiber optic cable installation activities occur during the nonbreeding season, no surveys or other mitigation is required. Breeding season surveys for these species will include a visual search of the right-of-way by qualified wildlife biologists in all suitable habitats to detect active nests or dens. If none are detected, no other mitigation is required.

Where one or more active nest or den of these species is detected, a no-disturbance buffer will be established around the nest or den. The buffer will be 200 feet on both sides of the active nest or den. The buffer will remain in effect until after the breeding season. Once the breeding season is over, the conduit can be installed. Nesting or denning seasons for these species are as follows:

- # northern harrier - March 1 through August 15,
- # snowshoe hare and white-tailed jackrabbit - February 1 through August 1, and
- # Sierra Nevada mountain beaver and American badger - March 1 through August 1.

If cable installation activities are proposed during any of the above periods, surveys will be conducted and buffers established at active sites. If cable installation activities occur outside of these time periods, surveys are not required and cable installation can proceed with no further mitigation.

Impact: Construction Activities on Bridges that are Nesting Habitat for Swallows (Applicable to all project routes)

Although swallows are not special-status species, cliff swallows, barn swallows, and rough-winged swallows (and their occupied nests and eggs) are protected by federal and state laws, including the Migratory Bird Treaty Act (50 CFR 10 and 21). USFWS is responsible for overseeing compliance with the Migratory Bird Treaty Act, and the U.S. Department of Animal Control Officer makes recommendations on animal protection issues. Active swallow nesting colonies could be located underneath bridge structures where the fiber optic cable could be attached. Cliff swallows and barn swallows construct mud nests, often concentrated into large breeding colonies, underneath concrete bridges. Rough-winged swallows often construct nests within a bridge structure, gaining access to the interior through existing drainage holes in the structure. Surveys were conducted to identify and map all active swallow nesting colonies on bridges and in culverts along all project routes. The wildlife resources tables in **Appendix G** provide specific locations of active sites.

Installation of the fiber optic cable on these bridges if constructed during the breeding season (between March 1 and September 1) could result in destruction or abandonment of swallow nests and potentially of entire breeding colonies. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-38: Avoid Disturbance to Nesting Swallows by Implementing Timing Restrictions, Removing Nests, and Installing Mesh Netting. If activities to attach fiber optic cable to bridges occur outside the swallow nesting season, between March 1 and August 31, activities can proceed with no further mitigation.

If construction activities are planned to occur during the breeding season, a qualified wildlife biologist will inspect known nest sites during the swallows' nonbreeding season between September 1 and February 28. If all swallow nests are abandoned, the nests may be removed.

If the proposed bridge attachments are to occur during the swallows' breeding season, the nests will be removed before March 1. After nest removals, the underside of the bridge will be covered with 1/2- to 3/4-inch mesh net or poultry wire. All net installation will be completed before March 1. The netting must be anchored so that swallows cannot attach their nests to the bridge through gaps in the net. All net installations will be done to the satisfaction of USFWS.

- # If swallows begin building nests on the bridge after net installation, the mud placed by the swallows will be removed. The means of entering the net will be identified, and the net will be repaired.
- # If a swallow successfully completes a nest during bridge attachments, Williams will contact USFWS to obtain the appropriate removal permits.
- # The netting will remain under the bridge from March 1 until September 1 or until the bridge attachments are completed, whichever comes first.
- # If netting of the bridge does not occur by March 1 and swallows subsequently colonize the bridge, attachments to the bridge will not begin before September 1, unless Williams obtains permits from the USFWS.

Impact: Construction Activities in Areas Near Bat Maternity Roosting Sites (Applicable to all project routes)

The greater western mastiff-bat, California leaf-nosed bat, pallid bat, Townsend's big-eared bat, western red bat, spotted bat, fringed myotis, longed-eared myotis, small-footed myotis, long-legged myotis, and Yuma myotis could potentially occur in the vicinity on all project routes. Potential maternity roosting habitat for bats within or near the proposed project area includes large abandoned buildings; bridges; trees; and cliffs, caves, and mines.

If present, these species could be affected by construction activities associated with proposed fiber optic cable installation. Potential effects could include temporary disturbance from noise and human presence associated with construction activities. However, the potential effects of the proposed project are minimized by the following factors:

- # cliff, mine, cave, and building habitats that could potentially support large colonies of bats do not occur in the proposed project rights-of-way;
- # trees large enough to potentially support maternity roosting bats will not be removed as part of the proposed project;
- # the rights-of-way are linear and narrow (3-foot excavation corridor and 40-foot maximum disturbance corridor);
- # activities related to the proposed project are temporary, and restoration efforts will begin immediately following construction; and
- # the fiber optic cable routes are already disturbed, relative to the surrounding landscape, from the original road or utility construction activity in the rights-of-way and from ongoing maintenance of the road shoulder or utility rights-of-way.

Remaining potential impacts are not considered significant because Williams has committed to avoiding this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-39: Avoid Bat Maternity Roost by Postponing Bridge Attachments. In conjunction with mitigation for nesting swallows (Mitigation Measure B-37: “Avoid Disturbance to Nesting Cliff Swallows”, described above) and before construction, a qualified wildlife biologist will conduct a survey of all bridge attachment sites to determine occupancy by maternity roosting special-status bats. If it is determined that special-status bats are roosting beneath bridge attachment sites, to avoid construction-related disturbance, construction will be postponed until the qualified wildlife biologist determines that the site is unoccupied; or, through consultation with local DFG staff, determines the most appropriate construction time and method.

Impact: Possible Disturbance of Other Special-Status Wildlife Species (Applicable to all project routes)

Several other special-status species potentially exist in the proposed project study area (**Appendix K-4**). Effects on these species from proposed project activities are expected to be less than significant and no additional mitigation measures are required for one or more of the following reasons:

- # the species, although potentially occurring in the proposed project study area, occupies habitat that will not be affected by proposed project activities;
- # the species occupies and is dispersed throughout a habitat type, such as annual grassland, that is abundant throughout the proposed project study area and the potential for a narrow, linear proposed project to affect local or regional populations is minimal;
- # habitat disturbance is temporary, and is expected to recover quickly within disturbed rights-of-way, such as roadsides, railroads, and maintained utility corridors;
- # actual acreage disturbed will be less than that occurring within the right-of-way because of other resource constraints that require localized rerouting or boring;
- # the rights-of-way are linear and narrow (3-foot excavation corridor and 40-foot maximum disturbance area); therefore, the disturbed area is spread across many miles of the proposed project study area, further minimizing the potential effects of temporary habitat disturbance and the potential for injury or mortality in any given area of the proposed project;
- # the fiber optic cable routes are already disturbed, relative to the surrounding landscape, from the original road or utility construction activity in the rights-of-way, and from ongoing maintenance of the

road shoulder or utility rights-of-way; the potential for nest sites within the right-of-way is therefore extremely limited;

- # preconstruction surveys and mitigation for other special-status burrowing animals, such as the San Joaquin kit fox, giant kangaroo rat, blunt-nosed leopard lizard, San Joaquin antelope squirrel, and desert tortoise, will be conducted in all suitable habitat for other ground dwelling special-status species potentially occupying the same habitat type, which will reduce the likelihood of inadvertent mortality during construction;
- # maintenance of the existing road, railroad, pipeline, or utility rights-of-way has prevented the establishment of significant shrub cover that will potentially be used for nesting by some special-status birds; therefore, the likelihood of inadvertent destruction of nests is reduced;
- # Williams has committed to not working in flowing sensitive streams, thereby avoiding or minimizing potential proposed project effects on aquatic species;
- # the species is widely dispersed and the potential for activities in a narrow, linear area to affect an individual is minimal;
- # although the species has a special-status designation, it is relatively common locally and a narrow, linear proposed project will be unlikely to have an effect on the local population;
- # the species occupies a forest or woodland habitat type that will not be directly affected by the proposed project because the habitat has previously been removed and a cleared corridor is maintained; or
- # the species is associated with a habitat type that will be protected through implementation of existing mitigation measures (e.g., riparian habitat).

Mitigation Measure. None required.

Impact: Temporary Construction Activities in Streams that Support Threatened, Endangered, and Special-Status Fish Species (Applicable to all project routes)

Special-status fish species have potential to occur on all project routes (**Appendix K-5**). The proposed project is not expected to adversely affect threatened, endangered, or special-status fish species. The proposed project is designed to avoid effects on aquatic species through the use of noninvasive construction methods (no work in flowing sensitive streams) that avoid direct effects on in-channel habitat, the use of best management practices to minimize the potential for transport of sediment to streams, and the use of measures to return the crossing sites to preconstruction conditions.

Threatened, endangered, or special-status fish occupy numerous drainages crossed by the project routes (**Appendix K-5**). Potential impacts on threatened, endangered, and special-status fish include potential temporary increases in sedimentation and turbidity, short-term loss of habitat, accidental seeps of bentonite from boring activities, and accidental spills of hazardous materials.

As designed, the proposed project construction will not require any in-water work in sensitive water bodies (i.e., supporting listed, proposed, or candidate aquatic species or critical habitats) and minimal removal of riparian vegetation, which minimizes the potential for sediment generation in streams and avoids direct

in-channel habitat effects on threatened and endangered fish species. The potential for short- and long-term sediment transport from upland sources to streams will be reduced to a less-than-significant level through implementation of the SWPPPs and reclamation plans prepared for specific project routes, which include measures to minimize sediment transport and measures to promote the recovery of construction areas to preconstruction conditions (see **Appendices E and H**, respectively, for a sample SWPPP and reclamation plan). The potential for accidental bentonite seeps and spills of hazardous materials will be minimized through implementation of the measures specified in the SWPPP.

This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages. Impacts on woody riparian vegetation will be avoided by boring underneath drainages that support this habitat type. A minimum 20-foot-wide setback will be established and staked by a resource specialists before construction activities. This buffer will extend between the edge of the woody riparian vegetation and construction equipment.

Woody riparian vegetation close to the project routes that could be indirectly or inadvertently affected by installation activities will be protected by installation of temporary fencing or staking and flagging of a minimum 20-foot-wide setback. Depending on site-specific conditions, this buffer may be narrower or wider than 20 feet, as determined by the field resource specialist. Identification and protection of woody riparian vegetation close to the work zone will include either flagging or fencing, depending on site-specific conditions.

Before construction activities are initiated on a route, the limits of the work zone will be identified by a qualified biologist. The environmental coordinator or contractor compliance inspector will routinely inspect construction activities to ensure that protective measures are working and that they remain in place during installation. The contract compliance inspector also will confirm that protective measures are in place before construction activities begin on the route. Protective fencing will remain in place until all construction activities in the area are complete.

In areas where boring is determined to be infeasible, the project environmental coordinator will coordinate the appropriate resource agencies to obtain clearance for cutting of woody riparian vegetation. These areas will be identified at least one month in advance of vegetation removal. The appropriate land management and resource agencies will be submitted a letter describing existing conditions on the site and photographs of the site. Verbal approval will be obtained prior to removal of any woody riparian vegetation.

Shrub vegetation will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration of the species. Cutting will be limited to a minimum area necessary within the 20-foot-wide cable right-of-way. This type of removal will be allowed only for shrub species (all trees will be avoided) and in areas that do not provide habitat for sensitive species (i.e., willow flycatcher). To protect migratory birds, no woody riparian vegetation removal will be allowed beginning March 15 and ending September 15, as required under the Migratory Bird Treaty Act.

Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities. The proposed project has been designed to avoid and minimize disturbance of woody riparian and perennial wetland communities because most projects occur within existing disturbed rights-of-way. However, if woody riparian vegetation and wetlands are substantially disturbed during construction, site conditions will be restored and some areas revegetated to ensure a no-net-loss of habitat functions and values.

Areas that will require revegetation will be determined by a qualified restoration ecologist in conjunction with the appropriate land management and resource agency specialists. A general revegetation plan for wetland and woody riparian communities will be developed and approved by the resource agencies prior to construction. The revegetation plan will include design specifications, an implementation plan, maintenance requirements, and a monitoring program. Revegetation will be implemented immediately following disturbance as is appropriate in substantially disturbed areas, or as is appropriate for the local site conditions. Monitoring for a specified time period will be conducted to document the degree of success in achieving the success criteria and to identify remedial actions that may be needed. Annual monitoring reports will be submitted to the appropriate resource agencies. The report will summarize the data collected during monitoring periods, describe how the habitats are progressing in terms of the success criteria (described below), and discuss any remedial actions performed.

Monitoring will be required in all substantially disturbed riparian and wetland communities. Resource specialists will document baseline conditions prior to construction in wetland and riparian areas. Data that may be gathered on each site to document baseline conditions and during the subsequent monitoring visits will include:

- # wetland delineation using DFG guidelines and the U.S. Army Corps of Engineers' (Corps') 1987 manual,
- # relative cover and types of plant species establishing in the installation corridor,
- # percent absolute vegetation cover,
- # general assessment of the wetland or riparian habitat in relation to the surrounding undisturbed area, and
- # noxious weed or erosion problems.

Success criteria will be determined through coordination with plant ecologists from land management and other resource agencies. A brief letter report summarizing the results of monitoring and recommending additional needed actions will be submitted to the appropriate land management and resource agencies.

This revegetation plan for riparian and wetland habitats will be considered successful when the following criteria are met:

- # The riparian and wetland habitats established are composed of a mix of species similar to that removed during cable installation.
- # At least 75 percent of the absolute cover of riparian and wetland vegetation immediately adjacent to the construction corridor.
- # Growth is achieved of riparian species that rate good or excellent vigor and growth based on a qualitative comparison of leaf turgor, stem caliber, leaf color, and foliage density in the planted sites with individuals of the same species in the adjacent riparian areas.
- # Annual or perennial nonwetland species that comprise less than 5 percent of preinstallation species composition or the composition of surrounding undisturbed wetland or riparian vegetation.
- # Plantings at each site (if needed) are self-sustaining without human support (e.g., weed control, rodent control, or irrigation).

Mitigation Measure F-1: Avoid In-Water Construction in All Flowing Streams That Support Sensitive Fish Species at or below the Crossing Location. To avoid impacts on listed fish species, Williams will not use in-water construction methods (plowing or trenching) to cross streams flowing at the time of construction and that support sensitive fish species at or downstream of the crossing location. At flowing sensitive stream crossings, Williams will install the cable by boring under the stream, attach the cable to an existing bridge, or install the cable under or over an existing culvert to avoid impacts to listed fish species.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The proposed project will not have a substantial adverse affect on any riparian habitat or other sensitive natural community because Williams has committed to avoiding this impact by adopting the following recommended mitigation measures into the construction mitigation strategy of the proposed project.

Impact: Possible Removal or Disturbance of Woody Riparian Vegetation (Applicable to all project routes)

Fiber optic cable installation activities could result in the removal or disturbance of woody riparian vegetation during the installation of the cable across drainages that cannot be directionally bored. The removal of woody riparian vegetation will be totally avoided in areas that provide habitat for special-status species.

Riparian habitats that provide important habitat for local and migratory wildlife and fish are considered sensitive resources and are of concern to federal and state agencies. Riparian communities also provide

potential habitat for special-status wildlife species, including willow flycatcher, yellow warbler, and salmon. For these reasons, Williams will avoid the removal of woody riparian vegetation to the fullest extent. This impact is considered less than significant because Williams has committed to avoid or minimize this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Disturbed during Construction Activities. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Disturbance of Sensitive Biological Resources from the Use of Staging Areas outside the Delineated Proposed Project Study Area and Not within Previously Paved or Graveled Areas (Applicable to all project routes)

The use of staging areas that are outside the proposed project study area and are not already paved or graveled could result in long-term damage to sensitive biological resources. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measure into the proposed construction mitigation strategy for the proposed project.

Mitigation Measure B-42: Survey Proposed Staging Areas before Construction and Implement Avoidance Measures, if Required. All staging areas will be evaluated to determine the presence or potential presence of sensitive biological resources, including waters of the United States, sensitive natural communities, and special-status species. If the surveys are conducted past the appropriate identification period for special-status species, a site evaluation will be conducted to determine if suitable habitat is present. If suitable habitat is located on the site, recommendations will be made for choosing a new location or avoiding the habitat on site (if feasible). The appropriate mitigation measures discussed for other biological resources in this document will also be implemented. Implementation of this mitigation measure will result in a less-than-significant impact.

c. *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?*

Impact: Possible Short-Term Disturbance of Waters of the United States (Including Wetland Communities) (Applicable to all project routes)

Fiber optic cable installation activities could result in direct disturbance of waters of the United States in California. The construction of new access roads associated with the regenerator/OP-AMP stations could also disrupt hydrologic conditions of wetlands adjacent to the roads. Many of the wetland communities and associated wildlife habitat in the existing rights-of-way (especially along roads and railroads) have been previously disturbed. Some of these wetland communities have successfully reestablished after previous construction activities and support similar wetland characteristics as adjacent, undisturbed wetlands.

Impacts on jurisdictional wetlands are considered short term and minimal because the disturbances are relatively short in duration and will not substantially alter wetland hydrologic functions, native soils and plant material will be replaced immediately after installation activities at the site, and natural landscape contours will be restored to preproject conditions. Additionally, Williams will implement measures during fiber optic cable installation to minimize disturbance of jurisdictional wetlands and to allow wetland vegetation to reestablish after construction activities are complete.

This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project. These measures focus on protecting wetland communities, reestablishing preproject site conditions to encourage a return of self-sustaining wetland communities, and ensuring no-net-loss of wetland acreage and habitat value.

Additional compensatory, restoration, or avoidance mitigation measures may be identified by regulatory agencies (e.g., Corps, Regional Water Quality Control Board [RWQCB], and DFG) as part of the permitting process. Williams has committed to implementing any additional measures as part of the project. Copies of these permits and any additional mitigation measures will be provided to the CPUC.

Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-43: Minimize Disturbance and Restore Other Waters of the United States to Preproject Conditions. Consistent with the Corps' Nationwide Permit No. 12 for utility line discharges, the area of waters of the United States that will be disturbed will be limited to the minimum area necessary to successfully install the fiber optic conduit and cable. The following measures will be implemented to minimize effects on and restore other waters of the United States and associated plant communities:

- # Stabilize exposed slopes and streambanks immediately on completion of installation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.
- # In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the proposed project engineers determine that more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products will be used.
- # Remove trees, shrubs, debris, or soils during construction that are inadvertently deposited below the ordinary high-water mark of drainages in a manner that minimizes disturbance of the drainage bed and bank.
- # Implement additional measures that may be required as part of the DFG, Corps, and RWQCB permits that will be obtained for each project route.

These measures will be incorporated into contract specifications and implemented by the construction contractor. Additionally, Williams will incorporate all permit conditions into construction specifications. The contract compliance inspectors and biologists will routinely inspect construction activities to verify that the above protective measures and permit conditions have been implemented.

Mitigation Measure B-44: Minimize Disturbance and Restore Jurisdictional Wetlands to Preproject Conditions. Williams will implement the following guidelines for reestablishing conditions conducive to natural site regeneration:

- # Avoid installation activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, will be used.
- # Where determined necessary by the resource specialists, geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) will be used in saturated conditions to minimize damage to the substrate and vegetation.
- # In wetlands that are trenched, the top 12 inches of topsoil from the excavated site with intact roots, rhizomes, and seed bank will be stockpiled (Corps' Nationwide Permit No.12 requires that topsoil be stockpiled and replaced). The topsoil and subsoil will be replaced immediately after construction activities are complete.
- # Recontour the ground surface to maintain preproject wetland hydrology.

Mitigation Measure B-45: Avoid and Protect Specified Jurisdictional Wetlands Adjacent to Construction Areas. In wetland areas, fiber optic cable installation activities will be limited to the rights-of-way. Protective barrier fencing or staking and flagging will be used in specified wetland areas to protect wetlands near the work zone. Wetlands will also be identified on the construction drawings. Resource personnel will assist in placing protective barriers around wetlands prior to any ground-disturbing activities.

Resource personnel will identify the specific location of protective barriers before cable and regenerator/OP-AMP station construction activities are initiated near specified jurisdictional wetlands. The

contract inspectors and resource specialists will routinely inspect protected areas to ensure that barriers remain in place and are effective. Protective barriers will remain in place until all construction activities are complete in areas near sensitive resources.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites because Williams has committed to avoid this impact by adopting the recommended mitigation measures as part of the construction mitigation strategy of the proposed project to avoid substantial adverse effects on these resources.

Impact: Possible Temporary Disturbances to Wildlife Movements (Applicable to all project routes)

Because the project routes are linear and cross large areas of wildlife habitat, construction activities could disrupt wildlife movements by temporarily fragmenting habitats and dissecting movement corridors. However, the following factors will ensure that the proposed project will result in less-than-significant impact on wildlife movement:

- # Because construction crews are expected to move quickly, cable installation activities will not occur in any one location for typically more than a day.
- # Only several work sites (based on the number of contractors) will be affected at any one time throughout the proposed project study area.
- # Reclamation efforts within the disturbance corridor will begin immediately and will involve reestablishing site conditions. This will involve grading to reestablish preconstruction contours, replacing topsoil in specified areas, and seeding with a sterile grass or native vegetation (as dictated by the individual project reclamation plans).

The following mitigation measures will further ensure that impacts on wildlife movements are less than significant.

Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-13: Avoid Disturbance to Special-Status Reptiles and Amphibians by Boring Under Streams or Constructing Barrier Fencing and Relocating Animals During Construction. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Wildlife Entrapment in Open Trenches (Applicable to all project routes)

Open trenches during construction could pose a threat to individual animals, particularly at night by entrapping or inadvertently resulting in injury to wildlife species. Several listed species, including desert tortoise, giant kangaroo rat, and blunt-nosed leopard lizard, could become entrapped in trenches. This impact

is considered less than significant because Williams has committed to avoiding this impact by adopting the following mitigation measure as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-46: Fill or Cover Open Trenches Daily. Any open trenches will be filled with earth material imported from an existing borrow site or covered with plywood or other material to prevent entrapment at the end of each work day. Both ends of any open trench will be sloped to form escape ramps before covering. If wildlife are found in the trench, they will be removed by a qualified permitted biological monitor before resumption of work in that trench segment. Williams will specify this requirement in the agreements with all construction contractors.

Impact: Possible Temporary Disturbance of Common Wildlife Species (Applicable to all project routes)

Proposed project activities could temporarily disturb habitat for many common wildlife species that exist along the project routes. Animals within these habitats could be temporarily displaced during cable installation, and animals in habitats adjacent to the project routes will be subjected to noise and other human disturbances. However, the following four factors minimize the potential for effects on common wildlife species to a less-than-significant level:

- # The major habitat types the proposed project will affect (i.e., annual grassland, agriculture, desert scrub, chaparral, etc.) are abundant in the proposed project study area.
- # The rights-of-way are linear and narrow (i.e., a 3-foot excavation corridor and 40-foot maximum disturbance corridor).
- # Activities related to the proposed project are temporary, and vegetation is expected to recover quickly, particularly within disturbed rights-of-way, such as roadsides, railroads, and maintained utility corridors;
- # Much of the proposed project study area is already disturbed, relative to the surrounding landscape, from the original construction activity and ongoing maintenance in the rights-of-way.

Because of the reasons stated above, the proposed project will result in a less-than-significant impact on common wildlife species. Additionally, Williams has adopted all of the mitigation measures for biological resources as part of the construction mitigation strategy of the proposed project (refer to Chapter 2 of this document).

Mitigation Measure. No further mitigation is required.

Impact: Possible Temporary Increases in Sedimentation and Turbidity Possibly Affecting Fish (Applicable to all project routes)

Impacts on fish or their habitat attributable to increased sedimentation and turbidity resulting from the proposed project are expected to be minimal. Increased sediment loading to streams from construction could affect fish health and feeding ability by increasing turbidity and could reduce the quality of spawning and rearing habitat through sedimentation. However, as part of its construction mitigation strategy, Williams has committed to avoiding work in perennial drainages or seasonal drainages that are flowing at the time of construction and support sensitive species by boring, bridge attachment, or installation over or under an existing culvert and will implement best management practices (included in the SWPPP [**Appendix E**]) to

minimize the transport of sediment from adjacent upland areas. These measures, which are described in Chapter 2, will greatly decrease the potential for temporary increases in stream sedimentation and turbidity. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following additional mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-43: Minimize Disturbance and Restore Other Waters of the United States to Preproject Conditions. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure F-1: Avoid in-Water Construction in All Flowing Streams That Support Sensitive Fish Species at or below the Crossing Location. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Short-Term Disturbance of Fish Habitat (Applicable to all project routes)

As designed, the proposed project will not require work in perennial drainages or seasonal drainages that are flowing at the time of construction and support sensitive species; therefore, the proposed project will have a minimal effect on in-channel fish habitat. Although the project routes are within existing rights-of-way and all woody riparian vegetation will be avoided to the fullest extent possible, some woody vegetation may be disturbed. This disturbance can affect fisheries resources by increasing the potential for erosion of the affected streambank and loss of stream cover. This impact is considered less than significant because no work will occur in flowing drainages with sensitive species, and very little riparian habitat will be disturbed in the rights-of-way. Williams has committed to avoiding this impact by adopting the following additional mitigation measures as part of the construction mitigation strategy of the proposed project.

Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure B-43: Minimize Disturbance and Restore Other Waters of the United States to Preproject Conditions. Refer to the discussion of this mitigation measure earlier in this section.

Mitigation Measure F-1: Avoid in-Water Construction in All Flowing Streams That Support Sensitive Fish Species at or below the Crossing Location. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Short-Term Degradation of Fish Habitat from Accidental Seepage of Bentonite into Streams (Applicable to all project routes)

Although very rare, directional boring can result in bentonite seeps to surface waters. This could occur if the bore intersected a fracture that opened to the surface and bentonite pressures were high enough to push the material to the surface. Bentonite is a non-toxic clay-based water mixture used to lubricate the boring mechanism. Although non-toxic, seeps of bentonite into streams can result in temporary increases in turbidity and sedimentation that could affect fish and their habitat. This possible impact is considered less than significant because Williams will strictly implement the spill prevention measures described in the SWPPP to avoid the potential for bentonite seeps to streams as part of its mitigation strategy, as described in Chapter 2 of this document.

Several measures are included in the SWPPP to avoid the potential for bentonite seeps, including requiring boring crews to strictly monitor drilling fluid pressures, requirements for no nighttime boring unless absolutely necessary (e.g., some large river crossings), retaining containment equipment on site, monitoring waters downstream of the crossing sites to identify any seeps quickly, immediately stopping work if a seep into a stream or other surface water is detected, immediately implementing containment measures, adhering to agency reporting requirements, and identifying responsible parties.

Additionally, Williams has committed to avoiding this impact by adopting the following additional mitigation measures as part of the construction mitigation strategy of the proposed project.

Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Impact: Possible Effects on Fish from Accidental Spills of Toxic Substances during Construction (Applicable to all project routes)

Hazardous materials associated with the proposed project will be limited to those substances typically associated with construction equipment, such as gasoline and diesel fuels, engine oil, and hydraulic fluids. An accidental spill of these substances could contaminate drainages and adversely affect fish or their habitat. This possible impact is considered less than significant because Williams will strictly adhere to the spill prevention measures described in the SWPPP (see Chapter 2 of this document). The SWPPP will be included in the documents for construction specifications. The contractor will follow the measures in the SWPPP to ensure that petroleum products are not discharged into drainages or bodies of water.

As described in the SWPPP and in Chapter 2, hazardous substances will be stored in staging areas located at least 150 feet from streams and other surface waters. Refueling and vehicle maintenance will be performed at least 150 feet from these receiving waters. Sedimentation fences, certified weed-free hay bales, sand bags, water bars, and baffles will be used as additional sources of protection for waters, ditches, and wetlands. Additionally, Williams has committed to avoiding this impact by adopting the following additional mitigation measures as part of the construction mitigation strategy of the proposed project.

Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas. Refer to the discussion of this mitigation measure earlier in this section.

Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction. Refer to the discussion of this mitigation measure earlier in this section.

Cumulative Impacts

Cumulative impacts of the proposed project on vegetation and wildlife are considered less than significant for the following reasons:

- # Most of the major habitat types the proposed project will affect are abundant in the proposed project study area.
- # The project routes are linear and narrow and construction will disturb a small amount of habitat relative to the amount of these habitats available locally and project-wide.
- # Activities related to the proposed project are temporary and vegetation is expected to recover quickly, particularly within disturbed rights-of-way, such as roadsides, railroads, and maintained utility corridors.
- # Regenerator/OP-AMP facilities, while resulting in a small amount of permanent habitat loss, are sited in areas that either do not support habitat (i.e., developed sites), support only ruderal vegetation, or support a common vegetation type, such as annual grassland.
- # Proposed project rights-of-way are already disturbed from original construction and ongoing maintenance activities of other utilities, roads, or railroads.
- # Mitigation measures have been designed and incorporated into the project design and construction approach to avoid or minimize effects on biological resources to less-than-significant levels.

Additionally, Williams has adopted all of the recommended biological mitigation measures in this document as part of the proposed project.

- # Much of the proposed project study area is relatively remote and the proposed project will be located primarily within already disturbed or developed rights-of-way.

Impacts on listed species will be avoided through implementation of the mitigation measures into the proposed project design specifications. Therefore, no cumulative impacts on listed species or their habitats are anticipated.

The cumulative impacts of the proposed project on fish or their habitats are expected to be minimal. No direct habitat loss or impairment of passage or migration will occur because as designed Williams will use noninvasive drainage crossing methods for flowing sensitive streams (i.e., crossings will not require in-water work or structures) and multiple crossings within individual drainages are minimized. Williams will implement measures to minimize the potential for long-term chronic erosion and stabilize site conditions and to minimize the potential for accidental spills of materials to surface waters to less-than-significant levels (refer to Chapter 2). Therefore, no cumulative impacts on fish populations or their habitats are anticipated.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
V. <u>CULTURAL RESOURCES</u> - Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	_____	_____√_____	_____	_____
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	_____	_____√_____	_____	_____
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	_____	_____√_____	_____	_____
d. Disturb any human remains, including those interred outside of formal cemeteries?	_____	_____√_____	_____	_____

Criteria for Determining Significance

According to CEQA, an impact is considered significant if it would disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group. In addition to significance criteria *V. a-d* in the environmental checklist, the CEQA Guidelines define a significant historical resource as a resource listed or eligible for listing on the California Register of Historical Resources (CRHR) or any resource included in a local register of historical resources as defined in Public Resources Code Section 5024.1(K), or that has been as identified as significant in a historical resources survey meeting the requirements of Public Resources Code 5024.1(g). A historical resource may be eligible for inclusion in the CRHR if it:

- # is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- # is associated with the lives of persons important in our past;
- # embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values;
- # has yielded, or may be likely to yield, information important in prehistory or history.

Any resource that has been determined eligible for inclusion in the National Register of Historic Places (NRHP) will be considered eligible for the CRHR. Finally, an archaeological site is considered significant if it meets the definition of a unique archaeological resource as defined in Public Resources Code Section 21084.1 and Section 15126.4 of the State CEQA Guidelines.

In addition, under federal regulations, a project has an effect on a historic property when the undertaking could alter the characteristics of the property that may qualify the property for inclusion in the NRHP, including alteration of location, setting, or use. An undertaking may be considered to have an adverse effect on a historic property when the effect may diminish the integrity of the property's location, design, setting,

materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

- # physical destruction or alteration of all or part of the property;
- # isolation of the property from or alteration of the property's setting when that character contributes to the property's qualifications for listing in the NRHP;
- # introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting;
- # neglect of a property resulting in its deterioration or destruction; or
- # transfer, lease, or sale of the property (36 CFR 800.9).

Impact Mechanisms

Disturbance of cultural resources from implementation of the proposed project could result in impacts on known cultural resources and on buried, unidentified archaeological sites. Cultural resources could potentially be affected during construction of the cable system through the following ground-disturbing activities:

- # grading or other site preparation,
- # blading or grading of existing access roads,
- # plowing or trenching,
- # temporary stockpiling of soil,
- # construction of associated facilities (including construction of new access roads) such as regenerator/OP-AMP stations,
- # digging bore pits or assist points, and
- # use of equipment staging areas.

In addition, the siting of regenerator/OP-AMP stations in proximity to historic resources could also cause impacts in circumstances where the setting of a historic resource contributes to why it is significant. In these cases, changes to the setting could cause an impact on a significant cultural resource.

Impact Assessment

- a. *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? or*
- b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

The following analysis for cultural resources identifies potential effects on cultural resources that could occur as a result of implementation of the proposed project and describes mitigation measures that will avoid or reduce impacts to less-than-significant levels. The cultural resources inventories for the project routes have been 90 percent completed and inventory reports are currently being prepared (**Appendix M**). Site-specific mitigation measures will be identified as part of the preparation of each cultural resources inventory report. Each cultural resource inventory report will also include a cultural resource monitoring plan.

Implementation of the mitigation measures listed below will result in the avoidance of significant impacts on potentially significant cultural resources in compliance with State CEQA Guidelines. No archaeological excavations, artifact analysis, or other specialized studies of cultural artifacts or deposits are proposed as this time based on the understanding that all cultural resource sites will be avoided through rerouting of the conduit and cable or boring under archeological/cultural resources and by siting the regenerator/OP-AMP stations on parcels that do not have cultural resources and not in proximity to potentially historic structures. In the unlikely event that potentially significant resources cannot be avoided through one of these measures, additional steps, such as test excavation to determine the significance of resource and data recovery should the resource prove to be significant, may be necessary. A mitigation measure has been included below, which will be followed if site avoidance proves infeasible.

Impact: Possible Long-Term Disturbance of Cultural Resource Sites (Applicable to all project routes)

Ground-disturbing activities, such as surface clearing, plowing, trenching, siting of regenerator/OP-AMP facilities and excavation of bore pits, could result in significant impacts on cultural resources. These activities could affect both surface and underground portions of cultural resource sites and potentially historic structures. This impact is considered less than significant because Williams has committed to avoid or minimize this impact by adopting the following mitigation measures as part of the construction strategy for the proposed project.

Mitigation Measure C-1: Develop and Implement Avoidance Procedures. Once the inventories are complete and all sites that could be affected by the project routes have been identified, the following process will be implemented to ensure that resources are avoided. The first step will be for the assigned project archaeologist and the project engineer to review the possible avoidance measures for each potentially significant cultural resource site to determine which avoidance method is appropriate. Depending on the characteristics of individual sites, effects will be avoided by rerouting the conduit around identified cultural resource sites or by boring beneath sites. When an avoidance measure is agreed on, these measure will be coordinated with the appropriate agency staff. When applicable, methods of avoiding impacts may also be determined in consultation with a lead federal agency and the California State Historic Preservation Officer in compliance with Section 106 of the National Historic Preservation Act. Avoidance measures for each potentially significant site will be outlined in the cultural resources inventory report for each project route. The cultural resources inventory reports will be reviewed and approved by the CPUC. The agreed on avoidance measure will be conveyed to the contractor by marking on the appropriate construction specifications. Where appropriate, field marking of sites or areas of exclusion zones may be undertaken.

Mitigation Measure C-2: Develop and Implement Cultural Resources Monitoring Plan. Where cultural resource monitoring is called for, Mitigation Measure C-1 should be implemented. For each project route, a separate mitigation monitoring plan will be developed. The monitoring plan will outline where and how qualified archaeologists will conduct archaeological monitoring. The plan will include a description of the locations of areas that will be monitored as well as the methods and procedures for archaeological monitoring areas selected for monitoring. The areas selected for monitoring will include these areas considered to be particularly sensitive for the presence of buried cultural resources. The monitoring plans will be included as

appendices for the cultural resources inventory reports for each route being reviewed and approved by the CPUC. The agreed on monitoring protocols will be conveyed to the contractor by marking on the areas to be monitored on the appropriate construction specifications. Where appropriate, field marking of sites or areas of exclusion zones may be undertaken. The role of the archaeological monitor and the process for monitoring will be conveyed to the contractor during preconstruction environmental training as outlined and required in the mitigation monitoring plan (**Appendix I**).

Mitigation Measure C-3: Conduct Test Excavation to Determine Resources Significance, and if Significant, Conduct Data Recovery Excavation. If avoidance of potentially significant resources proves to be infeasible, then the following mitigation measure will be implemented. A test excavation will be conducted to determine the significance of each resource that cannot be avoided. If the resource is found to be significant, then a data recovery excavation will be conducted. The data recovery will be directed by a data recovery plan, prepared for review and approval by the CPUC.

Impact: Possible Indirect Impact on Historic Structures from Siting of Regenerator/OP-AMP Sites
(Applicable to all project routes)

The siting of regenerator/OP-AMP stations in proximity to historic resources could cause impacts on significant or potentially significant historic resources because the regenerator/OP-AMP stations are historically or architecturally incompatible with the setting of a historic resource. Not all resources have settings that contribute to their significance; however, where a property's historic setting does contribute to the significance of a historic resource, the siting of regenerator/OP-AMP facilities in proximity to these resource could cause an impact on a significant cultural resource. This impact will be less than significant because the mitigation measure below will be implemented.

Mitigation Measure C-4: Site Regenerator/OP-AMP Facilities to Avoid Setting Impacts on Significant and Potentially Significant Resources. Regenerator/OP-AMP facilities will not be sited in proximity to potentially and significant historic resources where those resources are determined to have a historic setting that could be compromised.

Impact: Possible Long-Term Damage to Unidentified Buried Cultural Resource Sites from Ground-Disturbing Activities (Applicable to all project routes)

Buried cultural resources that were not identified during field surveys could be inadvertently unearthed during ground-disturbing activities, which could result in the demolition or substantial damage to significant cultural resources. This impact is considered less than significant because Williams has committed to avoid or minimize this impact by adopting the following mitigation measure as part of the construction strategy for the proposed project.

Mitigation Measure C-5: Stop Work If Cultural Resources Are Discovered during Ground-Disturbing Activities. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the CPUC, State Historic Preservation Officer, and other appropriate agencies. Implementation of this mitigation measure will result in avoidance of a substantial adverse change in the significance of historical or archaeological resources that could be inadvertently discovered during construction.

c. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Impact: Possible Disturbance to Paleontological Resources during Construction (Applicable to all project routes)

The proposed project includes ground-disturbing activities, such as grading and trench excavation, needed to install the fiber optic cable system. These ground-disturbing activities could inadvertently affect paleontological resources. This impact is considered less than significant because Williams has committed to avoid this impact by adopting the following mitigation measure as part of the construction mitigation strategy for the proposed project and because Williams will reroute to avoid or bore under known paleontological sites, as described in Chapter 2.

Mitigation Measure C-6: Retain a Qualified Paleontologist to Oversee Construction Activities and Prepare a Report. In known areas of high sensitivity for paleontological resources, full-time monitoring by a qualified paleontologist may be required, based on the construction method used (i.e., a paleontological monitor will be present 80 to 100 percent of the time during ground-disturbing activities in areas with high paleontological sensitivity). In areas of low sensitivity, spot checking may be required (i.e., a paleontological monitor will be present 0 to 20 percent of the time during ground-disturbing activities in areas with low paleontological sensitivity). In areas of no sensitivity, no monitoring will be required. The paleontologist will monitor ground-disturbing activities and salvage and catalogue fossils where necessary.

On routes where areas having high or medium sensitivity have been identified, the qualified paleontologist will be present at the preconstruction conference; will establish procedures for paleontological resource surveillance; and will establish, in cooperation with the contract compliance inspectors and environmental resource coordinator, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils.

The role of the paleontological monitor is to recover, analyze, process, catalog, curate, and document significant fossil remains. Paleontological monitors will be available and equipped to salvage fossils as they are unearthed to avoid construction delays and remove samples of sediments that are likely to contain the remains of small fossil vertebrates. Paleontological monitors will be able to temporarily halt or divert construction equipment to allow removal of large specimens. The qualified paleontologist, in cooperation with the contract compliance inspector and environmental resource coordinator, will determine appropriate actions to ensure proper exploration and salvage of encountered paleontologic resources (fossils).

If major paleontological resources or significant concentrations of fossils are encountered that require long-term halting or redirecting of construction or that cannot be collected during normal monitoring time, salvage operations must be initiated and completed as quickly as feasible at the direction of the qualified paleontologist and coordinated with the construction contractor. The environmental resource coordinator will be notified as soon as possible regarding any paleontologic salvage operation.

Implementation of this mitigation measure will result in the salvage of unique paleontological resources or sites and unique geologic features. A final paleontological report will be submitted to the CPUC on completion of construction on each project route where areas of high or low sensitivity have been identified. The report will include monitoring dates, methodologies, an itemized inventory of specimens and analysis of the significance of encountered fossils, curation of collected fossils to the point of identification, and accession of the fossils to a museum repository with a retrievable storage system. The final report and inventory, when submitted to the CPUC, signifies completion of the program to mitigate impacts on paleontologic resources.

d. *Disturb any human remains, including those interred outside of formal cemeteries?*

Impact: Possible Long-Term Damage to Previously Unidentified Human Remains on Federal or Nonfederal Land from Ground-Disturbing Activities (Applicable to all project routes)

It is not anticipated that the proposed project will affect known cemeteries or burials; however, buried human remains that were not identified during field surveys could be inadvertently unearthed during excavation activities, which could result in damage to these human remains. This impact is considered less than significant because Williams has committed to avoid or minimize this impact by adopting the following mitigation measure as part of the construction strategy for the proposed project.

Mitigation Measure C-7: Comply with State and Federal Laws Pertaining to the Discovery of Human Remains. If human remains of Native American origin are discovered during ground-disturbing activities on nonfederal lands, state laws relating to the disposition of Native American burials will apply. The Native American Heritage Commission (NAHC) will have jurisdiction (Pub. Res. Code Sec. 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- # the coroner of the county has been informed and has determined that no investigation of the cause of death is required,
- # if the coroner determines that the remains are of Native American origin, the coroner shall contact the NAHC within 24 hours, and
- # the NAHC shall identify the person or persons it believes are the most likely descendent of the deceased Native American.

The most likely descendent may make recommendations to the land owner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Pub. Res. Code Sec. 5097.98.

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (section 8100), and unauthorized disturbance of Native American cemeteries is a felony (section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission.

If human remains of Native American origin are discovered on federal land during ground-disturbing activities, compliance with the Native American Graves Protection and Repatriation Act (NAGPRA) regulations relating to discovery of human remains of Native American origin on federal land will be required.

NAGPRA specifies the procedures that agencies must follow when burials of Native American origin are found on federal land (43 CFR Part 10). The regulations implementing the requirements of NAGPRA relating to the inadvertent discovery of human remains of Native American origin are described in 43 CFR Part 10, Subpart B Section 10.4. These regulations include the following provisions, which will be implemented by Williams and by the federal agency with direct jurisdiction over the land if human remains are discovered during construction activities:

- # notify the county coroner or the sheriff;
- # notify, in writing, the responsible federal agency; and
- # cease activity in the area of discovery and protect the human remains.

On notification that human remains have been discovered on federal land, the responsible federal agency should:

- # certify receipt of the notification;
- # take steps to secure and protect the human remains;
- # notify the Indian tribe or tribes likely to be culturally affiliated with the discovered human remains within one working day; and
- # initiate consultation with the Indian tribe or tribes in accordance with regulations described in 43 CFR Part 10, Subpart B Section 10.5.

Implementation of this mitigation measure will result in avoidance of unauthorized disturbance of human remains.

Cumulative Impacts

With implementation of the identified measures, the proposed project will avoid impacts on cultural resources, will not cause a substantial adverse change in the significance of a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or unique geologic feature, or cause unauthorized disturbance of any human remains. No impacts on cultural resources (including historical resources, paleontological resources, and human remains) will result from implementation of the proposed project that will make a cumulative considerable contribution to a cumulative impact on cultural resources.

VI. GEOLOGY AND SOILS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VI. <u>GEOLOGY AND SOILS</u> - Would the proposed project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	_____	_____	_____√_____	_____
2. Strong seismic groundshaking?	_____	_____	_____√_____	_____
3. Seismic-related ground failure, including liquefaction?	_____	_____	_____√_____	_____
4. Landslides?	_____	_____	_____√_____	_____

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b. Result in substantial soil erosion or the loss of topsoil?	_____	_____	✓	_____
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	_____	_____	✓	_____
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	_____	_____	✓	_____
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of waste water?	_____	_____	_____	✓

Criteria for Determining Significance

The analysis of significance of impacts on geology and soils is based on professional judgment and on criteria VI. a-e in the environmental checklist. A project would also result in a significant impact if it would cause substantial accelerated soil erosion rates on site or off site.

Impact Mechanisms

Geology, seismicity, and soil impact mechanisms include initiation of shallow landslides by improper alignment of the cable route or improper installation of the cable and accelerated erosion caused by soil disturbance. However, Williams' engineering practices include designing a system that minimizes landslide or seismic risk because Williams does not want to risk damage to the cable or to the environment.

Impact Assessment

This section describes impacts and mitigation measures pertaining to geologic, seismic, and soil conditions along the project routes. Potential water quality impacts caused by erosion and resulting sedimentation are described in "Hydrology and Water Quality" and impacts on agricultural lands are described in "Agricultural Resources."

The environmental effects identified in this section were evaluated using general geologic (Jennings 1977), earthquake fault (Hart and Bryant 1997), and soil (Pacific Gas and Electric Company 1989) maps of the state and professional judgment.

- a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 1. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
 2. *Strong seismic groundshaking?*
 3. *Seismic-related ground failure, including liquefaction?*
 4. *Landslides?*

Impact: Possible Temporary Damage to the Cable System from Earthquake-Induced Strong Ground Shaking (Applicable to all project routes)

The project routes pass through areas that are subject to strong earthquake-induced ground shaking. Strong ground shaking from one of these faults will not expose people to potential adverse effects, but could damage the regenerator/OP-AMP structures located along some of the project routes. The impact is considered less than significant because the prefabricated structures will not be inhabited, the structures are certified by the manufacturer to meet necessary seismic design standards, and any damage will not affect humans or the environment.

Mitigation Measure. None required.

Impact: Possible Temporary Damage to the Cable System from Earthquake Fault Displacement (Applicable to all project routes)

Ground surface displacement of earthquake fault traces could damage the fiber optic cable system where the cable passes through faults. Although the fault movement could disrupt the operation of the cable system, there will be no physical impact on humans or the environment. This impact is considered less than significant because the cable system will be designed to allow the cable to accommodate earthquake fault offsets at the soil surface and because damage to the system will not have an adverse effect on humans or the environment.

Mitigation Measure. None required.

b. Result in substantial soil erosion or the loss of topsoil?

Impact: Possible Temporary Accelerated Erosion and Sedimentation from Soil Disturbance and Vegetation Removal (Applicable to all project routes)

Erosion is a natural process; however, accelerated erosion, which is the rate of erosion beyond that of natural erosion, generally occurs as a result of human activities. Soils along the project routes, many of which are already disturbed, vary widely with respect to their erosion hazard. Ground-disturbing activities, including removal of vegetation, can cause increased water runoff rates and concentrated flows and may cause accelerated erosion, with a consequent loss of soil productivity. The eroded material (i.e., sediment) could degrade the quality of receiving waters.

Williams is required to prepare and implement SWPPPs for all of the project routes, which will include mitigation measures to control accelerated erosion and sedimentation. Williams has already committed to these mitigation measures as part of the proposed project (refer to Chapter 2 for mitigation that has been incorporated into project design and **Appendix E** for a typical SWPPP). SWPPPs are required to be prepared for proposed projects that entail soil disturbance of 5 acres or more and are submitted to the applicable RWQCB for approval before proposed project commencement. Because the area of soil disturbance will be small within a given area, there will not be a significant opportunity for erosion to occur, except for those routes that are aligned on steep slopes. The erosion and sediment control measures, if properly prescribed, implemented, and maintained, are expected to reduce erosion rates during and after construction to near preconstruction rates. By implementing these SWPPP mitigation measures, this impact is considered less than significant.

Mitigation Measure. No further mitigation is required.

- c. *Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?*

Impact: Possible Temporary Damage to the Cable System from Earthquake-Induced Liquefaction
(Applicable to all project routes)

The project routes pass through a few areas that are subject to earthquake-induced liquefaction. Liquefaction and resulting differential ground settlement and lateral spreading could damage the cable system. The impact is considered less than significant because damage to the system will not have an adverse physical effect on humans or the environment.

Mitigation Measure. None required.

Impact: Possible Long-Term Slope Mass Failure (Applicable to all project routes)

Most of the project routes are located in gently sloping and stable terrain. However, in a few areas the installation will require excavation into steep slopes, some of which are subject to willow mass movement (i.e., landsliding). In such areas, runoff water from areas upslope of the trench could percolate into the trench, saturate the soil, and increase soil pore water pressures in a localized area. Such a condition could increase the potential for a willow mass movement.

The areas of existing and potential instability will be avoided to the extent practicable. A geotechnical analysis is being conducted by Williams in areas where a project route must pass through a potentially unstable area. The geotechnical analysis may recommend that the cable be rerouted or be bored or trenched beneath the failure plane of the unstable area and that manholes and handholes not be constructed. It is unlikely that people or structures will be located downslope of the increased mass movement hazard area. For these reasons, this impact is considered less than significant.

Mitigation Measure. None required.

- d. *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Impact: Potential Damage to the Cable System from Seasonal Soil Expansion and Contraction
(Applicable to all project routes)

Some of the project routes pass through areas of soils that are considered expansive by the Uniform Building Code and by the U.S. Natural Resources Conservation Service. If not properly engineered, seasonal soil expansion and contraction could damage the cable system. This impact is considered less than significant because proper engineering and construction techniques will eliminate this hazard and because any damage that does occur will not have an adverse physical effect on humans or the environment.

Mitigation Measure. None required.

- e. *Leave soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of waste water?*

No septic tanks or alternative wastewater disposal systems will be installed as part of the proposed project. No impacts will occur.

Cumulative Impacts

Development in California has the cumulative impact of bringing additional people into potential contact with geologic hazards. In some instances, such as where mass grading occurs, a project may directly contribute to increased landslide hazard or soil erosion.

The proposed project consists of the installation of fiber optic conduit and cable through plowing and trenching, subsurface boring, and whenever possible within existing ducts and idle pipelines. As described above, the proposed project will not expose persons to substantial risk of loss, injury, or death relative to geologic hazards; result in substantial soil erosion; potentially result in landslides or other mass movement; create substantial risks due to expansive soils; or produce wastewater from septic tanks, sewers, or other disposal facilities. The contribution of the proposed project to the cumulative impact is less than considerable.

VII. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS -				
Would the proposed project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	_____	_____	_____√_____	_____
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	_____	_____√_____	_____	_____
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	_____	_____	_____√_____	_____
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	_____	_____√_____	_____	_____
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the proposed project area?	_____	_____	_____	_____√_____
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the proposed project area?	_____	_____	_____	_____√_____
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	_____	_____	_____√_____	_____

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
h. Expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	_____	_____	✓	_____

Criteria for Determining Significance

The analysis of significance of impacts related to hazards and hazardous materials is based on criteria VII. a-h in the environmental checklist and on the following factors:

- # potential hazards and/or hazardous materials encountered during trenching or any subsurface excavation and
- # proper disposal of hazardous materials encountered during trenching or any subsurface excavation.

Impact Mechanisms

Potential impacts associated with the proposed project could include:

- # potential exposure to existing contaminated soils, contaminated groundwater, abandoned underground storage tanks and piping and contaminated material from existing undocumented dumping and landfilling;
- # potential exposure to, and releases of, hazardous materials such as oils, grease, lubricants, and solvents used during normal construction operations; and
- # potential risk of upset to the public or the environment.

Impact Assessment

- a. *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? or*
- b. *Would the proposed project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials?*

Impact: Possible Temporary Exposure to or Release of Hazardous Materials during Construction (Applicable to all project routes)

The proposed project will not require long-term storage, treatment, disposal, or transport of hazardous materials; however, small quantities of hazardous materials will be stored, used, and handled during construction. The hazardous materials anticipated to be used are small volumes of petroleum hydrocarbons and their derivatives (e.g., gasoline, oils, lubricants, solvents) required to operate the construction equipment. These materials may be released in accidental spills.

This impact is considered less than significant because a SWPPP is being prepared for each project route as described in Chapter 2, which includes methods to protect water quality in response to emergency spills. Additionally, Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Subsurface hazardous materials may be encountered during construction. A regulatory database search is being conducted for each project route to identify known contaminated sites so that they can be avoided. The results of the database search are being used by Williams to avoid known contaminated sites. However, during construction, the construction team may encounter unexpected materials that may be considered hazardous waste once they are exposed. Procedures of proper handling and disposal are established by federal, state, and local regulations. Williams' contractors will be trained in the handling of such materials prior to construction.

A transaction screen and/or Phase I environmental site assessment is being conducted by Williams for each regenerator/OP-AMP station. Williams will not locate regenerator/OP-AMP stations on known contaminated sites.

Mitigation Measure H-1: Ensure Proper Labeling, Storage, Handling, and Use of Hazardous Materials. The construction contractor will ensure proper labeling, storage, handling, and use of hazardous materials in accordance with best management practices and the Occupational Safety and Health Administration's HAZWOPER requirements. The construction contractor will ensure that employees are properly trained in the use and handling of these materials and that each material is accompanied by a material safety data sheet. Additionally, any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.

To avoid unexpected releases of hazardous materials, the construction contractor team will include individuals trained in accordance with the Occupational Safety and Health Administration's HAZWOPER requirements. Additionally, the construction team will have a written plan outlining how to respond if hazardous materials are unexpectedly encountered. The plan will specify identification, handling, reporting, and disposal of hazardous materials. All hazardous waste materials removed during construction, to the extent necessary to ensure the area can be safely traversed, will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility. Williams will require in its contracts that contractors meet federal, state, and local requirements.

c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No hazardous emissions will be generated by the proposed project. No hazardous emissions or acutely hazardous materials, substances, or waste, will be handled within one-quarter of a mile of an existing or proposed school. The construction contractor will not locate a staging area near an existing or proposed school.

All institutional controls governing the storage, transportation, use, handling, and disposal of hazardous materials will be followed by project personnel during construction of the project.

- d. *Would the proposed project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Impact: Possible Exposure of the Public or Environment to Hazardous Materials Sites (Applicable to all project routes)

As noted above, a regulatory database search is currently being conducted to locate areas along the project routes that may be viewed as potential areas of hazardous materials contamination or locations where it is permitted to perform various hazardous waste activities.

State and federal laws regulate the manner in which contamination and hazardous conditions are investigated and remediated. Contaminated sites can be expected along some of the project routes, particularly in highly urbanized areas, such as San Francisco to Santa Clara and Los Angeles to Anaheim routes. The U.S. Environmental Protection Agency and California Environmental Protection Agency maintain databases listing known contaminated sites. The databases include information on leaking underground storage tanks; hazardous waste generators; treatment, storage, and disposal facilities; sites known to have contaminated groundwater; and sites currently undergoing remediation or corrective action. A search of these locations is currently being performed for all the project routes. Coordination with waste disposal activities with local regulatory agencies will be needed along the project routes. This impact is considered less than significant because all listed hazardous materials sites will be identified prior to construction and avoided through reroutes or by siting regenerator/OP-AMP stations to another location, as described in Chapter 2.

Mitigation Measure: No further mitigation is required.

- e. *Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the proposed project area?*

As discussed in Chapter 2, the proposed project involves the installation of fiber optic cable and conduit into existing idle pipelines, underground, or along existing power lines. There will be no resultant structures that will impair airport operations or endanger other land uses. Any helicopter operations will be undertaken in accordance with Federal Air Administration safety and flight regulations. As a result, the proposed project will have no impact.

- f. *Be located in the vicinity of a private airstrip, and result in a safety hazard for people residing or working in the proposed project area?*

As discussed above, the proposed project will not result in a safety hazard for people working or residing in the surrounding area. No trenches or holes will be left open overnight, and no equipment or construction materials will be left accessible to the public once construction activities cease for the day.

- g. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Impact: Possible Temporary Limited Emergency Access (Applicable to all project routes)

The proposed project will involve the operation of heavy machinery. Emergency response times may be affected in areas where the proposed routes are adjacent to or within road rights-of-way. Emergency access will be regulated as a condition of road encroachment permits by the applicable regulatory agency. Also, as discussed in Chapter 2, Williams has adopted a traffic control plan as part of the construction mitigation strategy of the proposed project to further reduce impacts on traffic and emergency response vehicles and programs to less-than-significant levels.

Mitigation Measure. No further mitigation is required.

h. Expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Impact: Possible Temporary Exposure of People or Structures to Wildland Fires (Applicable to all project routes)

The proposed project will not expose people or structures to a significant risk of loss, injury, or death attributable to wildland fires. This impact is considered less than significant because Williams will prepare and implement a fire prevention and management plan for those proposed routes with fire danger potential (see Chapter 2 and **Appendix J** for a sample fire plan).

Mitigation Measure. No further mitigation is required.

Cumulative Impacts

The proposed project is not expected to make a considerable contribution toward hazard or hazardous materials impacts. Contaminated soils or other materials may be unexpectedly encountered along some of the project routes and will require appropriate handling and disposal by a licensed contractor. Because the characteristics and the volume of hazardous materials that could be unexpectedly encountered during construction cannot be determined, the possible cumulative impact is only speculative. Some materials encountered along the project routes may be recyclable, which will reduce any possible impact on hazardous waste disposal/landfill capacity to a less-than-significant level. The cumulative impact of disposal of contaminated materials unexpectedly encountered along the project routes is considered a less-than-significant impact because of regulatory safeguards that limit exposure and require controlled handling and disposal.

VIII. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY - Would the proposed project:				
a. Violate any water quality standards or waste discharge requirements?	_____	_____√_____	_____	_____
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing	_____	_____√_____	_____	_____

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	_____	_____√_____	_____	_____
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	_____	_____√_____	_____	_____
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	_____	_____	_____	_____√_____
f. Otherwise substantially degrade water quality?	_____	_____	_____	_____√_____
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	_____	_____	_____	_____√_____
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	_____	_____√_____	_____	_____
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	_____	_____	_____	_____√_____
j. Contribute to inundation by seiche, tsunami, or mudflow?	_____	_____	_____	_____√_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria *a-j* in the environmental checklist. Additionally, the potential for significant impacts on hydrologic conditions and water quality from construction activities was evaluated based on the intensity, duration, and timing of the various disturbances of aquatic and riparian resources. State and federal agencies implement policies aimed at managing these three factors and keeping the risk of water quality degradation within safe levels to protect human and aquatic life. With the evolution of ecosystem management, not only the magnitude of each factor is important but also the processes that it affects.

The intensity of an impact relates not only to its location and areal extent but also to “typical mean and extreme values observed in the ecosystem”. State water quality standards (WQSs) set criteria for parameters with these ranges of values in mind to represent threshold values over (or under) which the exceedance may become significant. In addition to WQSs, aquatic and riparian habitat parameters, such as spawning area and recruitment of woody debris, have baseline conditions that need to be maintained. In all cases, the location and magnitude of an impact influence whether a parameter will be significantly affected.

Agencies may issue a variance, recognizing that certain exceedances of standards are permissible for periods of limited duration.

The timing of water quality impacts is important because it can affect whether reproductive and migratory cycles of aquatic biota or other seasonal beneficial uses are affected. State resource agencies have established preferred construction windows (if in-water work is needed) to minimize the potential impacts of in-water construction on the reproductive and migratory cycles of aquatic organisms, particularly anadromous salmonids.

Impact Mechanisms

Potential construction-related impact mechanisms for water quality include the following:

- # Conduit and cable installation and associated soil disturbance could cause road embankment or channel bed and bank erosion (the latter on dry stream crossings only). Construction equipment can compact soils, leading to accelerated runoff and concentration in localized areas prone to sheet erosion and gullyng. Disturbing ditch lines, which function as extensions of the stream network, also could result in fine sediment deposition into natural stream courses.
- # Removal of riparian vegetation can weaken streambank structure and increase its susceptibility to erosion. Disturbance to the geomorphic characteristics and stability of the channel bed and banks may initiate long-term readjustments (chronic erosion) in self-formed alluvial channels.
- # Hazardous materials associated with the proposed project will be limited to those substances associated with construction equipment, such as gasoline and diesel fuels, engine oil, and hydraulic fluids. An accidental spill of these substances could contaminate drainages, soils, wetlands, and other environmentally sensitive areas.
- # Use of guided boring equipment could result in an accidental bentonite spill into, or adjacent to, stream channels. Bentonite is a non-toxic drill lubricant made from a clay/water mixture.

There will be no operation- or maintenance-related impact mechanisms.

Impact Assessment

Operation and maintenance activities of the proposed project are expected to be minor because access points would already exist and substantial land or vegetation disturbance activities will not be required. Operation and maintenance activities will follow the same guidelines and restrictions as construction activities; therefore, no effects on hydrology and water quality are anticipated.

a. Violate any water quality standards or waste discharge requirements?

Impact: Possible Temporary Transport of Sediment to Waterbodies (Applicable to all project routes)

Proposed project construction will not require in-water work in drainages supporting sensitive resources (i.e., streams that support sensitive fish, amphibians, or other riparian and water-dependent species or waters that are water quality impaired by sediments). At stream crossings that are flowing at the time of construction, Williams will either attach the conduit to an existing bridge, install the conduit over or under existing culverts, or bore under the stream. Williams may install fiber optic cable across drainages by trenching if the stream is dry during construction or through small flowing streams that do not support sensitive resources.

There is potential for surface runoff to transport upland sidecast trench spoils into streams, which could result in temporary increases in turbidity and sedimentation in watercourses downstream of the project routes. Temporary increases in turbidity or sedimentation could be adverse if the rate of sediment generation exceeds the rate of sediment transport in a stream, a frequent occurrence during wet weather. Excessive sediment in the water column (increased turbidity) can interfere with fish feeding behavior and with photosynthesis in aquatic flora. Sediment deposition on the channel bed can displace aquatic fauna and prevent adequate water circulation through fish eggs in spawning redds. Trench spoils generated during construction will be stored on the project route for a short time (generally less than one day). To minimize the exposure of sediments to runoff, Williams will make best efforts to ensure that all trenches are backfilled at the end of each work day. Where backfilling the trench is not feasible, proper erosion control features will be established to eliminate or minimize exposure of sediments to runoff. Williams will also implement the erosion control measures identified in a SWPPP to be prepared for each project route, as necessary, to minimize transport of sediment to streams.

This impact is considered less than significant because Williams will not, as part of project design, perform in-water work in sensitive drainages, will isolate flow from construction areas in nonsensitive streams, will use aggressive construction best management practices to minimize sediment transport to streams from upland, will compact and regrade affected areas to match adjacent natural areas, and will seed and mulch or allow natural revegetation at constructed sites, as described in Chapter 2. Williams has also adopted additional mitigation measures B-8, “Establish and Observe Exclusion Zones around Riparian and Wetland Habitats that Support Special-Status Species”; B-4: “Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas”; and B-5: “Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction” (described in the “Biological Resources” section) as part of the construction mitigation strategy for the proposed project.

The SWPPP (**Appendix E**) will include measures to minimize erosion and sediment transport to streams and will identify best management practices (e.g., water diversion and sediment containment devices, protection of trench spoils, installation of water bars), site restoration, postconstruction monitoring of the effectiveness of best management practices, contingency measures, contractor responsibilities, responsible parties, and agency contacts. Erosion control measures include storing trench spoils out of the stream or ditch corridor (above ordinary high-water mark) and protecting receiving waters from these erosion source areas with sedimentation fences or other effective sediment control devices. Possible subsurface soil erosion of the trench backfill material will be controlled by using trench plugs. Additionally, stream channels may be protected from surface runoff along the project routes with sedimentation fences or other sediment control devices placed in roadside drainage ditches downstream of construction. Trench spoils will be backfilled into the trenches at the end of each work day to minimize sediment exposure to runoff. The surface of the project routes will be restored (to a condition appropriate for the location) within seven days of cable installation.

Mitigation Measure. No further mitigation is required.

Impact: Possible Temporary Disruption of Bed and Bank Sediments in Channels during Conduit and Cable Installation (Applicable to all project routes)

Trenching across dry drainages or small nonsensitive flowing drainages to install conduit and cable could cause disruption of the bed and bank sediments. This sediment disruption could result in some suspension of sediment in the water column and a corresponding increase in turbidity and sedimentation downstream during subsequent precipitation events that contribute flow to the channel.

As described in Chapter 2, Williams will use noninvasive construction methods that mitigate significant impacts on water quality at flowing sensitive stream crossings. Conduit and cable installation at these

crossings will be limited to boring under sensitive streams, installation of conduit and cable over or under existing culverts, or attaching the conduit to an existing bridge. Possible impacts of installation of conduit at sensitive stream crossings is considered less than significant because Williams will use noninvasive construction methods as part of project design that do not disturb the beds or banks of streams.

Also as noted in Chapter 2, Williams could install conduit and cable in streams that are dry at the time of construction or in small, nonsensitive flowing streams by plowing or trenching. Although these methods do disturb the bed and banks of streams, the possible impacts of these crossings to water quality are not considered significant because flows, if present, will be small, the drainages will not support resources that are considered sensitive, and if temporary, localized elevations in turbidity should occur or are anticipated, construction best management practices will be implemented. On completion of construction, the site will be restored. Any alterations to the beds and banks will be covered in the DFG streambed alteration agreements.

The possible impacts of installing conduit and cable through dry drainages are considered less than significant because Williams will use construction best management practices and will prepare and implement a SWPPP, which will include regrading and compacting backfilled drainages and trenches to match natural, adjacent site conditions as part of the construction mitigation strategy of the proposed project.

Mitigation Measure. No further mitigation is required.

Impact: Possible Long-Term In-Channel Erosion and Deposition from Decreased Channel Stability

Removing riparian vegetation along drainages could weaken streambank structure and increase susceptibility to erosion. Disturbing the geomorphic characteristics and stability of the channel bed and banks may initiate long-term readjustments (chronic erosion) in self-formed, alluvial channels.

A significant impact could occur if large amounts of riparian vegetation were removed, if the channel bed and banks on several crossings of one channel or within one watershed were disturbed, or if sensitive crossing sites that have been disturbed mechanically were further disturbed by high-flow events before they are stabilized. However, this impact is considered less than significant because the project routes are within existing disturbed rights-of-way that generally do not contain riparian vegetation (except where some vegetation has encroached on the rights-of-way) and Williams will use, as part of the project design, noninvasive construction methods at flowing sensitive streams. Additionally, Williams has adopted mitigation measure B-8, "Establish and Observe Exclusion Zones around Riparian and Wetland Habitats that Support Special-Status Species" (described in the "Biological Resources" section) as part of the construction mitigation strategy for the proposed project.

Mitigation Measure. No further mitigation is required.

Impact: Possible Temporary Degraded Water Quality from Accidental Spills of Hazardous Materials during Construction (Applicable to all project routes)

Hazardous materials associated with the proposed project will be limited to those substances associated with construction equipment, such as gasoline and diesel fuels, engine oil, and hydraulic fluids. Accidental spills of these substances could contaminate drainages, soils, wetlands, and other environmentally sensitive areas.

This impact is considered less than significant because Williams will prepare and implement a SWPPP (see Chapter 2 and **Appendix E**), including spill prevention measures, that will be strictly implemented as part of

the construction mitigation strategy for the proposed project. The contractor will follow the SWPPP and perform measures to ensure that petroleum products are not discharged into drainages or bodies of water. The plan will address measures to minimize the potential for bentonite seeps. Elements of the plan include a description of potentially hazardous and nonhazardous materials that could be spilled accidentally during construction (fuels, equipment lubricant, human waste and chemical toilets, and bentonite); potential spill sources, potential spill causes, proper storage and transport methods, spill containment, spill recovery, agency notification, and responsible parties.

As described in the SWPPP, hazardous substances will be stored in staging areas located at least 150 feet from streams and other surface waters. Refueling and vehicle maintenance will be performed at least 150 feet from these receiving waters. Sedimentation fences, certified weed-free straw bales, sand bags, berms, and baffles will be used as additional sources of protection for waters, ditches, and wetlands.

Mitigation Measure. No further mitigation is required.

Impact: Possible Temporary Water Quality Degradation and Siltation from Accidental Seepage of Bentonite into Streams (Applicable to all project routes)

As mitigation built into the construction approach, Williams will install cable and conduit under sensitive flowing streams by boring under the streams, installing the conduit under or over existing culverts, or attaching the conduit to existing bridges (see Chapter 2). During the boring operation, bentonite is used to lubricate the bore and help remove cuttings from the borehole. Although unlikely, the bentonite mixture can seep to the surface within a stream channel. Seepage could happen if bores encounter fractures in the underlying rock, and bentonite pressures are great enough to allow the material to surface.

This impact is considered less than significant because Williams will strictly implement the SWPPPs developed for each of the proposed routes to minimize the potential for bentonite seeps to streams (see Chapter 2 and **Appendix E**).

Several measures are included in the SWPPPs to minimize the potential for bentonite seeps, including requiring boring crews to strictly monitor drilling fluid pressures, retaining containment equipment on site, monitoring waters downstream of the crossing sites to identify any seeps quickly, immediately stopping work if a seep into a stream is detected, immediately implementing containment measures, adhering to agency reporting requirements, and identifying responsible parties.

To ensure that the impacts from any accidental seepage of bentonite into streams is further reduced to a less-than-significant level, Williams has adopted the mitigation measures B-4: “Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas” and B-5: “Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction” (described in the “Biological Resources” section) as part of the construction mitigation strategy for the proposed project.

Mitigation Measure. No further mitigation is required.

- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?*

The proposed project consists of the installation of cable and conduit through a variety of means. Depth of the cable typically will not exceed 48 inches, except under special circumstances such as boring under rivers or when the cable and conduit are inserted in an idle pipeline and the pipeline is greater than 48 inches deep. It will have no impact on ground water supplies or interfere with groundwater recharge because the proposed project has been designed to avoid this impact.

- c. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?*

The proposed project has been designed so no in-water work in sensitive water bodies (i.e., waterbodies supporting critical habitat or listed or proposed species) will occur during the construction of this proposed project. The proposed project will not alter existing drainage patterns through the alteration of a stream or river course or of upland areas, as the rights-of-way will be regarded to preconstruction contours. In all cases, the conduit will either be installed on a bridge or other existing river or stream crossing or will be bored under flowing water courses. No impact will occur because the proposed project has been designed to avoid this impact.

- d. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?*

The proposed project has been designed so no in-water work in sensitive water bodies (i.e., waterbodies supporting critical habitat or listed or proposed species) will occur during the construction of this proposed project. The proposed project will not alter existing drainage patterns through the alteration of a stream or river course. In all cases, the conduit will either be installed on a bridge or other existing river or stream crossing or bored under flowing water courses. No impact will occur because the proposed project has been designed to avoid this impact.

- e. *Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

The proposed project will not create or contribute runoff water to drainage systems.

- f. *Otherwise substantially degrade water quality?*

The proposed project will not create or contribute runoff water to drainage systems.

- g. *Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

The proposed project does not include the construction or placement of housing within floodplains.

- h. *Place within a 100-year flood hazard area structures that would impede or redirect flood flows?*

Impact: Possible Increased Flood Hazards from Possible Placement of Regenerator/OP-AMP Stations within the Floodplain (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border,

San Francisco to Santa Clara, San Luis Obispo to Bakersfield, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

The Federal Emergency Management Agency's flood insurance rate maps show that the project routes cross numerous 100-year floodplains. Uses within floodplains are locally regulated on the basis of these maps.

The effect of proposed project activities (cable installation and regenerator/OP-AMP station construction) on flood capacity was evaluated. Conduit and cable installation will not affect floodplain capacity because the fiber optic cable will be installed approximately 4 feet below the ground surface.

Construction-related effects on floodplains will be minimized by avoiding in-water trenching in sensitive streams to install the conduit and cable, and by minimizing construction of regenerator/OP-AMP stations within 100 year floodplains to only that which is absolutely necessary.

All efforts will be made to avoid placing regenerator/OP-AMP stations in floodplains. However, if avoidance is not possible, prior to placing any regenerator/OP-AMP station within a mapped 100-year floodplain, local ordinances will require Williams to obtain necessary land use permits from the applicable city or county and will comply with all conditions of approval for construction within the floodplain. Therefore, potential floodplain-related impacts are considered less than significant.

Mitigation Measure. None required.

- i. *Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?*

The proposed project will not affect any surface water flows nor increase the risk of flooding.

- j. *Contribute to inundation by seiche, tsunami, or mudflow?*

The proposed project will not affect the potential for inundation by seiche, tsunami, or mudflow.

Cumulative Impacts

The cumulative effect of a temporary, small increase in sediment load will be minimal. Because the direct and residual effects of trench spoils erosion will be minor, no cumulative impacts will be expected. Successful spill prevention will result in no cumulative impacts.

Regarding flood hazards, if construction is necessary within a 100-year floodplain, the proposed project will be required to obtain applicable local permits. This will result in no contribution to a cumulative impact because the local permit system, in accordance with flood insurance rates set by the Federal Emergency Management Agency, is designed to avoid development that would cumulatively result in flood hazard.

IX. LAND USE AND PLANNING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
IX. LAND USE AND PLANNING - Would the proposed project:				
a. Physically divide an established community?	_____	_____	_____	_____√_____
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	_____	_____√_____	_____	_____
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	_____	_____√_____	_____	_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria *a-c* in the environmental checklist and on the following factors:

- # substantial changes to land uses along the cable right-of-way,
- # incompatibility with long-term uses on adjacent properties, or
- # conflict with applicable land use plans.

Impact Mechanisms

All cities and counties within California are required to adopt a general plan establishing goals and policies for their future development. In order to implement their plans, local jurisdictions adopt zoning, subdivision, grading, and other ordinances. A proposed project may have an impact on the local general plan by proposing actions that would conflict with planning goals, policies, or regulations adopted to avoid or minimize environmental impacts. A proposed project may disrupt land use patterns by physically dividing a community (e.g., freeway construction).

Impact Assessment

a. Physically divide an established community?

The proposed project consists of the installation of fiber optic cable within existing, disturbed rights-of-way and construction of related small facilities (i.e., regenerator/OP-AMP stations) within and adjacent to existing rights-of-way. Regenerator/OP-AMP stations will be located along the project routes at approximately 40-mile intervals and will be sited within existing developed/industrial areas or utility facilities whenever possible. The typical building footprint of a regenerator/OP-AMP station will be a pad measuring approximately 30 by 97 feet. Williams estimates that three to eight precast concrete buildings will be installed. Site security will be achieved by placing the stations within 150- by 275-foot fenced areas. As in the design mitigation discussed in Chapter 2, the stations will be located on sites not supporting sensitive biological or cultural resources. Conduit will be installed either underground or attached to existing bridges. The system will not create any structures or other features large enough or intrusive enough to divide an established community.

- b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? or
- c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

Impact: Possible Conflict with Local Land Use Plans (Applicable to all project routes)

CEQA evaluates physical changes in the environment that may result from the implementation of a proposed project and whether those changes are significant (State CEQA Guidelines Section 15378). The proposed project may conflict with local land use plans and regulations adopted for the purpose of avoiding and mitigating an environmental effect. Pursuant to Section 15064(h) of the State CEQA Guidelines, this impact will be less than significant as long as the proposed project complies with these standards. Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure LU-1: Obtain and Comply with Local Zoning Permits. Williams will obtain necessary local zoning permits prior to construction of facilities and will comply with the applicable conditions of approval.

Cumulative Impacts

The proposed project will not result in the physical division of a community nor will it leave evidence of its existence other than approximately 20-25 regenerator/OP-AMP stations statewide. Further, any necessary discretionary permits will be obtained from state and federal agencies relative to habitat conservation plans, thereby ensuring compliance with such plans, and from local agencies relative to zoning regulations. The proposed project will make a *de minimis* contribution to any cumulative effect.

X. MINERAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
X. MINERAL RESOURCES - Would the proposed project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	_____	_____	_____√_____	_____
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	_____	_____	_____√_____	_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on professional judgment and on criteria X, a and b in the environmental checklist.

Impact Mechanisms

Proposed projects with the potential for limiting the availability of mineral resources are those that would build over the resources; place sensitive uses such as housing or schools adjacent to surface mines or other resource recovery activities, thereby restricting their operations; or shut off access to the resource.

Impact Assessment

- a. *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? and*
- b. *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

Impact: Possible Conflict with Future Mineral Exploration and Access to Resource Sites (Applicable to all project routes)

The project routes are located within existing rights-of-way (i.e., railroads, pipelines, roads, utilities), which limits their availability for surface mining. With the exception of the McGarvey site in Kern County, all of the regenerator/OP-AMP station sites are located on private property outside of rights-of-way; therefore, they will have a greater potential for mineral resource recovery. Three regenerator/OP-AMP stations (Auburn and Blue Canyon in Placer County and Pomona in Los Angeles County) will be installed in areas classified as MRZ-3.

Locating regenerator/OP-AMP stations within areas of possible mineral deposits could limit future access to those sites. However, because the affected area is small, totaling approximately 3 acres for the system, and located at three separate sites, this impact is considered less than significant.

Mitigation Measure. None required.

Cumulative Impacts

The proposed project will make only a *de minimis* contribution to any cumulative impact on mineral resources. The installation of conduit and cable in existing rights-of-way will not affect the prior ability to access mineral resources within the rights-of-way. The limited number of regenerator/OP-AMP stations that will be installed and Williams’ preference to build them at existing substations and keep them out of 100-year floodplains greatly limits the potential that any such station would interfere with an existing or future mineral resource recovery operation.

XI. NOISE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XI. NOISE - Would the proposed project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	_____	_____√_____	_____	_____

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	_____	_____	✓	_____
c. Result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?	_____	✓	_____	_____
d. Result in a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?	_____	✓	_____	_____
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the proposed project area to excessive noise levels?	_____	_____	_____	✓
f. Be located in the vicinity of a private airstrip and expose people residing or working in the proposed project area to excessive noise levels?	_____	_____	_____	✓

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria *XI. a-f* in the environmental checklist. Additionally, city and county governments typically use noise elements, which are part of the general plan, to evaluate long-term noise-related land use compatibility for development of an area, and noise ordinances to regulate noise from specific noise sources such as unmuffled automobiles, music and parties, industrial activities, and construction. Because the proposed project falls in the second category typically regulated by noise ordinances, noise element criteria would typically not apply.

Each city and county typically enacts its own noise ordinance standards; however, most noise ordinances are fairly similar. Noise ordinances generally set limits on acceptable noise levels at the property line of the affected land use based on the background noise level, the noise level from the source in question, the duration of the noise event, and the time of day. Noise ordinances often contain exemptions for construction activities, provided that the construction activity takes place during hours specified by affected local jurisdictions. There are no established noise thresholds for wildlife species; accordingly, noise impacts on wildlife are generally addressed qualitatively. For purposes of this analysis, noise environments considered to be acceptable for human use are considered acceptable for wildlife species.

Proposed project-related noise will occur from use of construction equipment and construction activity associated with the proposed cable installation and from operation of support equipment at regenerator/OP-AMP stations. Noise levels along the right-of-way will increase and noise-sensitive receptors, such as residences, schools, hospitals, places of worship, recreation areas, and wildlife species, located near the construction areas could be affected. The effect of increased noise levels will be somewhat diminished because most construction activity is expected to take place during daylight hours when background noise levels are generally the highest and people's tolerance is the highest. Because construction crews are expected to move quickly, construction noise will be audible for only one day or part of one day.

For purposes of this analysis, a noise impact is considered significant if project-related noise at a noise-sensitive land use or receptor has the potential to exceed typical noise ordinance standards. To keep this analysis reasonably conservative, it does not presume that construction activity is exempt from regulations.

Noise generated from the proposed project is expected to be less than noise currently generated by trains or automobiles using various rights-of-way.

Impact Mechanisms

The impact mechanism is the generation of noise by construction equipment and emergency backup generators or other support equipment at regenerator/OP-AMP stations that would affect nearby noise-sensitive receptors.

Impact Assessment

- a. *Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?*

Noise-generating activities associated with the proposed project are related primarily to construction activities. Typical construction equipment to be used includes rubber-tired backhoes, tracked vehicles, tractors, and directional boring equipment. Helicopters may be used to install cables on transmission towers. All construction activity will occur during daylight hours, except for possible limited nighttime boring activities in isolated areas.

Construction of the regenerator/OP-AMP stations and potential access road improvements will also involve the use of noise-generating equipment. Grading is expected to be the noisiest activity associated with the construction of these facilities and improvements.

Table 5.XI-1 summarizes typical noise levels produced by construction equipment that is expected to be used for in-ground installation of cable and grading.

Table 5.XI-1. Summary of Construction Noise Sources

Equipment	Sound Level at 50 Feet (dBA-Leq)
Backhoe	80
Grader	85
Bulldozer	85

Source: Federal Transit Administration 1995.

Noise associated with the proposed project is expected to come primarily from cable installation and construction of regenerator/OP-AMP stations. Noise may also be associated with operation of emergency backup generators and other support equipment, such as heating, ventilation, and air conditioning (HVAC) equipment, at the regenerator/OP-AMP stations. In California, noise from these types of operations is regulated at the local level and there is no regulation at the state or federal level.

Impact: Temporary Exposure of Residences and Other Sensitive Receptors to Construction Noise in Excess of Local Standards (Applicable to all project routes)

A bulldozer is expected to be the noisiest piece of equipment used at any construction site, and other highly noisy equipment will likely not be used concurrently with a grader. Therefore, the assessment of potential noise impacts associated with in-ground conduit and cable installation or other construction activity is based on a worst-case source level of 85 dBA at 50 feet. Noise levels that could potentially occur in the vicinity of cable installation or other construction sites based on this source level are summarized in **Table 5.XI-2**. This table includes attenuation factors from distance, molecular absorption, and anomalous excess attenuation (Hoover 1996). Locations within about 2,000 feet of an active construction site have the potential to be exposed to noise in excess of 50 dBA. Many local noise ordinances use sound levels in the range of 50 to 55 dBA as thresholds for violation as residential uses during daylight hours. Residences or other sensitive receptors will be located within 2,000 feet of many portions of the cable routes and may be exposed to noise in excess of local standards. Construction noise may substantially increase noise above background sound levels. However, construction within existing railroad or road rights-of-way will typically not be expected to generate noise that will be significantly greater than noise generated by trains or automobiles.

Table 5.XI-2. Estimated Noise in the Vicinity of an Active Construction Site

Distance to Receptor (feet)	Sound Level at Receptor (dBA)
50	85
100	79
200	73
500	64
600	62
800	60
1,000	57
1,500	53
2,000	50
2,500	47
3,000	44
4,000	40
5,280	36
7,500	29

Notes: The following assumptions were used:

Basic sound level drop-off rate:	6.0 dB per doubling of distance
Molecular absorption coefficient:	0.7 dB per 1,000 feet
Anomalous excess attenuation:	1.0 dB per 1,000 feet
Reference sound level:	85 dBA
Distance for reference sound level:	50 feet

This calculation does not include the effects, if any, of local shielding that may reduce sound levels further.

This impact is considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure N-1: Employ Noise-Reducing Construction Practices. When installing and constructing fiber optic cable system, Williams will employ the following noise-reducing measures:

- # Restrict construction activity along routes and at staging areas within 1,000 feet of residences to daytime hours (7:00 a.m. to 7:00 p.m.). No construction will be performed within 3,000 feet of an

occupied dwelling unit on Sundays, legal holidays, or between the hours of 7:00 p.m. and 7:00 a.m. on other days.

- # All equipment will have sound-control devices no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- # As directed by the local jurisdiction, Williams will implement appropriate additional noise mitigation measures to comply with the applicable local noise ordinance including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.
- # If traffic control devices requiring electrical power are employed within 500 feet of sensitive receptors, the devices will be battery/solar powered instead of powered by electrical generators.

Impact: Temporary Exposure of Residences or Other Sensitive Receptors to High Noise Levels from Helicopter Operation That Could Exceed Local Noise Ordinance Criteria

In some cases, installation of cable may require the use of a helicopter to place cable aerially on transmission towers. The specific type of helicopter to be used for this purpose is unknown at this time. At a distance of 500 feet, a large single rotor helicopter operating under level flight produces a maximum sound level of about 95 dBA (Nelson 1987). Residences or other sensitive uses located near cable installation sites may be exposed to high noise levels from helicopter operation that could exceed local noise ordinance criteria. The duration of exposure to noise at any one location will be a matter of minutes. Sensitive locations near a staging/landing area could be exposed to repeated high levels of noise.

Potential helicopter noise impacts at noise sensitive uses near cable installation sites are considered less than significant because the duration of elevated noise levels at any given location will be brief and will occur only during daylight hours. Noise impacts near staging/landing sites could expose noise sensitive uses to repeated episodes of elevated noise levels. This impact is considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy of the proposed project. At this time, Williams is not proposing to install any fiber optic cable aerially. However, Williams will like flexibility in construction methods. If Williams decides on aerial installation, the following mitigation measure will be adopted.

Mitigation Measure N-2: Limit Use of Helicopters near Residences and Other Sensitive Land Uses.

Williams will locate helicopter staging/landing areas away from residences and other sensitive land uses. Except when operating from an existing airport, helicopter staging/landing areas will be located at least 1 mile from sensitive land uses. All helicopter activity will be limited to the hours of 8:00 a.m. to 6:00 p.m. and noise from the activity will be limited to be in compliance with any applicable local noise ordinance.

b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Impact: Temporary Exposure of Residences or Other Sensitive Uses to Localized Groundborne Vibration and Noise

Directional boring and drilling and operation of heavy equipment may generate localized groundborne vibration and noise that could be perceptible at residences or other sensitive uses close to the activity. Groundborne noise is noise radiated by vibrating ground and structures supported on vibrating ground.

Construction within active railroad rights-of-way will not create significantly more ground vibration than passing trains. Because potential groundborne vibration and noise will be temporary and will occur only during daylight hours, groundborne vibration and noise impacts are considered less than significant.

Mitigation Measure. None required.

c. Result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?

Impact: Exposure of Nearby Sensitive Receptors to Excessive Noise Levels from Use of Emergency Backup Generators and Other Support Equipment at Regenerator/OP-AMP Stations (Applicable to Point Arena to Sacramento, Sacramento to California/Nevada border, San Francisco to Santa Clara, San Luis Obispo to Bakersfield, Riverside to California/Arizona border, and Los Angeles to Riverside project routes)

A permanent source of noise associated with ongoing operation of the proposed project is an emergency backup generator to power each regenerator/OP-AMP station in case of a power outage. Other support equipment, such as HVAC equipment, may also generate noise. The generator will be located outside the concrete precast structure that houses the regeneration equipment and will be operated only temporarily during a power outage or when the generator is being tested or serviced. Generators used at these facilities are typically powered by a 255-horse power diesel-driven reciprocating engine. An engine of this type and size will produce a sound level of about 84 dBA at 50 feet (Hoover 1996). HVAC equipment will be used to control the equipment in the facility to protect electronics. The size, type, and degree of use of this equipment will vary depending on the climate the facility is located in.

The backup generators will be installed with a standard sound attenuating enclosure. A standard enclosure will be expected to provide approximately 15 dB of sound reduction. With an enclosure in place, the 84 dB source level will be reduced to approximately 69 dBA. The noise level produced by HVAC equipment will vary depending on climate. Noise produced by this equipment could potentially be at about the same level as noise for the generator. Based on this source level, noise-sensitive uses within about 500 feet of a regenerator/OP-AMP facility could be exposed to noise in excess of 50 dBA. Noise-sensitive uses within 1,400 feet of a facility could be exposed to noise in excess of 40 dBA. An emergency power outage could require extended use of the generator and result in exposure of nearby sensitive receptors to noise in excess of local day and night noise ordinance standards or to excessive noise increases. Noise from HVAC equipment could have similar results. This impact is considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy of the proposed project.

Mitigation Measure N-3. Design and Locate Emergency Backup Generators and Other Support Equipment to Limit Noise from the Engine Generator. Williams will design and locate the emergency backup generators and other support equipment at regenerator/OP-AMP stations such that the noise produced does not exceed local noise ordinance criteria. Potential methods for achieving this include locating the facility away from noise-sensitive uses and using local shielding from the building structure, topography, or sound walls to reduce noise transmission to sensitive receptors.

d. Result in a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?

Construction activity will result in a temporary increase in noise. Refer to the response to question *a* above.

- e. *Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the proposed project area to excessive noise levels?*

This question is not applicable to the proposed project.

- f. *Be located in the vicinity of a private airstrip and expose people residing or working in the proposed project area to excessive noise levels?*

This question is not applicable to the proposed project.

Cumulative Impacts

There are no cumulative noise impacts associated with the proposed project because noise impacts are anticipated to be temporary and highly localized.

XII. POPULATION AND HOUSING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XII. POPULATION AND HOUSING - Would the proposed project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?	_____	_____	_____	_____√_____
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	_____	_____	_____	_____√_____
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	_____	_____	_____	_____√_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria *XII. a-c* in the environmental checklist.

Impact Mechanisms

Proposed projects that would introduce substantial population growth or make it possible for such growth to occur (i.e., new sewer line or road) would significantly impact population and housing. In addition, proposed projects that would displace substantial housing or necessitate the construction of replacement housing might also have a significant impact.

Impact Assessment

- a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?*

The proposed project will provide point-to-point service through a network of fiber optic cables. There is no direct access to the fiber optic cable; the network is not a form of infrastructure like roads, water, or sewer lines that can induce population growth within specific areas. The availability of high-speed, high-volume communications is one factor among many (e.g., cost of living, economic opportunities, market availability, quality of schools, salary levels, tax levels) in the decision by people and businesses to locate in California. Therefore, the proportional contribution of the proposed system to California's future growth will be too remote and speculative for analysis. Also, the volume of traffic originating or terminating in California cannot be differentiated from the amount of traffic passing through California. The indirect impact of this proposed project and others of its type on that growth is only speculative. No impact will occur.

- b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere? or*
- c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?*

The proposed project will serve existing and future telecommunications demand through a network and will not induce substantial population growth in any particular area, nor make a cumulatively considerable contribution to population growth. Construction will not displace any housing or numbers of people. The installation process is quick and will not require the construction of new housing. There will be no impact on population or housing as a result of the proposed project.

Cumulative Impacts

The proposed project will neither produce nor displace housing. It will have no impact on population or housing and will not contribute to cumulative effects.

XIII. PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XIII. PUBLIC SERVICES - Would the proposed project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	_____	_____√_____	_____	_____
Police protection?	_____	_____	_____	_____√_____
Schools?	_____	_____	_____	_____√_____
Parks?	_____	_____	_____	_____√_____
Other public facilities?	_____	_____	_____	_____√_____

Criteria for Determining Significance

The assessment of significance of impacts of the proposed project is based on criterion *XIII. a* in the environmental checklist.

Impact Mechanisms

Proposed projects that create a demand for public services may result in the construction of public facilities. This construction may result in a significant impact when associated with significant adverse physical changes.

Impact Assessment

a. *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: Fire protection? Police protection? Schools? Parks? Other public facilities?*

This proposed project is the installation of fiber optic cable and construction of related small facilities along existing rights-of-way. Construction will be temporary, quick, and self-sufficient. The unstaffed regenerator/OP-AMP stations will require no public services. The proposed project will create no new demand for governmental services or facilities and will not require construction, alteration, or expansion of any such facilities to provide acceptable service levels. As discussed in Chapter 2, the proposed project will incorporate a fire prevention and management plan during construction, where necessary, thereby mitigating the need for new permanent or temporary fire protection facilities (refer to **Appendix J** for an example of a typical fire prevention and management plan). It will have no environmental impact relative to public services except for

fire protection in which the impact is considered less than significant because Williams will prepare a fire prevention and management plan, as appropriate, for each project route.

Cumulative Impacts

The proposed project will need no public services. It will therefore not contribute to a cumulative effect.

XIV. RECREATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XIV. RECREATION - Would the proposed project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	_____	_____	_____	_____√_____
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	_____	_____	_____	_____√_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria *XIV. a* and *b* in the environmental checklist. Additionally, an impact on recreation would be considered significant if it would:

- # increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or
- # include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Impact Mechanisms

Proposed projects that create a demand for recreation may result in the construction or expansion of recreational facilities. This construction may result in a significant effect when associated with significant adverse physical changes.

Impact Assessment

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? and*
- b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*

This proposed project is the installation of fiber optic cable and construction of related small facilities along existing rights-of-way. It will not result in new population along the routes, nor will there be a demand for recreation facilities during construction. Accordingly, it will not result in any increase in the use of parks or recreation facilities, nor will it construct or lead to the expansion of any recreational facilities. The proposed project will have no impact on recreational opportunities or facilities.

Impact: Possible Temporary Disruption of Hunting Opportunities (Applicable to all project routes)

Installation activities along the project routes that cross rural areas may affect hunting opportunities for black bear (generally those crossing the northern Coast Ranges and Sierra Nevada), deer (throughout the state), wild pig (in the Coast Ranges), upland game birds (throughout the state), and waterfowl (in the Central Valley and San Pablo Bay/Suisun areas) by temporarily disturbing game¹. As discussed in Chapter 2, installation will move quickly along linear routes and will be temporary in nature. Further, the ground crossed will be restored as close to preproject conditions as possible or practicable. This impact is considered less than significant.

Mitigation Measure. None required.

Cumulative Impacts

The proposed project will need no recreational services. To the extent that hunting is a recreational activity, it will not adversely impact hunting on more than on a temporary basis. It will therefore not contribute to cumulative effects.

XV. TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC - Would the proposed project:				
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	_____	_____	_____√_____	_____
b. Cause, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways to be exceeded?	_____	_____	_____√_____	_____
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	_____	_____	_____	_____√_____
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	_____	_____	_____√_____	_____

¹ California Department of Fish and Game. 1999. "Hunting Programs and Information". Online. Revised March 1999. Available: www.dfg.ca.gov/wmd/hunting.html. Access date: March 26, 1999.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e. Result in inadequate emergency access?	_____	_____	✓	_____
f. Result in inadequate parking capacity?	_____	_____	✓	_____
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	_____	_____	_____	✓

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria XV. a-g in the environmental checklist. Additionally, the proposed project would have a significant impact on the environment if it causes a substantial deterioration of the roadway surface because of construction activities or substantial increases in traffic delays.

Impact Mechanisms

Proposed projects that create a significant increase in traffic, exceed adopted traffic service standards, increase traffic hazards, result in inadequate emergency access, or exceed parking capacity may result in a significant effect. Typically these are proposed projects that would generate or attract traffic at a particular location or that would obstruct traffic for a time.

Impact Assessment

The proposed project will use roads not as a means of transportation, but rather as a portion of the route for underground cable. Urban installations will require trenching into and replacing existing pavement. Installations along rural and low-intensity suburban road rights-of-way will be plowed or trenched outside the pavement. Crossings of freeways and larger roads, as well as certain urban installations, will be accomplished by boring beneath them. Traffic impacts will be temporary and associated with construction activities. No traffic impacts will be associated with operations and maintenance.

- a. *Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?*

The fiber optic cable will be either installed in existing idle pipelines; buried in railroad, utility, or road rights-of-way; or hung from existing bridges. Access to the project routes will be via existing access roads to the pipeline, utility, or railroad rights-of-way in which fiber optic conduit and cable will be installed. Pipeline and utility corridor routes are physically separate from public roads, and, as a result, installations in those types of rights-of-way are not expected to have any effect on traffic. Work within railroad rights-of-way will be under agreement with the railroad and will not unduly interrupt rail traffic.

Impact: Temporary Traffic Disruption within Road Rights-of-Way (Applicable to all project routes)

Nearly all of the proposed project's traffic impacts will result from temporary work within road rights-of-way during conduit and cable installation. The only permanent facilities resulting from the proposed project will be unstaffed regenerator/OP-AMP stations that will require only occasional inspection visits. Sufficient area will exist at each station for parking during such visits. Most conduit and cable installations in road

rights-of-way will be on the road shoulder outside of the paved surface. As discussed in Chapter 2, road paving will be cut and replaced (under permit from the appropriate public agency) only where environmental constraints preclude using the road shoulder or other portion of the right-of-way. Major road crossings will be tunneled, obviating the need for major road closures during construction.

As discussed in Chapter 2, the construction crews are characterized as the preparation crew, cable installation crew, and cleanup crew. Installations along road rights-of-way, particularly in urban areas, will have less need for preparation and cleanup crews than installations in non-urban rights-of-way. Most of the traffic and traffic disruption that may occur during installation along existing road rights-of-way will result from the installation crews.

Plowing or trenching methods might be used adjacent to roadways, depending on the physical characteristics of the site. Trenching will be the method of installation within roadways. Typically, the equipment used by a trenching crew will include an asphalt cutter, a backhoe/excavator, a roller/compactor, a spool truck, and pickup trucks. For comparison purposes, given the narrowness of the required trenching and the type of equipment used, pavement work will generally be less invasive than domestic water main replacement, which typically requires a 24-inch-wide trench. Additionally, Williams will be required to obtain road encroachment permits from various local and state agencies that will dictate required traffic control. This impact is considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure T-1: Obtain and Comply with Local and State Road Encroachment Permits.

Williams will obtain all necessary local and state road encroachment permits prior to construction and will comply with the applicable conditions of approval. Traffic control measures, such as the placement of warning signs and the use of traffic control personnel when appropriate, will be implemented.

b. Cause, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways to be exceeded?

Impact: Temporary Disruption of Traffic (Applicable to all project routes)

For the initial screening of impacts of increased traffic, the Institute of Transportation Engineers (ITE) recommends that an impact be examined more closely if it involves an increase of 50 or more trucks, 100 passenger vehicles, or an equivalent combination of vehicles per hour in the peak direction during the peak hour at any roadway intersection (Institute of Transportation Engineers 1989). For purposes of analysis, impacts of increased traffic may be considered substantial if the number of proposed project-generated vehicle trips will exceed any of these thresholds. Although more than one crew may be working on each route at a given time, due to the length of the routes, trucks and other vehicles will typically gain access to construction sites from different sets of roadways and intersections.

Employee trips by construction workers traveling to and from sites are not anticipated to exceed 20 per day per crew. Truck trips will be considerably less because the construction equipment will remain at the site during work hours, arriving and leaving once daily from designated staging areas. Spool trucks will make two or three trips per day, depending on the speed of installation and need for conduit.

The proposed project, with its associated vehicles, will temporarily increase traffic and disrupt traffic flow as installation crews move along road rights-of-way. These effects will be less than the study threshold established by the ITE. The increases in traffic will not be substantial and the proposed project's impacts will be less than significant.

The proposed project may temporarily disrupt traffic during installations adjacent to or within traffic lanes. As discussed in Chapter 2, a traffic control plan will be implemented to minimize the impacts of lane closures, if necessary, and traffic flow disruptions. As a result of the plan, the disruption of traffic will be less than significant.

The proposed project will have only temporary effects on traffic. Level-of-service standards for roads established by the county congestion management agency (CMA) are intended to regulate longer term traffic increases that result from construction of traffic generators such as offices, stores, and residential developments or changes in traffic patterns. As such, the proposed project will not exceed level-of-service standards established by the applicable county CMA for designated roads and will have no impact.

Mitigation Measure. None required.

c. *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

The proposed project will most commonly involve below-ground installation of fiber optic conduit and will not result in construction of any towers or other impediments to air traffic. Any helicopters used to ferry workers will be operated in accordance with established flight protocols. There will be no impact as a result of the proposed project.

d. *Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Impact: Temporary Increase in Accident Risk (Applicable to all project routes)

Heavy equipment operating adjacent to or within a railroad or road right-of-way may increase the risk of accidents. Railroads requires safety training of construction crews before they are permitted to work within the railroad rights-of-way. As discussed in the Chapter 2, encroachment and any other necessary permits will be acquired from the appropriate governing agency prior to any construction in a public road right-of-way. As provided in the traffic control plan described in Chapter 2, installation crews will comply with roadside safety protocols and with signing and flagging requirements so as to reduce the risk of accident. Work crews will be trained in their roles and responsibilities before construction begins. Proposed project effects on the risk of accidents are considered less than significant because Williams has adopted a traffic control plan, will provide safety training, and has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure T-1: Obtain and Comply with Local and State Road Encroachment Permits. Refer to the discussion of this mitigation measure earlier in this section.

e. *Result in inadequate emergency access?*

Impact: Temporary Effects on Traffic Flow (Applicable to all project routes)

The proposed project will have temporary effects on traffic flow, particularly with routes located within road rights-of-way. In those limited instances when the installation will encroach on traffic lanes, traffic will be managed in accordance with the traffic control plan described in Chapter 2, which will allow priority passage by emergency vehicles. Proposed project effects on emergency access are considered less than

significant because Williams has adopted a traffic control plan and the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure T-1: Obtain and Comply with Local and State Road Encroachment Permits.
Refer to the discussion of this mitigation measure earlier in this section.

f. Result in inadequate parking capacity?

Impact: Creation of Limited New, Temporary Parking (Applicable to all project routes)

The proposed project will create limited new, temporary parking demand as crews move along the installation corridors. Any parking during construction will be limited to the right-of-way corridor, as provided in the encroachment permit issued by the appropriate governing agency. Construction equipment will be kept in designated staging areas when not in use and will not create new parking demand. Regenerator/OP-AMP stations will be unstaffed and will not create parking demand. Proposed project effects on parking are considered less than significant because Williams has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation Measure T-1: Obtain and Comply with Local and State Road Encroachment Permits.
Refer to the discussion of this mitigation measure earlier in this section.

g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The proposed project consists of the installation of fiber optic cable/conduit and related facilities within or adjacent to existing rights of way, and after construction, all affected areas will be returned to their preconstruction state. Using alternative transportation modes for installation crews, such as bicycles or buses, will not be consistent with the proposed project objective of rapid construction or with construction methods. The proposed project will have no lasting impact on demand for alternative transportation or on alternative transportation facilities (i.e., bus stop, park and ride lot).

Cumulative Impacts

The proposed project will not result in any increase in vehicular traffic beyond the marginal temporary increase caused by installation crews. The proposed project may result in temporary obstructions of traffic, but the traffic plan being instituted as part of the proposed project will minimize the impacts of such obstructions on traffic flow and emergency access. As a result, the proposed project will not make a cumulatively considerable contribution to traffic impacts.

XVI. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS - Would the proposed project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	_____	_____	_____	_____√_____
b. Require, or result in the construction of, new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	_____	_____	_____	_____√_____
c. Require, or result in the construction of, new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	_____	_____	_____	_____√_____
d. Have sufficient water supplies available to serve the proposed project from existing entitlements and resources, or would new or expanded entitlements be needed?	_____	_____	_____	_____√_____
e. Result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it has adequate capacity to serve the proposed project's proposed projected demand in addition to the provider's existing commitments?	_____	_____	_____	_____√_____
f. Be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs?	_____	_____	_____	_____√_____
g. Comply with federal, state, and local statutes and regulations related to solid waste?	_____	_____	_____	_____√_____

Criteria for Determining Significance

The analysis of significance of impacts of the proposed project is based on criteria XVI. a-g in the environmental checklist.

Impact Mechanisms

Proposed projects that create a demand for public utilities and service systems may result in the construction or expansion of public facilities such as storm drainage systems, and wastewater treatment facilities. This construction may result in a significant effect when associated with significant adverse physical changes.

Impact Assessment

Construction of the proposed project will occur quickly, with no demands on outside utilities. Due to elements of the proposed project design, this proposed project will have no impact on demand for utilities and service systems during construction. Electrical power for the regenerator/OP-AMP stations will be a permanent demand on utilities. However, this demand will be minimal and will have no impact on demand for utilities and service systems.

a. *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

As detailed in Chapter 2, the proposed project will incorporate the requirements of the National Pollutant Discharge Elimination System (NPDES) in the SWPPPs (including an erosion control and spill prevention and countermeasures) prepared for each project route. The plans will specify measures to minimize erosion and production of drainage water and will be prepared to meet the requirements of approval by the applicable RWQCB.

b. *Require, or result in the construction of, new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Pursuant to Section 15064(h) of the State CEQA Guidelines, a change in the environment is not significant if it complies with an applicable, publicly adopted, regulatory standard that has been adopted for the purpose of environmental protection and that governs the same environmental resource being affected. Compliance with the NPDES meets the requirement for stormwater quality established by the RWQCB. No wastewater requirements will apply to the proposed project.

c. *Require, or result in the construction of, new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

The proposed project will not create new impermeable surfaces that will substantially increase drainage runoff beyond that existing without the proposed project. Accordingly, the proposed project will not require or result in the construction of stormwater drainage facilities.

d. *Have sufficient water supplies available to serve the proposed project from existing entitlements and resources, or would new or expanded entitlements be needed?*

The proposed project will require no external water supply, so sufficient water supplies exist without requiring new or expanded entitlements.

e. *Result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it has adequate capacity to serve the proposed project's proposed projected demand in addition to the provider's existing commitments? and*

f. *Be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs?*

As discussed in Chapter 2, plowing does not remove soil from the route, and any soil removed during trenching will be replaced. There will be sufficient landfill capacity to meet the needs of the proposed project.

g. *Comply with federal, state, and local statutes and regulations related to solid waste?*

Solid wastes associated with the proposed project include soil displaced by installation of the conduit, cable, and regenerator/OP-AMP stations and spools and other packaging material associated with the conduit and cable. The proposed project will not produce substantial amounts of solid waste. Soil removed during trenching operations will be replaced and the surface returned as close to preproject conditions as possible or practicable. Areas around boring operations and around regenerator/OP-AMP stations will similarly be cleaned up at the final phase of the operation. Plowing operations will not remove soil. Spools and other

packaging for conduit and cable will be taken away for reuse, recycling, or disposal at a landfill. Once installation is complete, the proposed project will produce no solid wastes.

There are no federal, state, or local statutes or regulations applicable to the proposed project relative to solid waste. The proposed project will have no impact relative to solid waste.

Cumulative Impacts

The proposed project will need no utilities or service systems except for a minimal amount of electrical power. It will therefore not contribute to cumulative impacts.

MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a. Does the proposed project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	_____	_____√_____	_____	_____
b. Does the proposed project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a proposed project are considerable when viewed in connection with the effects of past proposed projects, the effects of other current proposed projects, and the effects of probable future proposed projects.)	_____	_____√_____	_____	_____
c. Does the proposed project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	_____	_____√_____	_____	_____

a. *Does the proposed project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant of animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of major periods of California history or prehistory?*

The proposed project will have effects on biological and cultural resources, air quality, human health, water quality, planning, and noise that are potentially significant; however, these will be mitigated by the design of the proposed project, as contained in Chapter 2, and by the mitigation measures described in this analysis, which Williams has adopted as part of the construction mitigation strategy for the proposed project. The particular impacts, as well as the proposed project design elements and mitigation measures that will reduce them below a level of significance, are described in respective sections. All impacts have been either avoided or reduced to a less-than-significant level.

b. Does the proposed project have impacts that are individually limited, but cumulatively considerable?

CEQA Guidelines Section 15064 provides that when assessing whether a cumulative effect requires preparation of an environmental impact report, the lead agency must consider both whether the cumulative impact is significant and whether the incremental effects of the proposed project are cumulatively considerable. No environmental impact report is required if the proposed project's effects are not cumulatively considerable. The lead agency may determine that a proposed project's contribution is less than cumulatively considerable when either:

- # the contribution would be rendered less than considerable through mitigation measures,
- # the proposed project would comply with the requirements of a previously approved mitigation program or plan that provides specific requirements that would avoid or substantially lessen the proposed project's effects, or
- # the proposed project's incremental impacts are so small that the environmental conditions would be essentially the same whether or not the proposed project was implemented (e.g., *de minimus*).

Several cumulative impacts may be considered significant at either the statewide, regional, or local level. As discussed in the air quality section, almost all air basins within the state are nonattainment areas for one or more criteria air pollutants. Activities that emit criteria pollutants within those air basins have a significant cumulative impact on air quality. The air quality management districts and air pollution control districts established under state and federal law to preserve air quality have adopted plans intended to reduce pollutant levels over time. These districts have established rules and programs under their air quality plans that limit proposed project-specific contributions to the overall problems. The contributions of the proposed project are not cumulatively considerable because, as mitigated, the proposed project will comply with applicable air district rules and plans for construction activities and any required permits to operate the regenerators' back up generators will be obtained before the cable is installed.

Biological resources, particularly threatened, endangered, candidate, and other listed species, are cumulatively affected by development. The state and federal governments, through DFG, the Corps, USFWS, and National Marine Fisheries Service, have promulgated a regulatory scheme that limits impacts on these species. The effects of the proposed project are rendered less than cumulatively considerable due to mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species. The mitigation measures imposed and the provisions included in the project description (e.g., preconstruction surveys and resource staking, presence of an environmental resource coordinator, contractor training) and Williams' commitment to reroute the cable around or bore under sensitive resources render the proposed project's contribution less than cumulatively considerable.

Placement of structures within 100-year floodplains has cumulative impacts on the potential for flood hazard (refer to "Hydrology and Water Quality"). As more development occurs within a floodplain, the capacity to retain floodflows is reduced and the potential for flooding and flood-related damage is increased. The Federal Emergency Management Agency, through the federal flood insurance program, establishes standards that minimize the impacts of and limit development within flood plains. Cities and counties that regulate land uses in conformity with these standards through floodplain zoning ordinances are eligible for participation in the flood insurance program. The proposed project is not cumulatively considerable because only a few regenerator/OP-AMP stations could potentially be located within floodplains and because required mitigation will include compliance with local floodplain ordinances prior to the installation of any structures in a 100-year floodplain.

At the local level, noise may exceed established standards due to the cumulative contributions of activities within the community. The proposed project's contributions to noise are not cumulatively considerable because of mitigation measures requiring compliance with state and local noise standards and ordinances and the attenuation of diesel backup generators. These measures will keep proposed project noise below established standards.

Temporary traffic-related impacts may occur at the local level for the project routes. The temporary traffic disruption resulting from cable installation is not cumulatively considerable because of the traffic control plans that will be implemented as part of the proposed project and the standard traffic control requirements of the state and local encroachment permits that must be obtained prior to installing cable conduit in or adjacent to roads. In the long-term, the impacts of the proposed project will be minimized because, on completion of proposed project, environmental conditions on the overlying roads will be essentially the same as if the proposed project had not been implemented.

The proposed project does not contribute to the statewide cumulative effect of the loss of agricultural land to other uses, including urbanization. The impacts of the proposed project and similar telecommunications proposed projects on agricultural land will be limited to a small number of regenerator/OP-AMP stations, considered a compatible use within agricultural preserves, and will have no discernable effect on the rate of agricultural conversion.

California's continuing and rapid population growth has statewide cumulative impacts on population and housing. The effect of the proposed project and similar telecommunications proposed projects on population growth is indistinguishable from the general mix of factors that lead people to move to California and is not a critical component in most such decisions. It has no impact on the rate of growth due to births. Public services (e.g., fire protection, police protection) are at or near their limit in some localities. This proposed project creates no new demand for those services. Utilities and service systems (e.g., sewer capacity, water supply) are also at or near their capacity in some localities. This proposed project creates no new demand for those services.

c. Does the proposed project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed project will not cause substantial adverse effects on human beings. The proposed project will have no effect on housing or recreation. Effects on air quality, noise, and land use have all been determined to be less than significant with implementation of mitigation measures. Potential adverse effects, such as slope destabilization and hazardous materials release, have been determined to be less than significant due to specified elements of the proposed project's design and the mitigation measures identified in this IS/MND.