HOPLAND AMERICANS WITH DISABILITIES ACT (ADA) PROJECT

INITIAL STUDY

with Negative Declaration

MENDOCINO COUNTY, CALIFORNIA

DISTRICT 1 – MEN – 101 (Post Miles 10.7 to 11.2)

EA 01-0H140 / EFIS 0117000115

Prepared by the
State of California Department of Transportation

Caltrans

June 2022

General Information About This Document

What is in this document?

The California Department of Transportation (Caltrans) has prepared this Draft Initial Study with Negative Declaration (IS/ND) which examines the potential environmental effects of a proposed project on U.S. Highway 101 and State Route 175 in Hopland, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance and/or minimization measures.

The draft IS/ND circulated to the public for 34 days between April 1, 2022, and May 4, 2022. Comments received during this period are included in Appendix D. Throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications have not been marked. Additional copies of this document and the related technical studies are available for review at the District 1 office or by request. This document and other project information may be downloaded from the following website:

https://dot.ca.gov/caltrans-near-me/district-1/d1-projects/d1-hopland-ada

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Manny Machado, Public Information Office-District 1, 1656 Union Street, Eureka, CA 95501; (707) 496-6879 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

HOPLAND AMERICANS WITH DISABILITIES ACT (ADA) PROJECT

Correct non-compliant ADA pedestrian facilities on U.S. Highway 101 in Mendocino County, from Post Mile 10.7 to Post Mile 11.2 in downtown Hopland

INITIAL STUDY
With Negative Declaration

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

06/13/22
Date of Approval

Brandon Larsen
Brandon Larsen, Office Chief
North Region Environmental–District 1
California Department of Transportation
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NEGATIVE DECLARATION

Pursuant to: Division 13, California Public Resources Code

SCH Number: 2022040050

Project Description

This project is located in Mendocino County on United States (U.S.) Highway 101 beginning at post mile (PM) 10.7 and ending at PM 11.2 in the community of Hopland. The project proposes to correct non-compliant ADA pedestrian facilities, rehabilitate existing pavement to extend pavement life and improve ride quality, reconstruct the roadway and lower the grade in downtown Hopland to improve safety, upgrade guardrail and guardrail end treatments, upgrade drainage systems, upgrade lighting as feasible, upgrade signage, and upgrade Transportation Management Systems (TMS) facilities.

Determination

This Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for this project. This does not mean that Caltrans' decision regarding the project is final. This ND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the proposed project would not have a significant impact on the environment for the following reasons:

The project would have *No Effect* on

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Energy
- Geology and Soils
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation

- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The project would have *Less than Significant Impacts* on

- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials

Brandon Larsen _____ 06/13/22

Brandon Larsen, Office Chief
North Region Environmental–District 1
California Department of Transportation

Date

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List of Abbreviated Terms

Abbreviation	Description
AB	Assembly Bill
ADA	Americans with Disabilities Act
ADL	Aerially-Deposited Lead
ARB	Air Resources Board
APE	Area of Potential Effect
ASR	Archaeological Survey Report
BFE	Base Flood Elevation
BMPs	Best Management Practices
CAFE	Corporate Average Fuel Economy
CALFIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH_4	methane
CIA	Cumulative Impact Analysis
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHP	California Register of Historic Places
CRHR	California Register of Historic Resources
CTP	California Transportation Plan
DBH	Diameter at Breast Height
Department	Caltrans
DOT	Department of Transportation
DSA	Disturbed Soil Area
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO(s)	Executive Order(s)
ESA	Environmentally Sensitive Area
ESL	Environmental Study Limits
FEMA	Federal Emergency Management Agency
FERS	Floodplain Evaluation Report Summary
FHSZ	Flood Hazard Severity Zone
FHWA	Federal Highway Administration
GHG	Greenhouse Gas

Abbreviation	Description
GWP	Global Warming Potential
H&SC	Health & Safety Code
HFCs	hydrofluorocarbons
HMAC	Hopland Municipal Advisory Council
HPSR	Historic Property Survey Report
HRER	Historic Resources Evaluation Report
THVF	Temporary High Visibility Fencing
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/ND	Initial Study/Negative Declaration
ISA	Initial Site Assessment
LCFS	Low Carbon Fuel Standard
LID	Low Impact Development
LRA	Local Responsibility Area
LUST	Leaking Underground Storage Tank
MAC	(Hopland) Municipal Advisory Council
MCAQMD	Mendocino County Air Quality Management District
MCDoT	Mendocino County Department of Transportation
MCGP	Mendocino County General Plan
MCOG	Mendocino Council of Governments
MLD	Most Likely Descendent
MMTC02e	million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MTA	Mendocino Transit Authority
N_2O	nitrous oxide
NAGPRA	Native American Graves Repatriation Act of 1990
NAHC	Native American Heritage Commission
NCRA	North Coast Rail Authority
NCRWQB	North Coast Regional Water Quality Control Board
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWPRR	Northwestern Pacific Railroad
PM(s)	Post Mile(s)
PRC	Public Resources Code
PSI	Preliminary Site Investigation

Abbreviation	Description
RCP	Representative Concentration Pathways
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SHS	State Highway System
SLR	Sea Level Rise
SR	State Route
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
THVF	Temporary High Visibility Fencing
TMP	Transportation Management Plan
TMS	Transportation Management Systems
U.S. or US	United States
US 101	U.S. (United States) Highway 101
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
VIA	Visual Impact Assessment
VMT	Vehicle Miles Traveled
WPCP	Water Pollution Control Program

Chapter 1. Proposed Project

1.1. Project History

Caltrans has identified and prioritized locations that need to be upgraded to current Americans with Disabilities Act (ADA) standards. Access barriers have been identified within the project location resulting in pedestrian facilities that are non-compliant with current accessibility standards. These barriers include non-compliant and missing curb ramps, sidewalk, and driveways that prevent persons with mobility challenges to access public facilities, local stores, and restaurants on a regular basis. A feasibility study was completed in September 2015 with the objectives to optimize the Hopland "main street" corridor on U.S. Highway 101 (US 101) and provide a complete streets environment that considers all road users, including pedestrians, cyclists, trucks, transit vehicles, and motorists. The study was prepared for Mendocino Council of Governments (MCOG) by consultant W-Trans. Existing data and community feedback were used to determine the optimal transportation alternatives for Hopland. The results of this feasibility study provided a significant framework for this ADA mobility project.

The Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA).

1.2. Project Description

Project Objective

Purpose

The purpose of this project is to upgrade existing ADA pedestrian facilities to comply with current standards and to upgrade roadway pavement, signage, Transportation Management Systems (TMS) assets, and drainage to good condition. TMS assets are technology assets and associated communication infrastructure on the highway system dedicated to improving the safety, operational efficiency, and sustainability of the transportation network by reducing traffic congestion, such as changeable message signs, traffic lights, and traffic census stations.

Need

Existing pedestrian facilities within the project site are not compliant with ADA standards. Other deficiencies within the project limits include roadway pavement in fair condition, aging or degraded signage, insufficient TMS facilities assets, and drainage facilities in poor condition.

Existing Conditions

This project is located in Mendocino County on US 101 beginning at PM 10.7 and ending at PM 11.2 in the community of Hopland (Figure 1). The project extends east approximately 450 feet from the intersection of US 101 and State Route (SR) 175 to the North Coast Rail Authority (NCRA) right of way. Throughout the project corridor, US 101 serves as Hopland's "main street" within the Hopland business district. It is a two-lane highway with a center turn lane and a posted speed limit of 35 MPH with no stop signs or traffic lights. The project limits run from just north of the Feliz Creek Bridge (south of The Salooz) to north of First Street (just north of Country Porch Antiques) as shown in Figure 2.

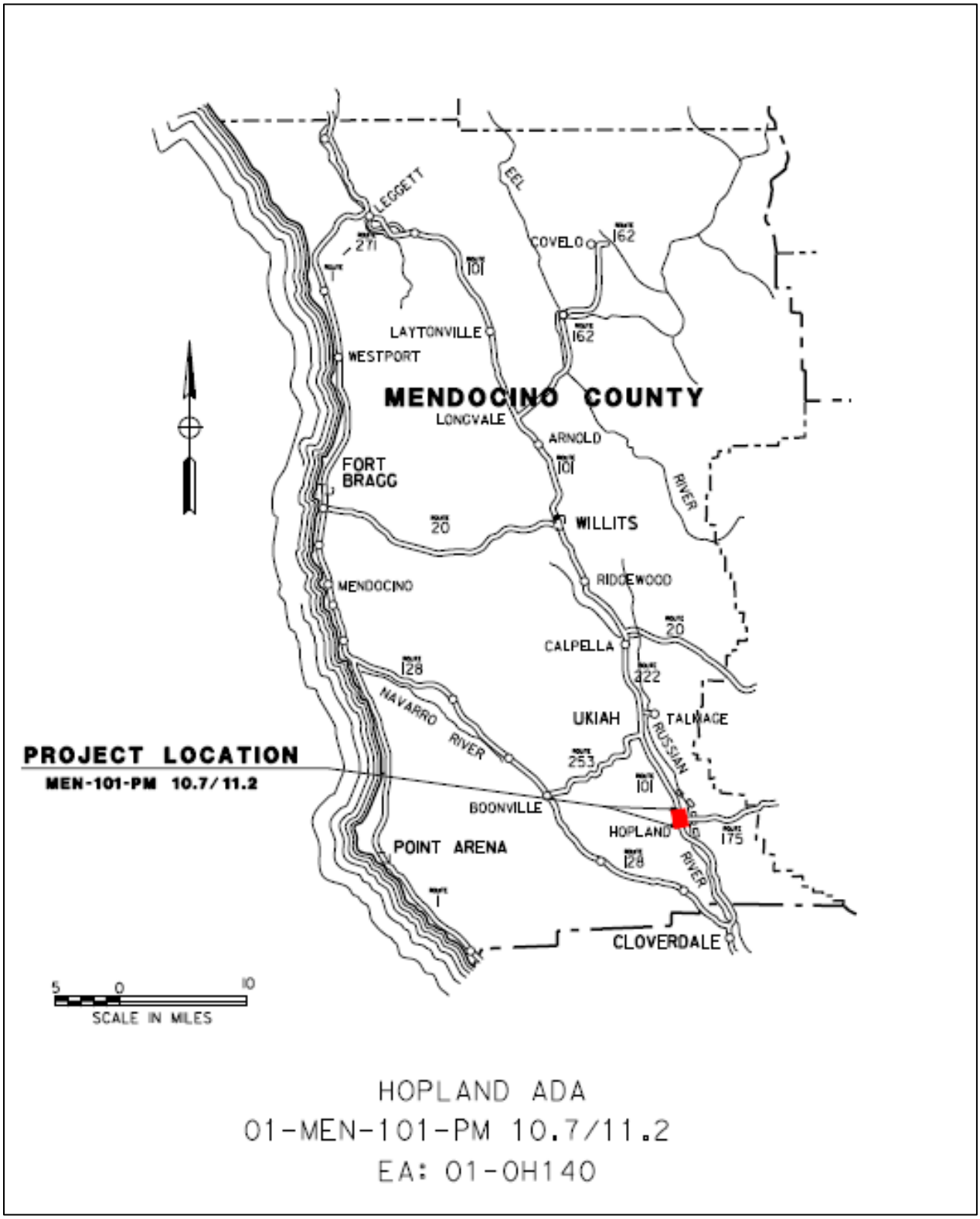

Figure 1. Location Map

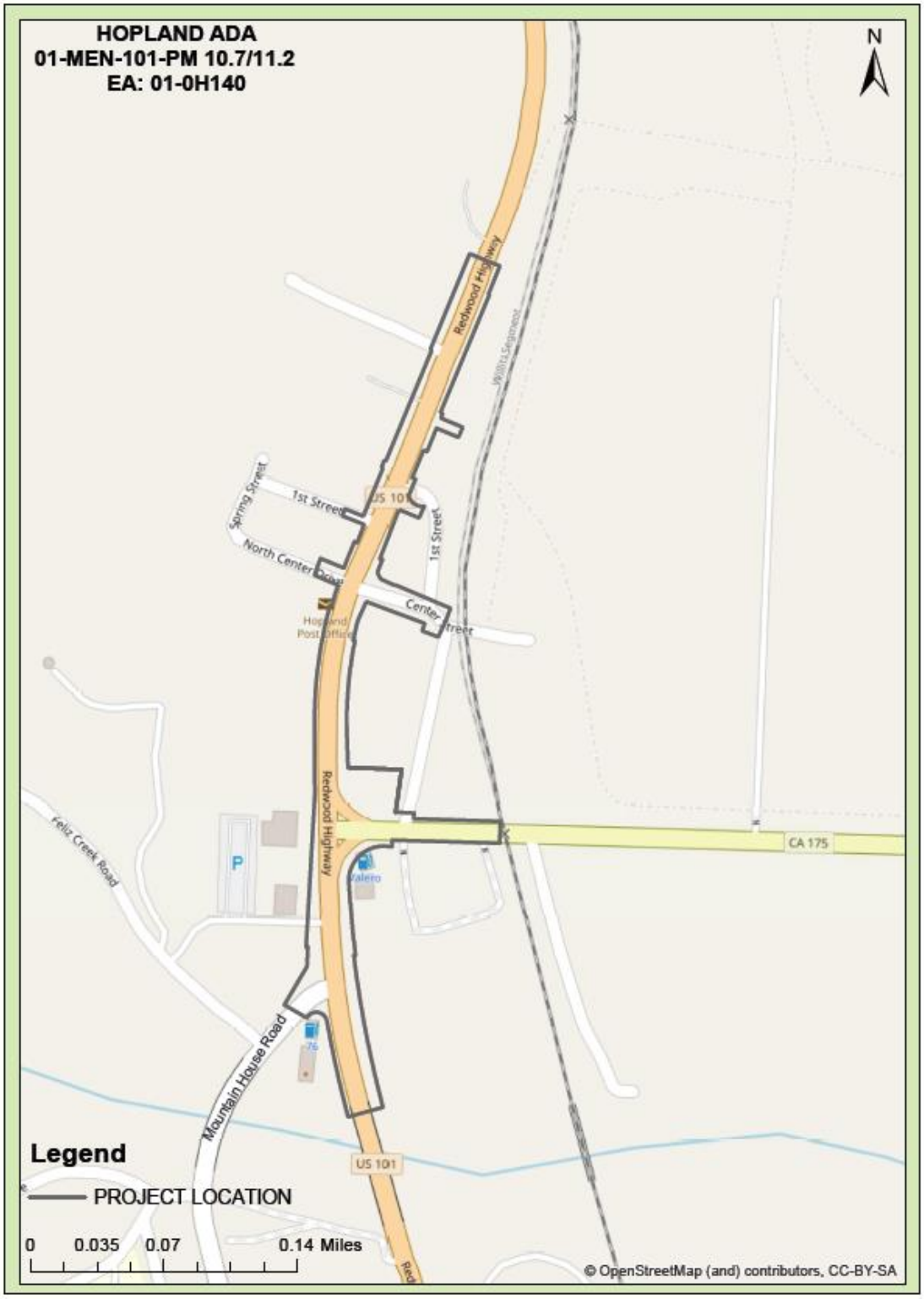

Figure 2. Vicinity Map

Proposed Project

The project proposes to correct non-compliant ADA pedestrian facilities; rehabilitate existing pavement to extend pavement life and improve ride quality; reconstruct the roadway and lower the grade in downtown Hopland to improve safety; upgrade guardrail and guardrail end treatments; upgrade drainage systems; upgrade lighting as feasible; upgrade signage; and upgrade TMS facilities. In correcting non-compliant ADA pedestrian facilities, existing non-standard sidewalks, curb ramps, driveways and crosswalks would be upgraded to current ADA-compliant width. A sidewalk of 8 feet between the curb and any building would be provided, unless in restrictive conditions or as allowed when reduced widths are permissible in the current standards. Traffic calming (measures to slow traffic) and complete streets features (such as bulb-outs and bicycle striping) would be incorporated, landscaping would be included as feasible, and existing crosswalk locations would be adjusted as necessary to enhance safety and functionality. Drainage improvements would be necessary for construction of bulb-outs and curb ramps and to ensure proper drainage. Various drainage system components would be repaired or replaced.

Roadway reconstruction from PMs 10.82 to 11.07 would occur in half-width construction. Pavement rehabilitation from PMs 11.07 to 11.20 would consist of repairing structural deficiencies in the pavement and/or cold planing, followed by asphalt overlay. Staging would potentially occur in the shoulder and lane adjacent to the work and possibly on cross streets and adjacent paved private property—subject to landowner permission. The removal of established trees and vegetation would be minimized. The Hopland ADA project would include the following features:

- 35 MPH design speed would be perpetuated
- 11-foot lane widths, including an 11-foot, two-way left turn lane
- 5-foot-wide bike lane with a 2-foot to 3-foot-wide buffer where possible
- 7.5-foot to 8-foot-wide on-street parking
- 6-foot to 8-foot-wide sidewalk in most situations or 5-foot-wide sidewalk when separated by vegetated planting strip, as determined by the Caltrans Landscape Architect
- High visibility crosswalks at four locations across US 101, one location across Mountain House Road, and one location across SR 175; bulb-outs and raised median refuges (islands between opposing lanes of traffic to help protect pedestrians crossing a road)

- New or upgraded highway light standards with LED luminaires that are downcast, with color temperatures between 2700k and 3000k, and shielded as necessary.
- Four Rectangular Rapid Flashing Beacons would be installed, two each at the Center Street and Mountain House crosswalks, to alert motorists to pedestrians crossing the roadway
- Narrowed intersections at the junctions of SR 175 and US 101 and Mountain House Road and US 101
- New census station elements to collect traffic data
- Culverts upsized from 18 inches to 24 inches as cover allows
- Architectural hardscape aesthetic treatments designed in consultation with Caltrans Landscape Architect

Preferred Alternative

Under the No-Build alternative, no alterations to the existing conditions would occur and the proposed improvements would not be implemented. For each potential impact area discussed in Chapter 2, the No-Build alternative has been determined to have no impact. After the public circulation period, all comments were considered, and the proposed project (also known as the Build Alternative) was selected, finding that environmental impacts would be less than significant, and the purpose and need of the project would be fulfilled. The No-Build alternative was not selected, as it would not have achieved the purpose and need of the project.

General Plan Description, Zoning, and Surrounding Land Uses

The Mendocino County General Plan designation for most of the project site is Rural Community (RC). The RC classification is intended for small, unincorporated towns and community centers that provide a variety of community and tourist-oriented goods and services but may not have well-defined commercial or residential districts (County of Mendocino 2009). Zoning within the project site includes Limited Commercial (C1), General Commercial (C2), Limited Industrial (I1), General Industrial (I2) and RC. Most of the property within the project limits is zoned C1 and C2 with the following exceptions: the lumber mill southeast of the US 101–SR 175 intersection is zoned I1 and I2; the parcel on the northeast corner of US 101 and Center Drive is zoned RC; and the area on the north side of SR 175 between a drainage swale and the NCRA has a General Plan designation and zoning classification of Agriculture. Agriculturally zoned lands border the project limits on the east side (County of Mendocino 2021).

Land uses within the project limits are predominantly commercial and residential, including the downtown Hopland business district and the adjacent residential neighborhood north of First Street. Residential development extends beyond the project limits to the north and west, and agricultural uses, primarily vineyards, flank the east side of the project corridor and continue to the south. The NCRA right of way and railroad tracks run in a north-south direction east of the project.

1.3. Permits and Approvals Needed

As there are no sensitive resources within the Environmental Study Limits (ESL), no resource agency approvals would be required for this project. No comments were received from resource agencies during the circulation period.

1.4. Standard Measures and Best Management Practices Included in All Alternatives

Under CEQA, "mitigation" is defined as avoiding, minimizing, rectifying, reducing/ eliminating, and compensating for an impact. In contrast, Standard Measures and Best Management Practices (BMPs) are prescriptive and sufficiently standardized to be generally applicable, and do not require special tailoring for a project. They are measures that typically result from laws, permits, agreements, guidelines, and resource management plans and contain refinements in planning policies and implementing actions. These practices predate the project's proposal and apply to all similar projects. For this reason, the measures and practices are not considered "mitigation" under CEQA; rather, they are included as part of the project description in environmental documents.

Standard measures relevant to the protection of natural resources deemed applicable to the proposed project include:

Aesthetics Resources

AR-1: The removal of established trees and vegetation would be minimized. Environmentally sensitive areas (ESAs) would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved and root systems of trees protected.

AR-2: Where feasible, increase landscaped areas throughout the project corridor. Consider Low Impact Development (LID) treatments, such as stormwater planters, rain gardens, and street trees as appropriate.

AR-3: Consider unique patterns, colors, and materials for architectural hardscape aesthetic treatments on bulb-outs and pedestrian refuges, such as colored pavers, stamped concrete pavers, etc., as appropriate. Consider a light to medium grey color concrete for sidewalks.

AR-4: Consider streetscape furniture in areas of high use, such as seating facilities, as appropriate.

AR-5: Where feasible, construction lighting would be limited to within the area of work.

Biological Resources

BR-2: Animal Species

To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with the California Department of Fish and Wildlife (CDFW) to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

BR-3: Invasive Species

Invasive non-native species control would be implemented. Measures would include:

- Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules.
- All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the *California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region)* for all field gear and equipment in contact with water.

BR-4: Plant Species

A. Where feasible, the structural root zone would be identified around each large-diameter tree (>2-foot-diameter at breast height [DBH]) directly adjacent to project activities, and work within the zone would be limited.

B. When possible, excavation of roots of large diameter trees (>2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.

Cultural Resources

CR-1: Caltrans would coordinate with the Hopland Band of Pomo Indians and incorporate measures to protect tribal resources, including potential work windows associated with tribal ceremonies.

CR-2: An archaeological monitor and Hopland Band of Pomo Indians tribal monitor would be used during ground-disturbing activities.

CR-3: Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive cultural resources, where appropriate. No work would occur within fenced/flagged areas.

CR-4: If cultural materials are discovered during construction, work activity within a 60-foot radius of the discovery would be stopped and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).

CR-5: If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code § 7050.5. Further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) § 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

Human remains and related items discovered on federally owned lands would be treated in accordance with the Native American Graves Repatriation Act of 1990 (NAGPRA) (23 USC 3001). The procedures for dealing with the discovery of human remains, funerary objects, or sacred objects on federal land are described in the regulations that implement NAGPRA 43 Code of Federal Regulations (CFR) Part 10. All work in the vicinity of the discovery shall be halted and the administering agency's archaeologist would be notified immediately. Project activities in the vicinity of the discovery would not resume until the federal agency complies with the 43 CFR Part 10 regulations and provides notification to proceed.

Geology, Seismic/Topography, and Paleontology

GS-1: The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and BMPs. New earthen slopes would be vegetated to reduce erosion potential.

GS-2: In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.

Greenhouse Gas Emissions

GHG-1: Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality.

GHG-2: Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

GHG-3: Caltrans Standard Specification "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resources Board (CARB).

GHG-4: Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, traffic will be scheduled and directed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.

GHG-5: All areas temporarily disturbed during construction will be revegetated with appropriate native species as appropriate. Landscaping reduces surface warming and, through photosynthesis, decreases CO_2. This replanting would help offset any potential CO_2 emissions increase.

GHG-6: Pedestrian and bicycle access will be maintained during project activities.

GHG-7: For improved fuel efficiency, contractor will be required to maintain equipment in proper tune and working condition, use right sized equipment for the job, and use equipment with new technologies.

GHG-8: Maximize the use of recycled materials where feasible, such as using tire rubber in asphalt and recycled water instead of potable water for construction.

GHG-9: Reduce construction waste by reusing or recycling construction and demolition waste where feasible.

GHG-10: Pavement materials will be selected that lower the rolling resistance of highway surfaces as much as possible while still maintaining design and safety standards.

GHG-11: Long-life pavement will be specified. The design of long-lasting pavement structures will minimize life-cycle costs.

Hazardous Waste and Material

HW-1: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, § 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

HW-2: For soil disturbance/removal activities, the contractor would be required to comply with Caltrans Standard Special provisions for "Unregulated Earth Material Containing Lead," "Regulated Materials Containing Aerially Deposited Lead," and "Minimal Disturbance of Material Containing Regulated Concentrations of Aerially Deposited Lead."

HW-3: When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision "Residue Containing Lead from Paint and Thermoplastic."

HW-4: Residue from grinding activities that may contain lead will be contained in accordance with Standard Special Provisions, "Containing Lead from Paint and Thermoplastic."

HW-5: If treated wood waste (such as removal of sign posts or guardrail) is generated during this project, it would be disposed of in accordance with Standard Specification "Treated Wood Waste."

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zones.

TT-3: A Transportation Management Plan (TMP) would be applied to the project.

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to US 101 and SR 175 throughout the construction period.

UE-2: Caltrans would coordinate with utility providers to plan for relocation of any utilities to ensure utility customers would be notified of potential service disruptions before relocation.

UE-3: The project is located within the moderate and high CalFire Threat Zone. The contractor would be required to submit a jobsite fire prevention plan as required by CalOSHA before starting job site activities. In the event of an emergency or wildfire, the contractor would cooperate with fire prevention authorities.

Water Quality and Stormwater Runoff

WQ-1: Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre), that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction.

The SWPPP or WPCP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the *Caltrans Storm Water Quality Handbooks: Construction Site BMPs Manual* to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The project SWPPP or WPCP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction may require one or more of the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (e.g., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.
- Temporary sediment control and soil stabilization devices would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.

WQ-2: The project would incorporate pollution prevention and design measures consistent with the *2016 Caltrans Storm Water Management Plan*. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ) as amended by subsequent orders.

The project design may include one or more of the following:

- Vegetated surfaces would feature native plants, and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the project.
- Where possible, stormwater would be directed in such a way as to sheet flow across vegetated slopes, thus providing filtration of any potential pollutants.

WQ-3: Where feasible, increase landscaped areas throughout the project corridor. Consider Low Impact Development (LID) treatments, such as stormwater planters, rain gardens, and street trees as appropriate.

1.5. Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation supporting a Categorical Exclusion determination has been prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service—in other words, species protected by the Federal Endangered Species Act).

Chapter 2. CEQA Environmental Checklist

Environmental Factors Potentially Affected

The environmental factors noted below would be potentially affected by this project. Please see the CEQA Environmental Checklist on the following pages for additional information.

Potential Impact Area	**Impacted: Yes / No**
Aesthetics	NO
Agriculture and Forest Resources	NO
Air Quality	NO
Biological Resources	NO
Cultural Resources	**YES**
Energy	NO
Geology and Soils	NO
Greenhouse Gas Emissions	**YES**
Hazards and Hazardous Materials	**YES**
Hydrology and Water Quality	NO
Land Use and Planning	NO
Mineral Resources	NO
Noise	NO
Population and Housing	NO
Public Services	NO
Recreation	NO
Transportation	NO
Tribal Cultural Resources	NO
Utilities and Service Systems	NO
Wildfire	NO
Mandatory Findings of Significance	NO

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the project. In many cases, background studies performed in connection with the project will indicate there are no impacts to a particular resource. A "No Impact" answer in the last column of the checklist reflects this determination. The words "significant" and "significance" used throughout the checklist and this document are only related to potential impacts pursuant to CEQA. The questions in the CEQA Environmental Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project as well as standardized measures applied to all or most Caltrans projects (such as Best Management Practices [BMPs] and measures included in the Standard Plans and Specifications or as Standard Special Provisions [Section 1.4]), are an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

Project Impact Analysis Under CEQA

CEQA broadly defines "project" to include "*the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment*" (14 California Code of Regulations [CCR] § 15378). Under CEQA, normally the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. However, it is important to choose the baseline that most meaningfully informs decision-makers and the public of the project's possible impacts. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record. The CEQA Guidelines require a "statement of the objectives sought by the proposed project" (14 CCR § 15124(b)).

CEQA requires the identification of each potentially "significant effect on the environment" resulting from the action, and ways to mitigate each significant effect. Significance is defined as, "*Substantial or potentially substantial adverse change to any of the physical conditions within the area affected by the project*" (14 CCR § 15382). CEQA determinations are made prior to and separate from the development of mitigation measures for the project.

The legal standard for determining the significance of impacts is whether a "fair argument" can be made that a "substantial adverse change in physical conditions" would occur. The fair argument must be backed by substantial evidence including facts, reasonable assumption predicated upon fact, or expert opinion supported by facts. Generally, an environmental professional with specific training in an area of environmental review can make this determination.

Though not required, CEQA suggests lead agencies adopt thresholds of significance, which define the level of effect above which the lead agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and it's varied, diverse, and complex ecosystems, as a lead agency that encompasses the entire state, developing thresholds of significance on a state-wide basis has not been pursued by Caltrans. Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts in the project area based on their location and the effect of the potential impact on the resource as a whole. For example, if a project has the potential to impact 0.10 acre of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a "less than significant" determination would be considered appropriate. In comparison, if 0.10 acre of wetland would be impacted that is located within a park in a city that only has 1.00 acre of total wetland, then the 0.10 acre of wetland impact could be considered "significant".

If the action may have a potentially significant effect on any environmental resource (even with mitigation measures implemented), then an Environmental Impact Report (EIR) must be prepared. Under CEQA, the lead agency may adopt a Negative Declaration (ND) if there is no substantial evidence that the project may have a potentially significant effect on the environment (14 CCR § 15070(a)). A proposed Negative Declaration must be circulated for public review, along with a document known as an Initial Study. CEQA allows for a "Mitigated Negative Declaration" in which mitigation measures are proposed to reduce potentially significant effects to less than significant (14 CCR § 15369.5).

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar processes may be identified as mitigation if compliance would result in

implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§ 15126.4(a)(1)(B)).

Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as *avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts* (CEQA 15370). Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered "mitigation" under CEQA, these measures are often referred to in an Initial Study as "mitigation", Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

CEQA documents must consider direct and indirect impacts of a project (CAL. PUB. RES. CODE § 21065.3). They are to focus on significant impacts (14 CCR § 15126.2(a)). Impacts that are less than significant need only be briefly described (14 CCR § 15128). All potentially significant effects must be addressed.

No-Build Alternative

For each of the following CEQA Environmental Checklist questions, the "No-Build" alternative has been determined to have "No Impact". Under the "No-Build" alternative, no alterations to the existing conditions would occur and no proposed improvements would be implemented. The "No-Build" alternative will not be discussed further in this document.

2.1. Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?				✓
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
Would the project: c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				✓
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Visual Impact Assessment (VIA) dated November 16, 2021 (Caltrans 2021f). The project is not located within a state scenic highway. According to the VIA, the visual character of the project would be compatible with the existing visual character of the project corridor, which is located within a built and illuminated environment. Potential impacts to visual resources are not anticipated because the project is consistent with the Mendocino County General Plan resource management policies that pertain to scenic resources, does not degrade the existing visual character or quality of Hopland and its surroundings, and has no adverse visual effects on a scenic vista.

New lights would be consistent with existing lighting in the corridor and would not create a new source of substantial light or glare that would adversely affect views in the area. Luminaires would be selected that minimize glare and reduce light trespass and sky glow (Caltrans 2022a). Should nighttime work occur during construction requiring the use of temporary lighting, Caltrans personnel would outreach to neighbors in advance. Caltrans' Standard Specifications dictate that construction activities must not inconvenience the public or abutting property owners, and that work must be scheduled to avoid unnecessary inconvenience. Neighbors would therefore not visually be adversely affected by the project. There are no sensitive environmental conditions, such as threatened or endangered wildlife habitat or significant historical resources, that would be impacted by new lighting. No mitigation would be required for this project.

2.2. Agriculture and Forest Resources

In determining whether impacts to 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 as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project; the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: 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?				✓
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
Would the project: c) Conflict with existing zoning or cause rezoning of forest land (as defined by Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
Would the project: e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Agriculture and Forest Resources are not anticipated due to the developed urban setting of the project; therefore, no mitigation would be required.

2.3. Air Quality

Where 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.

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
Would the project: b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?				✓
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?				✓
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Traffic, Noise, Air Quality, Energy, and Greenhouse Gas Memorandum prepared by the Caltrans Department of Environmental Engineering–South, dated October 15, 2021 (Caltrans 2021b). The analysis concluded that the project is exempt from conformity requirements as Mendocino County is designated as attainment for all current National Air Quality Standards. The project would not result in changes to traffic volume, fleet mix, speed, location of existing facilities, or any other factor that would cause an increase in emissions relative to the No-Build alternative; therefore, the project would not cause an increase in long-term operational emissions.

The project may result in the generation of short-term construction-related emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, or PM10, may be generated during excavation, grading, and hauling activities. However, both fugitive dust and construction equipment would be temporary in nature. Dust and emissions would be reduced and controlled in conformance with Caltrans' Standard Specifications; therefore, potential impacts to air quality are not anticipated. No mitigation would be required for this project.

2.4. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?				✓
Would the project: b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				✓
Would the project: c) Have a substantial adverse effect on state- or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
Would the project: 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?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
Would the project: 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?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Biological Memo dated November 5, 2021 (Caltrans 2021a). The project is within the roadway prism of US 101 and SR 175 within the built community of Hopland. Existing records of special status plant and animal occurrences were reviewed to determine which special status species could potentially occur in the project area. Seasonally appropriate botanical surveys were conducted within the Environmental Study Limits (ESL) of the project in accordance with CDFW protocols. No rare or special status species were found. There was no suitable habitat observed within the ESL for special status amphibians, reptiles, fish, or terrestrial mammals. No jurisdictional waters were observed within the ESL. Potential impacts to biological resources are not anticipated due to the developed urban setting of the project, the absence of sensitive resources within the ESL, and the scope of the project. No mitigation would be required for this project.

2.5. Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?			✓	
Would the project: b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			✓	
Would the project: c) Disturb any human remains, including those interred outside of dedicated cemeteries?				✓

Regulatory Setting

The term "cultural resources", as used in this document, refers to the built environment (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under California state laws, cultural resources that meet certain criteria of significance are referred to by various terms including *archaeological resources, historic resources, historic districts*, *historical landmarks*, and *tribal cultural resources* as defined in PRC § 5020.1(j) and PRC § 21074(a). The primary state laws and regulations governing cultural resources include:

- California Historical Resources, PRC § 5020 et seq.
- California Register of Historical Resources, PRC § 5024 et seq. (codified 14 CCR § 4850 et seq.)
    - PRC § 5024, Memorandum of Understanding: The MOU between Caltrans and the State Historic Preservation Officer streamlines the PRC § 5024 process
- California Environmental Quality Act, PRC § 21000 et seq. (codified 14 CCR § 15000 et seq.)
- Native American Historic Resource Protection Act, PRC § 5097 et seq.

- Assembly Bill (AB) 52 amends California Environmental Quality Act and the Native American Historic Resource Protection Act
    - An effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment.
    - Additional consultation guidelines and timeframes
- California Native American Graves Protection and Repatriation Act, California Health and Safety Code §§ 8010-8011

Environmental Setting

Analysis of cultural resources for the proposed project included an Historic Property Survey Report (HPSR), which comprises an Historical Resources Evaluation Report (HRER), an Archaeological Survey Report (ASR) and related documents, all dated January 2022 (Caltrans 2022b). The HPSR was submitted to the State Historic Preservation Officer (SHPO) on April 26, 2022. Caltrans received concurrence on the proposed No Adverse Effect findings on May 26, 2022. The SHPO Letter of Concurrence is provided in Appendix C.

The Area of Potential Effect (APE) evaluated in these studies consists of approximately 27 acres and encompasses the maximum limits of all potential ground-disturbing construction activities associated with the proposed work including, but not limited to, all existing and proposed new right of way, temporary construction easements, utility relocations, access roads, and equipment storage areas. The APE is in the downtown part of the community of Hopland in the Sanel Valley, approximately 0.4 mile west of the Russian River which flows south through the Sanel Valley.

Methods used to support the archaeological studies included Native American and Native American Heritage Commission consultation; literature and records reviews at the Northwest Information Center, the Caltrans Cultural Resources Database, and at other repositories of historical materials; an intensive pedestrian survey of the APE; and monitoring conducted during limited subsurface testing performed in association with hazardous materials investigations and utility potholing.

The APE is in the traditional tribal territory of the Central Pomo. The present-day Hopland Rancheria and Nacomis Indian Rancheria are located approximately 2.25 miles east of downtown Hopland. The historical themes of the project area include agriculture, ranching,

and transportation, including the highway and railroad systems. There is a moderate to high sensitivity for surface resources and a low to high potential for buried deposits in the APE, depending on location. In general, the soils are 3.3 to 5.2 feet (1 to 1.6 meters) deep, making extremely deep cultural deposits unlikely. The archival efforts found that the project APE has been the subject of nine archaeological investigations. One prehistoric archaeological site and one historical site were identified in the ASR.

Methods used to support the studies for the built environment within the APE include records searches, field surveys, historical society consultation, and consultation with local archives, Mendocino County Planning Office, Mendocino County Assessor and Recorder, bibliographic research, and research through online databases. The HRER recommends thirteen built environment resources ineligible for inclusion in the National Register of Historic Places (NRHP). One built environment resource within the project area was previously found eligible for the NRHP or the California Register of Historical Resources (CRHR) through survey. This eligible building, the Thatcher Hotel, is considered a historical resource for the purpose of CEQA.

Discussion of CEQA Environmental Checklist Question 2.5—Cultural Resources

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

The first historical resource identified in the ASR is the currently unused Northwestern Pacific Railroad (NWPRR) line, managed by the Great Redwood Trail Agency, formerly the North Coast Railroad Authority. The segment of the line in the project APE was constructed by the Cloverdale & Ukiah Railroad Company between 1886 and 1889. No project work is planned at the railroad crossing. Proposed drainage work on US 101 may alter the rate of stormwater flow through the entire drain system; however, will not affect the railroad. Therefore, no impact to this historical site is anticipated.

The second historical resource identified within the APE is a prehistoric archaeological site.[1] Visibility of mineral soil was greatly hampered by the built environment including the hardscape of US 101, sidewalks, parking lots, residences, and businesses. Pedestrian surveys

[1] Archaeological site locations and culturally sensitive information are considered confidential and are therefore not disclosed within this Initial Study. Public access to this information is restricted by state and federal law to those who need to know.

performed by the project archaeologists included direct observations of exposed soils. Archaeological monitoring during hazardous materials soil testing and utility relocation potholing revealed that most of the project APE has been highly disturbed by undergrounding of utilities and drainage components of the roadways. These observations also helped to better understand the limits of the site. Potential impacts to this historical (archaeological) resource are anticipated to be less than significant due to past construction associated with the highway and utilities, observations made during subsurface testing, the scope of the project, and project planning and design intended to minimize or eliminate impacts to the archaeological site.

A third historical resource identified in the project area is a property listed in a historic register. The Thatcher Hotel, located at 13401 Highway 101, was determined eligible for the NRHP, and listed in the California Register of Historic Places (CRHP). Project activities in the vicinity of the resource would be limited to work within the road and sidewalk; therefore, the resource would not be adversely impacted by the project.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

The project is anticipated to have a less than significant impact on an archaeological resource as discussed in Question a) above. Potential impacts to this historical (archaeological) resource are anticipated to be less than significant due to past construction associated with the highway and utilities, observations made during subsurface testing, the scope of the project, and project planning and design intended to minimize or eliminate impacts to the archaeological site.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Potential impacts to human remains are not anticipated based on the scope, description, and location of the proposed project, as well as the Historical Resources Evaluation Report (Caltrans 2022b).

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, no mitigation would be required for this project.

2.6. Energy

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?				✓
Would the project: b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Traffic, Noise, Air Quality, Energy, and Greenhouse Gas Memorandum dated October 15, 2021 (Caltrans 2021b). The project would not increase capacity or provide congestion relief when compared to the No-Build alternative; therefore, potential impacts to direct energy (mobile sources) are not anticipated. The project does not include maintenance activities which would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway; thus, is unlikely to increase indirect energy consumption through increased fuel usage. Potential impacts to indirect energy (construction) are therefore not anticipated.

Project construction would primarily consume diesel and gasoline through operation of construction equipment, material deliveries, and debris hauling. Energy use associated with project construction is estimated to result in the short-term consumption of diesel- and gasoline-powered equipment, which represents a small and temporary demand on local and regional fuel supplies. This temporary demand for fuel would have no noticeable effect on peak or baseline demands for energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. No mitigation would be required for this project.

2.7. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) 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.				✓
ii) Strong seismic ground shaking?				✓
iii) Seismic-related ground failure, including liquefaction?				✓
iv) Landslides?				✓
Would the project: b) Result in substantial soil erosion or the loss of topsoil?				✓
Would the project: c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
Would the project: 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?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project site consists of flat to gently sloping topography and there is no landslide activity mapped within the project site (California Geological Survey 2019). The project site is not located within the Alquist-Priolo earthquake fault zone (California Geological Survey 2015). The project involves the reconstruction of sidewalks and related infrastructure and does not include the construction of structures or septic systems. Potential impacts to geology, soils, and paleontological resources are not anticipated; therefore, no mitigation would be required.

2.8. Greenhouse Gas Emissions

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
Would the project: b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

FEDERAL

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the *Energy Policy and Conservation Act of 1975 (42 USC Section 6201*) and *Corporate Average Fuel Economy (CAFE) Standards*. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and

motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. Environmental Protection Agency (U.S. EPA), in conjunction with the National Highway Traffic Safety Administration (NHTSA), is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

STATE

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires the CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. The CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012): Orders State entities under the direction of the Governor, including the CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): Establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs the CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e).[2] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016: Codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016: Declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies,

[2] GHGs differ in how much heat each trap in the atmosphere (global warming potential or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

AB 134, Chapter 254, 2017: Allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18 (September 2018): Sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019): Advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs the CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

Environmental Setting

The proposed project is in a rural area, with a primarily agricultural- and tourism-based economy. The population of the unincorporated community of Hopland is 920 (Data USA 2021). For visitors traveling from the south, Hopland is the first stop that offers goods and services in Mendocino County's southernmost wine-growing region. It is a popular destination for agricultural tourism, with the vast majority of visitors accessing the region by vehicle. US 101 is the main transportation route to and through the area for both passenger and commercial vehicles and serves as "main street" for the community of Hopland. The posted speed limit through Hopland is 35 miles per hour for approximately 0.67 mile.

Through traffic does not stop except to yield to pedestrians. US 101 through Hopland experiences higher traffic counts during the summer season, with congestion highest generally on summer weekends due to recreational tourism (Mendocino County Air Quality Management District [MCAQMD] n.d.). The nearest alternate route is SR 175 east to SR 29 in Lake County, then to SR 20 east to I-5 or west to US 101. SR 175 does not accommodate semi-trucks to SR 29, which requires commercial truck traffic to utilize alternate routes at significantly greater distance via Sonoma County to the south.

The Mendocino Council of Governments (MCOG) Regional Transportation Plan guides transportation development for communities within Mendocino County, including Hopland. The Mendocino County General Plan, adopted in 2009, does not specifically address GHGs or climate change.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by Health & Safety Code (H&SC) Section 39607.4.

NATIONAL GHG INVENTORY

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change (Figure 3). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2019 inventory found that total gross U.S. GHG emissions were 6,558 million metric tons carbon dioxide equivalent ($MMTCO_2e$). Overall, net emissions decreased 1.7 percent from 2018 to 2019 and 13 percent from 2005 levels. Of these, 80 percent consisted of CO_2, 10 percent were CH_4, and 7 percent were N_2O; the balance consisted of fluorinated gases. CO_2 emissions in 2019 were 2.2 percent less than 2018, but 2.8 percent greater than in 1990. As shown in Figure 4, the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021).

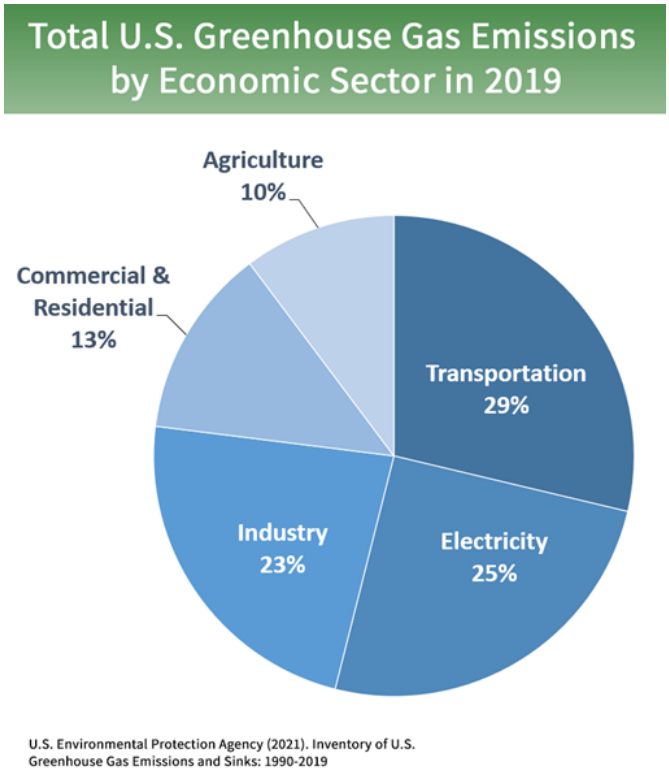

Figure 3. U.S. 2019 GHG Emissions by Economic Sector

(Source: U.S. EPA)

STATE GHG INVENTORY

The CARB collects GHG emissions data for transportation, electricity, commercial and residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2021 edition of the GHG emissions inventory reported emissions trends from 2000 to 2019. It found total California emissions were 418.2 $MMTCO_2e$ in 2019, almost 13 $MMTCO_2e$ lower than the statewide 2020 limit of 431 $MMTCO_2e$. The transportation sector was responsible for almost 40 percent of total GHGs. Transportation emissions decreased by 3.5 $MMTCO_2e$ in 2019 compared to the previous year. Overall statewide GHG emissions declined from 2000 to 2019 despite growth in population and state economic output (Figures 4 and 5) (CARB 2021).

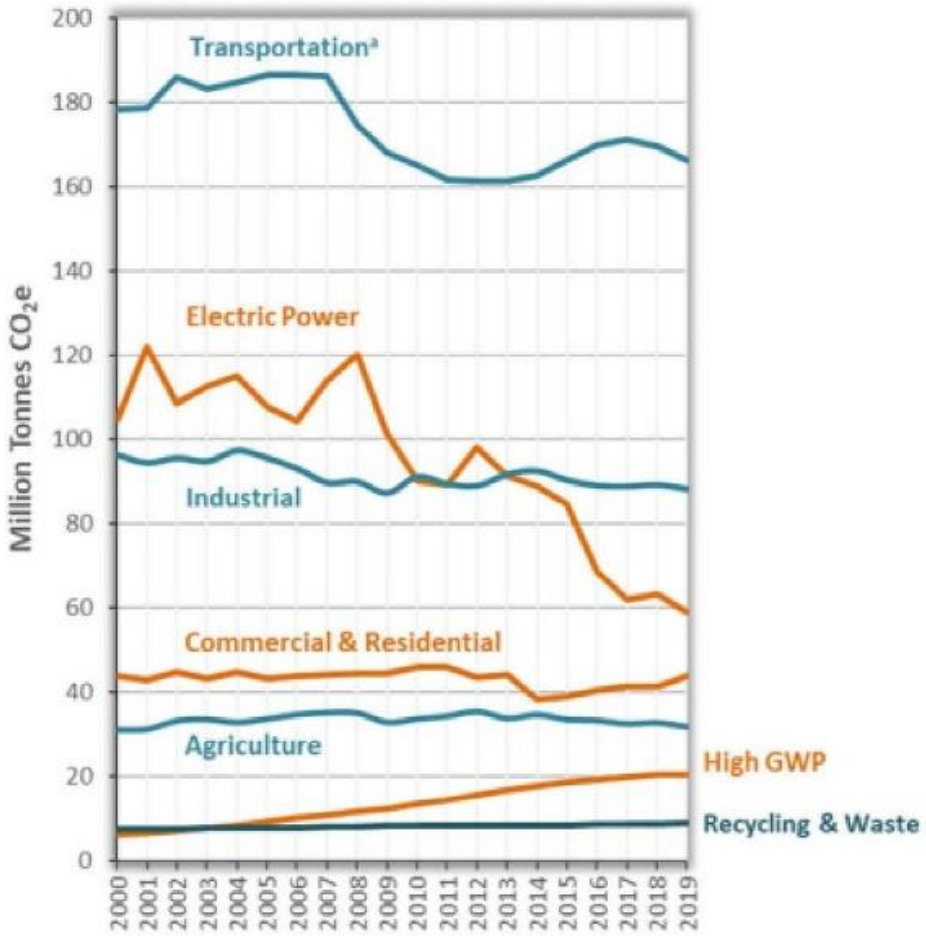

Figure 4. California 2019 GHG Emissions by Sector

(Source: CARB 2021)

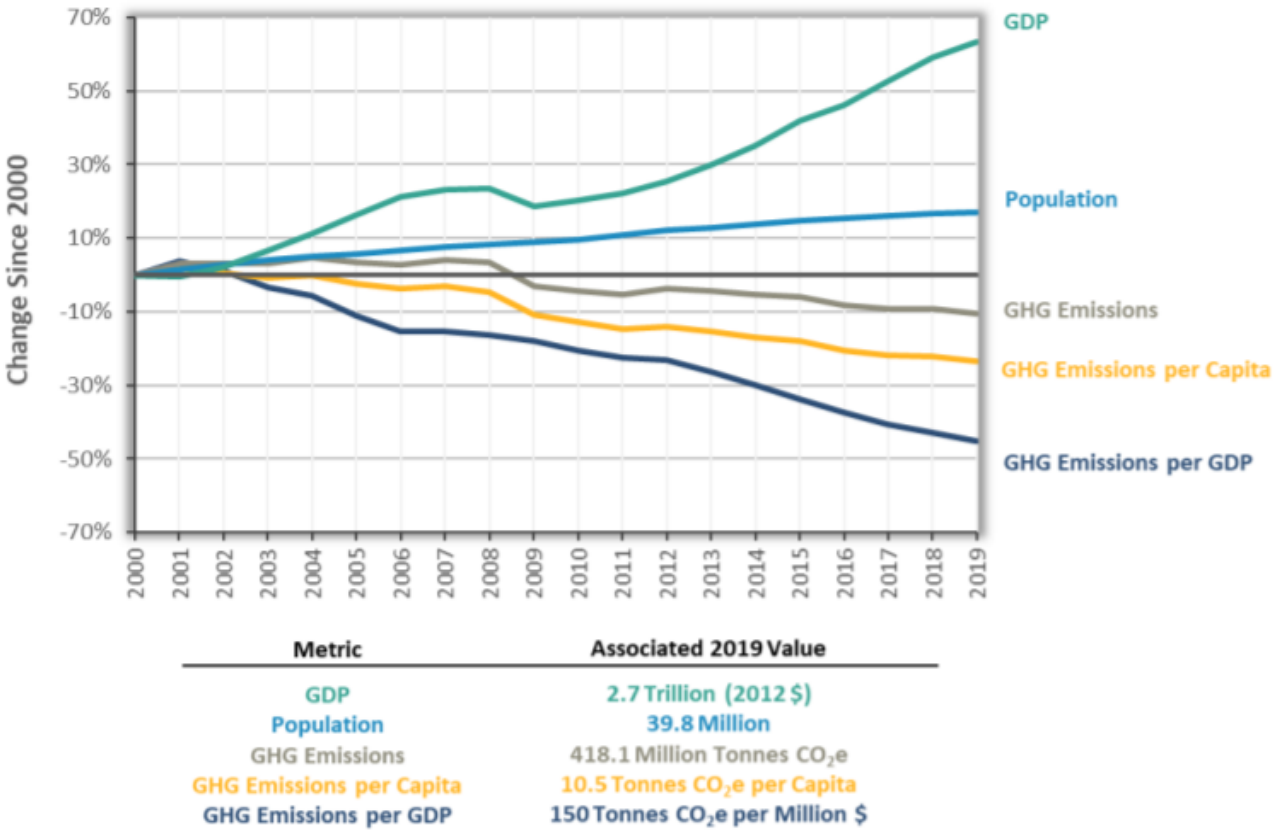

Figure 5. Change in California GDP, Population and GHG Emissions since 2000

(Source: CARB 2021)

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

REGIONAL PLANS

CARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. However, Mendocino County does not have a MPO and therefore CARB does not establish a GHG reduction target for the county. Mendocino Council of Governments (MCOG) serves as the responsible Regional Transportation Planning Agency (RTPA) for Mendocino County cities and unincorporated areas and prepares the RTP. The 2017 RTP was adopted February 5, 2018, and outlines objectives and policies intended to reduce GHGs (MCOG 2018). The stated goal is to, "Build a combination of transportation facilities that, when evaluated as a group, will result in improved air quality, reduced transportation-related air toxins and greenhouse gas emissions in Mendocino County, and a more resilient transportation network." Some of the objectives and policies proposed to support this goal are provided in Table 1.

Table 1. Mendocino County RTP Climate Change Objectives and Policies

Objectives	Policies
Invest in transportation projects and participate in regional planning efforts that will help Mendocino County residents to proportionately contribute to the California GHG reduction targets established by AB 32 and SB 375.	• Evaluate transportation projects based on their abilities to reduce Mendocino County's transportation related GHG emissions. • Prioritize transportation projects which lead to reduced GHG emissions. • Monitor new technologies and opportunities to implement energy efficient and nonpolluting transportation infrastructure. • Continue to consider bicycle transportation, pedestrian, and transit projects for funding in the STIP. • Encourage private and public investment in a countywide electric vehicle charging station network and seek funding to fill gaps in the network.
Improve resiliency of the region's transportation system to climate related impacts.	• Consider grant opportunities that would provide capital or planning funding for projects to identify and implement climate change adaptation strategies. • Encourage implementing agencies to consider strategies for climate change adaptation when designing improvements or additions to transportation networks.

Mendocino County does not have a climate action plan that specifically addresses transportation projects. In 2019, the County of Mendocino formed a Mendocino County Climate Action Advisory Committee to make recommendations to the Board of Supervisors regarding implementation of a Mendocino County Sustainability and Climate Action Program.

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code § 21083(b)(2)). As the California Supreme Court explained, "Because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines §§ 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the proposed project is to improve accessibility for pedestrians in downtown Hopland by making US 101 compliant with the ADA. The project will not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on US 101, no increase in vehicle miles traveled (VMT) would occur due to construction of the project. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase. Their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved Traffic Management Plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The 2021 Caltrans Construction Emissions Tool (CAL-CET2021) version 1.0 was used to estimate carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs) emissions from construction activities. Table 2 summarizes estimates of GHG emissions generated by onsite equipment for the proposed project. The project is anticipated to occur in 2024, over an estimated 120 working days. The carbon dioxide equivalent (CO_2e) produced during construction is estimated to be approximately 881 tons.

Table 2. Estimated Construction Emissions in U.S. Tons

Construction Duration	CO_2	CH_4	N_2O	HFC	CO_2e*
120 working days	426	0.008	0.024	0.030	881

* A quantity of GHG is expressed as carbon dioxide equivalent (CO_2e) that can be estimated by the sum after multiplying each amount of CO_2, CH_4, N_2O, and HFCs by its global warming potential (GWP). Each GWP of CO_2, CH_4, N_2O, and HFCs is 1, 25, 298, and 14,800, respectively.

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations (such as equipment idling restrictions) that reduce construction vehicle emissions also help reduce GHG emissions.

CEQA Conclusion

While the proposed project will result in GHG emissions during construction, it is anticipated the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Caltrans has determined project impacts would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

STATEWIDE EFFORTS

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals (Figure 6) that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to fifty percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

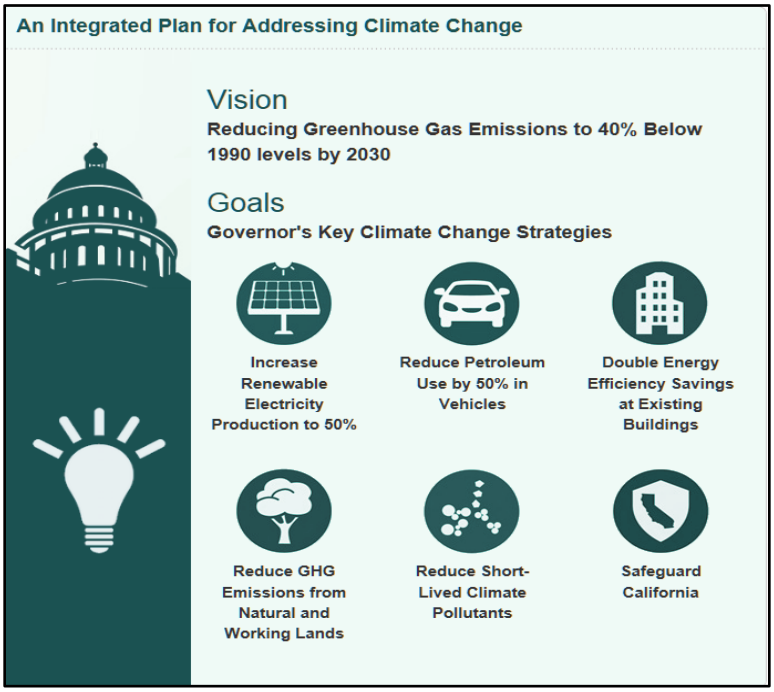

Figure 6. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016) set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which established a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, rather than continuing to expand capacity on existing roadways, California will be working to improve transit, reducing long-run repair and maintenance costs of roadways, and developing a comprehensive assessment of climate-related transportation demand management and new technologies.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiates

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project.

- Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality.
- Compliance with Title 13 of the California Code of Regulations—which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.
- Caltrans Standard Specification "Emissions Reduction" ensures construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resources Board (CARB).
- Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, traffic would be scheduled and directed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.
- Pedestrian and bicycle access will be maintained during project activities.
- For improved fuel efficiency, contractor will be required to maintain equipment in proper tune and working condition, use right sized equipment for the job, and use equipment with new technologies.

- Maximize the use of recycled materials where feasible, such as using tire rubber in asphalt and recycled water instead of potable water for construction.
- Reduce construction waste by reusing or recycling construction and demolition waste where feasible.
- Pavement materials will be selected that lower the rolling resistance of highway surfaces as much as possible while still maintaining design and safety standards.
- Long-life pavement will be specified. The design of long-lasting pavement structures will minimize life-cycle costs.

Although the project will not impact operational emissions, project features (such as culvert upsizing and improvements to the drainage system, Low Impact Development [LID] features such as landscape planters, the protection of existing vegetation, and improvements to pedestrian and bicycle facilities that will encourage walking and biking) will help reduce existing operational emissions.

Adaptation Strategies

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges, combined with a rising sea level, can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

FEDERAL EFFORTS

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance. The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the President every four years, in accordance with the Global Change Research Act of 1990 (15 USC Ch. 56A § 2921 et seq.). The Fourth National Climate Assessment, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The *U.S. DOT Policy Statement on Climate Adaptation* in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (U.S. DOT 2011).

FHWA Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014*) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

STATE EFFORTS

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (State of California 2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factors. These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of a *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions to state agencies on how to incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California—An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017 to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

CALTRANS ADAPTATION EFFORTS

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Efforts

Caltrans has considered the effects of climate change on the project. The project is not anticipated to exacerbate the effects of climate change related to flooding, hazards, and wildfire, discussed below.

Sea-Level Rise

The proposed project is located outside the Coastal Zone and is not in an area subject to sea-level rise. The nearest location that would be affected by sea-level rise is approximately 30 miles west of Hopland and 400 feet lower in elevation. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplains

A Floodplain Evaluation Report Summary was prepared for the project (Caltrans 2021c). The project site lies within the Federal Emergency Management Agency (FEMA) mapped area shown on the 06045C185F FIRMette and is classified within three flood hazard zones. The majority of the site is located within Zone AE, a Special Flood Hazard Area with a determined Base Flood Elevation (BFE) or depth. Smaller portions near the center of the project site are located within Zone X, Areas of Minimal Flood Hazard. The smallest portion of the site is classified as areas having a 0.2 percent annual chance of flood hazard or areas of

1.0 percent chance of flooding with average depth less than one foot or with drainage areas of less than one square mile.

Heavier precipitation and extreme weather events, such as the 100-year flood, may occur as a result of climate change. A 100-year flood is a flood event that has a 1 in 100 chance of being equaled or exceeded in any given year. It is a metric commonly used in the design of storm drain systems. The Caltrans Climate Change Vulnerability Assessment for District 1 (Caltrans 2019) mapped potential changes in the 100-year storm precipitation event throughout the district. The projections are based on the Representative Concentration Pathways (RCP) 8.5 Emissions Scenario. In the Hopland area, the 100-year storm depth is projected to increase over historic conditions by up to 4.9 percent in 2025 and 2055, and between 5.0 and 9.9 percent in 2085 (Caltrans 2019). Many location-specific variables make it difficult to calculate exactly how precipitation change would affect flood flows at a given site.

Drainage work would be necessary for the construction of bulb-outs and curb ramps to ensure proper drainage is provided. Drainage pipes in poor condition will be repaired or replaced. A Hydraulic Recommendations memo was prepared to evaluate site-specific hydrology and the existing storm drain system (Caltrans 2021d). Precipitation frequency estimates were reviewed using NOAA Atlas 14. This information is used to estimate flows at culverts for discharge events, based on the storm duration and average recurrence interval.

The proposed project would replace existing culvert pipe in poor condition. Where cover allows, 18-inch culverts would be replaced with 24-inch pipe. Increasing culvert diameter is anticipated to reduce the occurrence of flooding upstream of culverts and water velocities at culvert outlets, which would decrease erosion downstream of the culverts. The proposed project would improve existing storm drain facilities to better protect roadways and increase resiliency to localized flooding.

Wildfire

The project site is located within both a Local Responsibility Area (LRA) and a State Responsibility Area (SRA). Within the SRA, on the west side of US 101 north of Mountain House Road, the project site is located predominantly within the moderate fire hazard severity zone (FHSZ). Land in the northwest corner of the project site is located within the high FHSZ (CALFIRE 2021).

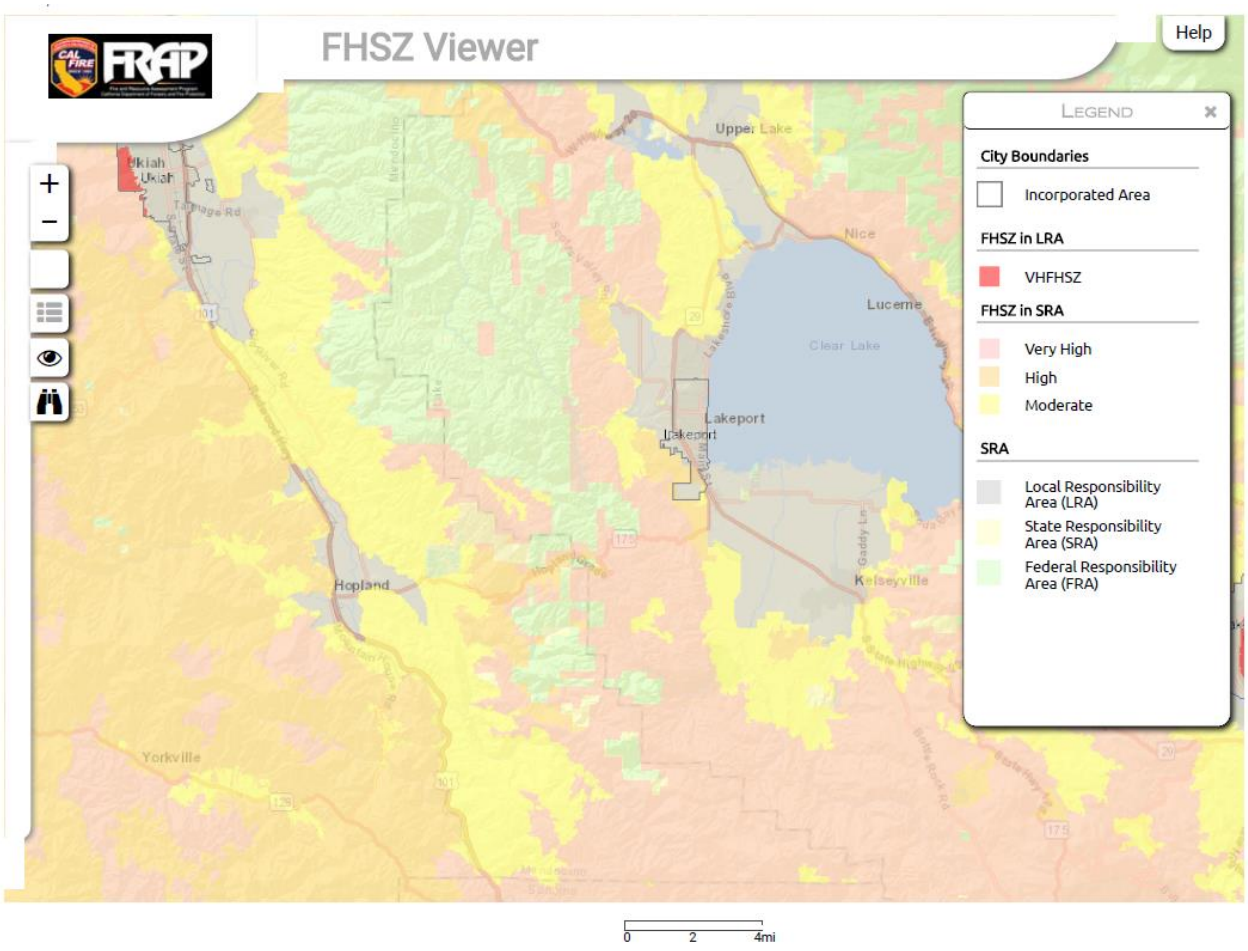

Figure 7. Fire Hazard Severity Zone Map

The *Caltrans Climate Change Vulnerability Assessment* for District 1 (Caltrans 2019) identifies US 101 within the project site as having a high level of concern for wildfire exposure. The projections are based on the Representative Concentration Pathways (RCP) 8.5 Emissions Scenario (Caltrans 2019). By 2040, US 101 through the project site is projected to have a very high level of concern for wildfire exposure. Changes in precipitation conditions due to climate change are projected to involve more frequent drought periods and storm events producing heavier rainfall, leading to an increase in fuels in already fire-prone locations.

Standard fire prevention measures would be implemented during construction, including:

- The names and emergency telephone numbers of the nearest fire suppression agencies would be posted at a prominent place at the job site.

- A Fire Prevention Plan would be required from the contractor to identify measures taken to reduce the risk of fire.
- Fires occurring within and near the project limits would be immediately reported to the nearest fire suppression agency by using the emergency phone numbers retained at the job site and by dialing 911. Performance of the work would be in cooperation with fire prevention authorities.
- Fires caused directly or indirectly by job site activities would be extinguished and escape of fires would be prevented.
- Materials resulting from clearing and grubbing would be disposed of or managed to prevent accumulation of flammable material.
- All emergency response agencies in the project area would be notified of the project construction schedule and would have access to U.S. Highway 101 and State Route 175 throughout the construction period.
- Standard Special Provision 7-1.02M(2) includes a list of fire prevention procedures that would be required by the contractor during construction.

These measures would minimize wildfire risk during construction. It is a policy of District 1 to avoid exposing plastic pipe to fire hazard, therefore culverts would be made of steel. The project would upgrade existing infrastructure and would not result in changes to the highway facilities or environment that could exacerbate fire risk.

Temperature

While substantial maximum temperature changes are expected over the project design life, no adaptive changes in pavement design or maintenance are needed due to current pavement binder specifications being within the appropriate range.

2.9. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
Would the project: b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				✓
Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
Would the project: d) Be located on a site which 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?			✓	
Would the project: e) For a project 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, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Initial Site Assessment (ISA) prepared on September 22, 2021 (Caltrans 2021e) and the Preliminary Site Investigation (PSI) Report dated September 20, 2021 (Geocon 2021). Potential impacts to the public and the environment, as described in Questions b), c), e), f), and g), are not anticipated. The project would involve upgrading sidewalks, driveways and associated infrastructure to current ADA standards and would not create significant hazards due to a reasonably foreseeable accidental release of hazardous materials. The project is not located within an airport land use plan. Although there would be temporary traffic delays during construction, all emergency response agencies in the project area would be notified of the construction schedule and would have access to US 101 and SR 175 throughout the construction period. The project would not expose people or structures to significant risks involving wildland fires. See below for further discussion of the "Less Than Significant Impact" determination made for Questions a) and d).

Regulatory Setting

The primary laws governing hazardous materials include:

- California Health and Safety Code, Chapter 6.5
- Porter-Cologne Water Quality Control Act, § 13000 et seq.
- CFR Titles 22, 23, and 27

Environmental Setting

Aerially Deposited Lead (ADL) is commonly found in soils adjacent to roadways that were heavily trafficked when leaded gasoline was in use and is likely to be encountered within the project site. Due to the project's location near current and former gas stations, there are several closed leaking underground storage tank (LUST) cleanup properties adjacent to the project site (SWRCB 2022). These LUST sites create the potential for contamination within the Environmental Study Limits (ESL) from petroleum hydrocarbons and Title 22 metals. A PSI was conducted in August 2021 to evaluate potential contamination within the project limits.

Discussion of CEQA Environmental Checklist Questions 2.9 a) and d)—Hazards and Hazardous Materials

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The location of the project would be within areas potentially containing ADL. During construction, some of this material would be excavated and either used on-site or transported to a disposal facility. To evaluate the site for hazardous concentrations of lead, soil was excavated from 0- to 2-feet depths along the shoulders of US 101 and analyzed for lead concentrations. The PSI found that soils excavated from the northbound shoulders at a depth of two (2) feet and shallower were considered non-hazardous in three out of three excavation scenarios and would qualify as non-regulated material for unrestricted use. Soils excavated from the southbound shoulders were found to be non-hazardous in two out of three excavation scenarios considered, with soils excavated from the surface to a depth of one (1) foot considered hazardous. Soils combined from both the northbound and southbound shoulders were classified the same as soils from the southbound shoulders. Depending on the excavation scenario, soils excavated from the southbound shoulders or combined with soils from the northbound shoulders, would qualify as either:

Regulated material (Type Com)–may be reused in the Caltrans right of way with no cover requirement, or alternatively, could also be disposed of at an appropriately permitted Class II/III disposal facility subject to Department of Toxic Substances Control (DTSC) requirements.

Hazardous material may also be reused in Caltrans right of way as Caltrans Type R-1 if placed at least five (5) feet above maximum historical water table elevation, covered with at least one (1) foot of Type Com or non-regulated material or pavement, and in compliance with DTSC requirements. If reuse is not an option, these soils would be considered Type Z-2 and would have to be disposed of at a Class I landfill. Potential impacts to the public as a result of the handling and transport of hazardous materials is anticipated to be *less than significant* due to the scope of the project.

d) Would the project be located on a site which 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?

The project site would be located adjacent to multiple closed LUST sites due to existing and historic gas stations in the project area. A PSI was performed to evaluate soils within the project limits for concentrations of petroleum hydrocarbons and metals. Petroleum hydrocarbons were not detected within the soil samples collected from two (2) borings adjacent to the former LUST cleanup properties, nor were obvious indicators (odors, staining or elevated photoionization detector readings) of petroleum hydrocarbon contamination observed. Title 22 metal concentrations in samples collected from the two borings were less than "Total Threshold Limit Concentrations" and generally fall within the range of naturally occurring background levels. Based on laboratory analytical results, no special handling of excavated soil in the vicinity of these borings, with respect to metals and petroleum hydrocarbons, is anticipated during construction. If obvious petroleum hydrocarbon-impacted soil conditions are encountered during construction excavations, these materials would be isolated, stockpiled and characterized to determine the appropriate soil disposal options as required by Caltrans specifications. Potential impacts to the public or the environment as a result of the project location within a hazardous materials site is anticipated to be *less than significant* due to a lack of contamination by Title 22 metals and petroleum hydrocarbons found on the site. Further, the ISA found that the project work site would not impact sites on the hazardous waste and substances site list (Cortese List).

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for this project.

2.10. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?				✓
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;				✓
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;				✓
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				✓
(iv) impede or redirect flood flows?				✓
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Water Quality Assessment Exemption Memorandum dated October 21, 2021 (Caltrans 2021g), the Floodplain Evaluation Report Summary (FERS) dated 11/17/21 (Caltrans 2021c), and Hydraulics Recommendations–0 Phase (Caltrans 2021d). The project boundaries fall within three defined flood zones along US 101, including Zone AE, a Special Flood Hazard Area. The proposed pavement reconstruction areas would occur in Zone AE; however, project activities would not occur in the floodway. The FERS finds that construction activities are not expected to have any significant adverse floodplain impacts. Drainage work would be necessary for the construction of bulb-outs and curb ramps to ensure proper drainage is provided. Drainage pipes in poor condition would be repaired or replaced. The disturbed soil area (DSA) is estimated at 2.99 acres, requiring compliance with the SWRCB Construction General Permit (CGP), including a Stormwater Pollution Prevention Plan (SWPPP). If the actual DSA were to drop below one acre, a Water Pollution Control Program would be required in lieu of a SWPPP. Appropriate construction site BMPs would be specified in the stormwater plan and deployed by the contractor to avoid or minimize water quality impacts. In addition to improving existing stormwater drainage facilities, the project would construct Low Impact Development (LID) treatments (such as stormwater planters at bulb-outs) to provide for stormwater infiltration. Potential impacts to water quality are not anticipated due to the scope and location of work to be performed. The project would have no impacts to groundwater. No mitigation is required for this project.

2.11. Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?				✓
Would the project: b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project would bring pedestrian facilities in downtown Hopland into compliance with accessibility standards by improving existing sidewalks, crosswalks, driveways, and roadways. The scope of the project does not include development that would physically divide the community; rather, the improvements would make the community more accessible and safer to navigate for pedestrians. The project is consistent with the Mendocino County Zoning Ordinance (County of Mendocino 2021) and the goals and policies of the Mendocino County General Plan (County of Mendocino 2009), including those specific to the community of Hopland identified in Chapter 6 of the MCGP. Potential impacts to land use and planning are not anticipated.

2.12. Mineral Resources

Question:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the 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?				✓
Would the project: 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?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Mineral resources, such as rock, sand, and gravel, would be used for construction of the project, primarily in the form of road base and concrete. These materials are readily available locally, and their use in the project would not cause the resource to become unavailable in the region or the state. The project site is not located on a locally important mineral resource recovery site (California Department of Conservation 2016). Potential impacts to mineral resources are not anticipated and no mitigation would be required.

2.13. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in: a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				✓
Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?				✓
Would the project result in: c) For a project located within the vicinity of a private airstrip or 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, would the project expose people residing or working in the project area to excessive noise levels?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Traffic, Noise, Air Quality, Energy, and Greenhouse Gas Memorandum dated October 15, 2021 (Caltrans 2021b). During construction, noise may be generated from the contractor's equipment and vehicles. Should nighttime work occur during construction, Caltrans personnel would outreach to neighbors in advance. Caltrans standard specifications require reduced noise levels during nighttime operations. Based on the scope of work, the project is considered a Type III project, which does not require a noise analysis, and potential traffic noise impacts are not anticipated. Noise abatement is therefore not considered.

2.14. Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project would improve the accessibility and safety of existing transportation infrastructure for pedestrians. It does not involve the development of new roads or transportation systems. Construction of driveway and sidewalk improvements would temporarily affect access to residences within the project corridor but would not displace people or housing. Potential impacts to population and housing are not anticipated and no mitigation would be required.

2.15. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services: Fire protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Fire protection services are provided by the Hopland Fire Protection District and the California Department of Forestry and Fire Protection (CALFIRE); law enforcement is provided by the Mendocino County Sheriff's Office and California Highway Patrol. Potential impacts to public services are not anticipated because operation of project improvements and the activities involved in construction of the improvements would not require additional fire or police protection, and would not increase the demand on schools, parks, or other public facilities. All emergency response agencies in the project area would be notified of the project construction schedule and would have access to US 101 and SR 175 throughout the construction period. No mitigation would be required for this project.

2.16. Recreation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project 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) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project is in the unincorporated rural community of Hopland. The nearest public recreational facility is an elementary school playground approximately 1,000 feet southwest of the project site. There are no neighborhood parks in or near downtown Hopland; therefore, construction of the project would not impact existing parks. The project does not include or require the construction of recreational facilities. For these reasons, potential impacts to recreation are not anticipated and no mitigation would be required.

2.17. Transportation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?				✓
Would the project: b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?				✓
Would the project: c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
Would the project: d) Result in inadequate emergency access?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Transportation Management Plan (TMP) dated December 8, 2020 (Caltrans 2020). The project is consistent with the Mendocino County 2017 Regional Transportation Plan adopted February 5, 2018 (MCOG 2018) and the 2017 Active Transportation Plan adopted November 6, 2017 (MCOG 2017). The Hopland ADA project does not increase capacity and is not expected to be traffic inducing; therefore, is consistent with CEQA Guidelines § 15064.3, subdivision (b) and an analysis of vehicle miles traveled (VMT) is not warranted. Potential impacts to transportation and traffic are not anticipated because the ADA improvements are intended in part to improve safety and, as such, would not result in a change to the geometric design of the roadway such that there would be increased hazards. Although there would be temporary traffic delays during construction, there would not be any permanent changes to transportation or traffic. Construction traffic would be scheduled and routed to reduce congestion. Mendocino Transit Authority (MTA) has bus stops within the project site that serve one route, which operates six days per week, stopping once in the northbound and once in the southbound direction each day. MTA would be notified at least 10

business days before the start of work for temporary closures that could potentially affect this route to allow for adjusting bus stop locations within the construction zone. Bicycles and pedestrians would be accommodated through the construction area. All emergency response agencies in the project area would be notified of the project construction schedule and would have access to US 101 and SR 175 throughout the construction period. Because no potential impacts to transportation or traffic are anticipated, no mitigation would be required.

2.18. Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or				✓
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Historic Property Survey Report and attachments dated December 2021 (Caltrans 2022b). The Native American Heritage Commission (NAHC) was contacted on December 10, 2020, by Caltrans archaeologist Ambrose Bowman with a request for a consultation list of tribes, groups, and individuals who have expressed an interest in the project vicinity and for a review of the Sacred Lands File for any potential sacred sites within the project

vicinity. The NAHC responded on February 5, 2021, indicating positive results for sacred sites were identified in the project vicinity and a list of Native American tribes, groups, and individuals for consultation was provided pursuant to Section 106. This list included two individuals from the Hopland Band of Pomo Indians. Section 106 consultation letters were sent to these individuals on February 25, 2021, with follow-up notices sent on June 2, 2021. On June 8, 2021, a response was received from the Hopland Band of Pomo Indians indicating the tribe is willing to provide consultation and monitors for a fee. The project would include monitoring by a Caltrans archaeologist and a tribal monitor from the Hopland Band of Pomo Indians.

Section 106 consultation letters were sent on December 7, 2021, to the Historical Society of Mendocino County, Anderson Valley Historical Society, Cloverdale Historical Society, Grace Hudson Museum & Sun House, and County of Mendocino Planning & Building Services. There have been no responses to date.

No significant tribal cultural resources were identified as a result of Section 106 consultation. Potential impacts to tribal cultural resources are not anticipated. Caltrans will continue to consult with the Hopland Band of Pomo Indians for the life of the project. No mitigation would be required.

2.19. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?				✓
Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?				✓
Would the project: c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
Would the project: d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				✓
Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project would include the repair and replacement of existing storm drain systems; no new or expanded drainage systems are proposed other than the upsizing of currently undersized culverts. The project would not result in new demand for water supplies or wastewater treatment and does not propose new or expanded natural gas or telecommunications systems. Expanded electric utilities may be required to power new streetlights—should Caltrans Division of Traffic Safety recommend them. PG&E provides electrical service to downtown Hopland, including power to streetlights within the Caltrans right of way. Several of the existing crosswalks are not illuminated. Traffic Safety may determine that crosswalks within the project limits that are not currently illuminated would require new streetlights. A maximum of 14 streetlights at 7 crosswalks could potentially be added. The ADA project involves soil excavation and the removal of existing concrete and pavement to adjust grades and sidewalk widths, which would allow for the installation of new electrical conduit and wire in existing utility trenches. Electricity required to power the new LED lights would be insignificant. Potential impacts to Utilities and Service Systems are therefore not anticipated, and no mitigation would be required.

2.20. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				✓
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Environmental Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. As stated in Section 2.8, the project site is located within both a Local Responsibility Area (LRA), served by the Hopland Fire Protection District, and a State Responsibility Area (SRA), served by CALFIRE. Within the SRA, located on the west side of US 101 north of Mountain House Road, the project site is predominantly within the moderate fire hazard severity zone (FHSZ). Land in the northwest corner of the project site is located within the high FHSZ (CALFIRE 2021).

The project is not located within or near a very high FHSZ. The proposed work would not impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, or expose people or structures to significant risks; therefore, potential wildfire impacts are not anticipated. No mitigation would be required.

2.21. Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have the potential to substantially 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, substantially 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) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				✓
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				✓

Discussion of CEQA Environmental Checklist Question 2.21 a)— Mandatory Findings of Significance

a) Does the project have the potential to substantially 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, substantially 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?

The project would have a less than significant impact on Cultural Resources, Greenhouse Gas Emissions, and Hazards and Hazardous Materials, whose impacts would be temporary in nature. The project would have no impact on Aesthetics, Agriculture and Forest Resources, Air Quality, Biological Resources, Energy, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire. Because the Initial Study finds the project would have no significant impacts in any subject area, the project impact to the environment would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

The Initial Study finds the project would have no significant impacts in any subject area; less than significant impacts with no mitigation required in 3 subject areas; and no impact in the remaining 17 subject areas. All impacts would be temporary in nature, occurring during construction of the project, approximately one construction season. Therefore, the project would have no impact.

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

The Initial Study finds the project would have no environmental effects which would cause substantial adverse effects on human beings. Therefore, there would be no impact.

2.22. Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative impact assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time (CEQA § 15355).

Cumulative impacts to resources may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in "…situations where the cumulative effects are found to be significant." The Initial Study finds the project would have no significant impacts in any subject area; less than significant impacts with no mitigation required in 3 subject areas; and no impact in the remaining 17 subject areas. All impacts would be temporary in nature, occurring during construction of the project, approximately one construction season. Given this, an EIR and CIA were not required for this project.

Chapter 3. Agency and Public Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures, and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, social media postings, public meetings, public notices, and Project Development Team (PDT) meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The PDT provided a brief presentation of the project to the Hopland Municipal Advisory Council (MAC) on June 16, 2021, and received preliminary comments from members of the Hopland MAC and attendees. A project web page was developed to provide access to the Initial Study, a link to sign up for notifications about the project, and an email address for questions and comments. The Notice of Intent (NOI) to Adopt an Initial Study with Negative Declaration was emailed to all agencies and interested parties on the distribution list in Chapter 5. The NOI, which included the project web page link and email address, was posted in the Ukiah Daily Journal on Sunday, April 3, 2022. Project notices were also posted on social media platforms, Facebook and Twitter. A community meeting to provide an overview of the project and to receive comments from the public was hosted virtually on Tuesday, April 12, 2022, at 6:00 p.m. There were 8 attendees, including two local agency representatives and one tribal representative. The meeting was recorded and posted to the project web page for viewing on April 18, 2022.

Coordination with Agencies

The NOI and IS/ND were posted to the Office of Planning and Research's CEQA Submit web portal for review and comment by state agencies for a period of 34 days. No comments were received through this platform during the comment period. The NOI was sent by mail and email to the public agencies on the distribution list in Chapter 5. Three comment letters were received from Mendocino County Department of Transportation (MCDoT); MCDoT acting as the Hopland Lighting District and the Hopland MAC. These letters and responses to the letters are provided in Appendix D.

Caltrans staff met several times with the MCDoT Director Howard Dashiell and the MCOG Executive Director Nephele Barrett to explore opportunities for pedestrian lighting in the project corridor. Caltrans was able to identify opportunities to install conduit for electric pedestrian lighting or to install solar pedestrian lighting. However, funding for materials and installation for electric lighting, and responsibility and funding for maintenance remain unresolved. Caltrans will continue to cooperate with MCDoT and MCOG on future pedestrian lighting opportunities within the project corridor. A request for concurrence with a No Adverse Effect findings was submitted to SHPO on April 26, 2022. A letter of concurrence from SHPO was received on May 26, 2022.

Coordination with Property Owners

Permits to enter were obtained in 2021 and 2022 to access several properties within the project Environmental Study Limits to perform environmental studies. The NOI was mailed to owners and occupants of properties adjacent to the project area. Questions from property owners within the project corridor were received and responded to by phone and email. There were no comments received from property owners during the comment period.

Coordination with Tribes

Native American Consultation was conducted by Caltrans archaeologist Ambrose Bowman. In February and June 2021, Section 106 consultation notices were sent to the Hopland Band of Pomo Indians. A response was received in June 2021. The NOI was mailed and emailed to the Tribe; no comments were received. A tribal representative was in attendance at the April 12, 2022, virtual community meeting. Caltrans will continue to consult with the Hopland Tribe and other interested tribes throughout the life of the project.

Circulation

The Initial Study circulated to the public for 34 days between April 1, 2022, and May 4, 2022.

Chapter 4. List of Preparers

The following individuals performed the environmental work on the project:

California Department of Transportation, District 1

Ambrose Bowman	Environmental Planner (Archaeologist)
Asadollah Noorozi	Transportation Engineer (Lead Project Engineer)
Brandon Larsen	Supervising Environmental Planner (Environmental Office Chief)
Celeste Redner	District Hydraulic Engineer (Hydraulics and Floodplains)
Christian Figueroa	Engineering Geologist (Hazardous Waste/Paleontology)
Felicia Zimmerman	Associate Environmental Planner (Climate Change)
George Tokmakov	Senior Transportation Engineer (Acting Design Branch Chief)
Jacob Hilliard	Associate Environmental Planner (Biologist)
Julie East	Senior Environmental Planner (Branch Chief)
Julie Price	Associate Environmental Planner (Coordinator)
Karen Radford	Associate Environmental Planner (Technical Editor)
Kazeem Alabi	Senior Transportation Engineer (Design Branch Chief)
Kristina Crawford	Associate Environmental Planner (Archaeologist)
Laura Lazzarotto	Landscape Associate (Aesthetics)
Lorna McFarlane	Senior Resource Specialist (Climate Change)
Reed Crane	Environmental Planner (Water Quality)

Risa Okuyama	Environmental Planner (Biologist)
Saeid Zandian-Jazi	Transportation Engineer (Air, Noise, Greenhous Gas, Energy)
Shakiba Shenyani	Transportation Engineer (Assistant Project Engineer)
Sonia Miller	Associate Environmental Planner (Archaeological History)

Chapter 5. Distribution List

Federal and State Agencies

Governor's Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

California Transportation Commission
1120 N Street, MS 52
Sacramento, CA 95814

Daniel Breen, U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, CA 94103

Greg Schmidt, U.S. Fish and Wildlife Service
1655 Heindon Road
Arcata, CA 95518

Jennifer Olson, California Department of Fish and Wildlife
619 Second Street
Eureka, CA 95501

Andrew Trent, National Marine Fisheries Service
777 Sonoma Avenue
Santa Rosa, CA 95404

Bob Coey, National Marine Fisheries Service
777 Sonoma Avenue
Santa Rosa, CA 95404

Susan Stewart, North Coast Regional Water Quality Control Board
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403-1072

Regional/County/Local Agencies

Howard Dashiell, Mendocino County Department of Transportation
340 Lake Mendocino Drive
Ukiah, CA 95482

Katrina Bartolomie, Mendocino County Clerk
501 Low Gap Road, Room 1020
Ukiah, CA 95482

Nephele Barrett, Mendocino Council of Governments
525 South Main Street, Suite B
Ukiah, CA 95482

Hopland Municipal Advisory Council
c/o Julie Golden
P.O. Box 340
Hopland, CA 95449

Jacob King, Mendocino Transit Authority
241 Plant Road
Ukiah, CA 95482

Julia Krog, Mendocino County Department of Planning & Building Services
860 North Bush Street
Ukiah, CA 95482

Local Elected Officials

Glenn McGourty, Mendocino County Board of Supervisors (1st District)
501 Low Gap Road, Room 1010
Ukiah, CA 95482

Interested Groups, Organizations, and Individuals

Sonny Elliott, Hopland Band of Pomo Indians
3000 Shanel Rd
Hopland, CA 95449

Utilities, Service Systems, Businesses, and Other Property Owners

Great Redwood Trail Agency
419 Talmage Road, Suite M
Ukiah, CA 95482

Pacific Gas & Electric Company
111 Stony Circle
Santa Rosa, CA 95401

AT&T California
2125 Occidental Road
Santa Rosa, CA 95401

Hopland Public Utility District
P.O. Box 386
Hopland, CA 95449

Chapter 6. References

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_____. 2021e. *Initial Site Assessment (Update)*

_____. 2021f. *Visual Impact Assessment*

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Appendix A. Project Layouts

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

DESIGN ONLY

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

- CONSTRUCT NEW/ UPGRADE EXISTING CURB RAMP
- HIGH VISIBILITY CROSSWALK
- CROSSWALK
- DRIVEWAY UPGRADE
- CONSTRUCT/RECONSTRUCT SIDEWALK
- EXIST SIDEWALK
- ROADWAY RECONSTRUCTION
- TEMPORARY CONSTRUCTION EASEMENT
- ROADWAY OVERLAY
- RW ACQUISITION
- POTENTIAL STAGING AREA
- GUARDRAIL
- APPROX. RW
- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- sd EXISTING DRAINAGE
- sd REPLACE EXISTING DRAINAGE SYSTEM
- sd PROPOSED DRAINAGE
- CUT/FILL LINE
- EXIST FENCE/RAILING

CURVE DATA					
LINE	No. #	R	Δ	T	L
A	1	2,800.00'	15°44'12"	386.95'	769.04'

LAYOUT

SCALE: 1"=20'

L-1

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 05-24-22 | DATE PLOTTED => 5/24/2022 | TIME PLOTTED => 1:49:47 PM

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY
DESIGN ONLY

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

LEGEND

- CONSTRUCT NEW/ UPGRADE EXISTING CURB RAMP
- HIGH VISIBILITY CROSSWALK
- CROSSWALK
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- CONSTRUCT/RECONSTRUCT SIDEWALK
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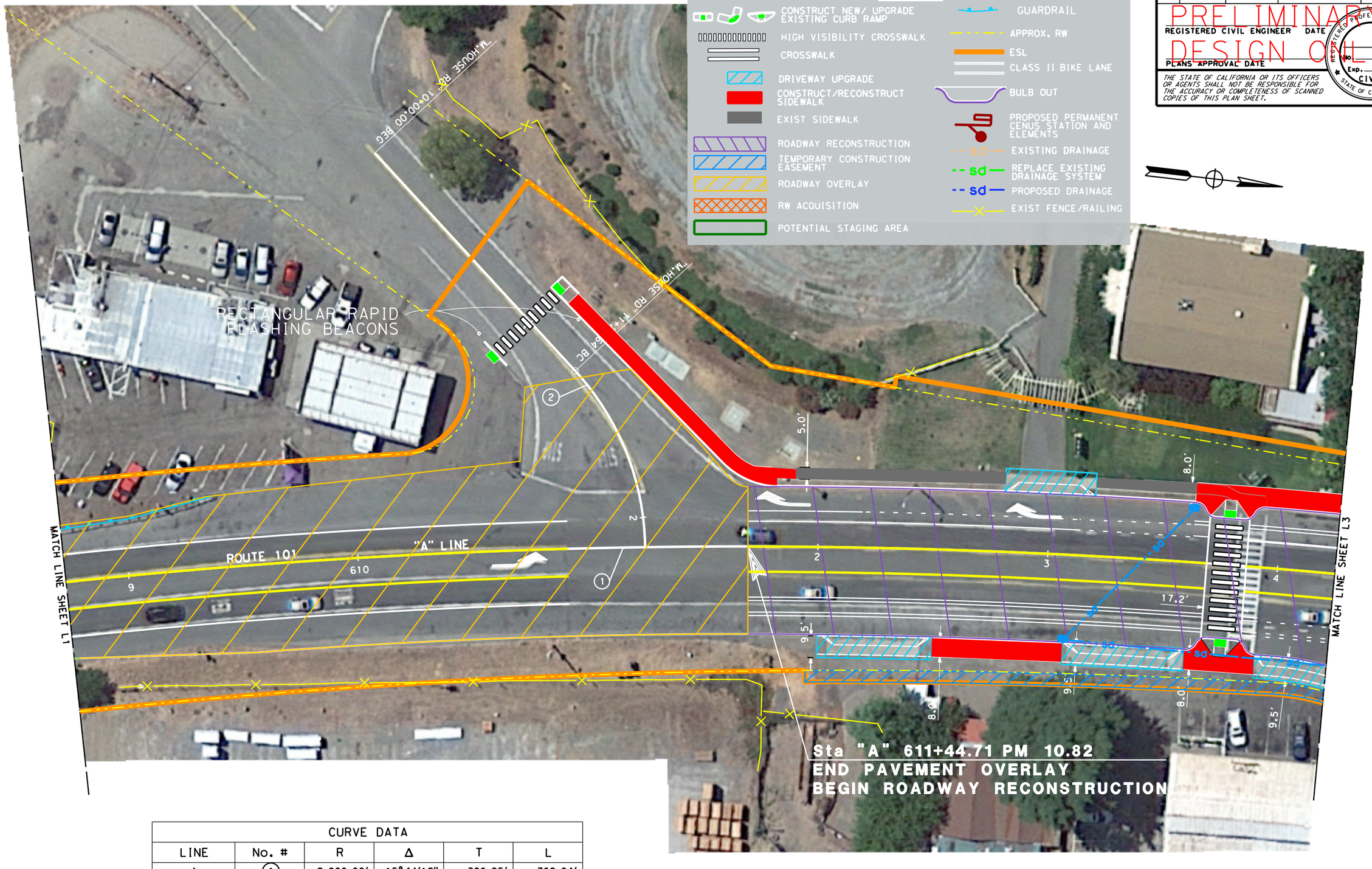
- GUARDRAIL
- APPROX. RW
- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- sd EXISTING DRAINAGE
- sd REPLACE EXISTING DRAINAGE SYSTEM
- sd PROPOSED DRAINAGE
- EXIST FENCE/RAILING



CURVE DATA					
LINE	No. #	R	Δ	T	L
A	(1)	2,800.00'	15°44'12"	386.95'	769.04'
M.HOUSE	(2)	115.00'	41°46'12"	43.88'	83.84'

LAYOUT
SCALE: 1"=20'

L- 2

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

DESIGN ONLY

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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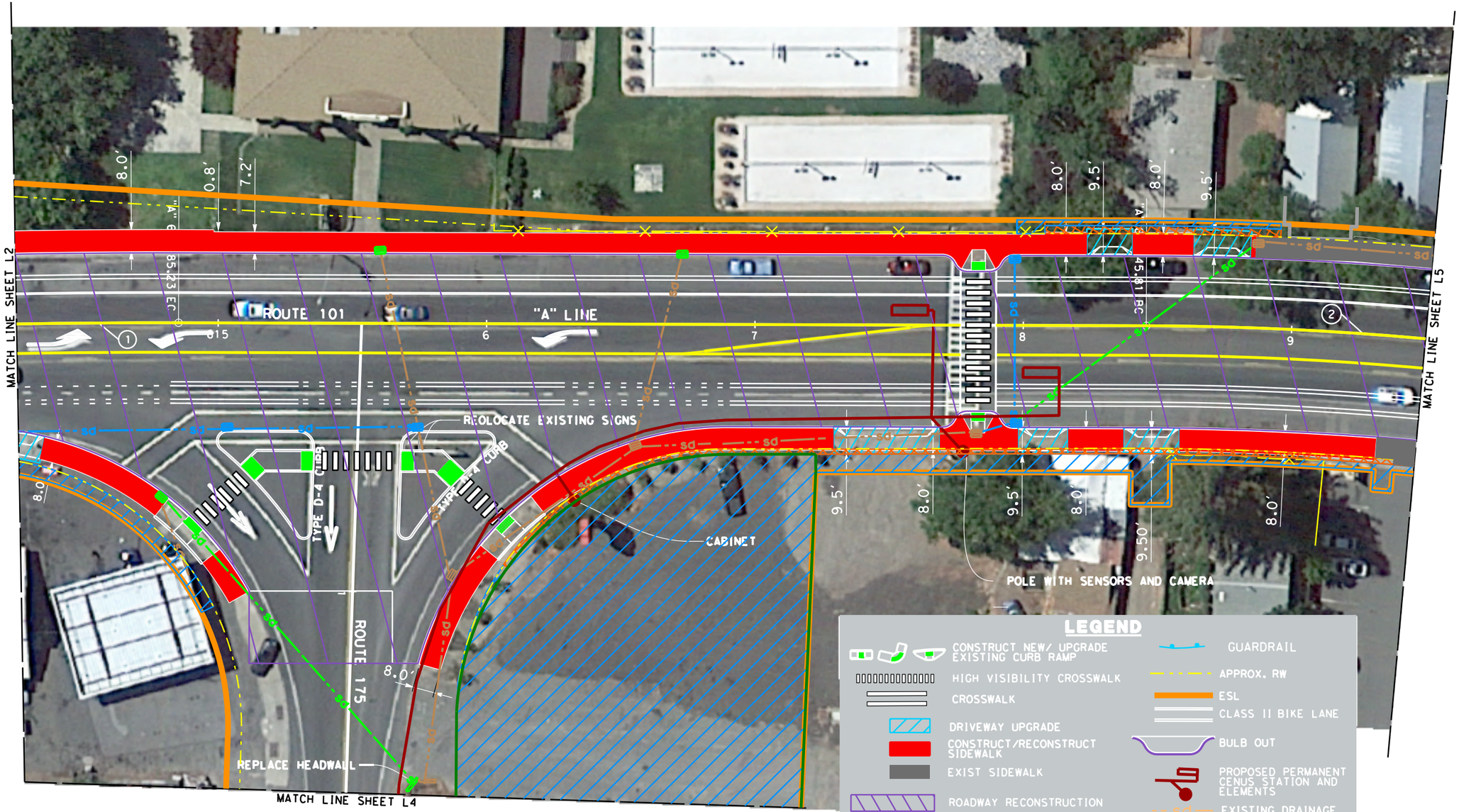
FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans



LEGEND

- CONSTRUCT NEW/ UPGRADE EXISTING CURB RAMP
- HIGH VISIBILITY CROSSWALK
- CROSSWALK
- DRIVEWAY UPGRADE
- CONSTRUCT/RECONSTRUCT SIDEWALK
- EXIST SIDEWALK
- ROADWAY RECONSTRUCTION
- TEMPORARY CONSTRUCTION EASEMENT
- ROADWAY OVERLAY
- RW ACQUISITION
- POTENTIAL STAGING AREA
- GUARDRAIL
- APPROX. RW
- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- sd EXISTING DRAINAGE
- sd REPLACE EXISTING DRAINAGE SYSTEM
- sd PROPOSED DRAINAGE
- EXIST FENCE/RAILING

CURVE DATA					
LINE	No. #	R	Δ	T	L
A	(1)	2,800.00'	15°44'12"	386.95'	769.04'
	(2)	1,200.00'	22°36'45"	239.92'	473.60'

LAYOUT

SCALE: 1"=20'

L- 3

LAST REVISION 05-24-22

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BORDER LAST REVISED 7/2/2010

USERNAME =>

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0350

PROJECT NUMBER & PHASE 0117000115

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

DESIGN ONLY

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

LEGEND

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- HIGH VISIBILITY CROSSWALK
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- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- EXISTING DRAINAGE
- REPLACE EXISTING DRAINAGE SYSTEM
- PROPOSED DRAINAGE
- EXIST FENCE/RAILING

GRADE TO DRAIN

POLE WITH SENSORS AND CAMERA

sd sd sd sd sd

"SR175" LINE ROUTE 175

2 3 4

"SR175" 104+69.09 END

MATCH LINE SHEET L3

PAD WITH POWER BOX

LAYOUT

SCALE: 1"=20'

L- 4

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

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Caltrans

RECTANGULAR RAPID FLASHING BEACON

RECTANGULAR RAPID FLASHING BEACON

CENTER Dr

CENTER Dr

FIRST St

PROPOSED PERMANENT EASEMENT

ROUTE 101

"A" LINE

"E.CENTER" 202+28.90 END

MATCH LINE SHEET L3

MATCH LINE SHEET L6

CURVE DATA					
LINE	No. #	R	Δ	T	L
A	(2)	1,200.00'	22°36'45"	239.92'	473.60'

LEGEND

- CONSTRUCT NEW/ UPGRADE EXISTING CURB RAMP
- HIGH VISIBILITY CROSSWALK
- CROSSWALK
- DRIVEWAY UPGRADE
- CONSTRUCT/RECONSTRUCT SIDEWALK
- EXIST SIDEWALK
- ROADWAY RECONSTRUCTION
- TEMPORARY CONSTRUCTION EASEMENT
- ROADWAY OVERLAY
- RW ACQUISITION
- POTENTIAL STAGING AREA
- GUARDRAIL
- APPROX. RW
- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- sd — EXISTING DRAINAGE
- sd — REPLACE EXISTING DRAINAGE SYSTEM
- sd — PROPOSED DRAINAGE
- EXIST FENCE/RAILING

LAYOUT

SCALE: 1"=20'

L- 5

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY

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- GUARDRAIL
- APPROX. RW
- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- sd EXISTING DRAINAGE
- sd REPLACE EXISTING DRAINAGE SYSTEM
- sd PROPOSED DRAINAGE
- EXIST FENCE/RAILING

LAYOUT

SCALE: 1"=20'

L- 6

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	10.7-11.2		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

DESIGN ONLY

PLANS APPROVAL DATE

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LEGEND

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- HIGH VISIBILITY CROSSWALK
- CROSSWALK
- DRIVEWAY UPGRADE
- CONSTRUCT/RECONSTRUCT SIDEWALK
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- TEMPORARY CONSTRUCTION EASEMENT
- ROADWAY OVERLAY
- RW ACQUISITION
- POTENTIAL STAGING AREA
- GUARDRAIL
- APPROX. RW
- ESL
- CLASS II BIKE LANE
- BULB OUT
- PROPOSED PERMANENT CENUS STATION AND ELEMENTS
- sd EXISTING DRAINAGE
- sd REPLACE EXISTING DRAINAGE SYSTEM
- sd PROPOSED DRAINAGE
- EXIST FENCE/RAILING

LAYOUT
SCALE: 1"=20'

L- 7

REVISED BY | DATE REVISED

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FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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Appendix B. Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

September 2021

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "*No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance*."

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi .

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

Appendix C. SHPO Letter of Concurrence

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

May 31, 2022

VIA EMAIL

In reply refer to: FHWA_2022_0203_001

Mr. David Price
Section 106 Coordinator
Cultural Studies Office
Caltrans Division of Environmental Analysis
1120 N Street, MS-27
Sacramento, CA 95814

Subject: Finding of No Adverse Effect for the Hopland ADA Project (EA 01-0H140), US 101 Hopland, Mendocino Counties, California.

Dear Mr. Price:

The Office of Historic Preservation (OHP) received a consultation letter dated April 28, 2022 from the California Department of Transportation (Caltrans) for the above referenced undertaking. Caltrans is continuing consultation with the State Historic Preservation Officer (SHPO) in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA). Pursuant to Stipulation X.B.2.b of the Section 106 PA, Caltrans is seeking SHPO review and comment on a finding of no adverse effect with non-standard conditions for this undertaking. Enclosed with Caltrans' letter is a Finding of No Adverse Effect (FNAE) and attachments.

In previous consultation, Caltrans' efforts identified the following three historic properties within the area of potential effects (APE):

- Thatcher Hotel (P-23-005522): Previously found eligible for listing in the National Register.
- CA-MEN-3111H: Northwestern Pacific Railroad. Assumed eligible under Criterion A of the National Register of Historic Places (NRHP) due to large size and limited potential for effects, pursuant to Stipulation VIII.C.4 of the Section 106 PA.
- CA-MEN-[redacted] site. Assumed eligible for listing under Criterion D of the NRHP due to large size and limited potential for effects, pursuant to Stipulation VIII.C.4 of the Section 106 PA.

Caltrans has applied the criteria of adverse effect and has determined that the undertaking will not adversely affect the Thatcher Hotel, CA-MEN-3111H, and -MEN[redacted]. The undertaking will not alter any of the characteristics or affect the integrity that would qualify the Thatcher Hotel and CA-MEN-3111H for the NRHP. Construction planned within the boundaries of CA-MEN-[redacted] As described in Caltrans' FNAE, while the portion of the property located within the APE's area of direct impact (ADI) will be affected, effects will not be adverse [redacted] Effects to the portion of CA-MEN-[redacted] located outside of the ADI will be avoided through the establishment of a vertical and horizontal environmentally sensitive area (ESA), archaeological monitoring areas (AMA), and the April 2022 Post-Review Monitoring Discovery Plan (PRMDP).

Caltrans proposes a finding of no adverse effect for the undertaking and requests SHPO concurrence on this finding pursuant to Stipulation X.B.2.b of the Section 106 PA. Based on a review of Caltrans' submitted documentation and proposed conditions to implement an ESA, AMA and PRMDP to avoid adverse effects to historic properties within the APE, **I do not object** to this finding.

If you have any questions, please contact Associate State Archaeologist Alicia Perez at alicia.perez@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Appendix D. Response to Public Comments

COUNTY OF MENDOCINO
DEPARTMENT OF TRANSPORTATION
340 LAKE MENDOCINO DRIVE · UKIAH · CALIFORNIA · 95482

HOWARD DASHIELL, DIRECTOR
Telephone 707-463-4363
FAX 707-463-5474
dot@co.mendocino.ca.us
www.co.mendocino.ca.us/transportation

TO: Julie Price
Associate Environmental Planner – Coordinator
Caltrans District 1, North Region Environmental

DATE: 4/4/22

FROM: Howard N. Dashiell, Director Mendocino County Department of Transportation (MCDoT)

SUBJECT: COMMENTS - Draft Initial Study with proposed Negative Declaration (IS/ND) MEN – 101 (Post Miles 10.80 to 11.20) EA 01-0H140 / EFIS 0117000115 U.S. Highway 101 and State Route 175 in Hopland, California.

I note that your "Environmental Study Limits" (ESL) - "Area of Potential Effect" APE maps show some tie(s) into existing sidewalks on Center Drive & 1st Street. Just for the record MCDoT follows California Streets & Highway Code Sec 5610 - owner maintenance of sidewalks - requires that the maintenance and repair of public sidewalks be the responsibility of the property owner. Consequently the sidewalk connections shown on Layout Sheet L-4, e.g. The Hopland Inn (Historically Thatcher Hotel), McDowell Tasting Room and the1st Street apartments will connect to sidewalks built by those businesses and maintained as their encroachments in some cases in the County Right-of-Way and/or partially on the adjacent parcel.

Be advised that MCDoT will support these connection and issue whatever permits or agreements necessary to make improved pedestrian access but Caltrans should understand that often those adjacent pedestrian facilities were built by the owners to function as a hybrid street and business access purpose so any modifications might also involve those property owners – not just MCDoT.

Specifically, there appears to be a "bulb out and ramp" improvement at the southeast corner of US 101 & Center Drive that both connects to the hotel sidewalk and also drops off into the paved street? That is fine just know that pedestrians who walk down that ramp will simple be walking along the south edge of Center Drive as the sidewalk is up next to the hotel.. That is fine as California Vehicle Code says where there are no sidewalks pedestrian shall walk as far to the right edge of the road as possible.

I just want to be clear that the County does not have pedestrian system on those side streets.

Caltrans' Response to April 4, 2022, MCDoT Comment Letter from Director Howard Dashiell

Caltrans is aware that MCDoT requires that the maintenance and repair of sidewalks are the responsibility of the property owner and that existing sidewalks on the cross streets, in some cases within the County right of way, were likely built by property owners/businesses. The proposed improvements will connect to some of these existing sidewalks. Due to the narrow width of the existing sidewalk on the south side of Center Drive adjacent to the Thatcher Hotel (aka The Hopland Inn), we understand that the proposed bulb out and ramp at the southeast corner of US 101 and Center Drive connects to the south edge of Center Drive and not to a sidewalk. Our Right of Way unit will be communicating with property owners and MCDoT where private property and County right of way will be affected by the project.

COUNTY OF MENDOCINO
HOPLAND LIGHTING DISTRICT
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TO: Julie Price
Associate Environmental Planner – Coordinator
Caltrans District 1, North Region Environmental

DATE: 4/4/22

FROM: Howard N. Dashiell, Lighting District Coordinator

SUBJECT: **COMMENTS** - Draft Initial Study with proposed Negative Declaration (IS/ND) MEN – 101 (Post Miles 10.80 to 11.20) EA 01-0H140 / EFIS 0117000115 U.S. Highway 101 and State Route 175 in Hopland, California.

Page 19 &20: CEQA checklist - "*Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? - NONE" & "New streetlights would be consistent with existing lighting in the corridor and would not create a new source of substantial light or glare that would adversely affect views in the area. Neighbors and highway users would not visually be adversely affected by the project. No mitigation would be required for this project.*"

1. Comment – Agree, existing lights are Caltrans Standard plan ES-6E Lighting Standard-Types 30 & 31... dark sky type; however, if added lights are to be decorative lights then approved PG&E dark sky type should selected if to be maintained on an ongoing basis by Hopland Lighting District.

Page 75 & 76: "*No Impact" determinations in this section are based on the scope, description, and location of the proposed project… Expanded electric utilities may be required to power new streetlights—should Caltrans Division of Traffic Safety recommend them. PG&E provides electrical service to downtown Hopland, including power to streetlights within the Caltrans right of way. Several of the existing crosswalks are not illuminated. Traffic Safety may determine that crosswalks within the project limits that are not currently illuminated would require new streetlights. A maximum of 14 streetlights at 7 crosswalks could potentially be added. The ADA project involves soil excavation and the removal of existing concrete and pavement to adjust grades and sidewalk widths, which would allow for the installation of new electrical conduit and wire in existing utility trenches. Electricity required to power the new LED lights would be insignificant*"…"*Potential impacts to Utilities and Service Systems are therefore not anticipated, and no mitigation would be required*"…

2. Comment – Agree, should Caltrans desire that the Hopland Lighting District extend service from the present lighting electrical circuits to power these 14 additional street lights then Caltrans would need to coordinate with PG&E in order maintain on an ongoing LS 1 Lighting District compliance.
3. Furthermore, should the decision be made to ask the Hopland Lighting District to be responsible additional decorative poles & luminaires then those lights should meet PG&E standards attached.

For the record, the Hopland Lighting District is a special benefit assessment district with the Mendocino County Board of Supervisors also acting as the District Board of Directors. The stated purpose of the lighting is property security (lighting to reduce crime & vandalism) and all costs are paid as a portion of tax collected from parcels in the district. I believe that additional lights (up to 14) to improve ADA access and pedestrian safety could also be found to serve the property security purpose and would likely be supported District Board of Directors. However, that commitment would require formal Board action.

Prepared by: SXZO

LED DECORATIVE AND AREA STREETLIGHTING 076265

Asset Type:	Streetlights	**Function:**	Streetlighting
Issued by:	Maylen Yue (MXY8)	**Date:**	12-17-2020

Rev. #04: This document replaces PG&E Document 076265 Rev. #03. For a description of the changes, see Page 28.

Purpose and Scope

This document provides guidance for the selection and material ordering of light-emitting diode (LED) decorative streetlighting fixtures and LED area lighting fixtures.

General Information

This document contains technical specifications and material codes for LED streetlighting fixtures and parts as follows:

- Pictorial Index to LED Fixtures and Parts Approved for Purchase (Page 3)
- Post-Top and Pendant Style LED Decorative Fixtures, Replacement Globes, and Accessories (Table 1 – Table 31)
- LED Area Floodlights and Brackets (Table 32 – Table 35)

Documents for related posts and poles, bracket arm assemblies, and foundation design are included in Streetlighting Poles and Foundations (015136).

References	Location	Document
Streetlighting Poles and Foundations	OH:Streetlights	015136
Identification (Badging) of Streetlight Fixtures	OH:Marking	015137

General Notes

1. When installing new streetlights or retrofitting existing streetlights with fixtures, consider the need for a lighting design study to evaluate the appropriate fixture distribution pattern (IES type), light output, and correlated color temperature (CCT) for the application. Selection of a suitable fixture is the decision of the Customer of Record and will depend upon numerous factors, including the specific application parameters (mounting height, street width, etc.), design criteria, and/or community preference. Contact the Streetlight Asset Strategy team if there are questions or if assistance is needed.
2. Electric Rate Schedule LS-1, PG&E-Owned Street and Highway Lighting, has provisions for LED streetlights. Based on the provisions of Rate Schedule LS-1 in effect at the time, applicants requesting LED fixtures may be required to pay either the upfront installed cost difference between the HPSV fixture and the equivalent LED fixture, or the monthly LED Incremental Facility Charge.
3. All post top fixtures shall be designed for mounting on a 3" diameter tenon and may be installed on any of the posts listed in 015136 Streetlighting Poles and Foundations. They may also be installed in pairs on some posts, in the Decorative Poles and Crossarms section of 015136 Streetlighting Poles and Foundations.
4. Posts and poles are not designed to support loads, such as traffic signals or signs, banners, cables, or lights other than the designated fixtures.
5. Pendant style fixtures shall be designed for mounting on single and double-arm assemblies found in the Decorative Poles and Crossarms section of 015136 Streetlighting Poles and Foundations.

6. Long life LED rated photocontrols should be used with LED fixtures (use only code M351173 for LED fixtures). Photocontrols are not included in the fixture code. One photocontrol must be ordered for each fixture.

7. Photocontrols on inactive or de–energized streetlights should be replaced with "red open cap" dummy photocells (Code M351501).

8. LED streetlights have external identification decals indicating both wattage and CCT for field identification. The manufacturers are required to affix 1.5"x1.5" identification decals to the base of the fixtures, facing street side. There should be one decal for wattage and one decal for CCT.

9. The availability of specific fixture styles and colors are dependent on the availability from manufacturers. Requests for material or material codes that are not available at the time of order placement should be forwarded to Streetlight Asset Strategy so the selection of an equivalent available product can be made for substitution. LED decorative streetlights should not be stocked. The technology is rapidly evolving and any stocked fixtures could quickly become obsolete.

10. The distribution of light from each fixture is identified by the Illuminating Engineering Society (IES) number associated with the fixture. The IES light distribution patterns for the fixtures in this document are illustrated below:

Figure 1
Light Distribution Classifications
(IES Light Patterns)

LED Decorative and Area Streetlighting

Approved Fixtures

Pictorial Index to Fixtures and Parts Approved for Purchase

Figure 2
Granville LED Acorn
(Holophane)
Table 1, Table 2, and
Table 3

Figure 3
Granville LED Acorn
with Ribs/Bands/
Finial, Gold
(Holophane)
Table 4, Table 5 and
Table 6

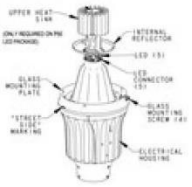


Figure 4

Granville LED Base Unit
No globe provided
(Holophane)
Table 7, Table 8
and Table 9

Figure 5

Granville LED
Acorn
(Holophane)
Replacement
Glass Globe
Table 10

Figure 6

Granville LED Acorn
Replacement Globe
with Ribs/Bands/Finial,
Gold (Holophane)
Table 11

Figure 7

Salem EPST LED
Gen 2 (GE)
Table 12, Table 13
and Table 14

LED Decorative and Area Streetlighting

Figure 8

Contempo LED
(American Electric
Lighting)
Table 15 and Table 16

Figure 9

Contempo LED House
Side Shield (American
Electric Lighting)
Table 17

Figure 10

Memphis LED,
Pedestrian
(Holophane)
Table 18, Table 19
and Table 20

Figure 11

Memphis LED Pedestrian
Base Unit
No globe provided
(Holophane)
Table 21, Table 22 and
Table 23

Figure 12

Memphis LED
Pedestrian
(Holophane)
Replacement Glass
Globe Table 24

Figure 13

Memphis LED,
Utility
(Holophane)
Table 25, Table 26 and
Table 27

Figure 14

Memphis LED Utility
(Holophane)
Replacement
Glass Globeand
Table 28

Figure 15

Epic LED
(Eaton Cooper)
Table 29, Table 30 and
Table 31

Figure 16

OSQ LED Utility
Area/Flood
(Cree)
Table 32 and
Table 33

Figure 17

Watchlight LED
(Acuity)
Table 34 and
Table 35

LED Decorative and Area Streetlighting

Table 1 4000K Granville LED Acorn – Holophane / Figure 2

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 40K MVOLT MS BK GL3 PR7 NL1X1 GVDHSS90 RFD313705	M350992	
	V		GVD3 P10 40K MVOLT MS BK GL5 PR7 NL1X1 RFD313708	M350993	
37	III		GVD3 P20 40K MVOLT MS BK GL3 PR7 NL1X1 GVDHSS90 RFD313716	M350994	
	V		GVD3 P20 40K MVOLT MS BK GL5 PR7 NL1X1 RFD313719	M350995	
57	III		GVD3 P30 40K MVOLT MS BK GL3 PR7 NL1X1 GVDHSS90 RFD313891	M350996	
	V		GVD3 P30 40K MVOLT MS BK GL5 PR7 NL1X1 RFD313894	M350997	
23	III	Green	GVD3 P10 40K MVOLT MS GN GL3 PR7 NL1X1 GVDHSS90 RFD313706	M350998	
	V		GVD3 P10 40K MVOLT MS GN GL5 PR7 NL1X1 RFD313709	M350999	
37	III		GVD3 P20 40K MVOLT MS GN GL3 PR7 NL1X1 GVDHSS90 RFD313717	M351000	
	V		GVD3 P20 40K MVOLT MS GN GL5 PR7 NL1X1 RFD313720	M351001	
57	III		GVD3 P30 40K MVOLT MS GN GL3 PR7 NL1X1 GVDHSS90 RFD313892	M351003	
	V		GVD3 P30 40K MVOLT MS GN GL5 PR7 NL1X1 RFD313895	M351005	
23	III	Bronze	GVD3 P10 40K MVOLT MS BZ GL3 PR7 NL1X1 GVDHSS90 RFD313707	M351014	
	V		GVD3 P10 40K MVOLT MS BZ GL5 PR7 NL1X1 RFD313710	M351015	
37	III		GVD3 P20 40K MVOLT MS BZ GL3 PR7 NL1X1 GVDHSS90 RFD313718	M351016	
	V		GVD3 P20 40K MVOLT MS BZ GL5 PR7 NL1X1 RFD313721	M351018	
57	III		GVD3 P30 40K MVOLT MS BZ GL3 PR7 NL1X1 GVDHSS90 RFD313893	M351019	
	V		GVD3 P30 40K MVOLT MS BZ GL5 PR7 NL1X1 RFD313896	M351020	

Notes:

1. The Type III fixtures are shipped with a factory-installed house side shield.

LED Decorative and Area Streetlighting

Table 2 3000K Granville LED Acorn – Holophane / Figure 2

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 30K MVOLT MS BK GL3 PR7 NL1X1 GVDHSS90 RFD313570	M351264	
	V		GVD3 P10 30K MVOLT MS BK GL5 PR7 NL1X1 RFD313574	M351265	
37	III		GVD3 P20 30K MVOLT MS BK GL3 PR7 NL1X1 GVDHSS90 RFD313577	M351266	
	V		GVD3 P20 30K MVOLT MS BK GL5 PR7 NL1X1 RFD313580	M351267	
57	III		GVD3 P30 30K MVOLT MS BK GL3 PR7 NL1X1 GVDHSS90 RFD313698	M351268	
	V		GVD3 P30 30K MVOLT MS BK GL5 PR 7NL1X1 RFD313701	M351269	
23	III	Green	GVD3 P10 30K MVOLT MS GN GL3 PR7 NL1X1 GVDHSS90 RFD313571	M351270	
	V		GVD3 P10 30K MVOLT MS GN GL5 PR7 NL1X1 RFD313573	M351271	
37	III		GVD3 P20 30K MVOLT MS GN GL3 PR7 NL1X1 GVDHSS90 RFD313578	M351272	
	V		GVD3 P20 30K MVOLT MS GN GL5 PR7 NL1X1 RFD313581	M351273	
57	III		GVD3 P30 30K MVOLT MS GN GL3 PR7 NL1X1 GVDHSS90 RFD313699	M351274	
	V		GVD3 P30 30K MVOLT MS GN GL5 PR7 NL1X1 RFD313702	M351275	
23	III	Bronze	GVD3 P10 30K MVOLT MS BZ GL3 PR7 NL1X1 GVDHSS90 RFD313572	M351276	
	V		GVD3 P10 30K MVOLT MS BZ GL5 PR7 NL1X1 RFD313575	M351277	
37	III		GVD3 P20 30K MVOLT MS BZ GL3 PR7 NL1X1 GVDHSS90 RFD313579	M351278	
	V		GVD3 P20 30K MVOLT MS BZ GL5 PR7 NL1X1 RFD313582	M351279	
57	III		GVD3 P30 30K MVOLT MS BZ GL3 PR7 NL1X1 GVDHSS90 RFD313700	M351280	
	V		GVD3 P30 30K MVOLT MS BZ GL5 PR7 NL1X1 RFD313703	M351281	

Notes:

1. The Type III fixtures are shipped with a factory–installed house side shield.

LED Decorative and Area Streetlighting

Table 3 2700K Granville LED Acorn – Holophane / Figure 2

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 27K MVOLT MS BK GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316018	M351508	
	V		GVD3 P10 27K MVOLT MS BK GL5 PR7 NL1X1 PCLL RFD316019	M351509	
37	III		GVD3 P20 27K MVOLT MS BK GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316024	M351510	
	V		GVD3 P20 27K MVOLT MS BK GL5 PR7 NL1X1 PCLL RFD316025	M351511	
57	III		GVD3 P30 27K MVOLT MS BK GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316030	M351512	
	V		GVD3 P30 27K MVOLT MS BK GL5 PR7 NL1X1 PCLL RFD316031	M351513	
23	III	Green	GVD3 P10 27K MVOLT MS GN GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316020	M351514	
	V		GVD3 P10 27K MVOLT MS GN GL5 PR7 NL1X1 PCLL RFD316021	M351515	
37	III		GVD3 P20 27K MVOLT MS GN GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316026	M351516	
	V		GVD3 P20 27K MVOLT MS GN GL5 PR7 NL1X1 PCLL RFD316027	M351517	
57	III		GVD3 P30 27K MVOLT MS GN GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316032	M351518	
	V		GVD3 P30 27K MVOLT MS GN GL5 PR7 NL1X1 PCLL RFD316033	M351519	
23	III	Bronze	GVD3 P10 27K MVOLT MS BZ GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316022	M351520	
	V		GVD3 P10 27K MVOLT MS BZ GL5 PR7 NL1X1 PCLL RFD316023	M351521	
37	III		GVD3 P20 27K MVOLT MS BZ GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316028	M351522	
	V		GVD3 P20 27K MVOLT MS BZ GL5 PR7 NL1X1 PCLL RFD316029	M351523	
57	III		GVD3 P30 27K MVOLT MS BZ GL3 PR7 NL1X1 PCLL GVDHSS90 RFD316034	M351524	
	V		GVD3 P30 27K MVOLT MS BZ GL5 PR7 NL1X1 PCLL RFD316035	M351525	

Notes:

1. The Type III fixtures are shipped with a factory–installed house side shield.

LED Decorative and Area Streetlighting

Table 4 4000K Granville LED Acorn with Ribs/Bands/Finial, Gold – Holophane / Figure 3

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 40K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316037	M351635	
	V		GVD3 P10 40K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD316038	M351636	
37	III		GVD3 P20 40K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316043	M351637	
	V		GVD3 P20 40K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD316044	M351638	
57	III		GVD3 P30 40K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316049	M351639	
	V		GVD3 P30 40K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD316050	M351640	
23	III	Green	GVD3 P10 40K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316039	M351641	
	V		GVD3 P10 40K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD316040	M351642	
37	III		GVD3 P20 40K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316045	M351643	
	V		GVD3 P20 40K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD316046	M351644	
57	III		GVD3 P30 40K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316051	M351645	
	V		GVD3 P30 40K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD316052	M351646	
23	III	Bronze	GVD3 P10 40K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316041	M351647	
	V		GVD3 P10 40K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD316042	M351648	
37	III		GVD3 P20 40K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316048	M351649	
	V		GVD3 P20 40K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD316047	M351650	
57	III		GVD3 P30 40K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316053	M351651	
	V		GVD3 P30 40K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD316054	M351652	

Notes:

1. The Type III fixtures are shipped with a factory-installed house side shield.

LED Decorative and Area Streetlighting

Table 5 3000K Granville LED Acorn with Ribs/Bands/Finial, Gold – Holophane / Figure 3

23	III	Black	GVD3 P10 30K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315847	M351617	
	V		GVD3 P10 30K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD315848	M351618	
37	III		GVD3 P20 30K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315894	M351619	
	V		GVD3 P20 30K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD315895	M351620	
57	III		GVD3 P30 30K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315902	M351621	
	V		GVD3 P30 30K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD315903	M351622	
23	III	Green	GVD3 P10 30K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315849	M351623	
	V		GVD3 P10 30K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD315850	M351624	
37	III		GVD3 P20 30K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315896	M351625	
	V		GVD3 P20 30K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD315897	M351626	
57	III		GVD3 P30 30K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315904	M351627	
	V		GVD3 P30 30K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD315905	M351628	
23	III	Bronze	GVD3 P10 30K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315851	M351629	
	V		GVD3 P10 30K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD315852	M351630	
37	III		GVD3 P20 30K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315898	M351631	
	V		GVD3 P20 30K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD315899	M351632	
57	III		GVD3 P30 30K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315906	M351633	
	V		GVD3 P30 30K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD315907	M351634	

Notes:

1. The Type III fixtures are shipped with a factory–installed house side shield.

LED Decorative and Area Streetlighting

Table 6 2700K Granville LED Acorn with Ribs/Bands/Finial, Gold – Holophane / Figure 3

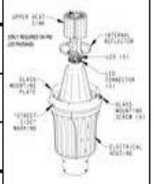
23	III	Black	GVD3 P10 27K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315988	M351599	
	V		GVD3 P10 27K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD315989	M351600	
37	III		GVD3 P20 27K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315995	M351601	
	V		GVD3 P20 27K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD315996	M351602	
57	III		GVD3 P30 27K MVOLT MS BK GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316006	M351603	
	V		GVD3 P30 27K MVOLT MS BK GL5 RB ST TGL PR7 NL1X1 PCLL RFD316007	M351604	
23	III	Green	GVD3 P10 27K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315990	M351605	
	V		GVD3 P10 27K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD315991	M351606	
37	III		GVD3 P20 27K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315997	M351607	
	V		GVD3 P20 27K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD315998	M351608	
57	III		GVD3 P30 27K MVOLT MS GN GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316008	M351609	
	V		GVD3 P30 27K MVOLT MS GN GL5 RB ST TGL PR7 NL1X1 PCLL RFD316009	M351610	
23	III	Bronze	GVD3 P10 27K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315992	M351611	
	V		GVD3 P10 27K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD315993	M351612	
37	III		GVD3 P20 27K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD315999	M351613	
	V		GVD3 P20 27K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD316000	M351614	
57	III		GVD3 P30 27K MVOLT MS BZ GL3 RB ST TGL PR7 NL1X1 PCLL GVDHSS90 RFD316010	M351615	
	V		GVD3 P30 27K MVOLT MS BZ GL5 RB ST TGL PR7 NL1X1 PCLL RFD316011	M351616	

Notes:

1. The Type III fixtures are shipped with a factory-installed house side shield.

LED Decorative and Area Streetlighting

Table 7 4000K Granville LED Base Unit – Holophane / Figure 4

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 40K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD314183	M351357	
	V		GVD3 P10 40K MVOLT MS BK LO5 PR7 NL1X1 RFD314188	M351358	
37	III		GVD3 P20 40K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD314191	M351359	
	V		GVD3 P20 40K MVOLT MS BK LO5 PR7 NL1X1 RFD314194	M351360	
57	III		GVD3 P30 40K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD314197	M351361	
	V		GVD3 P30 40K MVOLT MS BK LO5 PR7 NL1X1 RFD314199	M351362	
23	III	Green	GVD3 P10 40K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD314184	M351363	
	V		GVD3 P10 40K MVOLT MS GN LO5 PR7 NL1X1 RFD314189	M351364	
37	III		GVD3 P20 40K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD314192	M351365	
	V		GVD3 P20 40K MVOLT MS GN LO5 PR7 NL1X1 RFD314195	M351366	
57	III		GVD3 P30 40K MVOLT MS GN LO5 PR7 NL1X1 RFD314200	M351367	
	V		GVD3 P30 40K MVOLT MS GN LO5 PR7 NL1X1 RFD314200	M351368	
23	III	Bronze	GVD3 P10 40K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD314185	M351369	
	V		GVD3 P10 40K MVOLT MS BZ LO5 PR7 NL1X1 RFD314190	M351370	
37	III		GVD3 P20 40K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD314193	M351371	
	V		GVD3 P20 40K MVOLT MS BZ LO5 PR7 NL1X1 RFD314196	M351372	
57	III		GVD3 P30 40K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD314198	M351373	
	V		GVD3 P30 40K MVOLT MS BZ LO5 PR7 NL1X1 RFD314201	M351374	

Notes:

1. The base units are shipped without a glass globe. When replacing a HPSV Granville fixture, the existing glass globe should be reused with the new LED base unit.

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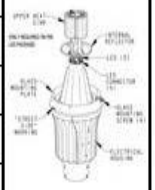
Table 8 3000K Granville LED Base Unit – Holophane / Figure 4

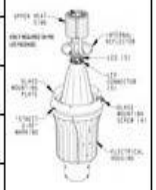
Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 30K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD313929	M351339	
	V		GVD3 P10 30K MVOLT MS BK LO5 PR7 NL1X1 RFD313932	M351340	
37	III		GVD3 P20 30K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD313935	M351341	
	V		GVD3 P20 30K MVOLT MS BK LO5 PR7 NL1X1 RFD313938	M351342	
57	III		GVD3 P30 30K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD313941	M351343	
	V		GVD3 P30 30K MVOLT MS BK LO5 PR7 NL1X1 RFD313944	M351344	
23	III	Green	GVD3 P10 30K MVOLT MS GN LO3 PR7NL1X1 GVDHSS90 RFD313930	M351345	
	V		GVD3 P10 30K MVOLT MS GN LO5 PR7 NL1X1 RFD313933	M351346	
37	III		GVD3 P20 30K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD313936	M351347	
	V		GVD3 P20 30K MVOLT MS GN LO5 PR7 NL1X1 RFD313939	M351348	
57	III		GVD3 P30 30K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD313942	M351349	
	V		GVD3 P30 30K MVOLT MS GN LO5 PR7 NL1X1 RFD313945	M351350	
23	III	Bronze	GVD3 P10 30K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD313931	M351351	
	V		GVD3 P10 30K MVOLT MS BZ LO5 PR7 NL1X1 RFD313934	M351352	
37	III		GVD3 P20 30K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD313937	M351353	
	V		GVD3 P20 30K MVOLT MS BZ LO5 PR7 NL1X1 RFD313940	M351354	
57	III		GVD3 P30 30K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD313943	M351355	
	V		GVD3 P30 30K MVOLT MS BZ LO5 PR7 NL1X1 RFD313946	M351356	

Notes:

1. The base units are shipped without a glass globe. When replacing a HPSV Granville fixture, the existing glass globe should be reused with the new LED base unit.

LED Decorative and Area Streetlighting

Table 9 2700K Granville LED Base Unit – Holophane / Figure 4

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
23	III	Black	GVD3 P10 27K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD315933	M351526	
	V		GVD3 P10 27K MVOLT MS BK L05 PR7 NL1X1 RFD315934	M351527	
37	III		GVD3 P20 27K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD315968	M351528	
	V		GVD3 P20 27K MVOLT MS BK LO5 PR7 NL1X1 RFD315969	M351529	
57	III		GVD3 P30 27K MVOLT MS BK LO3 PR7 NL1X1 GVDHSS90 RFD315975	M351530	
	V		GVD3 P30 27K MVOLT MS BK LO5 PR7 NL1X1 RFD315981	M351531	
23	III	Green	GVD3 P10 27K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD315935	M351532	
	V		GVD3 P10 27K MVOLT MS GN LO5 PR7 NL1X1 RFD315936	M351533	
37	III		GVD3 P20 27K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD315970	M351534	
	V		GVD3 P20 27K MVOLT MS GN LO5 PR7 NL1X1 RFD315971	M351535	
57	III		GVD3 P30 27K MVOLT MS GN LO3 PR7 NL1X1 GVDHSS90 RFD315982	M351536	
	V		GVD3 P30 27K MVOLT MS GN LO5 PR7 NL1X1 RFD315983	M351537	
23	III	Bronze	GVD3 P10 27K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD315937	M351538	
	V		GVD3 P10 27K MVOLT MS BZ LO5 PR7 NL1X1 RFD315938	M351539	
37	III		GVD3 P20 27K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD315972	M351540	
	V		GVD3 P20 27K MVOLT MS BZ LO5 PR7 NL1X1 RFD315973	M351541	
57	III		GVD3 P30 27K MVOLT MS BZ LO3 PR7 NL1X1 GVDHSS90 RFD315984	M351542	
	V		GVD3 P30 27K MVOLT MS BZ LO5 PR7 NL1X1 RFD315985	M351543	

Notes:

1. The base units are shipped without a glass globe. When replacing a HPSV Granville fixture, the existing glass globe should be reused with the new LED base unit.

LED Decorative and Area Streetlighting

Table 10 Granville Acorn Post Top Replacement Glass Globes – Holophane / Figure 5

IES Light Pattern	Catalog Number	Code	Photo
III	GVU3N	M351474	
V	GVU5N	M351475	

Notes:

1. Replacement glass globes can be used to replace broken globes. Replacement glass globes for the Granville Acorn Post Top fixtures are available in two IES light distribution patterns, Type III and Type V. Care should be taken to replace with a new globe of the same light distribution pattern as the existing.

Table 11 Granville Acorn Replacement Globes with Ribs/Bands/Finial, Gold – Holophane / Figure 6

IES Light Pattern		Color	Catalog Number	Code	Photo
III		Gold	GVU 3 RS GL RFD 308676	M351682	
V		Gold	GVU 5 RS GL 308677	M351683	

Notes:

1. Replacement glass globes can be used to replace broken globes. Replacement glass globes for the Granville Acorn fixtures are available in two IES light distribution patterns, Type III and Type V. Care should be taken to replace with a new globe of the same light distribution pattern as the existing.

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Table 12 4000K Salem Gen 2 LED – General Electric / Figure 7

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	EPST02003B40AABLCKR025	M351399	
	V		EPST02003A40AABLCKR025	M351400	
43	III		EPST02005B40AABLCKR025	M351401	
	V		EPST02005A40AABLCKR025	M351402	
74	III		EPST02008B40AABLCKR025	M351403	
	V		EPST02008A40AABLCKR025	M351404	

Table 13 3000K Salem Gen 2 LED – General Electric / Figure 7

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	EPST02003B30AABLCKR025	M351393	
	V		EPST02003A30AABLCKR025	M351394	
43	III		EPST02005B30AABLCKR025	M351395	
	V		EPST02005A30AABLCKR025	M351396	
74	III		EPST02008B30AABLCKR025	M351397	
	V		EPST02008A30AABLCKR025	M351398	

Table 14 2700K Salem Gen 2 LED – General Electric / Figure 7

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	EPST02003B27AABLCKR025	M351688	
	V		EPST02003A27AABLCKR025	M351689	
43	III		EPST02005B27AABLCKR025	M351690	
	V		EPST02005A27AABLCKR025	M351691	
74	III		EPST02008B27AABLCKR025	M351692	
	V		EPST02008A27AABLCKR025	M351693	

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Table 15 4000K Contempo LED – American Electric Lighting / Figure 8

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	
38	III	Grey	245L 10LEDE10 MVOLT 4K R3 RNA SD SS NL RFD236597	M351022	
	V		245L 10LEDE10 MVOLT 4K R5 RNA SD SS NL RFD236598	M351023	
44	III		245L 20LEDE70 MVOLT 4K R3 RNA SD SS NL RFD236599	M351024	
	V		245L 20LEDE70 MVOLT 4K R5 RNA SD SS NL RFD236600	M351026	
71	III		245L 20LEDE10 MVOLT 4K R3 RNA SD SS NL RFD236601	M351027	
	V		245L 20LEDE10 MVOLT 4K R5 RNA SD SS NL RFD236602	M351029	

Table 16 3000K Contempo LED – American Electric Lighting / Figure 8

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	
38	III	Grey	245L 10LEDE10 MVOLT 3K R3 RNA SD SS NL RFD236603	M351291	
	V		245L 10LEDE10 MVOLT 3K R5 RNA SD SS NL RFD236604	M351292	
44	III		245L 20LEDE70 MVOLT 3K R3 RNA SD SS NL RFD236605	M351293	
	V		245L 20LEDE70 MVOLT 3K R5 RNA SD SS NL RFD236606	M351294	
71	III		245L 20LEDE10 MVOLT3K R3 RNA SD SS NL RFD236607	M351295	
	V		245L 20LEDE10 MVOLT 3K R5 RNA SD SS NL RFD236608	M351296	

Table 17 Contempo LED House Side Shield – American Electric Lighting / Figure 9

Color	Catalog Number	Code	Photo
Grey	RK11/245 HS	M351687	

LED Decorative and Area Streetlighting

Table 18 4000K Memphis Teardrop LED, Pedestrian – Holophane / Figure 10

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	MSPL2 P10 40K AS P B 4 NL1X1–SPCL RFD236552	M351084	
38	III		MSPL2 P20 40K AS P B 4 NL1X1–SPCL RFD236555	M351085	
51	III		MSPL2 P30 40K AS P B 4 NL1X1–SPCL RFD236558	M351086	
27	III	Green	MSPL2 P10 40K AS P N 4NL1X1–SPCL RFD236553	M351087	
38	III		MSPL2 P20 40K AS P N 4NL1X1–SPCL RFD236556	M351088	
51	III		MSPL2 P30 40K AS P N 4NL1X1–SPCL RFD236559	M351090	
27	III	Bronze	MSPL2 P10 40K AS P Z 4 NL1X1–SPCL RFD236554	M351091	
38	III		MSPL2 P20 40K AS P Z 4 NL1X1–SPCL RFD236557	M351092	
51	III		MSPL2 P30 40K AS P Z 4 NL1X1–SPCL RFD236560	M351093	

Notes:

1. The fixtures are shipped with a factory-installed house side shield.

Table 19 3000K Memphis Teardrop LED, Pedestrian – Holophane / Figure 10

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	MSPL2 P10 30K AS P B 4 NL1X1–SPCL RFD236543	M351282	
38	III		MSPL2 P20 30K AS P B 4 NL1X1–SPCL RFD236546	M351283	
51	III		MSPL2 P30 30K AS P B 4 NL1X1–SPCL RFD236549	M351284	
27	III	Green	MSPL2 P10 30K AS P N 4NL1X1–SPCL RFD236544	M351285	
38	III		MSPL2 P20 30K AS P N 4NL1X1–SPCL RFD236547	M351286	
51	III		MSPL2 P30 30K AS P N 4NL1X1–SPCL RFD236550	M351287	
27	III	Bronze	MSPL2 P10 30K AS P Z 4 NL1X1–SPCL RFD236545	M351288	
38	III		MSPL2 P20 30K AS P Z 4 NL1X1–SPCL RFD236548	M351289	
51	III		MSPL2 P30 30K AS P Z 4 NL1X1–SPCL RFD236551	M351290	

Notes:

1. The fixtures are shipped with a factory-installed house side shield.

LED Decorative and Area Streetlighting

Table 20 2700K Memphis Teardrop LED, Pedestrian – Holophane / Figure 10

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	MSPL2 P10 27K AS P B 4 P7 NL1X1 RFD308421	M351653	
38	III		MSPL2 P20 27K AS P B 4 P7 NL1X1 RFD308422	M351654	
51	III		MSPL2 P30 27K AS P B 4 P7 NL1X1 RFD308423	M35655	
27	III	Green	MSPL2 P10 27K AS P N 4 P7 NL1X1 RFD308421	M351656	
38	III		MSPL2 P20 27K AS P N 4 P7 4NL1X1 RFD308422	M351657	
51	III		MSPL2 P30 27K AS P N 4 P7 4NL1X1 RFD308423	M351658	
27	III	Bronze	MSPL2 P10 27K AS P Z 4 P7 NL1X1 RFD308421	M351659	
38	III		MSPL2 P20 27K AS P Z 4 P7 NL1X1 RFD308422	M351660	
51	III		MSPL2 P30 27K AS P Z 4 P7 NL1X1 RFD308423	M351661	

Notes:

1. The fixtures are shipped with a factory-installed house side shield.

Table 21 4000K Memphis Teardrop LED Base Unit (no glass globe), Pedestrian – Holophane / Figure 11

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	MSPL2 P10 40K AS P B 4 LO NL1X1-SPCL RFD290347	M351473	
38	III		MSPL2 P20 40K AS P B 4 LO NL1X1-SPCL RFD290354	M351479	
51	III		MSPL2 P30 40K AS P B 4 LO NL1X1-SPCL RFD290360	M351480	
27	III	Green	MSPL2 P10 40K AS P N 4 LO NL1X1-SPCL RFD290349	M351481	
38	III		MSPL2 P20 40K AS P N LO 4NL1X1-SPCL RFD290355	M351482	
51	III		MSPL2 P30 40K AS P N LO 4NL1X1-SPCL RFD290361	M351483	
27	III	Bronze	MSPL2 P10 40K AS P Z 4 LO NL1X1-SPCL RFD290350	M351484	
38	III		MSPL2 P20 40K AS P Z 4 LO NL1X1-SPCL RFD290356	M351485	
51	III		MSPL2 P30 40K AS P Z 4 LO NL1X1-SPCL RFD290362	M351486	

Notes:

1. The base units are shipped without a glass globe. When replacing a HPSV Memphis Pedestrian fixture, the existing glass globe should be reused with the new LED base unit.

Table 22 3000K Memphis Teardrop LED Base Unit (no glass globe), Pedestrian – Holophane / Figure 11

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	MSPL2 P10 30K AS P B 4 LO NL1X1-SPCL RFD290343	M351457	
38	III		MSPL2 P20 30K AS P B 4 LO NL1X1-SPCL RFD290351	M351458	
51	III		MSPL2 P30 30K AS P B 4 LO NL1X1-SPCL RFD290357	M351459	
27	III	Green	MSPL2 P10 30K AS P N 4 LO NL1X1-SPCL RFD290344	M351460	
38	III		MSPL2 P20 30K AS P N 4 LO NL1X1-SPCL RFD290352	M351461	
51	III		MSPL2 P30 30K AS P N 4 LO NL1X1-SPCL RFD290358	M351462	
27	III	Bronze	MSPL2 P10 30K AS P Z 4 LO NL1X1-SPCL RFD290345	M351463	
38	III		MSPL2 P20 30K AS P Z 4 LO NL1X1-SPCL RFD290353	M351464	
51	III		MSPL2 P30 30K AS P Z 4 LO NL1X1-SPCL RFD290359	M351465	

Notes:

1. The base units are shipped without a glass globe. When replacing a HPSV Memphis Pedestrian fixture, the existing glass globe should be reused with the new LED base unit.

Table 23 2700K Memphis Teardrop LED Base Unit (no glass globe), Pedestrian – Holophane / Figure 11

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
27	III	Black	MSPL2 P10 27K AS P B P7 LO NL1X1 PCS RFD308447	M351662	
38	III		MSPL2 P20 27K AS P B P7 LO NL1X1 PCS RFD308448	M351663	
51	III		MSPL2 P30 27K AS P B P7 LO NL1X1 PCS RFD308449	M351664	
27	III	Green	MSPL2 P10 27K AS P N P7 LO NL1X1 PCS RFD308450	M351665	
38	III		MSPL2 P20 27K AS P N P7 LO NL1X1 PCS RFD308451	M351666	
51	III		MSPL2 P30 27K AS P N P7 LO NL1X1 PCS RFD308452	M351667	
27	III	Bronze	MSPL2 P30 27K AS P Z P7 LO NL1X1 PCS RFD308453	M351668	
38	III		MSPL2 P30 27K AS P Z P7 LO NL1X1 PCS RFD308454	M351669	
51	III		MSPL2 P30 27K AS P Z P7 LO NL1X1 PCS RFD308455	M351670	

Notes:

1. The base units are shipped without a glass globe. When replacing a HPSV Memphis Pedestrian fixture the existing glass globe should be reused with the new LED base unit.

Table 24 Memphis Teardrop Pedestrian Replacement Glass Globes – Holophane / Figure 12

IES Light Pattern	Color	Catalog Number	Code	Photo
III	Black	MSPL4BK RFD291359	M351476	
III	Green	MSPL4GN RFD291311	M351477	
III	Bronze	MSPL4BZ RFD291312	M351478	

Notes:

1. Replacement glass globes can be used to replace broken globes. For the Memphis Teardrop Pedestrian glass globe, there is a small attachment ring for the globe, and care should be taken to replace with a color to match the color of the existing fixture.

Table 25 4000K Memphis Teardrop LED, Utility – Holophane / Figure 13

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
57	III	Black	MPL2P10S40KASBKTG3PP7NL2X2-SPCL LT3HSS120 RFD247585	M450089	
83	III		MPL2P20S40KASBKTG3PP7NL2X2-SPCL LT3HSS120 RFD247588	M450090	
118	III		MPL2P30S40KASBKTG3PP7NL2X2-SPCL LT3HSS120 RFD247591	M450091	
57	III	Green	MPL2P10S40KASGNTG3PP7NL2X2-SPCL LT3HSS120 RFD247586	M450092	
83	III		MPL2P20S40KASGNTG3PP7NL2X2-SPCL LT3HSS120 RFD247589	M450094	
118	III		MPL2P30S40KASGNTG3PP7NL2X2-SPCL LT3HSS120 RFD247592	M450096	
57	III	Bronze	MPL2P10S40KASBZTG3PP7NL2X2-SPCL LT3HSS120 RFD247587	M450097	
83	III		MPL2P20S40KASBZTG3PP7NL2X2-SPCL LT3HSS120 RFD247590	M450098	
118	III		MPL2P30S40KASBZTG3PP7NL2X2-SPCL LT3HSS120 RFD247593	M450099	

Notes:

1. The Memphis Utility LED fixture is approved for use in the following circumstances:
   A In new installations on the Memphis Utility steel pole with matching West Liberty crossarms.

Table 26 3000K Memphis Teardrop LED, Utility – Holophane / Figure 13

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
57	III	Black	MPL2P10S30KASBKTG3PP7NL2X2-SPCL LT3HSS120 RFD247576	M450119	
83	III		MPL2P20S30KASBKTG3PP7NL2X2-SPCL LT3HSS120 RFD247579	M450120	
118	III		MPL2P30S30KASBKTG3PP7NL2X2-SPCL LT3HSS120 RFD247582	M450121	
57	III	Green	MPL2P10S30KASGNTG3PP7NL2X2-SPCL LT3HSS120 RFD247577	M450122	
83	III		MPL2P20S30KASGNTG3PP7NL2X2-SPCL LT3HSS120 RFD247580	M450123	
118	III		MPL2P30S30KASGNTG3PP7NL2X2-SPCL LT3HSS120 RFD247583	M450124	
57	III	Bronze	MPL2P10S30KASBZTG3PP7NL2X2-SPCL LT3HSS120 RFD247578	M450125	
83	III		MPL2P20S30KASBZTG3PP7NL2X2-SPCL LT3HSS120 RFD247581	M450126	
118	III		MPL2P30S30KASBZTG3PP7NL2X2-SPCL LT3HSS120 RFD247584	M450127	

Notes:

1. The Memphis Utility LED fixture is approved for use in the following circumstances:
   A In CCSF to replace fixtures on existing poles.
   B In new installations on the Memphis Utility steel pole with matching West Liberty crossarms.

Table 27 2700K Memphis Teardrop, Utility – Holophane / Figure 13

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Material Code	Photo
57	III	Black	MPL2 P10S 27K AS BK TG 3 P P7 NL2X2 RFD308282	M351671	
83	III		MPL2 P20S 27K AS BK TG 3 P P7 NL2X2 RFD308283	M351672	
118	III		MPL2 P30S 27K AS BK TG 3 P P7 NL2X2 RFD308284	M351673	
57	III	Green	MPL2 P10S 27K AS GN TG 3 P P7 NL2X2 RFD308285	M351674	
83	III		MPL2 P20S 27K AS GN TG 3 P P7 NL2X2 RFD308286	M351675	
118	III		MPL2 P30S 27K AS GN TG 3 P P7 NL2X2 RFD308287	M351676	
57	III	Bronze	MPL2 P10S 27K AS BZ TG 3 P P7 NL2X2 RFD308288	M351677	
83	III		MPL2 P20S 27K AS BZ TG 3 P P7 NL2X2 RFD308289	M351678	
118	III		MPL2 P30S 27K AS BZ TG 3 P P7 NL2X2 RFD308290	M351679	

Notes:

1. The Memphis Utility LED fixture is approved for use in the following circumstances:

   A. In new installations on the Memphis Utility steel pole with matching West Liberty crossarms

Table 28 Memphis LED Utility Replacement Globes – Holophane / Figure 14

IES Light Pattern	Color	Catalog Number	Code	Photo
III	Black	MPL2 BK TG3 RFD 308678	M351684	
III	Green	MPL2 GN TG3 308679	M351685	
III	Bronze	MPL2 BZ TG3 308680	M351686	

Notes:

1. Replacement glass globes can be used to replace broken globes. For the Memphis Teardrop Utility glass globe, there is a small attachment ring for the globe, and care should be taken to replace with a color to match the color of the existing fixture.

Table 29 4000K Epic LED – Eaton Cooper / Figure 15

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
25	III	Black	CEM-E01-LED-D-U-T3-X-BL-BK-U0007	M351408	
52	III		CEM-E02-LED-D-U-T3-X-BL-BK-U0008	M351409	
75	III		CEM-E03-LED-D-U-T3-X-BL-BK-U0009	M351410	
97	III		CEM-E04-LED-D-U-T3-X-BL-BK-U0010	M351411	
25	III	Bronze	CEM-E01-LED-D-U-T3-X-BL-BZ-U0007	M351430	
52	III		CEM-E02-LED-D-U-T3-X-BL-BZ-U0008	M351431	
75	III		CEM-E03-LED-D-U-T3-X-BL-BZ-U0009	M351432	
97	III		CEM-E04-LED-D-U-T3-X-BL-BZ-U0010	M351433	

Table 30 3000K Epic LED – Eaton Cooper / Figure 15

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
25	III	Black	CEM-E01-LED-D-U-T3-X-BL-BK-7030-U0003	M351412	
52	III		CEM-E02-LED-D-U-T3-X-BL-BK-7030-U0004	M351413	
75	III		CEM-E03-LED-D-U-T3-X-BL-BK-7030-U0005	M351414	
97	III		CEM-E04-LED-D-U-T3-X-BL-BK-7030-U0006	M351415	
25	III	Bronze	CEM-E01-LED-D-U-T3-X-BL-BZ-7030-U0003	M351434	
52	III		CEM-E02-LED-D-U-T3-X-BL-BZ-7030-U0004	M351435	
75	III		CEM-E03-LED-D-U-T3-X-BL-BZ-7030-U0005	M351436	
97	III		CEM-E04-LED-D-U-T3-X-BL-BZ-7030-U0006	M351437	

LED Decorative and Area Streetlighting

Table 31 2700K Epic LED – Eaton Cooper / Figure 15

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
25	III	Black	CEM-E01-LED-D-U-T3-X-BL-BK-8027-U97952	M351694	
52	III		CEM-E02-LED-D-U-T3-X-BL-BK-8027-U97953	M351695	
75	III		CEM-E03-LED-D-U-T3-X-BL-BK-8027-U97954	M351696	
97	III		CEM-E04-LED-D-U-T3-X-BL-BK-8027-U97955	M351697	
25	III	Bronze	CEM-E01-LED-D-U-T3-X-BL-BZ-8027-U98050	M351698	
52	III		CEM-E02-LED-D-U-T3-X-BL-BZ-8027-U98051	M351699	
75	III		CEM-E03-LED-D-U-T3-X-BL-BZ-8027-U98052	M351700	
97	III		CEM-E04-LED-D-U-T3-X-BL-BZ-8027-U98053	M351701	

Table 32 4000K OSQ Utility LED Area/Flood – Cree / Figure 16

Lamp Size (watts)	Light Distribution	Color	Catalog Number	Code	Photo
86	60° Flood	Silver	OSQ A UB 60D B 40K UL SV N	M351097	
130	60° Flood		OSQ A UB 60D K 40K UL SV N	M351098	

Table 33 Brackets for Area/Flood Fixtures / Figure 16

Short Description	Manufacturer	Color	Catalog Number	Code	Photo
Vertical Adjustment	Cree	Silver	OSQ AA–UTL	Included in code for flood light	
Single Flood Light Bracket Stand–off – 18 inch. Height – 23 inch. Weight – 15 LBS.	Utility Metals	Grey	SF–18G	M351261	
Double Bullhorn Flood Light Bracket Light Separation – 36 inch. Tenon size – 2 3/8 inch. Weight – 20 LBS.	Utility Metals	Grey	S2–S36–2	M351262	

Notes:

1. Bullhorn brackets are intended only for mounting Cree flood lights.

Table 34 4000K Watchlight LED – Acuity / Figure 17

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
33	V	Grey	WL1 A PRM N5 4K GY MP TL CC P7 RFD272021	M351378	
53	V		WL1 C PRM N5 4K GY MP TL CC P7 RFD272022	M351379	
60	V		WL1 D PRM N5 4K GY MP TL CC P7 RFD272023	M351380	

Table 35 3000K Watchlight LED – Acuity / Figure 17

Lamp Size (watts)	IES Light Pattern	Color	Catalog Number	Code	Photo
33	V	Grey	WL1 A PRM N5 3K GY MP TL CC P7 RFD272018	M351375	
53	V		WL1 C PRM N5 3K GY MP TL CC P7 RFD272019	M351376	
60	V		WL1 D PRM N5 3K GY MP TL CC P7 RFD282020	M351377	

LED Decorative and Area Streetlighting

Revision Notes

Revision 04 has the following changes:

1. Revised "**Purpose and Scope**" section.
2. Revised "**General Information**" section.
3. Revised Note 1 on Page 1 in "**General Notes**" section.
4. Added fancy Holophane fixtures and replacement globes with gold decorative details; added 2700K fixtures for many models and base units; added Contempo light shield.
5. Removed Town and Country EPTT LED (GE).
6. Re-arranged Images in "**Pictorial Index to Fixtures and Parts Approved for Purchase",** and removed typo in title.
7. Rearranged Tables order.
8. Revised Granville Catalog Numbers to reflect new, Gen3 models.

	STREETLIGHTING POLES AND FOUNDATIONS		015136
Dept:	Streetlights	**Section:**	Construction and Maintenance
Approved by:	Sofranac, John (JRSF)	**Date:**	12/01/19

Rev. #18: This document replaces Engineering Standard 015136, Rev. #17. For a description of changes, see Page 32

Purpose and Scope:

This document provides specifications for the application, selection, material ordering, and installation for steel, aluminum, concrete and fiberglass streetlighting poles and foundations.

Description:

This document contains coded posts and poles, bracket arm assemblies, anchor bolt assemblies, universal hand hole covers, and cast–in–place foundations and grounding. Information for embedded poles is also included. Specific pole information is found in these sections:

Embedded Posts (Table 1 – Table 3)
Foundation–Mounted Posts (Table 4 – Table 11)
Foundation–Mounted Decorative Poles and Crossarms (Table 12 – Table 18)
Embedded Galvanized Steel Poles (Table 19)
Embedded Fiberglass Poles (Table 20)
Foundation–Mounted Galvanized Steel Poles (Table 21 – Table 22)
Foundation–Mounted Aluminum Poles (Table 23 – Table 24)
Overhead–Fed Galvanized Steel Poles (Table 25 – Table 26)
Arm Attachments (Page 23)
Universal Hand Hole Cover (Table 27 on Page 24)
Foundation Systems and Grounding (Page 25)
Anchor Bolt Assemblies (Table 29 on Page 30)
Clearance Requirements (Page 31)

Definitions:

1. "Poles" as used in this standard refers to any post or pole used to support streetlighting.
2. "Posts" are poles with maximum height of 20 feet used to support light fixtures mounted directly at the top.
3. "Decorative posts" are posts with shaped or sculpted shafts and bases.
4. "Decorative poles" are poles with shaped or sculpted shafts and bases.
5. "Arm" is a horizontal or sloped extension element used to mount a single fixture on each end.
6. "Simplex Connection" is a bolted flanged connection between an arm and a pole.
7. "Fiberglass" refers to fiber-reinforced composite.

General Notes:

1. Posts must include a 3" outside diameter (+0"/-1/8") by 3" long tenon suitable for mounting post–top fixtures with a 3" slip fitter.
   Exception: The bracket used for mounting the Epic pendant fixture mounts directly onto a 4" diameter straight, round shaft.
2. Base Covers (clamshells) shall not be used except in applications where decorative poles and posts are installed, to minimize pole corrosion.
3. Poles are not designed to support loads such as banners, cables, traffic signals, signs, or lights other than the designated fixture and arm assembly (where applicable).

4. The availability of decorative post designs and colors are dependent on the availability from manufacturers. Requests for material or material codes that are not available should be forwarded to Street and Outdoor Lighting Asset Management for consideration and approval.
5. Grounding: See Figure 29 on Page 27 for grounding details for foundation–mounted metallic poles. For additional information on grounding materials and installation, refer to 021904 Installation of Grounds on Wood Pole Transmission and
Distribution Lines, and 013109 Corrosion Resistant Ground Rods and Ground Rod Clamps.
6. Foundation Systems
   A. Reinforcing steel (shown as "rebar," or "bar") shall be ASTM A615 Grade 60 or ASTM A706, Grade 60. Headed bars shall conform to ASTM A970.
   B. Concrete shall be normal weight concrete, using Type II or Type V cement conforming to ASTM C150. 28–day compressive strength shall be 3000 psi minimum.
   C. Grout shall not to be used to minimize pole corrosion.
7. See Page 31 for clearance requirements.

Installation:

1. Before installing grounding connections on foundation-mounted poles, thoroughly clean the contact surface in order to obtain good electrical connections. At aluminum poles, apply NO-OX-ID "A-Special Electrical Grade" by Sanchem, Inc to the grounding terminal and copper wire before making up the ground connection. Embedded steel or concrete poles do not require additional grounding. See Figure 29 on Page 27 for grounding details.
2. Embedded poles:
   A. Proper backfill material and compaction around embedded poles is very important.
   B. Holes shall be augered large enough so that a pneumatic tamping tool can be used on all sides of the pole, all the way to the bottom.
   C. In sandy, gravelly, or firm clay conditions, the excavated material may be used for backfill, provided any particles larger than 3 inches in the largest dimension are discarded.
   D. In rock or soft or wet clays, backfill with 3/4" minus crushed or uncrushed rock, similar to Caltrans Class 2 aggregate base, or lean concrete consisting of a minimum of one sack of cement per cubic yard. Do not use pea gravel.
   E. Tamp bottom of hole firmly before installing the pole.
   F. Install backfill material evenly around the pole in lifts no more than 6" thick. Tamp each lift thoroughly. Add water as needed to dry sandy material.
   G. Ensure that conduit trenches adjacent to the hole are fully compacted.
   H. For installation of splice box, refer to PG&E Electric & Gas Service Requirements ("Greenbook"), Appendix B – Electric and Gas Service Documents, Street Light Conduit Detail.
   I. Wiring shall consist of #6 duplex from the splice box to the pole in rigid conduit, and #10 (one white and one black) inside the streetlight pole.
3. Foundation–mounted poles:
   A. Concrete foundations shall be cast in place in drilled or hand-excavated holes. Top of concrete shall be sloped down from the center in all directions for drainage – see Figure 28. Refer to Figure 27 to determine whether to use a 4'–6" deep foundation or a 6'–0" deep foundation.
   B. If casing, cribbing, or shoring is used it shall be removed as the concrete is placed such that the concrete is placed neat against the soil.
      1. Shoring consisting of round concrete form products such as "Sonotube" not thicker than 3/8–inch, pressure treated lumber, and steel pipe or tube, may be left in place. Remove at least the top 18 inches of any form or shoring material after placement of concrete.

Streetlighting Poles And Foundations

2. If concrete is not placed neat against the excavated soil, and portions of the shoring or forms are left in place, backfill around the completed foundation in accordance with the backfill requirements for embedded poles.

C. Trench excavations for the installation of conduits shall be backfilled and compacted in accordance with the backfill requirements for embedded poles.

D. Reinforcing steel shall be blocked and supported to provide the indicated minimum concrete cover and to prevent movement as the concrete is placed.

E. Foundation concrete must be 72 hours old (three full days) minimum, prior to installation of the pole.

F. Anchor bolts shall be tightened to a minimum of 60 ft-lbs using a calibrated torque wrench.

G. For installation of splice box, refer to PG&E Electric & Gas Service Requirements ("Greenbook"), Appendix B – Electric and Gas Service Documents, Street Light Conduit Detail.

H. Wiring shall consist of #6 duplex from the splice box to the pole in 2" rigid conduit terminated with an end bell (Code M360420), and #10 (one white and one black) inside the streetlight pole.

Application:

1. Customers may request any of the streetlighting poles shown, subject to availability and to the system limitations indicated. Foundation–mounted poles are preferred.
2. Damaged streetlighting poles found in the field shall be replaced with foundation–mounted poles.
3. For replacement of foundation–mounted posts supported by the direct burial galvanized steel base system, contact Service Planning.

References	Location	Document
Corrosion Resistant Ground Rods and Ground Rod Clamps	UG:Connectors/Greenbook	013109
Streetlight Installation on Wood Poles	OH:Streetlights	015132
Brackets and Mast Arms for Streetlighting	OH:Streetlights	015133
Identification (Badging) of Streetlight Fixtures	OH:Marking	015137
Installation of Grounds on Wood Pole Transmission and Distribution Lines	OH:Transformers	021904
Spool and Clevis–Type Insulators – Distribution Lines	OH:Conductors	022439
Installation Details for Service to Pole–Mounted Communication Equipment	OH:Services/EMWP:TD–6250M	027911
HPSV Decorative Streetlighting	OH:Streetlights	029690
Underground Conduits	UG:Conduits/Greenbook	062288
LED Decorative and Area Streetlighting	OH:Streetlights	076265
LED Cobrahead Streetlighting	OH:Streetlights	092817

Streetlighting Poles and Foundations

Embedded Posts

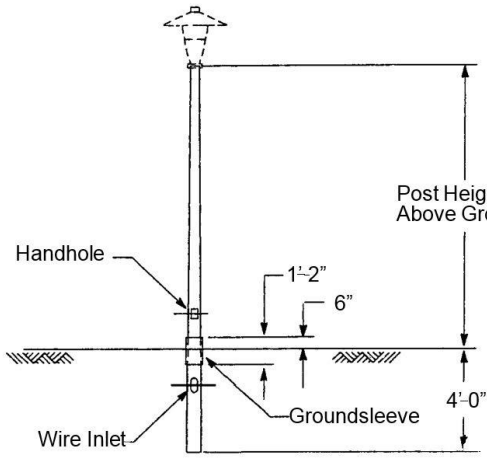


Figure 1
Embedded Steel Posts
(Table 1)

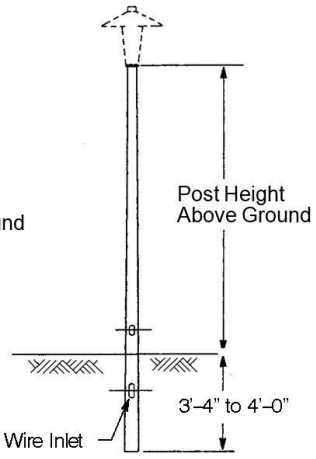


Figure 2
Embedded Prestressed Concrete Posts
(Table 2)

Table 1 Embedded Galvanized Steel Posts (Figure 1)

Height Above Ground	Post Size	Manufacturer	Catalog Number	Code
12'	2-7/8" x 5-1/4" x 16'	Ameron	1PGF-120-10-(136)	M357248
	3" x 5.24" x 16'	Valmont	DS201-524A160	
14'	2-7/8" x 5-1/4" x 18'	Ameron	1PGF-140-10-(136)	M357249
	3" x 5.52" x 18'	Valmont	DS201-552A180	
16'	2-7/8" x 5-1/4" x 20'	Ameron	1PGF-160-10-(136)	M357250
	3" x 5.80" x 20'	Valmont	DS201-580A200	

Table 2 Embedded Prestressed Concrete Posts (Figure 2) (Gray exposed aggregate with Amershield 113A)

Height Above Ground	Post Size	Manufacturer	Catalog Number	Code
13'-1"	3.5" x 6.125" x 16'-4"	Ameron	SER04-123A	M357132
14'	3.5" x 6.375" x 18'	Ameron	SER04.3-123A	M357133
15'-5"	3.5" x 6.687" x 20'	Ameron	SER05-123A	M357134

Streetlighting Poles And Foundations

Embedded Posts (continued)

Table 3 Embedded Fiberglass Posts (similar to Figure 2)

Color	Post Size	Manufacturer	Catalog Number	Code
12' Post Height above Ground				
Gray	4.1" x 6.34" x 16'	W. J. Whatley	TR34-12-DE-GRY-TXT-30-35	M357245
	2.9" x 8.75" x 16'	Shakespeare	BS16-01N2BE12	
Brown	2.9" x 8.75" x 16'	Shakespeare	BS16-01N3BE12	M357246
Bronze	4.1" x 6.34" x 16'	W. J. Whatley	TR34-12-DE-DBZ-TXT-30-35	M357253
	2.9" x 8.75" x 16'	Shakespeare	BS16-01N5BE12	
Green	4.1" x 6.34" x 16'	W. J. Whatley	TR34-12-DE-DGR-TXT-30-35	M357255
	2.9" x 8.75" x 16'	Shakespeare	BS16-01N4BE12	
Black	4.1" x 6.34" x 16'	W. J. Whatley	TR34-12-DE-DGR-TXT-30-35	M357256
	2.9" x 8.75" x 16'	Shakespeare	BS16-01N1BE12	
14' Post Height above Ground				
Gray	4.1" x 6.62" x 18'	W. J. Whatley	TR34-12-DE-GRY-TXT-30-35	M357257
	2.9" x 8.9" x 18'	Shakespeare	BS18-01N2BE12	
Brown	2.9" x 8.9" x 18'	Shakespeare	BS18-01N3BE12	M357258
Bronze	4.1" x 6.62" x 18'	W. J. Whatley	TR34-14-DE-DBZ-TXT-30-35	M357259
	2.9" x 8.9" x 18'	Shakespeare	BS18-01N5BE12	
Green	4.1" x 6.62" x 18'	W. J. Whatley	TR34-14-DE-DGR-TXT-30-35	M357260
	2.9" x 8.9" x 18'	Shakespeare	BS18-01N4BE12	
Black	4.1" x 6.62" x 18'	W. J. Whatley	TR34-14-DE-BLK-TXT-30-35	M357261
	2.9" x 8.9" x 18'	Shakespeare	BS18-01N1BE12	
16' Post Height above Ground				
Gray	4.1" x 6.9" x 20'	W. J. Whatley	TR34-16-DE-GRY-TXT-30-35	M357262
	2.9" x 9.25" x 20'	Shakespeare	BS20-01N2BE12	
Brown	2.9" x 9.25" x 20'	Shakespeare	BS20-01N3BE12	M357263
Bronze	4.1" x 6.9" x 20'	W. J. Whatley	TR34-16-DE-DBZ-TXT-30-35	M357264
	2.9" x 9.25" x 20'	Shakespeare	BS20-01N5BE12	
Green	4.1" x 6.9" x 20'	W. J. Whatley	TR34-16-DE-DGR-TXT-30-35	M357265
	2.9" x 9.25" x 20'	Shakespeare	BS20-01N4BE12	
Black	4.1" x 6.9" x 20'	W. J. Whatley	TR34-16-DE-BLK-TXT-30-35	M357266
	2.9" x 9.25" x 20'	Shakespeare	BS20-01N1BE12	

Streetlighting Poles and Foundations

Foundation-Mounted Posts

Table 4 Galvanized Steel Posts (Figure 3)

Post Height	Post Size	Manufacturer	Catalog Number	Code
12'	3.625" x 5.25" x 12'-0"	Ameron	PGF-120-10-LBC	M357135
	3" x 4.68" x 12'-0"	Valmont	DS200-468A120-HH-LAB-GV	
14'	3.312" x 5.25" x 14'-0"	Ameron	PGF-140-10-LBC	M357136
	3" x 4.96" x 14'-0"	Valmont	DS200-496A140-HH-LAB-GV	
16'	3" x 5.25" x 16'-0"	Ameron	PGF-160-LBC	M357137
	3" x 5.24" x 16'-0"	Valmont	DS200-524A160-HH-LAB-GV	

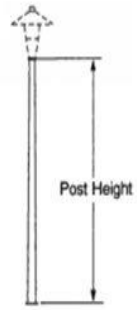


Figure 3
Steel and Aluminum Post

[1] Anchor Bolt Package: M351456, 3/4" on an 8" diameter, 3–bolt pattern.

Table 5 Aluminum Post (Figure 3)

Post Height	Post Size	Manufacturer	Catalog Number	Code
12'-0"	3" x 5" x 11'–8"	Valmont	110830504T3-SBF-LAB	M357138
14'-0"	3" x 5" x 13'- 8"	Valmont	130830504T3-SBF-LAB	M357139
16'-0"	3" x 5" x 15'- 8"	Valmont	150830504T3-SBF-LAB	M357140

[1] Anchor Bolts: M351456, 3/4" on an 8" diameter, 3–bolt pattern.

Table 6 Concrete Post (Figure 4)

Post Height	Manufacturer	Catalog Number	Code
9'-6"	Ameron	26ST10	M350662
12'-0"	Ameron	26ST12	M350663
14'-6"	Ameron	26ST14	M350664

[1] Anchor Bolts: M351454, 1" on a 6-1/2" diameter, 4-bolt pattern Base OD=21" diameter.

Streetlighting Poles And Foundations

Foundation-Mounted Posts (continued)

Washington
Figure 4
Concrete Post
(Table 6)

Figure 5
Washington
Extruded Post
(Table 7)

Figure 6
Broadway Extruded Post
(Table 8)

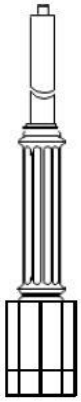


Figure 7
Chesapeake Extruded
Aluminum Post with
Decorative Base
(Table 9)

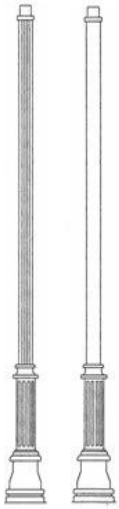


Figure 8
Charleston Extruded
Aluminum Post
(Table 10)

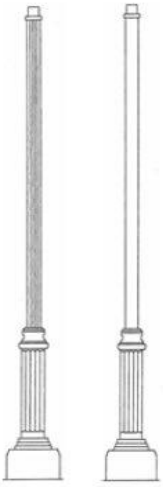


Figure 9
Hamilton Extruded
Aluminum Post
(Table 11)

Columbia Delaware
Figure 10
Cast Iron and Steel Pole
Holophane
(Table 12)

Figure 11
Broadway Extruded Pole
(Table 13)

Foundation–Mounted Posts (continued)

Table 7 Extruded Aluminum Posts–Cooper (black only) (Figure 5)

Washington			
Post Height	Shaft Style	Catalog Number	Code
12'–0"	Round	WA31242RT5BKG	M350832
	Fluted	WA31242SF5BKG	M350835
14'–0"	Round	WA31442RT5BKG	M350833
	Fluted	WA31442SF5BKG	M350836
16'-0"	Round	WA31642RT5BKG	M350834
	Fluted	WA31642SF5BKG	M350837

[1] Anchor Bolts: M351455, 3/4" on a 12" diameter, 4–bolt pattern. Base OD = 17".

Table 8 Extruded Aluminum Posts–Cooper (black only) (Figure 6)

Broadway			
Post Height	Shaft Style	Catalog Number	Code
12'–0"	Round	BWR1241RT5BKG	M350838
	Fluted	BWR1241SF5BKG	M350856
14'–0"	Round	BWR1441RT5BKG	M350839
	Fluted	BWR1441SF5BKG	M350867
16'-0"	Round	BWR1641RT5BKG	M350840
	Fluted	BWR1641SF5BKG	M350868

[1] Anchor Bolts: M351454, 1" on a 11–1/2" diameter, 4–bolt pattern.

Table 9 Extruded Aluminum Posts With Decorative Bases-Cooper (black only) (Figure 7)

Chesapeake			
Post Height	Shaft Style	Catalog Number	Code
12'–0"	Round	CPR1242RT5BKG	M350674
	Fluted	CPR1242SF5BKG	N/A
14'–0"	Round	CPR1442RT5BKG	M350675
	Fluted	CPR1442SF5BKG	M350816
16'-0"	Round	CPR1642RT5BKG	M350720
	Fluted	CPR1642SF5BKG	M350831

[1] Anchor Bolts: M351455, 3/4" on a 13–1/4"diameter, 4–bolt pattern. Base = 12" square.

Streetlighting Poles And Foundations

Foundation–Mounted Posts (continued)

Table 10 Extruded Aluminum Posts – Holophane (Figure 8)

Charleston					
Post Height	Shaft Diameter	Shaft Style	Color	Catalog Number	Code
12'–0"	4"	Fluted	Black	CH12F412CABKHLAB	M350402
			Green	CH12F412CADGHLAB	M350401
			Bronze	CH12F412CABZHLAB	M351099
		Smooth	Black	CH12S412CABKHLAB	M350403
			Green	CH12S412CADGHLAB	M350404
			Bronze	CH12S412CABZHLAB	M351100
	5"	Fluted	Black	CH12F512CABKHLAB	M350405
			Green	CH12F512CADGHLAB	M350406
			Bronze	CH12F512CABZHLAB	M351102
		Smooth	Black	CH12S512CABKHLAB	M350407
			Green	CH12S512CADGHLAB	M350408
			Bronze	CH12S512CABZHLAB	M351103
14'-0"	4"	Fluted	Black	CH14F412CABKHLAB	M350409
			Green	CH14F412CADGHLAB	M350410
			Bronze	CH14F412CABZHLAB	M351104
		Smooth	Black	CH14S412CABKHLAB	M350411
			Green	CH14S412CADGHLAB	M350412
			Bronze	CH14S412CABZHLAB	M351105
	5"	Fluted	Black	CH14F512CABKHLAB	M350413
			Green	CH14F512CADGHLAB	M350414
			Bronze	CH14F512CABZHLAB	M351106
		Smooth	Black	CH14S512CABKHLAB	M350415
			Green	CH14S512CADGHLAB	M350416
			Bronze	CH14S512CABZHLAB	M351107
16'-0"	5"	Fluted	Black	CH16F512CABKHLAB	M350417
			Green	CH16F512CADGHLAB	M350418
			Bronze	CH16F512CABZHLAB	M351108
		Smooth	Black	CH16S512CABKHLAB	M350419
			Green	CH16S512CADGHLAB	M350420
			Bronze	CH16S512CABZHLAB	M351109
18'-0"		Fluted	Black	CHA18F512CABKHLAB RFD276700	M351418
			Green	CHA18F512CAGNHLAB RFD276701	M351419
			Bronze	CHA18F512CABZHLAB RFD276699	M351420
		Smooth	Black	CHA18S512CABKHLAB RFD276706	M351421
			Green	CHA18S512CAGNHLAB RFD276707	M351422
			Bronze	CHA18S512CABZHLAB RFD276708	M351423

Foundation–Mounted Posts (continued)

Table 10 Extruded Aluminum Posts – Holophane (Figure 8) (continued)

Charleston					
Post Height	Shaft Diameter	Shaft Style	Color	Catalog Number	Code
20'-0"	5"	Fluted	Black	CHA20F512CABKHLAB RFD276697	M351424
			Green	CHA20F512CAGNHLAB RFD276698	M351425
			Bronze	CHA20F512CABZHLAB RFD276702	M351426
		Smooth	Black	CHA20S512CABKHLAB RFD276703	M351427
			Green	CHA20S512CAGNHLAB RFD276704	M351428
			Bronze	CHA20S512CABZHLAB RFD276705	M351429

[1] Use 5" diameter shaft posts when a crossarm is used. Anchor Bolts: M351455, 3/4" on a 7" diameter, 4-bolt pattern. Base OD = 11-1/2".

Streetlighting Poles And Foundations

Foundation–Mounted Posts (continued)

Table 11 Extruded Aluminum Posts – Holophane (Figure 9)

Hamilton					
Post Height	Shaft Diameter	Shaft Style	Color	Catalog Number	Code
12'–0"	4"	Fluted	Black	H12F416CABKHLAB	M350421
			Green	H12F416CADGHLAB	M350422
			Bronze	H12F416CABZHLAB	M351110
		Smooth	Black	H12S416CABKHLAB	M350423
			Green	H12S416CADGHLAB	M350424
			Bronze	H12S416CABZHLAB	M351111
	5"	Fluted	Black	H12F516CABKHLAB	M350425
			Green	H12F516CADGHLAB	M350426
			Bronze	H12F516CABZHLAB	M351112
		Smooth	Black	H12S516CABKHLAB	M350427
			Green	H12S516CADGHLAB	M350428
			Bronze	H12S516CABZHLAB	M351113
14'-0"	4"	Fluted	Black	H14F416CABKHLAB	M350429
			Green	H14F416CADGHLAB	M350430
			Bronze	H14F416CABZHLAB	M351114
		Smooth	Black	H14S416CABKHLAB	M350431
			Green	H14S416CADGHLAB	M350432
			Bronze	H14S416CABZHLAB	M351115
	5"	Fluted	Black	H14F516CABKHLAB	M350433
			Green	H14F516CADGHLAB	M350434
			Bronze	H14F516CABZHLAB	M351116
		Smooth	Black	H14S516CABKHLAB	M350435
			Green	H14S516CADGHLAB	M350436
			Bronze	H14S516CABZHLAB	M351117
16'-0"	5"	Fluted	Black	H16F516CABKHLAB	M350437
			Green	H16F516CADGHLAB	M350438
			Bronze	H16F516CABZHLAB	M351118
		Smooth	Black	H16S516CABKHLAB	M350439
			Green	H16S516CADGHLAB	M350440
			Bronze	H16S516CABZHLAB	M351119

[1] Use 5" posts when a crossarm is used. Anchor Bolts: M351455, 3/4" on an 11" diameter, 4-bolt pattern. Base OD = 16".

Streetlighting Poles and Foundations

Foundation–Mounted Decorative Poles and Crossarms

Table 12 Cast Iron and Steel Pole – Holophane (black only) (Figure 10)

Post Height	Style	Catalog Number	Code
20'-0"	Columbia	C20/20-CIS/BKH	M350907

[1] Columbia – Anchor Bolts: M351455, 3/4" on a 15" diameter, 4-bolt pattern. Base OD = 20".

Post Height	Style	Catalog Number	Code
20'-6"	Delaware	D21/15-CIS/BKH	M350908

[2] Delaware – Anchor Bolts: M351455, 3/4" on a 10" diameter, 4-bolt pattern. Base OD = 15".

Table 13 Extruded Aluminum Poles – Cooper (Figure 11)

Broadway				
Post Height	Shaft Style	Color	Catalog Number	Code
18'–0"	Round	Black	BWR1852RT5BKG	M350841
		Bronze	BWR1882RT5BZG	M351438
20'–0"	Round	Black	BWR2062RT5BKG	M350842
		Bronze	BWR2082RT5BZG	M351439
25'–0"	Round	Black	BWR2563RT5BKG	M350843
		Bronze	BWR2583RT5BZG	M351440
30'–0"	Round	Black	BWR3083RT5BKG	M350844
		Bronze	BWR3083RT5BZG	M351441

[1] Anchor Bolts: M351454, 1" on a 11-1/2" diameter, 4–bolt pattern. The Broadway pole is for use with the Epic fixture mounts.

Table 14 Steel Pole – Holophane (Figure 12)

Memphis **Utility** Pole				
Post Height	Shaft Style	Color	Catalog Number	Code
28'–0"	Fluted	Black	FL210-800A280-P9-HH-FP-ABG-BK, NY24CSBU960D RFD276421	M351444
		Green	FL210-800A280-P9-HH-FP-ABG-RAL6012(GREEN), NY24CSBU960D RFD276423	M351445
		Bronze	FL210-800A280-P9-HH-FP-ABG-BZ, NY24CSBU960D RFD276422	M351446

[1] Anchor Bolts: M351454, 1" on a 11" diameter, 4-bolt pattern, Base OD = 24". The Memphis **Utility** pole is for use only with the Holophane Memphis **Utility** (Teardrop) fixture and the West Liberty single or twin crossarm.

Streetlighting Poles And Foundations

Foundation–Mounted Decorative Poles and Crossarms (continued)

Table 15 Twin and Single Fixture Crossarms (Holophane West Liberty) (Figure 13)

Crossarm Type	Color	Catalog Number	Code
Single Crossarm	Black	WLC 72/1 CA BKH WLLF/200 BK RFD 276427	M351450
	Green	WLC 72/1 CA RAL6012 WLLF/200 RAL6012 RFD 276429	M351451
	Bronze	WLC 72/1 CA BZ WLLF/200 BZ RFD 276428	M351452
Twin Crossarm	Black	WLC 144/2 CA BKH WLLF/200 BK RFD 276424	M351447
	Green	WLC 144/2 CA RAL6012 WLLF/200 RAL6012 RFD 276426	M351448
	Bronze	WLC 144/2 CA BZ WLLF/200 BZ RFD 276425	M351449

[1] Use with Holophane Memphis **Utility** Pole and Memphis **Utility** (Teardrop) fixtures only.

Table 16 Twin Fixture Crossarm (Holophane) (Figure 14)

Color	Catalog Number	Code
Black	PCP36-CABK RFD225575	M350442
Green	PCP36-CADG RFD275805	M350441
Bronze	PCP36-CABZ RFD275806	M351405

[1] Note: Use with Holophane Granville (Acorn) fixtures.

Table 17 Twin and Single Fixture Crossarms (Holophane) – for Pendant Style Fixtures (Figure 15)

Crossarm Type	Color	Catalog Number	Code
Single Fixture Crossarm	Black	PCP18(INV)-CABK RFD43655	M350446
	Green	PCP18(INV)-CADGRFD43654	M350447
	Bronze	PCP18(INV)-CABZ RFD275463	M351407
Twin Fixture Crossarm	Black	PCP36(INV)-CABK RFD104426	M350448
	Green	PCP36(INV)-CADG RFD152332	M350449
	Bronze	PCP36(INV)-CABZ RFD275462	M351406

[1] Note: Use with Holophane Memphis **Pedestrian** (Teardrop) fixtures; use only with 16' posts or taller.

Foundation–Mounted Decorative Poles and Crossarms (continued)

Figure 12
Memphis Utility Pole
(Table 14)

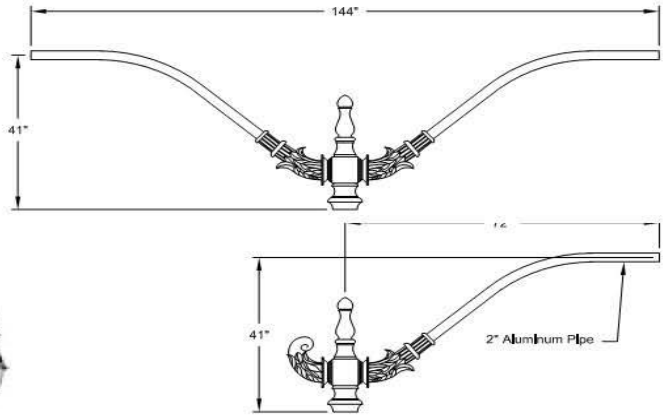


Figure 13
Twin and Single West Liberty Crossarms
(with Twin and Single Fitter)
(Table 15)

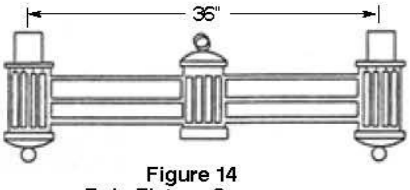


Figure 14
Twin Fixture Crossarm
(Table 16)

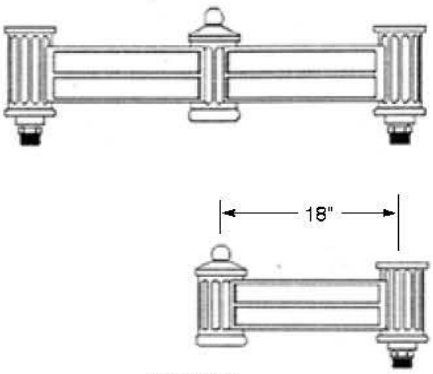


Figure 15
Twin and Single Fixture Crossarm
(Table 17)

Streetlighting Poles And Foundations

Foundation–Mounted Decorative Poles and Crossarms (continued)

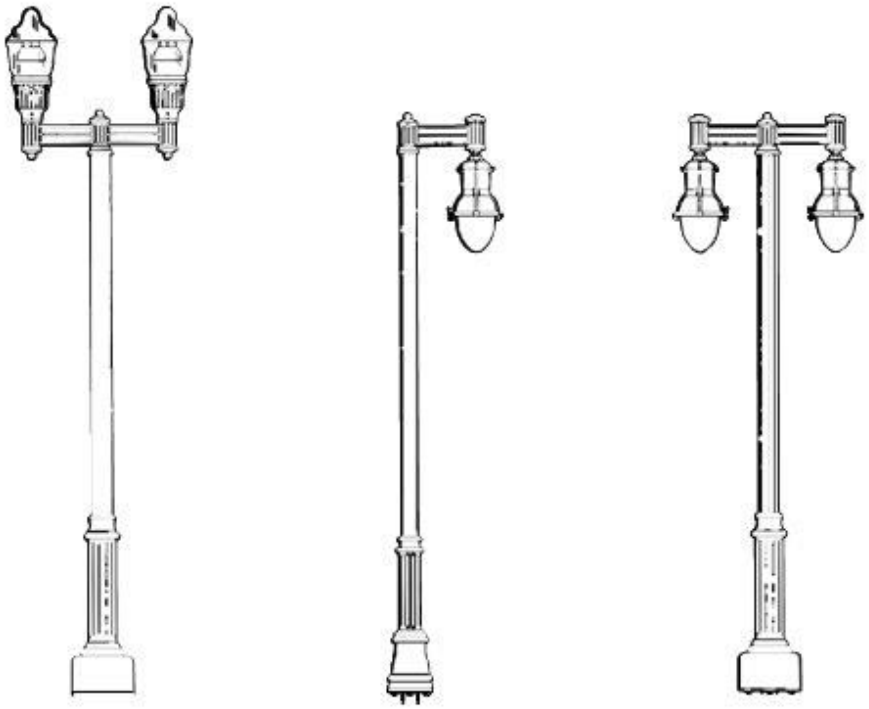


Figure 16
Typical Crossarm Installations

Note: Photocontrol orientation – with twin fixtures, for proper operation of both lights, neither photocontrol can face the other light. This may mean turning one or both controls in a more easterly or westerly direction instead of the normal northerly direction.

Foundation-Mounted Decorative Poles and Crossarms (continued)

Table 18 Single and Twin-Arm Pole Mounts for Epic Fixture – Cooper (Figure 17)

Arm Type	Fixture Type	Color	Catalog Number	Code
Single	Epic – Medium	Black	SA6156-BK-4N7	M351417
		Bronze	SA6156-BZ-4N7	M351443
Twin	Epic – Medium	Black	SA6154-BK-4N7	M351416
		Bronze	SA6154-BZ-4N7	M351442

1 Single and twin-arm pole mounts for the Epic fixture are designed for slip fit on a 4" diameter cylindrical pole (Broadway pole).
2 Use Only on 18'-0" pole, or taller.
3 Complete with photocell kit.

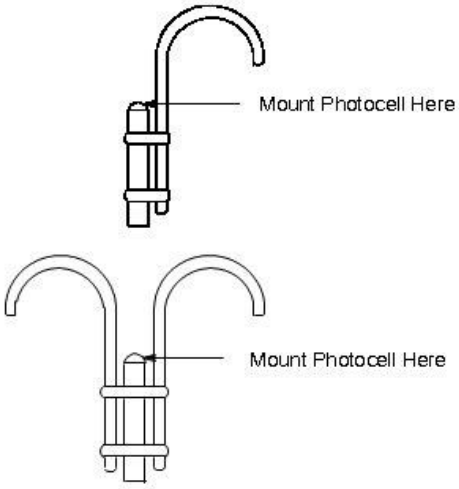


Figure 17
Single and Twin-Arm Pole Mounts
(Table 18)

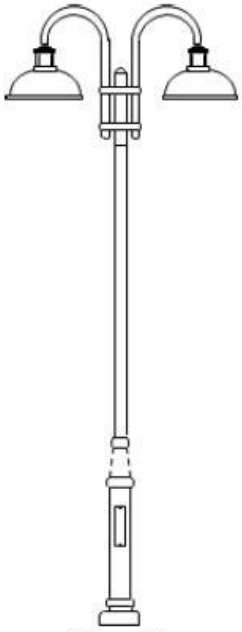


Figure 18
Typical Epic Installation
(Table 18)

Streetlighting Poles And Foundations

Embedded Galvanized Steel Poles

Table 19 Embedded Galvanized Steel Poles – Valmont and Ameron (Figure 19)

Dimensions					Code		Mounting Height
"A" Shaft Length	Pole Diameter		"B" Arm Length	"C" Rise	Single Arm	Double Arm	
	At Top	At Bottom					
32'-6"	3.8" to 3.875"	8.34" to 3.375"	4'-0"	1'-6"	M357231	–	27'-6"
			6'-0"	2'-0"	M357232	M357236	28'-6"
			8'-0"		M357274	M357273	
37'-0"	3.66" to 3.875"	8.84" to 9.0"	6'-0"	2'-0"	M357233	M357237	32'-6"
			8'-0"		M357234	M357238	
39'-6"	3.31" to 3.875"	8.84" to 9.312"	6'-0"	2'-0"	M357235	M357239	35'-6"
			8'-0"		—	M357240	

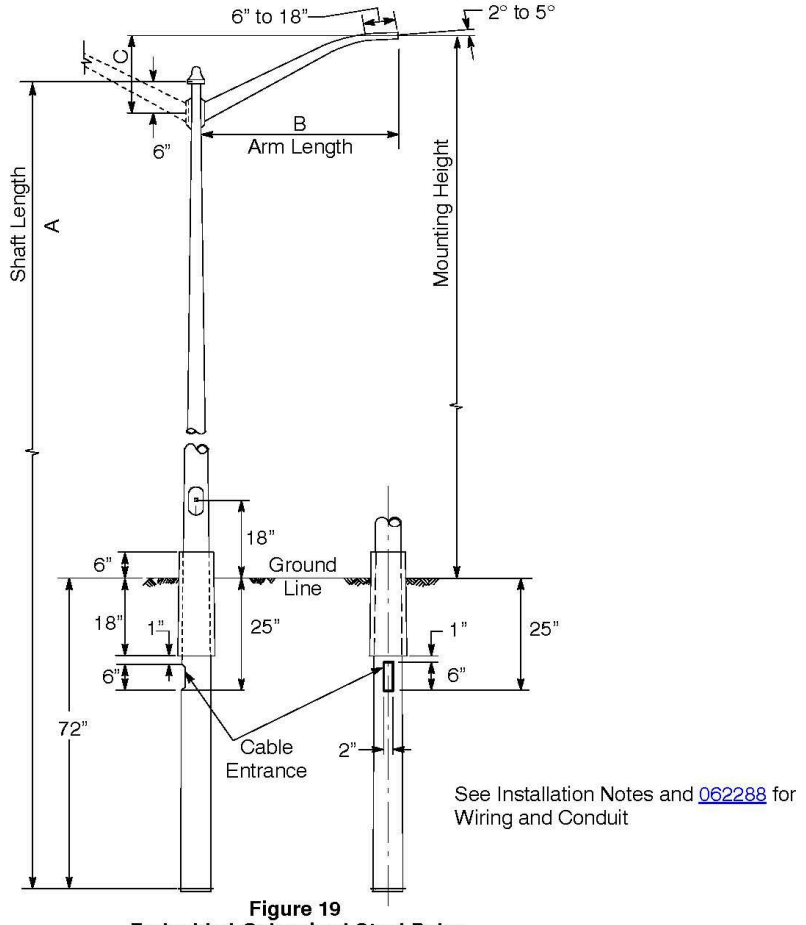


Figure 19
Embedded Galvanized Steel Poles

Streetlighting Poles and Foundations

Embedded Fiberglass Poles

Table 20 Embedded Fiberglass Poles (Figure 20)

Dimensions					Mfr. and Cat. No.		Code		Mounting Height
"A" Shaft Length	Pole Diameter		"B" Arm Length	"C" Rise	W.J. Whatley		Single Arm	Double Arm	
	At Top	At Bottom			Single Arm	Double Arm			
32'-6"	4.1" to 4.3"	8.1" to 8.4"	4'-0"	1'-6"	WPHD-27.5-4/1	-	M357275	–	27'-6"
			6'-0"	2'-0"	WPHD-28.5-6/1	WPHD-28.5-6/2	M357276	M357281	28'-6"
			8'-0"		WPHD-28.5-8/1	WPHD-28.5-8/2	M357277	M357282	
37'-0"	5.1" to 5.4"	8.4" to 8.6"	6'-0"	2'-0"	WPHD-32.5-6/1	WPHD-32.5-6/2	M357278	M357283	32'-6"
			8'-0"		WPHD-32.5-8/1	WPHD-32.5-8/2	M357279	M357284	
39'-6"	6.3" to 6.5"	10.4" to 10.6"	6'-0"	2'-0"	WPHD-35.5-6/1	WPHD-35.5-6/2	M357280	M357285	35'-6"
			8'-0"		-	WPHD-35.5-8/2	–	M357286	

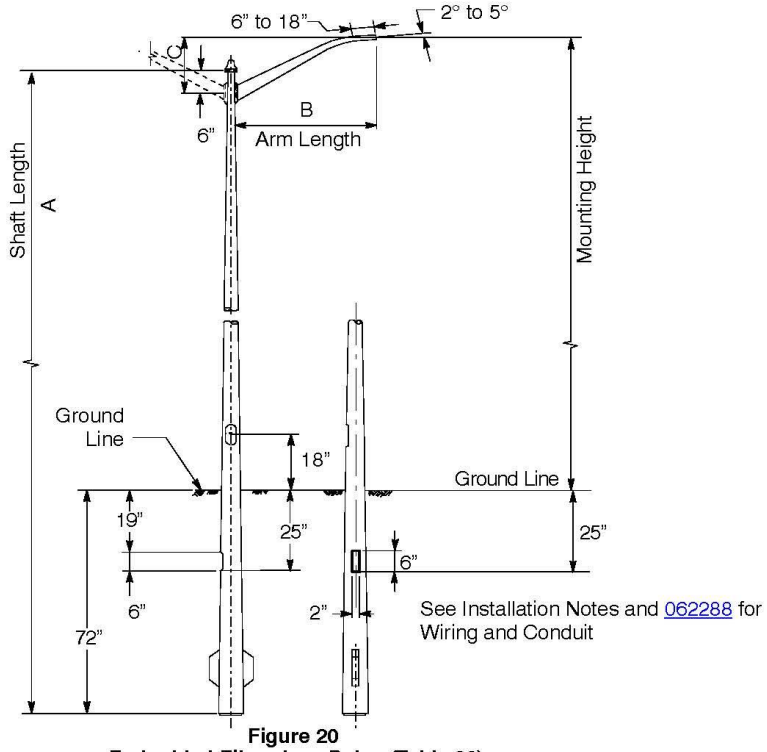


Figure 20
Embedded Fiberglass Poles (Table 20)

Streetlighting Poles And Foundations

Foundation–Mounted Galvanized Steel Poles

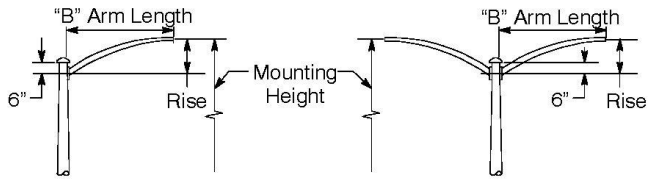


Figure 21
Foundation Mounted Galvanized Steel Poles
(Aluminum Similar) (See Page 26 for pole base)

Table 21 Single-Arm Galvanized Steel Poles (Figure 21)

Single Arm Pole							
Mounting Height	Arm		Code	Ameron Pole Products		Valmont Industries	
	Length	Rise		Shaft Size	Cat. No	Shaft Size	Cat. No
27'-6"	4'	0'-9"	M357119	7.5"x3.875"x 26'-6"	PL-264-LBC	7.5"x3.79"x 26'-6"	DS36–750A266–4S–HH–LAB–GV
28'-0"	6'	1'-6"	M357170		PL-266-LBC		DS36–750A266–6S–HH–LAB–GV
28'-0"	8'	1'-6"	M357252		PL-268-LBC		DS36–750A266–8S–HH–LAB–GV
32'-6"	6'	1'-6"	M357120	8.0"x3.875"x 31'-0"	PL-316-LBC	8.0"x3.66"x 31'-0"	DS36–800A310–6S–HH–LAB–GV
32'-6"	8'	1'-6"	M357230		PL-318-LBC		DS36–800A310–8S–HH–LAB–GV
35'-0"	6'	1'-6"	M357122	8.5"x3.875"x 33'–6"	PL-336-LBC	8.0"x3.31"x 33'-6"	DS36–800A336–6S–HH–LAB–GV
35'-0"	8'	1'-6"	M357254		PL-338-LBC		DS36–800A336–8S–HH–LAB–GV

Table 22 Double Arm Galvanized Steel Poles (Figure 21)

Double Arm Pole							
Mounting Height	Arm		Code	Ameron Pole Products		Valmont Industries	
	Length	Rise		Shaft Size	Cat. No	Shaft Size	Cat. No
27'-6"	6'	1'-6"	M357188	7.5"x3.875"x 26'-6"	PL-266D-LBC	7.5"x3.86"x 26'-0"	DS36-750A260-6D-GV-HH-LAB
32'-6"	6'	1'-6"	M357189	8.125"x3.875"x 31'–0"	PL-316D-LBC	8.0"x3.66"x 31'-0"	DS36-800A310-6D-GV-HH-LAB
32'-6"	8'	1'-6"	M357190		PL-318D-LBC		DS36-800A310-8D-GV-HH-LAB
35'-0"	6'	1'-6"	M357191	8.5"x3.875"x 33'–6"	PL-336D-LBC	8.0"x3.31"x 33'-6"	DS36-800A336-6D-GV-HH-LAB
35'-0"	8'	1'-6"	M357192		PL-338D-LBC		DS36-800A336-8D-GV-HH-LAB

Streetlighting Poles and Foundations

Foundation-Mounted Aluminum Poles

Table 23 Single–Arm Aluminum Poles (Figure 21)

Mounting Height	Arm		Code	Wall Thickness	Hapco Co.	
	Length	Rise			Shaft Size	Cat. No
27'-6"	4'	1'-6"	M357123	.188"	8" x 4.5" x 26'–6"	47142–001
28'-0"	6'	2'-0"	M357185	.188"		47142–004
32'-6"	6'	2'-0"	M357124	.188"	8" x 4.5" x 31'–0"	47142–002
35'-0"	6'	2'-0"	M357125	.250"	8" x 4.5" x 33'–6"	47142–003

Table 24 Double–Arm Aluminum Poles (Figure 21)

Mounting Height	Arm		Code	Wall Thickness	Hapco Co.	
	Length	Rise			Shaft Size	Cat. No
28'–0"	6'	2'-0"	M357193	.188"	8" x 4.5" x 26'–6"	54620–001
32'–6"	6'	2'-0"	M357194	.188"	8" x 4.5" x 31'–0"	54620–002
35'–0"	6'	2'-0"	M357195	.250"	8" x 4.5" x 33'–6"	54620–003

Streetlighting Poles And Foundations

Overhead–Fed Galvanized Steel Poles

Overhead–fed poles are fitted to directly receive 120V/277V secondary overhead power through a pipe nipple welded to the shaft opposite the bracket arm and positioned at a 45 degree downward angle to minimize water incursion – see Figure 22.
A pole band (M188205) and spool and clevis (M315002 – as shown in Figure 23) to be ordered separately, are needed to attach the overhead conductor to the pole.
Overhead–fed poles include single–arm embedded and foundation–mounted galvanized steel poles with mounting heights and bracket arms as indicated in Tables 25 and 26.

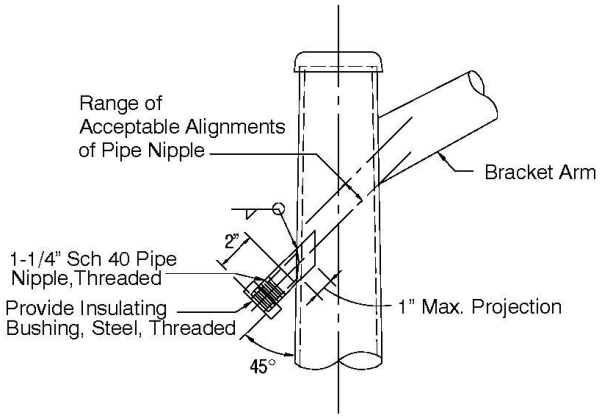


Figure 22
Pipe Nipple for Overhead–Fed Pole

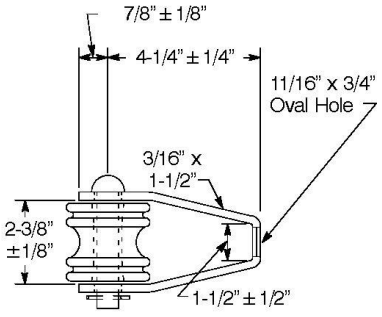


Figure 23
Spool and Clevis–Type Insulator

Table 25 Embedded Galvanized Steel Poles for Single–Arm Overhead Feeds

Ameron Pole Products					
Mount-ing Height	Arm		Code	Shaft Size	Cat. No
	Length	Rise			
27'-6"	4'	1'-6"	M351496	8.4" x 3.8" x 32'–6" 7 Gage	IPL264–MOD1
28'-0"	6'	2'-0"	M351498		IPL266–MOD1
32'-6"	6'	2'-0"	M351500	9.0" x 3.8" x 37'–0" 7 Gage	IPL316–MOD1
Valmont Industries					
Mount-ing Height	Arm		Code	Shaft Size	Cat. No
	Length	Rise			
27'-6"	4'	1'-6"	M351496	8.34" x 3.79" x 32'–6" 7 Gage	EM36–834E326–4S–GV–HH
28'-0"	6'	2'-0"	M351498		EM36–834E326–6S–GV–HH
32'-6"	6'	2'-0"	M351500	8.84" x 3.66" x 37'–0" 7 Gage	EM36–884E370–6S–GV–HH

Overhead–Fed Galvanized Steel Poles (continued)

Table 26 Foundation–Mounted Single–Arm Galvanized Steel Poles for Overhead Feeds

Ameron Pole Products					
Mounting Height	Arm Length	Arm Rise	Code	Shaft Size	Cat. No
27'-6"	4'	1'-6"	M351490	7.5" x 3.8" x 26'–6" 7 Gage	PL264–MOD1
28'-0"	6'	2'-0"	M351492		PL266–MOD1
32'-6"	6'	2'-0"	M351494	8.0" x 3.7" x 31'–0" 7 Gage	PL316–MOD1
Valmont Industries					
Mounting Height	Arm Length	Arm Rise	Code	Shaft Size	Cat. No
27'-6"	4'	1'-6"	M351490	7.5" x 3.79" x 26'–6" 7 Gage	MOD–DS36–750E266–4S–GV–HH–LAB
28'-0"	6'	2'-0"	M351492		MOD–DS36–750E266–6S–GV–HH–LAB
32'-6"	6'	2'-0"	M351494	8.0" x 3.66" x 31'–0" 7 Gage	MOD–DS36–800E310–6S–GV–HH–LAB

[1] Anchor Bolt Package (4–bolt pattern, 1" diam. bolts): M351454, to be ordered separately.

Arm Attachments

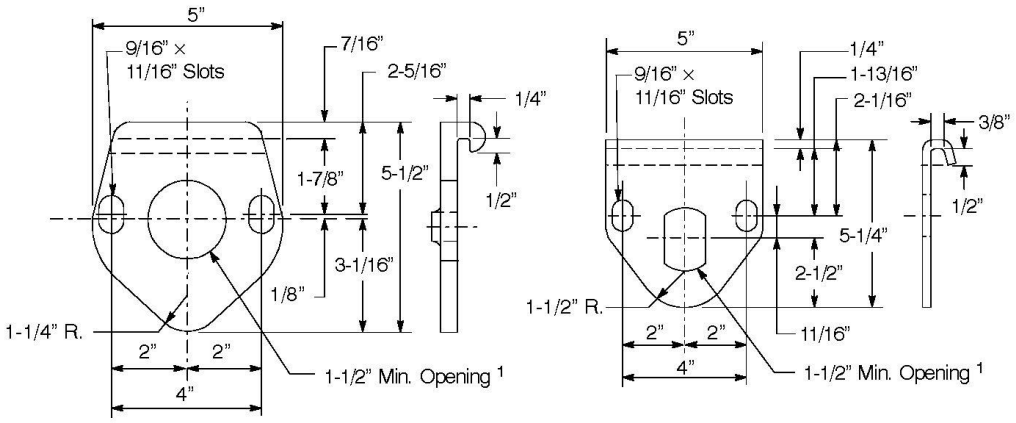


Figure 24
Arm Plates – Steel Poles Only

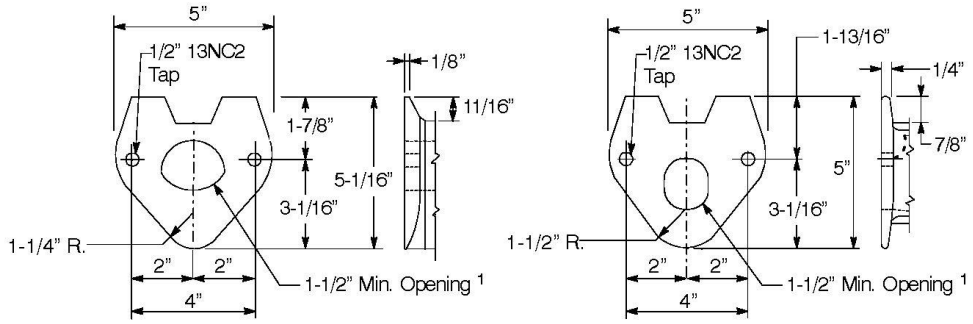


Figure 25
Pole Plates – For Bracket Arm Fitting – Steel Poles Only

1 Openings to be free of burrs or sharp edges that could damage conductors.
2 Steel arms to be interchangeable on bracket mounting supports on steel poles of various manufacturers listed in Table 21, Table 22, Table 25, and Table 26.

Streetlighting Poles and Foundations

Universal Hand Hole Cover

Where streetlighting pole hand hole covers have been lost or rendered non-functional, the following universal cover identified in Table 27 is available. This cover mounts with the included stainless steel band, secured by a penta-head bolt, and fits any round pole with a diameter between 6 inches and 12 inches, as shown in Figure 26.

Table 27 Universal Hand Hole Cover

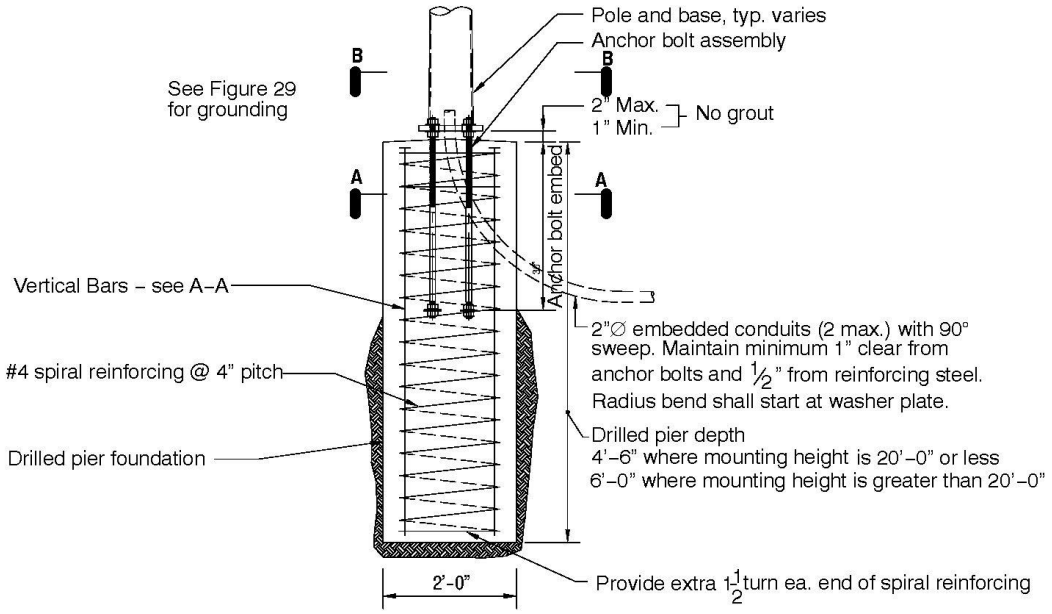
Product	Manufacturer	Code
U-COVER	Angel Guard Products	M350912

Figure 26
U-Cover by Angel Guard Products

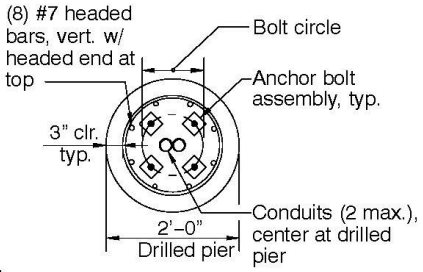
Streetlighting Poles And Foundations

Foundation Systems and Grounding

1. See Figure 28 for top of pier condition at landscaped or sidewalk areas.
2. See Figure 29 for grounding details.
3. See "Anchor Bolt Assemblies" and Table 28 for Post and Pole Anchorage.
4. See Figure 30 for anchor bolt setting template dimensions.

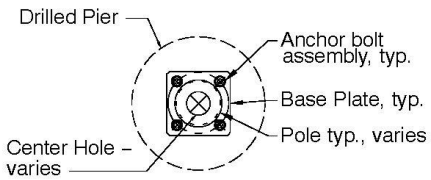


Elevation



Note:
3 bolt pattern similar.

Section View A–A



Plan View B–B

Figure 27
Cast-in-Place Drilled Pier Foundation

Foundation Systems and Grounding (continued)

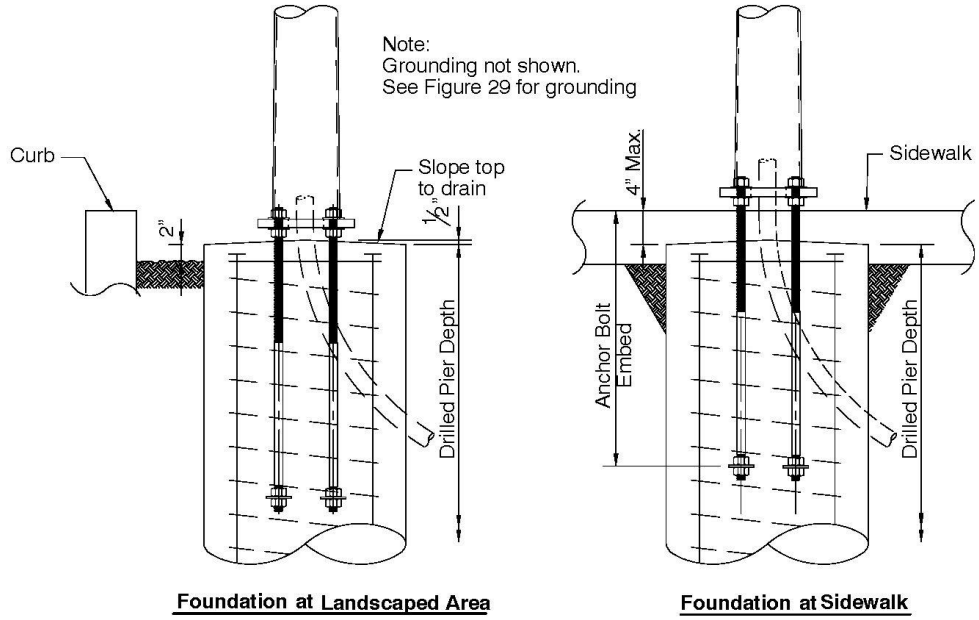


Figure 28
Top of Pier Conditions

Foundation Systems and Grounding (continued)

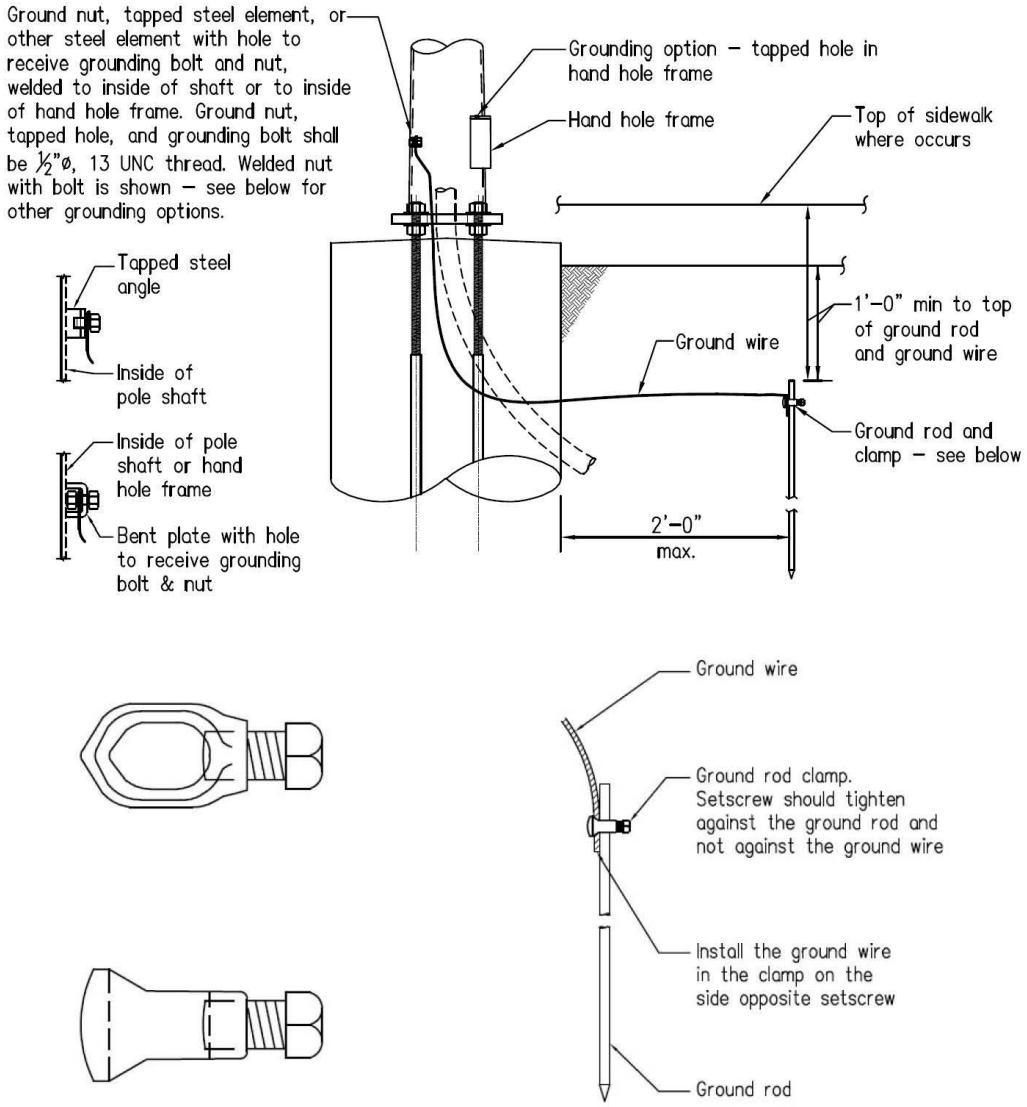


Figure 29
Grounding

Streetlighting Poles and Foundations

Foundation Systems and Grounding (continued)

When installing new foundation–mounted streetlighting poles, install a Ground Rod and Ground Wire as shown above and as follows:

Install one 5/8" Ground Rod (M187013) within 2 feet of the outside of the streetlight pole foundation as shown above. Drive the Ground Rod into the earth such that the top of the ground rod is not less than 1 foot below the ground or sidewalk surface. Attach a No. 6 solid, bare, soft–drawn copper Ground Wire (M290072) to the Ground Rod with a Standard Ground Rod Clamp (M187012). The horizontal run of the ground Wire shall be not less than 1 foot from the surface of the ground or sidewalk.

Attach the Ground Wire to the grounding element provided with the pole. Use the hardware provided with the pole, which should be a 1/2" diameter headed bolt or cap screw at welded nut or tapped hole elements, and a 1/2" diameter headed bolt or cap screw with nut at steel grounding elements with non–tapped holes. Bend the Ground Wire snugly around the bolt shaft and tighten the bolt to securely anchor the Ground Wire to the grounding element.

Table 28 Post and Pole Anchorage

Table	Figure #	Style	Material	Manufac-turer	Bolt Circle [1] (in)	Setting Circle [2] (in)	A.B. Qty	A.B. Dia (in)
Table 4	Figure 3	–	Steel	Valmont & Ameron	8	8	3	0.75
Table 5		–	Aluminum	Valmont	8	8	3	0.75
Table 6	Figure 4	Washing-ton	Concrete	Ameron	6–1/2	6–1/2	4	1.00
Table 7	Figure 5	Washing-ton	Aluminum	Cooper	Varies	12	4	0.75
Table 8	Figure 6	Broadway	Aluminum	Cooper	Varies	11-1/2	4	1.00
Table 9	Figure 7	Chesa-peake	Aluminum	Cooper	Varies	13–1/4	4	0.75
Table 10	Figure 8	Charleston	Aluminum	Holophane	7-1/2	7-1/2	4	0.75
Table 11	Figure 9	Hamilton	Aluminum	Holophane	11	11	4	0.75
Table 12	Figure 10	Columbia	Steel	Holophane	15	15	4	0.75
		Delaware	Steel	Holophane	10	10	4	0.75
Table 13	Figure 11	Broadway	Aluminum	Cooper	Varies	11–1/2	4	1.00
Table 14	Figure 12	Memphis	Steel	Holophane	11	11	4	1.00
Table 21	Figure 21	Single–Arm	Steel	Valmont	11	11	4	1.00
			Steel	Ameron	Varies	11	4	1.00
Table 22	Figure 21	Double–Arm	Steel	Valmont	11	11	4	1.00
			Steel	Ameron	Varies	11	4	1.00
Table 23 Table 24	Figure 21	–	Aluminum	Hapco	Varies	11–1/2	4	1.00
Table 26	Figure 22	Overhead–Fed	Steel	Ameron	Varies	11	4	1.00
			Steel	Valmont	11	11	4	1.00

[1] Bolt Circle as provided by manufacture in base plate.
[2] Use the Setting Circle for installation of anchor bolts. See Figure 30 for anchor bolt setting template dimensions.

Foundation Systems and Grounding (continued)

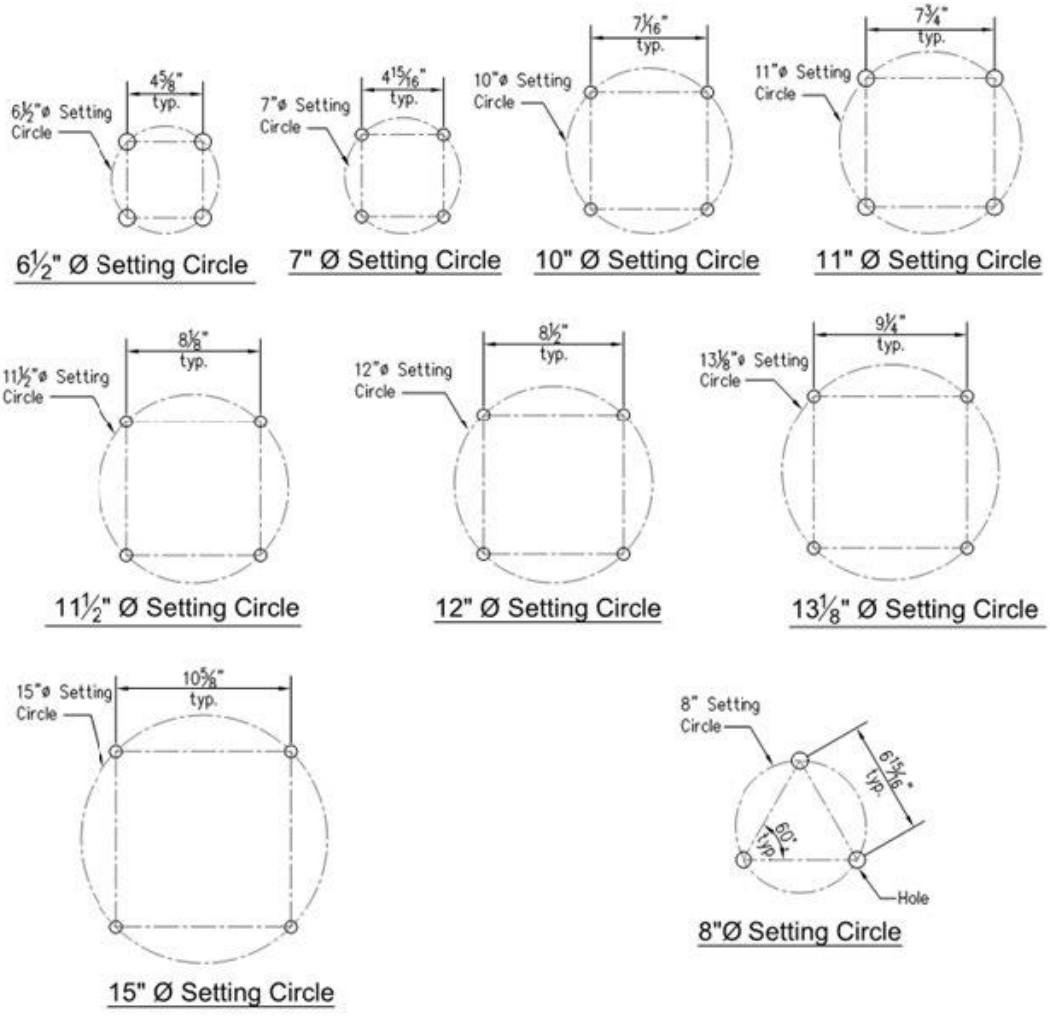


Figure 30
Anchor Bolt Setting Templates

Streetlighting Poles and Foundations

Anchor Bolt Assemblies

Anchor bolt assemblies shall consist of straight anchor rods meeting the requirements of ASTM F1554, Grade 55, galvanized full length and threaded at each end, with heavy hex nuts and washers and a galvanized plate washer. Unless otherwise noted, coded streetlighting poles do not include anchor bolt packages which must be ordered separately. Coded anchor bolt packages include a 4–bolt assembly with 1–inch diameter bolts, a 4–bolt assembly with 3/4–inch diameter bolts, and a 3–bolt assembly with 3/4–inch diameter bolts, as follows in Table 29 and Figure 31:

Table 29 Anchor Bolt Packages

Anchor Bolt Diameter	Number of Bolts in Package	Code
1–inch	4	M351454
3/4–inch	4	M351455
3/4–inch	3	M351456

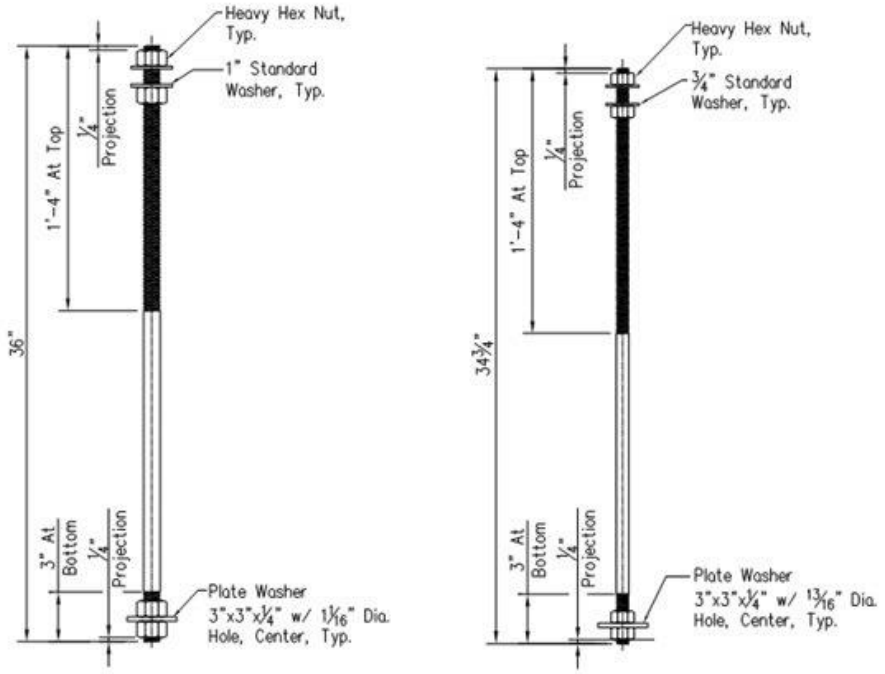


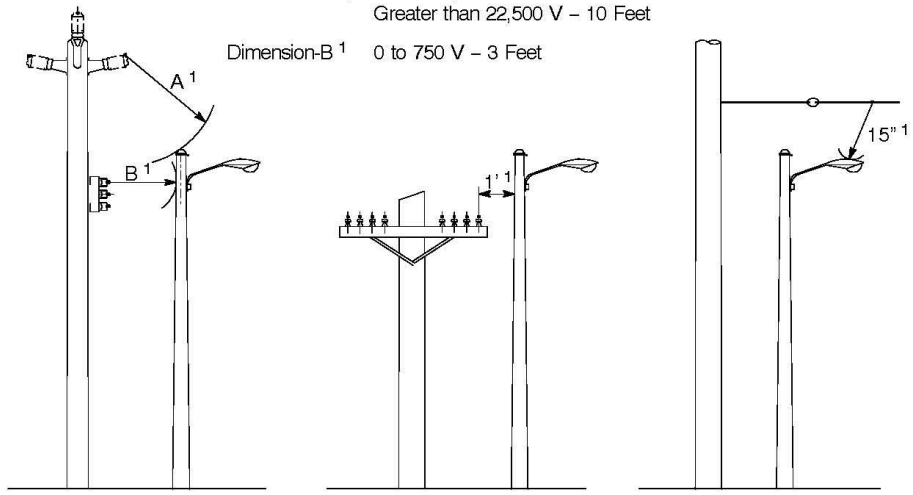
Figure 31
Anchor Bolt Assemblies

Streetlighting Poles And Foundations

Clearance Requirements

Dimension-A [1], 750 to 22,500 V – 6 Feet
Greater than 22,500 V – 10 Feet

Dimension-B [1] 0 to 750 V – 3 Feet



Supply Conductors (Clearance from Overhead Conductors to Non-Climbable Street Light or Traffic Signal Poles or Standard Fed from Underground Facilities)

Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops of 0 – 750 V

Trolley Wires (Includes Contact, Feeder and Span Wires 0 – 5000 V)

[1] See Document 022158 sh. 10 for exceptions.

Figure 32
Clearance Requirements

Streetlighting Poles and Foundations

Revision Notes

Revision 18 has the following changes:

1. Design requirements and Specifications have been removed.
2. The requirement for Base Covers (clamshells) has been eliminated for foundation–mounted, non-decorative poles.
3. The requirement for Grout has been eliminated for foundation–mounted poles.
4. Installation notes have been updated.
5. Manufacturers' catalog numbers have been updated.
6. Requirements and codes for Overhead–Fed Poles have been added.
7. Cast–in–place drilled pier and grounding details have been expanded.
8. Requirements and codes for Anchor Bolt Packages have been added.
9. Anchor Bolt Setting Templates have been added.
10. Details and code for Universal Hand Hole Cover for replacement of missing or damaged covers have been added.
11. Added wiring Note I. on Page 2 and wiring Note H. on Page 3.
12. Added document 062288: Underground Conduits on Page 3.
13. Updated Figure 19 on Page 17.
14. Updated Figure 20 on Page 18.

Caltrans' Response to April 4, 2022, Lighting District Comment Letter from Director Howard Dashiell

1. Caltrans and MCDoT have discussed potential opportunities for Caltrans to provide decorative (non-safety) lights in the project corridor. Based on concerns expressed by the Lighting Director regarding future maintenance costs borne by the Hopland Lighting District, at this time the plans for illumination of the project corridor include safety lighting (streetlights) only. If decorative lights were added in the future, we agree they would need to be downcast and otherwise "dark sky friendly," consistent with existing and proposed streetlights as you have indicated, and with Caltrans lighting standards.

2. For the purposes of the environmental impact analysis, a maximum of 14 additional streetlights were considered in the Initial Study. However, the actual plans are likely to contain fewer lights. Caltrans has initiated discussions with PG&E regarding lighting in the project corridor and will continue to coordinate with PG&E as the lighting plans are developed.

3. If the opportunity for Caltrans to add decorative lighting to the project corridor arises again in the future, Caltrans would consult with the entity responsible for maintenance of the lights, which we understand would be the Hopland Lighting District through MCDoT. This consultation would occur prior to the selection of poles and luminaires to ensure the Lighting District is agreeable to the selection.

HOPLAND
MUNICIPAL ADVISORY COUNCIL

Caltrans District 1
Sent via email to HoplandADA@dot.ca.gov

April 27, 2022

Subject: Caltrans Hopland Americans with Disabilities Act Project – Pedestrian Safety Lighting

To whom it may concern:

We, as the Hopland Municipal Advisory Council (MAC), submit the following comment regarding the Caltrans Hopland Americans with Disabilities Act (ADA) Project.

The Hopland MAC requests that Caltrans consider including the full cost of purchasing and installing dark sky compliant pedestrian safety lighting in Downtown Hopland, in conjunction with the Hopland ADA Project improvements proposed for the Highway 101 corridor.

Thank you for your consideration.

Sincerely,

Hopland Municipal Advisory Council

Caltrans' Response to April 27, 2022, Comments from the Hopland MAC

The Hopland ADA project has been scoped to include safety lighting in the form of streetlights at selected crosswalks based on safety needs. Understanding the MAC's desire for pedestrian lighting in downtown Hopland on US 101, our team has been communicating with the Mendocino County Department of Transportation (MCDoT) and the Mendocino Council of Governments (MCOG) to explore opportunities for additional lighting. We offered to investigate providing solar lights under the Clean California grant program, however the issue of maintaining the lights once installed is a matter only the County can address. For more information, you may wish to contact the Lighting District Coordinator, Mr. Howard Dashiell, or the Lighting District's Board of Directors, the County Board of Supervisors.

There may be future opportunities for the County to apply for Clean California grant funding for solar lights should the County resolve the maintenance issue. Caltrans will continue to work cooperatively with MCDoT, MCOG, and PG&E on any efforts to add lighting if they choose to pursue this option. To this end, the Initial Study contains an environmental impact analysis of a greater number of lights than Caltrans expects to install, potentially expediting the environmental review process for future lights in the project corridor.