

Design Standard Decision Document for Utility Pole Work

The Design Standard Decision document (DSDD) is an engineering analysis of the nonstandard feature(s) and a recommendation pursuant to Caltrans design guidance. The DSDD is not an evaluation of the design and integrity of the utility infrastructure:



Name, Registered Civil Engineer
Branch

Submitted by:

Name, Engineer (*Senior Engineer*)

Date

Telephone

(Select all that are applicable - Consult the District Design Liaison on the appropriate boxes to check)

- Includes exceptions to District-delegated Design Standards*
- Concurred by:*
- Approved by:*

Name, Office Chief *or*

Name, Deputy District Director for Design

Date

Telephone

(Select only one - Consult the District Design Liaison on the appropriate boxes to check)

- Includes exceptions to Non-delegated Design Standards*
- Not Applicable:*

Approved by:

Name, Project Delivery Coordinator
Headquarters Division of Design

Date

Telephone

Instructions for Signature Sheet

(Delete from final document)

Prepared by:

The design decision document must be prepared by a registered civil engineer in responsible charge of the work (as defined by California Business and Professions Code, Section 6703), or other licensed professional practicing within the scope of their license. Include the design unit for Caltrans engineers or the company name for consultant engineers.

Submitted by:

For projects-funded-by-others, this would be a senior district engineer for encroachment permit projects.

Concurrence by and approved by:

For design standards where the approval authority is the Headquarters Project Delivery Coordinator:

- Concurrence is given by the district office chief, design manager, or deputy District Director for Design. Typically, the concurrence is from a Supervising Transportation Engineer, Caltrans or could be from a Principal Transportation Engineer, Caltrans.*
- Approval is given by the Headquarters Project Delivery Coordinator, a Supervising Transportation Engineer, Caltrans.*

For design standards where the approval authority has been delegated to the Caltrans District Director:

- Approval is given by the Caltrans District Director's approval authority; typically, from an office chief, design manager, or deputy District Director for Design that has been delegated the approval authority.*

Yellow highlighted sections of this template should be completed with permit application submittal

Green highlighted sections of this template are preferred to be completed with permit application submittal however may need consultation with Caltrans

1. PERMIT PROPOSAL

All terms and conditions contained throughout the encroachment permit process remain binding without explicit language attesting otherwise.

This template is for documenting nonstandard features related to utility pole work or new equipment at base of pole (measured from ground up to a height of 14 feet along the pole). Use the “Design Decision Document for Pole Work” template when the scope of work exclusively involves replacing an existing pole with a new pole. When documenting exceptions from ADA standards use the “Exceptions to Disability Design Standards” in DIB 82 (e.g., DIB 82 walkway clear width Section 4.3.3(3) and DIB 82 curb ramp clear width Section 4.3.8(2)).

A. PROJECT DESCRIPTION:

Complete Table 1-1 with a description of utility pole location(s) and work. Complete Tables 1-2A and 1-2B with a description of the nonstandard features at the utility pole location(s). The common nonstandard features are provided, additional nonstandard features not listed may apply. Consult with Caltrans District/Region staff to identify other applicable nonstandard features.

Table 1-1 – Utility Pole Work Location(s) and Type of Work

Fixed Object ID(s) ¹	Location				Type of Pole Work				
	Rte	Begin PM/ End PM or each PM	Direction	Portion of Hwy Right of Way ²	Replace Pole	Add New Pole	Relocate Pole	Add New Guy-Anchor	Add Equipment at Base of Pole
Loc 2	35	26.6	SB	Roadside			x		
Loc 2	35	26.602	SB	Roadside				x	
Loc 6	35	26.612	SB	Roadside		x			
Loc 6	35	26.609	SB	Roadside				x	

¹A single fixed object or a range of fixed objects may be listed. Required exhibits/attachments must include identification markings where each Fixed Object ID(s) is located corresponding to this table, see Section 8, Attachments for more details.

²This column includes a pull-down menu within the cell for a selection to be made of only the portion of highway right of way that applies to the replacement pole location. Remove table rows if not needed.

Please note, all work on existing utility poles is considered new construction and subject to discretionary fixed objects standards as defined in HDM Index 309.1(2)(b). Also, work on existing utility poles that are shielded behind existing guardrail, barrier or other safety device comply with HDM Index 309.1(2)(b) and do not require a design exception unless the work will impact or degrade the existing safety device.

Table 1-2A –Geometric Conditions at Utility Pole Replacement Location(s)

Fixed Object ID(s) ¹	Discretionary Fixed Objects Distance (ft) from nearest ETW ² HDM Index 309.1(2)(b)				Standard	Minimum Horizontal Clearance (ft) HDM Index 309.1(3)		
	Pole		Guy-Anchor			Existing (Indicate with or w/o curb)	Proposed (Indicate with or w/o curb)	Standard (Indicate with or w/o curb)
	Exist- ing	Pro- posed	Exist- ing	Pro- posed				
Loc 17	32' (on private property)	n/a	44'	n/a		w/o curb		
Loc 2	n/a	21'	n/a	21'	52.0	w/o curb	w/o curb	
Loc 6	n/a	24'	n/a	24'	52.0	w/o curb	w/o curb	
Loc 18	32'	Remove	42'	Remove	52.0	w/o curb	w/o curb	

Table 1-2B –Geometric Conditions at Utility Replacement Pole Location(s)

Fixed Object ID(s) ¹	Vertical Clearance			Corner Sight Distance		Traffic Safety Device	
	Minimum Distance (ft) Over the Roadbed HDM Index 309.2			Replacement Pole Within Clear Sight Triangle(s) HDM Index 405.1(2)		Existing	Proposed
	Existing	Proposed	Standard	Existing Y or N	Proposed Y or N		
Loc 17	40'	Remove				n/a	n/a
Loc 18	40'	Remove				n/a	n/a

¹A single fixed object or a range of fixed objects may be listed. Required exhibits/attachments must include identification markings where each Fixed Object ID(s) is located corresponding to this table. See Section 8, Attachments for more details.

²Distance is measured from face of pole to the edge of traveled way (ETW).

(1) Fire Hazard Area (Check all that apply):

Tier 2 Tier 3 Other N/A

(If Other, state if work is related to Wildfire Mitigation Program.)

This is a PSPS Mitigation project that would reduce the number of customers impacted during a PSPS event.

(2) Will the proposed project impact any existing pedestrian facilities, such as sidewalks, walkways, crosswalks or curb ramps? Yes No
If yes, describe:

(3) Does the proposed project involve the abandonment of an existing facility? Yes No
Removing three (3) solely owned poles (Loc 18, 19, and 20)

Table 2– Abandoned Poles

Fixed Object ID	Abandonment

(4) Are telecommunication lines or other tenants attached to the existing poles to be relocated or replaced? Yes No

If so, has the telecommunications company or other tenants been notified? Yes No

How many approximate days are they required to move their lines to the new pole?

B. EXISTING HIGHWAY CONDITIONS IN THE VICINITY OF POLE WORK

Posted Speed: 45 mph

Shoulder Widths: 28'

Number of Lanes: 2

Sidewalk Widths: N/A

Highway Classification: Conventional

Existing Curb? Yes No

Urban or Rural

Describe Side Slope: flat

Roadway Alignment: Tangent and Curve

(Provide this information for each segment with varying speed, number of lanes, etc. within each run of sequential poles.)

2. REASONS FOR NONSTANDARD PLACEMENT OF POLE(S) *(Sections 2.A.(1) and 2.A.(2) will need to be repeated for each separate nonstandard design feature listed in Table 1. Therefore, the justification for each nonstandard feature should be specific to the corresponding Fixed Object IDs.)*

A. DESIGN FEATURE 1

	Nonstandard Design Feature
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Discretionary Fixed Object	
Fixed Object ID(s)	<i>(Fill in all Fixed Object ID(s) that apply to DESIGN FEATURE 1) See Table 1-1 for all locations that apply.</i>

Reason for Nonstandard Feature 1:

The following factors support Nonstandard Feature No. 1:

- 1) Replacement of the nonstandard pole is required to maintain existing overhead circuit serving the City of Pacifica. The nonstandard pad-mounted interrupter placement is to limit the numbers of customer impacted during a PSPS event by sectionalizing the mainline circuit.
- 2) The nonstandard pole location involves the replacement of an existing pole. All work will conform with the standards for overhead construction in the CPUC’s General Order No. 95.
- 3) It preserves the existing alignment of the pole line, avoiding placing additional strain on the line. As a result, this pole location minimizes the need for additional equipment (e.g., guys and anchors). This work will maintain consistency with other electric infrastructure along this segment of the State right-of-way.
- 4) The pole location provides full accessibility for operation and maintenance.
- 5) Relocating the pole location outside the State right-of-way would result in substantial land acquisition cost and considerable project delay. These land acquisition costs should be considered unnecessary because PG&E has an existing right to occupy the State right-of-way under its local franchise and Streets and Highway Code Section 682. Under these circumstances, there may be a potential challenge to PG&E’s exercise of eminent domain to acquire such rights, which may result in project delays
- 6) The work has been designed to allow future operation in a cost-effective manner, which aligns with PG&E’s goals of providing safe, clean, affordable energy for its customers.

A. IS UNDERGROUNDING OF THE SERVICE FEASIBLE? Yes No

If no, explain:

PG&E has determined that undergrounding is not feasible for the following reasons:

- 1) PG&E has undergrounded what we could be (we are removing 3 existing poles and undergrounding existing overhead facilities over the highway), but a subsurface PMI9 (pad-mounted interrupter) does not exist.
- 2) conversion to an underground location for this segment of line would result in inefficiencies in PG&E’s electric design and operation;
- 2) undergrounding of lines is would require substantial excavation, and result in significant project delay;
- 3) conversion of overhead facilities to an underground location is highly capital-intensive work, and would substantially increase the project costs; and
- 4) undergrounding would result in redirecting PG&E’s operational resources--such as estimating personnel--away from PG&E’s Rule 20 program. This reprioritizing of resources would have adverse impact on Rule 20 projects for municipalities in PG&E’s service territory, creating delays and increasing costs of the Rule 20 program.

B. CAN THE POLES BE INSTALLED ON PROPERTY OUTSIDE AND ADJACENT TO THE STATE RIGHT-OF-WAY? Yes No

If no, can the installation be moved as close to the State right-of-way line as possible? (*List the geometric constraints for not moving the installation outside or closer to the State right-of-way line.*)

Private property (backyards) abuts Caltrans right-of-way and is separated by a wood fence.

C. ESTIMATED COST TO BRING UP TO STANDARD (*Summarize the added cost, beyond the proposed total cost estimate needed to meet the design standard in terms of a percentage of the total cost. This estimate must be realistic but does not need to be highly developed. When the design standard decision document includes multiple nonstandard features, provide separate cost summaries for each nonstandard feature.*)

200%

B. DESIGN FEATURE 2 (*See Instructions for Design Feature 1 above*)

For example:

	Nonstandard Design Feature Minimum Horizontal Clearance
Fixed Object ID(s)	<i>(Fill in all Fixed Object ID(s) that apply to DESIGN FEATURE 2)</i>

Reason for Nonstandard Feature 2:

D. IS UNDERGROUNDING OF THE SERVICE FEASIBLE? Yes No

If no, explain:

PG&E has determined that undergrounding is not feasible for the following reasons:

- 1) PG&E has undergrounded what we could be (we are removing 3 existing poles and undergrounding overhead facilities over the highway), but a subsurface PMI9 (pad-mounted interrupter) does not exist.
- 2) conversion to an underground location for this segment of line would result in inefficiencies in PG&E's electric design and operation;
- 2) undergrounding of lines is would require substantial excavation, and result in significant project delay;
- 3) conversion of overhead facilities to an underground location is highly capital-intensive work, and would substantially increase the project costs; and
- 4) undergrounding would result in redirecting PG&E's operational resources-- such as estimating personnel--away from PG&E's Rule 20 program. This reprioritizing of resources would have adverse impact on Rule 20 projects for

municipalities in PG&E’s service territory, creating delays and increasing costs of the Rule 20 program.

E. CAN THE POLES BE INSTALLED ON PROPERTY OUTSIDE AND ADJACENT TO THE STATE RIGHT-OF-WAY? Yes No

If no, can the installation be moved as close to the State right-of-way line as possible?

Private property (backyards) abuts Caltrans right-of-way and is separated by a wood fence.

F. ESTIMATED COST TO BRING UP TO STANDARD 200%

C. DESIGN FEATURE 3 (*Add nonstandard features and justification as needed.*)

3. TRAFFIC DATA

Table 3 – State Highway Traffic Volumes in Vicinity of Electric Pole Replacement, (Year)*

District	Route	Post Mile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT

*Fill in the year in the title of Table 3 in which the existing current year traffic volumes were obtained from the Traffic Census website: <https://dot.ca.gov/programs/traffic-operations/census>

(Include both the annual average daily traffic (AADT) and peak period volumes (both hourly and monthly) for the area near the pole installations. If the pole locations are between two count stations, provide Traffic Census data from the station before and the station after the begin and end limits of a string of sequential poles to be replaced. Add rows to the table for independent runs of sequential poles to be replaced.)

4. COLLISION ANALYSIS

TASAS Table B Collision Summary¹

Enter begin and end date of most recent 3-year period collision data

PM	Description	# of Collisions			Actual Accident Rate (coll/MVM)			Avg Accident Rate (coll/MVM)		
		F	I	Tot	F	F+I	Tot	F	F+I	Tot

¹Complete the summary table of TASAS Table B collision data for the latest 3-year period showing actual versus average collision rates. *Enter the begin and end date of the most recent 3-year period under the title.*

Caltrans District Traffic Safety will provide this data. District Permit Engineer or District Design Liaison will provide Traffic Safety contact information.

Analyze only the collision data within the vicinity of the proposed nonstandard pole installation. Include analysis of collision data that should identify prevalent collision types and causes, when the applicable nonstandard design feature(s) can be correlated to existing collision data.

If related collisions patterns were identified, the review of collision patterns should focus on how the nonstandard pole installation will not contribute to any increase in collisions and/or will help alleviate issues.)

5. **FUTURE UTILITY INVESTMENTS WITHIN HIGHWAY CORRIDOR** *(Describe the limits of any planned utility pole installation/replacement projects within State right-of-any near or adjacent to this proposed project. List approximate timelines of future projects.)*
- Caltrans project; new electric service at HWY 35 and King Drive, Daly City (PG&E PM# 31509514) Approximate construction date is December 2020

6. **REVIEWS AND CONCURRENCE**

The name and initials of the Utility Company representative involved with development of this design exception is required as authentication of the validity of the information provided herein, and upon which the design analysis and decision is made.

Name _____ **Initials** _____ **Date** 10/13/2020 _____

Company Name PG&E _____

The design standards as described in this design exception have been reviewed and the nonstandard features are concurred by the following: *(This section is also reserved for DDL, Permit Engineer, Landscape Architect, Maintenance or others to initial and date upon completion of their review and concurrence if required by the District. Additional signature blocks can be added as needed. Consult with the DDL for specific District procedures.)*

Name _____ **Initials** _____ **Date** _____

7. **ENVIRONMENTAL DETERMINATION/DOCUMENT** *(See PDPM Appendix BB for further information.)*

Please see Biological Constraints Report, Cultural Constraints Summary, and Project Environmental Review for more detail. This project will not cause any major environmental impacts.

This project lies within the Bay Area Habitat Conservation Plan. This area is habitat for the wildlife species California red-legged frog, Mission blue butterflies, San Francisco garter snake, western bumble bee, and Nesting birds, and botanical species Congested-headed hayfield tarplant, Franciscan onion, San Francisco owl's clover, and Two-fork clover. No species will be impacted with the recommended avoidance and minimization measures within the BCR. Location 16 is within 250 feet of a natural and intermittent aquatic resource. No pole replacements will occur within the bed, bank, or channel of an aquatic system and there will be no direct impacts on these resources. Additionally, biologists were able to confirm the feature is greater than 50 feet from the pole location. See BCR for more details and photos.

There are no culturally environmentally sensitive areas within the vicinity of this project. No cultural resources will be impacted with the resource protection measures applied: inadvertent discovery protocol, human remains protocol, and crew-led cultural resources awareness and response training. See CCS for more details and photos.

The project will not involve the disturbance of naturally occurring asbestos, generate fugitive dust, or encounter contaminated soil/groundwater. Project activities will result in the generation of about 212 cubic yards of unwanted excavated material/ spoils. See PER for more details and photos.

8. ATTACHMENTS

A. Project Vicinity Map

B. Nonstandard Design Feature - Layout (Plan View)

C. Nonstandard Design – Cross Section

D. Biological Constraints Report

E. Cultural Constraints Summary

F. Project Environmental Review

(All attachments should be black and white [no color copies or color photos] and in standard paper sizes of 8.5" x 11", 8.5" x 14", or 11" x 17" per Caltrans Division of Legal request.

When the design standard decision document covers multiple nonstandard features at various locations, a project strip map or layout(s) may be provided to show the location, limits, and nature of each nonstandard design feature. Clearly label the Fixed Object ID on the attachment. The information shown on the attachment should be consistent with the information from Table 1 – Utility Pole Work Location(s)

Provide limits of the nonstandard design feature(s) with stations or post miles [https://postmile.dot.ca.gov] and dimensions on a layout plan.

Provide cross sections and/or special details to clearly illustrate the proposed condition for each nonstandard utility pole location. The cross section must show the existing and new guy-anchors and any other existing and new equipment installation along with the distance to the edge of traveled way clearly shown. Pole installations should clearly convey the existing versus proposed distance from the face of pole to the nearest edge of traveled way, back of curb, etc. as required per nonstandard feature. Geometric and terrain constraints should also be shown for installations that cannot be moved closer to the State right-of-way line.

Do not attach superfluous materials such as complete project plan sets or engineering reports unless specifically requested by the appropriate approval authority.

ATTACHMENT A Project Vicinity Map

