Chapter 600 – Utility Permits

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Chapter 600

Utility Permits

This chapter addresses requirements for the initial placement and subsequent maintenance, adjustment, relocation, and replacement of utility encroachments within State highway right-of-way.

Registered Engineer's Seal and Signature requirements on utility plans are discussed in Section 202.5A.

600 INTRODUCTION

Caltrans policy is to allow utilities within conventional State highway right-of-way subject to reasonable conditions and to exclude them from within access-controlled State highway right-of-way to the extent practicable with few exceptions.

The primary purpose of these policies is to promote the safety of the traveling public, highway workers, and permittees from the hazards of a damaged, exposed, cut, or penetrated utility encroachment. The secondary purpose is to protect the public's investment in the State Highway System (see Project Development Procedures Manual [PDPM], Chapter 17). In the event of a discrepancy between this manual and the PDPM, the PDPM shall govern.

Caltrans policy does not allow the installation of septic tanks, leach fields, or any other encroachment that may adversely affect the safety, design, construction, operation, maintenance, stability of the highway or any proposed/existing highway appurtenance or limit the use of the State highway right-of-way or increase the cost of future improvements.

Requests for utility encroachments that are not allowed by Caltrans policy require an approved utility policy exception. Requests for exceptions to encroachment policy and utility policy can be combined in one submittal.

When Caltrans issues an encroachment permit for the installation of utility facilities, it does not inspect the installation for compliance with utility or public corporation standards. Ensuring compliance with those standards is the permittee's responsibility.

Although statutes do not require Caltrans to inspect encroachment permit projects, inspectors will be assigned and may provide inspection. The District

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Permit Engineer may require inspections to be performed by other Caltrans units, utility companies, local agencies, or private engineers hired by the permittee at the permittee's sole expense. The District Permit Engineer retains the authority to approve any non-Caltrans inspector prior to the commencement of work.

The most common utility and franchise facilities are:

- Water
- Sewer
- Storm drainage
- Cable Television
- Electrical
- Natural Gas
- Telephone - Cellular
- Telephone - Landline
- Common-carrier petroleum pipelines
- Wired Broadband

Services, products, and commodities, such as those mentioned above, that are provided as a service to the public are called public utilities. Public corporations and private companies may own and operate facilities for the transmission and distribution of utilities. Public corporations are owned by the local governing body (e.g., Sacramento Municipal Utility District) and are governed by State law and the regulations of the California Public Utilities Commission (CPUC).

Privately-owned companies providing service to the public (e.g., Pacific Gas & Electric and Southern California Edison) are regulated by State law and CPUC regulations. Also, privately-owned companies that do not generally provide utility service to the public and are not regulated by the CPUC, may service the public under a franchise by the local governing body (e.g., city or county).

Before a privately-owned utility company can offer its services to the public it must, in most cases, first obtain a Certificate of Public Convenience and Necessity (CPCN) from the CPUC. After the CPCN is granted, the utility company must file its tariffs (rates) with the CPUC. Upon approval and under CPUC regulation, the utility company can sell its services to the public. Qualifying utility companies are issued a User Fee Number by the CPUC.

In some cases, only certain segments of a company's facilities may be public utilities, while other segments are used exclusively by the company. If there is any question regarding the status of a permit applicant or a specific facility segment as to a public utility, contact the appropriate Branch (Energy, Telecommunication, or Water Utilities) of the CPUC's Utility Audits & Risk and

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Compliance Division. They will verify the status of the company or facility.

California Streets and Highways Code, Section 117 grants Caltrans the authority to issue encroachment permits, under Chapter 3 (commencing with Section 660), for the location in the State highway right-of-way of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures.

Caltrans has developed minimum utility construction standards for the occupancy and use of the State highway right-of-way for utility facilities. Additional construction standards may be required by District Policies or Highway Design Policies.

This chapter describes specific requirements associated with specific permit codes in Table 6.0A and Table 6.0B:

Table 6.0A
Administrative Utility Permit Codes

SECTION	CODE	TITLE
601.1	UR	State required relocation
601.2	AS	Airspace Development (Utility Wireless Installations)
601.2	AS1	Utility Wireless Installations
601.3	US	Service Authority for Freeway Emergencies (SAFE) telephones

Table 6.0B
Utility Permit Codes

SECTION	CODE	TITLE
603.2A	BB	Telecommunications and Wired Broadband Facilities
602.7A	UB	Utilities within or on Bridges and Other Structures
603.4A	UC	Conventional Aerial
604	UE	Annual Utility Maintenance Encroachment Permit
603.4B	UF	Access-Controlled Aerial
602.4B 602.5A	UJ	Utility Crossing Encroachments
602.4C 602.5B	UL	Longitudinal Encroachments
603.5	US	Service Connections, Test Holes, Modifications, Joint Pole Work and Miscellaneous Utility Work
603.6B	UT	Open Trenching

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600.1 Utility Permitting and Billing Process

Procedures for determining and collecting permit fees for utility facility encroachments owned by utility companies differ from those encroachments owned by other private companies or developers. Utility companies under the jurisdiction of the California Public Utilities Commission (CPUC) have been granted deferred billing and receive Progress Billing statements from the HQ Division of Accounting on a monthly or quarterly basis. All others must pay a deposit at the time of application.

For example, cable television systems holding city or county franchises are eligible for the same encroachment privileges that are available to public utility corporations. Cable television companies are not regulated by the CPUC but are set up as a franchise by the local agency.

Cellular telephone companies are communication-type public utilities that are regulated by the CPUC. They are entitled to the same considerations granted to all communication utility companies for use of State highway right-of-way.

An encroachment permit must be issued to the owner of the encroachment. A utility facility encroachment may be constructed or installed by someone other than the owner. Refer to Section 501.14, if contractors or other authorized agents will be performing the authorized work on behalf of the utilities.

Utility companies or franchisees that have been non-compliant, failed to pay bills in a timely manner or have any violations of laws, regulations or standards may face adverse actions.

Adverse actions may include, but are not necessarily limited to:

1. Payment of estimated fees prior to the processing of the encroachment permit submittal,
2. Requiring bonding in accordance with Caltrans Standard Specifications, Section 3-1.05,
3. Requiring their contractors to furnish bonds (see Section 203.4),
4. Revocation of encroachment permits except for emergency work.

601 ADMINISTRATIVE UTILITY PERMITS

The District Encroachment Permits Office issues administrative utility encroachment permits for projects reviewed and approved by other Caltrans functional units such as Right-of-Way. The applicant works with the responsible functional unit to ensure the proposed encroachment complies with all applicable guidelines, procedures, Standard Plans, Standard Specifications,

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Design Information Bulletin 82 (DIB 82): "Pedestrian Accessibility Guidelines for Highway Projects," Director's Policy 37 (DP-37): "Complete Streets," etc.

Once all reviews and approvals have been obtained by the responsible functional unit, a complete Encroachment Permit Application Package along with an "Encroachment Permit Administrative Route Slip" (form TR-0154) is forwarded to the District Encroachment Permits Office to request the issuance of an administrative encroachment permit. This certifies that the project has been reviewed and approved and does not require any further coordination.

Encroachment permit staff should not expend more than two (2) hours on the whole process of permit issuance for administrative permits. Any additional time must be charged to the Project's code.

601.1 State Required Relocation

Permit Code UR

UR permits authorize the relocation of utility facilities or test holes for the exact horizontal and vertical alignment of the utility when such relocation or design information is required by State highway construction projects.

When highway construction occurs either by a State contract or a Project Delivery Quality Management Assessment Process (QMAP) Project in lieu of a State contract (e.g., projects programmed in the State Transportation Improvement Program (STIP) or State Highway Operation and Protection Program (SHOPP)) that requires identification and/or relocation of an existing utility facility encroachment, arrangements for the identification and/or relocation are initiated by the State or approved local program. All requests for information or relocated installations must be covered by an encroachment permit regardless of who finances or constructs the highway project. When information is requested, the utility must supply the exact horizontal and vertical alignment of their utility facilities.

A complete Encroachment Permit Application Package including but not limited to, a copy of the "Notice to Owner" (form RW 13-04) or "Revised Notice to Owner" (form RW 13-04R), copies of the final approved relocation plans, a completed "Standard Encroachment Permit Application" (form TR-0100), and a completed "Encroachment Permits Administrative Route Slip" (form TR-0154) must be submitted by the District Right-of-Way Utility Coordinator to the District Encroachment Permits Office requesting the issuance of the UR permit. The UR permit should be issued in a timely manner since all applicable reviews and approvals have already been obtained as signified by the signed "Encroachment Permit Administrative Route Slip" (form TR-0154).

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The District Encroachment Permits Office issues the UR permit to the District Right-of-Way Utility Coordinator for issuance to the utility owner. The District Project Delivery representative is responsible for monitoring the project construction, ensuring the encroachment permit does not expire, and submitting as-built plans to the District Encroachment Permits Office and to the Utility Engineering Workgroup (UEW). The District Encroachment Permits Office has no other involvement except to archive the permit when closed. Utility work that is ordered under a "Notice to Owner" (form RW 13-04) is exempt from encroachment permit fees.

The encroachment permit must contain:

- The Utility Notice number,
- A reference to the State contract and Project Code,
- A brief description of the work,
- The District Construction representative's name and contact information. The attachments of the encroachment permit must contain.
- "Encroachment Permit General Provisions" (TR-0045),
- A copy of the "Notice to Owner" (RW-13-04), and
- A copy of the approved relocation plans.

This information is provided on the face of the notice, and the issued encroachment permit may mimic the notice to simplify procedures and avoid conflicting statements. The District Encroachment Permits Office sends copies to Maintenance, Construction, UEW, and the area encroachment permit inspector for information. Construction is responsible for inspection and encroachment permit completion including the "Progress Billing/Permit Closure" (form TR-0129).

The law governing liability for the cost of relocating utility facilities encroachments is complex and must be interpreted uniformly and fairly. The District Right-of-Way Utility Coordinator is responsible for the cost sharing decisions.

All encroachment permits for local agency projects constructed by encroachment permit without a cooperative agreement must contain the following clause:

> "If existing public or private utilities conflict with the construction PROJECT, PERMITTEE will make necessary arrangements with the owners of such utilities for their protection, relocation, or removal. PERMITTEE must inspect the protection, relocation, or removal of such facilities. Total costs of such protection, relocation, or removal which STATE or PERMITTEE must legally pay, will be borne by PERMITTEE. If any protection, relocation, or removal

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of utilities is required, including determination of liability for cost, such work must be performed in accordance with STATE policy and procedure.

PERMITTEE must require any utility company performing relocation work within the STATE's right-of-way to obtain a State Encroachment Permit before the performance of said relocation work. Any relocated utilities must be correctly located and identified on the as-built plans."

Encroachment permits for developer projects being constructed without a highway improvement agreement must contain the following clause:

"If existing public or private utilities conflict with the construction PROJECT, PERMITTEE will make necessary arrangements with the owners of such utilities for their protection, relocation, or removal. PERMITTEE must inspect the protection, relocation, or removal of such facilities. Total costs of such protection, relocation, or removal must be borne by PERMITTEE in compliance with the terms of the State Encroachment Permits, Case Law, Public Utility Regulations, and Property Rights. PERMITTEE must require any utility company performing relocation work within the STATE's right-of-way to obtain a State Encroachment Permit before the performance of said relocation work. Any relocated utilities must be correctly located and identified on the as-built plans. The PERMITTEE must ensure that relocated utilities are located and identified on the as-built plans prior to submittal to and before the District Encroachment Permits Office closes the permit."

State highway projects constructed under Cooperative or Highway Improvement Agreements do not require the above clauses in the encroachment permit provisions because similar provisions must be included in the respective agreements.

601.1A Performing Relocation Work

Whenever possible, utility facility relocation or protection work that is required by State highway improvement or construction must be performed by the owner before the State highway work begins. Arrangements for such work must be made with the owners by the District Right-of-Way Utility Coordinator.

601.2 Wireless Installations

Permit Code AS

Airspace Development Permits "AS" are for the development of usable parcels within access-controlled State highway right-of-way and, in some instances, within conventional highway right-of-way. For detailed requirements and processes related to airspace lease or right-of-way use for wireless utility

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installations, see Section 500.3 and the Wireless Licensing Program webpage.

https://dot.ca.gov/programs/right-of-way/wireless-licensing-program

All such requests must be directed to District Airspace Manager. The District Encroachment Permits Office will support with issuing administrative permit.

601.3 SAFE Telephones

Permit Code US

California Streets and Highways Code, Section 2550 authorizes county and regional government bodies to establish "Service Authority for Freeway Emergencies (SAFE)" agencies. SAFE agencies are ratified by a majority of the cities encompassed by the SAFE jurisdiction.

They function as the administrative body to develop, implement, operate, and fund emergency telephone systems within access-controlled State highway right-of-way. SAFE funding comes from an assessment by the California Department of Motor Vehicles on each registered vehicle in the jurisdiction.

SAFE telephones are acceptable within access-controlled State highway right-of-way and connecting State highways under the jurisdiction of the California Highway Patrol (CHP) (see California Streets and Highways Code, Section 131.1). They are also acceptable in park-and-ride lots as provided in the "CHP/Caltrans Call Box and Motorist Aid Guidelines."

Only a SAFE agency may propose new SAFE systems. For installation of new emergency telephone systems, site selection and design are performed by SAFE agencies. The proposed design and installation details are then submitted as part of an Encroachment Permit Application Package (EPAP) submitted by the SAFE agency to the local District Encroachment Permits Office for processing.

The District Encroachment Permits Office should process these requests similar to all other encroachments and the proposed encroachments must comply with all applicable encroachment policies. All requests for new installations must be reviewed and approved by the Traffic Operations Headquarters (HQ) Call Box Liaison in addition to other applicable District functional reviewers.

If any installations involve a cooperative agreement or other similar agreements between Caltrans and a SAFE agency, all work proposed under that agreement should be authorized through an administrative US permit upon receiving a complete approved package including the executed agreement, plans and applicable supporting documents.

For maintenance of the existing SAFE infrastructure, the EPAP is submitted to the

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Traffic Operations HQ Call Box Liaison who reviews and approves the proposed scope. Upon approval, the Liaison forwards the EPAP along with an "Encroachment Permits Administrative Route Slip" (form TR-0154) to the appropriate District Encroachment Permits Office for issuance of the administrative permit. These permits may be issued for two (2) years in duration (biennial permit) if approved by the Traffic Operations HQ Call Box Liaison.

District Encroachment Permits Offices will support the Traffic Operations HQ Call Box Liaison who manages the SAFE program with any inspection needs.

The encroachment permits issued to SAFE for construction and subsequent maintenance of the project are fee exempt.

"Certification of Compliance with the Americans with Disabilities Act (ADA)" (form TR-0405) is required for the installation of SAFE phones as applicable.

602 UTILITY ACCOMMODATION POLICY (Rev. 10/2026)

Caltrans adopted the American Association of State Highway and Transportation Officials (AASHTO) Guide for Accommodating Utilities within Highways and Freeways, 1st Edition which merges and updates the information in two former publications on utility accommodation: A Policy on the Accommodation of Utilities Within Freeway Right-of-Way, 5th Edition (published in 2005); and A Guide for Accommodating Utilities within Highway Right-of-Way, 4th Edition (published in 2005) as the basis for the encroachment policies found in this chapter.

602.1 Conditions of Occupancy within State highway right-of-way

All utility encroachments within the State highway right-of-way must be designed, installed, and maintained so that traffic disruption and other hazards to highway users are minimized. The design must comply with Caltrans standards, and specifically Topic 309 (Clearances) of the Caltrans Highway Design Manual. If the proposal involves traffic control or impacts to traffic, then the proposal must comply with Section 517.

Encroachments must not be constructed, installed, or maintained if they adversely affect the safety, design, construction, operation, maintenance, stability of the highway or any proposed/existing highway appurtenance or limit the use of the State highway right-of-way or increase the cost of future improvements. Utility installations and service installations are not permitted to be placed within culverts or drainage structures within State highway right-of- way.

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Permittees understand and agree to relocate a permitted installation upon notice by Caltrans. Unless under prior property right or agreement, the permittee must comply with said notice at the permittee's sole expense ("Encroachment Permit General Provisions" (TR-0045) number 25). The District Right-of-Way Utility Coordinator initiates the "Notice to Owner" (form RW 13-04).

Damaged plants or landscaped areas must be replaced or restored, and surface structures must be consistent with aesthetic values of the State highway, Caltrans standards, and economic feasibility. Access to utility facilities on conventional State highways is permitted from the State highway right-of-way.

Access to utility facilities located within the access-controlled State highway right-of-way normally is permitted only from frontage roads, public roads and streets, trails, or auxiliary roads. In some situations, the installation of a locked gate by a utility company in a State highway access-control right-of-way fence is permitted only with an approved encroachment policy exception (see Chapter 17 of the PDPM) and must be submitted to the District Director for approval and to the Federal Highway Administration (FHWA) for approval when the locked gate is along interstate highway right-of-way. The gate submittal must present all pertinent facts and alternate solutions (Highway Design Manual, Index 701.2(5)(b)). For sites within the State highway right-of-way leased for wireless telecommunications facilities, the District Airspace Review Committee (DARC) approves gate installations under the right-of-way use agreement (see Section 500.3F).

Utility support structures, access holes (also known as manholes), or other appurtenances that are proposed to be located within interchanges, median areas, or within any other State highway access-controlled area when access for servicing is not possible by the means described above require an approved encroachment policy exception. To ensure safety, terms and conditions may be imposed on the utility company to limit access to such facilities from ramps or through traffic lanes.

602.2 Utility Owner Prior Rights

A fee-exempt encroachment permit is issued for utility encroachment activities involving utility work wherein the utility owner has prior rights (utility facility in place before State highway right-of-way purchase), a Consent to Common Use Agreement (CCUA), or a Joint Use Agreement (JUA). The encroachment permit can be issued for all the purposes for which the owner's original easement was acquired. These activities could include modification, relocation, replacement, upgrade, and maintenance.

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Utility owners with prior rights must submit an encroachment permit application package that includes prior rights identified for verification (CCUA or JUA number). The District Permit Engineer may request additional documentation if needed. If a number is not available, the application should be reviewed by District Right-of-Way Engineering and Utilities to ensure that the proposed work is authorized under a prior property right.

The District Right-of-Way Utilities Branch must determine when the encroachment permit will be stamped "For Record Purposes Only." These types of encroachment permits must contain the following clause:

"It is understood that the Owner's easement(s) within the area of common use within the highway or at a new location within the highway may be used for the purpose for which the original easement(s) was acquired subject to Permittee providing advance notification of planned work and adherence to traffic safety and highway integrity requirements as contained elsewhere in this permit."

602.3 Encroachments No Longer in Use

Permittees must remove their facilities at their sole expense from the State highway right-of-way when they are no longer in use. Underground facilities may be allowed to remain in place when the State highway segment is also being abandoned or portions may be allowed to remain if removing that portion of the facility would cause significant impacts to infrastructure or traffic.

Exception requests may be approved at the discretion of the District Permit Engineer if the facilities or the work involved to remove them:

1. create a hazard,
2. seriously disrupt traffic, or
3. have the potential to damage adjacent facilities.

Exception requests must include the proper justification and supporting documents such as alternatives explored, etc.

Facilities made of or containing hazardous materials (e.g., asbestos) must be removed in accordance with the "Hazardous Materials and Hazardous Waste Management Special Provisions" (TR-0408).

Filling abandoned pipes with sand, two-sack slurry cement, or Controlled Low Strength Material (see Appendix H) is required to protect the highway.

602.4 Utility Encroachments within Access-Controlled right-of-way

See Project Development Procedures Manual (PDPM), Chapter 17, Section 2,

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Article 2 for Caltrans' policies related to utility encroachments within access-controlled right-of-way.

As identified in the above reference from the PDPM, utility encroachments are restricted within access-controlled State highway right-of-way with few exceptions. This section describes requirements for utility crossing and longitudinal encroachments that are allowed within access-controlled State highway right-of-way.

When prior rights within State highway access-controlled right-of-way are substantiated by the utility owner (see Section 602.2), any associated encroachment permits must be stamped "For Record Purposes Only" or "Freeway Permit."

Utility service connections for State facilities along access-controlled State highway right-of-way should have all disconnects, meters, or shut-offs outside access control lines. The utility is required to obtain an NUS (No fee Utility Service) permit for the connection.

602.4A Access Encroachments

Breaks in access are restricted on access-controlled State highway right-of-way. See the Project Development Procedures Manual, Chapter 17, Section 2, Article 3 "Access Restrictions", for Caltrans policies related to access to encroachments or for maintaining existing encroachments in access-controlled State highway right-of-way.

602.4B Utility Crossing Encroachments within Access- Controlled right-of-way

Permit Code UJ

Public utility facilities must be granted permission to cross State highways, as well as facilities that are not dedicated to public use but are used for the same purposes as public utility facilities.

Table 6.1 lists the restrictions that apply to utility crossing encroachments within State highway access-controlled right-of-way. Utility installations by private entities for profit generating purposes and not directly serving the public may require a lease and hence, must consult with the District Division of Right-of-Way prior to submitting the encroachment permit application to the District Encroachment Permits Office for processing.

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Table 6.1
Utility Crossing Encroachments within Access-Controlled State highway right-of-way

The following restrictions apply to utility crossing encroachments within access-controlled right-of-way:

1. The number of crossings must be minimized to the extent practical.
2. Service connections generally are not allowed to cross into access-controlled right-of-way and are prohibited within interstate highway right-of-way.
3. When feasible, multiple installations should cross in a single conduit or structure.
4. Crossings should be normal (ninety (90) degrees) to the highway alignment where practical.
5. Clearances of overhead crossings must conform to regulations of the CPUC.
6. New installations under an existing roadbed and median must be made by trenchless technology methods.
7. Underground encroachments in a depressed section should be avoided.
8. Sag pipes (inverted siphons) should be avoided whenever there is a possibility of sedimentation in the sag. Air vents and provisions for draining the sag must be required when sag pipes are unavoidable.
9. Overhead pipeline crossings in a depressed section must be made at street overcrossings or by a separate structure of suitable appearance. Except for pipelines in box girders, the pipeline must be placed in a watertight sleeve. A common structure should be used for multiple pipes.
10. Tunneling under access-controlled right-of-way is considered under the following conditions:
    - Studies establish that the soil structure is sufficiently stable.
    - Permanent tunnel portals must be located outside the State's highway right-of-way line or the access-control line (if those do not coincide). Consideration may be given to a location within the access-control limits if it will not adversely affect highway operation,

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or it is beyond the toe of slope of embankments. Any deviations require an approved encroachment policy exception for a maintenance access point.

11. See Table 6.7 for encasement requirements.

12. Fixed objects higher than four (4) inches above the surrounding terrain are not allowed closer than fifty-two (52) feet from the traveled way of the operating highway.

13. Supports for **overhead** lines crossing access-controlled right-of-way:

    - Must be located outside the access-controlled right-of-way. Any deviations require an approved encroachment policy exception for a maintenance access point.

    If approved as an exception to be installed within access-controlled right-of-way:

    - Should not be permitted in median areas except when required for temporary guard poles to support netting for overhead line installation.
    - Should not be permitted in cut or fill slopes.
    - Must not impair sight distances.

    Consideration should be given to underground facilities when spanning roadways is not feasible.

14. Traffic must be always protected, and barriers or protective devices are required, as necessary.

15. Open trenching is not permitted unless approved by the District Permit Engineer.

602.4C Longitudinal Utility Encroachments within Access-Controlled State highway right-of-way (Rev. 10/2026)

Permit Code UL

Placement of longitudinal utility encroachments within access-controlled State highway right-of-way is prohibited under Caltrans' policy (except for telecommunications and wired broadband facilities, and temporary wells). Maintenance access points, such as pull boxes and controller cabinets, are not allowed within access-controlled State highway right-of-way.

For telecommunications and wired broadband facilities, also refer to the January 15, 2026, memorandum titled "Accommodation of Telecommunications

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and Wired Broadband Facilities Within Access-Controlled State highway right of way" available at:

https://dot.ca.gov/programs/traffic-operations/ep/news-policy

Any deviations require an approved encroachment policy exception.

602.5 Utility Encroachments within Conventional State highway right-of-way

This section describes requirements for utility crossing and longitudinal utility encroachments within conventional State highway right-of-way.

Districts are delegated authority to issue permits for the placement and maintenance of utility facilities within the conventional State highway right-of-way. Applications for encroachments by publicly or privately-owned utility companies (regulated by the California Public Utilities Commission) dedicated for public use are reviewed and approved at the District level. The Districts may also approve encroachments by privately-owned utility companies dedicated for public use and franchised by the local governing body.

Privately-owned utility companies that use the utility for their sole purpose may be granted an encroachment permit for reasonable utility crossing of conventional State highways, except for longitudinal encroachments. Requests by companies for placement of longitudinal encroachment utilities for their sole purpose that are not dedicated for public use and franchised by the local governing body require an approved encroachment policy exception.

602.5A Utility Crossing Encroachments within Conventional State highway right-of-way

Permit Code UJ

Table 6.2 lists the restrictions that apply to utility crossing encroachments within conventional State highway right-of-way. The Central Valley Flood Protection Board (CVFPB) (previously known as Reclamation Board), in maintaining the integrity of the State's levee system, issues permits for construction of facilities within the levee structural prism. Caltrans and the CVFPB cooperatively agreed to authorize CVFPB construction methods provided that Caltrans' minimum depth requirements are met. Encroachment permits to install underground facilities where a State highway is on or crosses a levee must indicate approval and inspection by the CVFPB. For levees managed by the U.S. Army Corps of Engineers or others, check if they issue permits for construction of facilities within the levee prism.

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Table 6.2

Utility Crossing Encroachments within Conventional State highway right-of-way

The following restrictions apply to utility crossing encroachments within conventional highway right-of-way:
1. The number of crossings must be minimized.
2. Underground distribution facilities on each side of the highway should be considered to avoid numerous crossings by service connections.
3. Crossings should be normal (ninety (90) degrees) to the highway alignment where practical.
4. Clearances of overhead crossings must conform to regulations of the California Public Utilities Commission.
5. An existing authorized encroachment that will not affect new highway construction may be left in place at the District's discretion provided the District determines that it will not constitute a safety hazard or obstruction to construction.
6. New installations under an existing roadbed must be made by trenchless methods approved by the District.
8. Sag pipes (inverted siphons) must be avoided whenever sedimentation in the sag is a possibility. Air vents and provisions for draining the sag must be required when sag pipes are unavoidable. Tunneling under conventional highways must conform to the requirements for access-controlled right-of-way, as stated in Table 6.1.
9. Bore pits or access holes at street intersections should be located behind the State highway curb line where possible and outside the path of a bicycle facility.
10. Poles or other utility appurtenances in conventional highway right-of-way must be as close to the right-of-way line as possible, with a 52-foot minimum clear recovery zone as identified in Topic 309 of the Highway Design Manual, and must also meet the requirements of Design Information Bulletin 82 (DIB-82).
11. Traffic must always be protected, and barriers or protective devices are required, as necessary.
12. New encroachments should not adversely affect the safety, design, construction, operation, maintenance, stability of the highway or any proposed/existing highway appurtenance or limit the use of the State highway right-of-way or increase the cost of future improvements.

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602.5B Longitudinal Utility Encroachments within Conventional State highway right-of-way

Permit Code UL

New publicly-owned utility facilities and privately-owned utility facilities that are regulated by the California Public Utilities Commission (CPUC) and dedicated to public use may be placed within the right-of-way of conventional highways when approved by the District. Generally, such encroachments, including poles, must be located as close as possible to the right-of-way line and outside of the Clear Recovery Zone (CRZ) when applicable. On conventional State highways with speeds less than thirty-five (35) miles per hour and with curbs, typically in urban conditions, a minimum horizontal clearance of one (1) foot six (6) inches should be provided beyond the face of curbs to any obstruction (see Highway Design Manual, Topic 309 Clearances). The installation must meet the requirements of the current Design Information Bulletin 82 (DIB-82). Permissible locations are shown in Table 6.3 in order of preference. Justifications for lower preference locations may be required by the District Permit Engineer.

Table 6.3
Permissible Locations for Installations in Conventional State highway right-of-way

Above-ground Installations*	Underground Installations
1. As close to the right-of-way line as possible	1. As close to the right-of-way line as possible
2. Back of sidewalk	2. Under sidewalk
3. One (1) foot six (6) inches clearance beyond face of curb	3. Under parking lane/shoulder

* Must meet CRZ requirements established in Topic 309 of Highway Design Manual

Requests for longitudinal encroachments by privately-owned companies for their own use are not allowed. Any deviations require an approved encroachment policy exception.

When highways are widened, existing and new installations should adhere to setback limits or should be protected. Consideration should be given to allow utility owners to place such encroachments underground in parking areas.

In urban areas, access holes should not be located where there is a break in grade between the pavement and gutter or in major traffic lanes of a cross street. In areas where snow removal equipment is used, consideration should be

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given to slightly depressing the access hole.

Any existing underground facility located under the roadbed of a new unconstructed highway may be permitted to remain in place during its useful life provided its depth complies with current standards and does not require relocation (as determined by the District Right-of-Way Utility Coordinator and Project Development) resulting from highway construction.

If the encroachment is a public utility facility, consideration must be given to the likelihood and extent of future service connections that will require cutting the pavement. Rules governing new installations will determine whether existing facilities must be relocated, or may be replaced in the same location, after expiration of their useful life.

High priority pipelines (see Section 603.1) are not permitted within the right-of-way unless they are dedicated to public use (for example, the pipeline carries products of more than one owner and is under CPUC jurisdiction). Companies having franchise rights from local agencies may place their facilities within the right-of-way with an approved encroachment policy exception.

Existing legally placed service facilities may be permitted to remain in place if they do not interfere with highway construction, operations, or maintenance.

See Project Development Procedures Manual, Chapter 17, Section 2, Article 2 for Caltrans' policies related to utility encroachments within conventional highway right-of-way for additional information.

602.5C Temporary Steel Plate Bridging - With a Non-Skid Surface

State highway encroachment work involving excavations shall be identified during the review process of the encroachment permit application package. To accommodate excavation work, steel plate bridging may be necessary. All permit conditions for use of steel plate bridging should be set forth in the special provisions of the permit.

Consideration of steel plate bridging in the review process should consider the following factors:

1. Traffic speed.
2. Traffic volume and composition.
3. Duration and dimensions (width & daily estimated lengths) of the proposed excavation.
4. Weather conditions.

When it is determined in the review process that shoring will be a part of the

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permitted operation, the shoring shall conform to Caltrans standards (see Caltrans Trenching and Shoring Manual).

When backfilling operations for a longitudinal or crossing excavation in a roadway, which includes bike lanes and a parking strip, cannot be properly completed within a workday, steel plate bridging with a non-skid surface and shoring may be required to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

1. Steel plate bridging within access-controlled State highway right-of-way is not allowed.
2. Steel plates used for bridging must extend a minimum of twelve (12) inches beyond the edges of the trench.
3. Steel plate bridging shall be installed to operate with minimum noise.
4. The trench shall be adequately shored, as mentioned in Section 603.6B-2, to support the bridging and traffic loads.
5. Temporary paving with cold asphalt concrete shall be used to feather the edges of the plates, if plate installation by Method 2 described below, is used.
6. Bridging shall be secured against displacement by using adjustable cleats, shims, or other devices.

As required by the District, steel plate bridging and shoring shall be installed using either Method 1 or 2:

Method 1 For speeds forty-five (45) mph or greater:

The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate.

Approach and ending plates (if longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels pre-drilled into the corners of the plate and drilled two (2) inches into the pavement. Subsequent plates are to be butted and tack welded to each other.

Method 2 For speeds less than forty-five (45) mph:

Approach and ending plates (if longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels pre-drilled into the corners of the plate and drilled two (2) inches into the pavement. Subsequent plates are to be butted and tack welded to each other. Fine graded asphalt concrete shall be compacted to form ramps, maximum

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slope 8.5 percent with a minimum twelve (12) inches taper to cover all edges of the steel plates. When steel plates are removed, the dowel holes in the pavement shall be backfilled with either graded fines of asphalt concrete mix, concrete slurry, epoxy or an equivalent that is satisfactory to the Caltrans' representative.

The permittee is responsible for maintenance of the steel plates, shoring, asphalt concrete ramps, and ensuring that they meet minimum specifications.

Unless specifically noted or granted in the provisions of the permit, or approved by the State representative, steel plate bridging SHALL not exceed four (4) consecutive working days in any given week and should not be left through the weekend. Backfilling of excavations shall be covered with a minimum three (3) inches temporary layer of cold asphalt concrete.

The following table shows the underlined minimal thickness of steel plate bridging required for a given trench width (A-36 grade steel, designed for HS20-44 truck loading per Caltrans Bridge Design Specifications Manual).

Trench Width	**Minimum Plate Thickness**
10 inches	1/2 inch
1 foot 11 inches	3/4 inch
2 feet 7 inches	7/8 inch
3 feet 5 inches	1 inch
5 feet 3 inches	1 3/4 inches

NOTE: For spans greater than five (5) feet three (3) inches, a structural design shall be prepared, signed, and stamped by a California Registered Civil Engineer.

All steel plates within the State highway right-of-way whether used in or out of the traveled way shall be without deformation. Inspectors can determine the trueness of steel plates by using a straight edge and should reject any plate that is permanently deformed.

Steel plates used in the traveled portion of the State highway shall have a surface that was manufactured with a nominal coefficient of friction (COF) of 0.35 as determined by California Test Method 342. If a different test method is used, the permittee may utilize standard test plates with known COF available from each Caltrans District Materials Engineer to correlate skid resistance results to California Test Method 342 (Method of Test for Surface Skid Resistance with the California Portable Skid Test). Based on the test data, the permittee shall

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determine what amount of surface wear is acceptable, and independently ascertain when to remove, test, or resurface an individual plate.

Caltrans' Encroachment Permit Inspectors should not enforce plate removal unless it is permanently deformed or delivered without the required surfacing. The utility owners and contractors are responsible for maintaining plates and ensuring that they meet minimum specifications. They will also independently

determine when to accept, test, or reject a plate. However, an inspector should document in a diary all contacts with the utility owners and contractors.

A "Rough Road" (W8-8) sign and a "Steel Plate Ahead" (W8-24) sign with black lettering on an orange background must be used in advance of steel plate bridging along with the required construction area signs. These signs must be used along with any other construction area signs.

Surfacing requirements are not necessary for steel plates used in areas not open to traffic, such as parking strips, on shoulders not used for turning movements, or on connecting driveways, etc.

602.6 Utility Encroachments, General Construction, and Vegetation Management on Scenic Highways

The intent of the State Scenic Highway Program is to protect and enhance the natural beauty of California. Scenic highway proposals are initiated by local jurisdictions and officially designated by the Director of Caltrans. Local jurisdictions are required to develop and enforce Corridor Protection Programs for each scenic highway corridor, in the form of ordinances, with the concurrence from Caltrans.

Corridor Protection Programs contain land use elements that support scenic preservation along the route. A scenic corridor is defined as the area of land generally adjacent to and visible from the highway. The California Public Utilities Code has regulations pertaining to utilities within the scenic highway corridor.

602.6A Utility Facilities

The California Public Utilities Code, Section 320 prohibits new overhead utility distribution installations in corridors along "any highway designated a state scenic highway" and requires the California Public Utilities Commission (CPUC) to regulate approved work. The California Public Utilities Code, Section 320 does not apply to transmission towers, conductors or related facilities designed to operate at high-side voltages of fifty (50) kilovolts (kV) or more, unless the utility designates them as distribution lines.

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The CPUC also regulates to what extent repair, replacement and maintenance of existing overhead distribution facilities can take place. Caltrans verifies that proposed construction of utility work complies with the Corridor Protection Program and issues encroachment permits for conforming work. The District Encroachment Permits Office does not determine when the placement of facilities underground is required. Determination is made by the CPUC in concert with the California Public Utilities Code, Section 320. Additional information is available at:

https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=320.&lawCode=PUC

District Landscape Architecture and Right-of-Way Utilities are responsible for reviewing applications for proposed utility work in scenic highway corridors.

When the proposed work is non-complying, the applicant is notified by the District Encroachment Permits Office to provide Caltrans with the exception approval from the Energy Division Reliability Section of the CPUC.

Encroachment Permits are issued for work within a scenic highway when existing overhead distribution utilities need repair, replacement, upgrade, or increased capacity if there is no significant change in appearance. No significant change in appearance is defined as no increase in the diameter of the distribution line.

The California Public Utilities Code, Section 320 stipulates that utility owners must not install new overhead distribution facilities on officially designated State Scenic Highways without first obtaining an exemption from the CPUC.

For purposes of the California Public Utilities Code, Section 320, the following work does not constitute installation of new overhead distribution facilities and does not require a CPUC exemption:

1. Removing or replacing sections of worn or deteriorated cable with like-size cable or smaller.
2. Removing or replacing worn or damaged equipment, including but not limited to transformers, connectors, protective devices or repeaters with like-size or smaller equipment.
3. Replacing a deteriorated pole with like-size or smaller pole.
4. Performing any necessary emergency work to continue service, provided any non-complying facility is corrected when the emergency is over.
5. Installing new or relocated overhead transmission facilities (fifty (50) kV or greater).
6. Performing reconductoring or an increase in capacity of existing facilities with no significant change in appearance. This includes replacing the

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existing conductor with a new conductor of a different capacity or changing the voltage of the line.

7. Temporarily relocating poles for other construction purposes provided such poles are removed or returned to their original position within three (3) months of the completion of the construction work.
8. Installing new overhead service connections including necessary transformers and protective devices from existing distribution lines.
9. Installing guys as necessary for existing distribution lines.

With respect to electric and communications overhead distribution facilities (less than fifty (50) kV) within the scenic highway corridor, utility owners may not perform any of the following work without first obtaining an exemption from the CPUC:

1. Install new facilities.
2. Relocate existing (distribution) facilities to a new permanent location.
3. Temporarily relocate poles for other construction purposes when such poles will not be returned to their original positions within three (3) months of completion of the construction work.

All conditions listed above may be subject to exemption upon written confirmation from the CPUC that proposed work is acceptable.

602.6B General Construction

Any work performed along a designated State scenic highway must comply with the Corridor Protection Program established for that scenic corridor by the local agency.

The local agency approves any development and decides if the necessary work in the scenic corridor conforms to the Corridor Protection Program. Permit applications for roadways, driveways, drainage, etc., must have appropriate design review and District Landscape Architect concurrence to assess design compatibility with the scenic corridor (see PDPM, Chapter 29 for additional guidance).

When compatibility issues are identified, the applicant and local agency are notified. If design features meet Caltrans standards and compatibility issues are resolved, the District Landscape Architect approves the work, and an encroachment permit is issued.

602.6C Vegetation Management

This section is to provide guidance for evaluating vegetation removal encroachment permit requests, including but not limited to tree pruning and

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removals on the State Scenic Highway System (SSHS). Any work that may cause an Officially Designated State Scenic Highway (ODSH) status to be revoked is prohibited.

In 1963, the State Legislature established the California Scenic Highway Program. The intent of this program is to "establish the state's responsibility for the protection and enhancement of California's natural scenic beauty by identifying those portions of the State Highway System which, together with adjacent scenic corridors, require special conservation treatment."

The "State Scenic Highway System" includes eligible and officially designated scenic highways. The highways included in the State Scenic Highway System are listed in the Streets and Highways Code (Sections 263.1 to 263.8) and include highways that "are either eligible for designation as state scenic highways or have been so designated."

Additional information is available on the Caltrans Landscape Architecture Scenic Highways website which can be accessed at:

https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

The following guidance must be used when evaluating vegetation removal encroachment permit requests on the State Scenic Highway System (SSHS):

1. The District Landscape Architect (DLA) must ensure that:
    a. Visual Impact Assessments (VIA) submitted were performed under the direction of a California Licensed Landscape Architect.
    b. The VIA questionnaire and level of the VIA is appropriate for the project (refer to California Environmental Quality Act (CEQA) Guidelines including its Appendix G for more details). Additional information regarding VIA is available on the Caltrans Landscape Architecture Visual Impact Assessment website, which can be accessed at: https://dot.ca.gov/programs/design/lap-visual-impact-assessment
    c. The VIA addresses:
        i. whether vegetation removal will impact the scenic character of the SSHS, including views from the SSHS.
        ii. whether the vegetation removal will impact the screening of existing utilities or development.
        iii. evaluation of undergrounding existing aerial utilities within one thousand (1,000) feet of an ODSH, when proposed

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vegetation removal is beyond minimums established by the California Public Utilities Commission.

iv. any environmental measures to address visual and scenic impacts being caused to the SSHS.

d. The rate of tree planting mitigation, planting locations and duration of plant establishment for healthy trees being authorized to be removed is communicated to the District Permit Engineer.
e. The appropriate Caltrans Tree Crew Supervisor must be consulted during the review of each permit package.

2. The District Permit Engineer must ensure that:

a. All work within the limits of each State Scenic Highway is submitted by the applicant under a single encroachment permit.
b. Documentation demonstrating compliance with the CEQA is submitted with the encroachment permit application package. Vegetation removal within ODSH limits is not Categorically Exempt from CEQA when a project may result in damage to scenic resources [see Section 402.2 and CEQA Guidelines, Section 15300.2(d)]. The CEQA compliance documentation must be circulated to the DLA for review.
c. A VIA document is submitted with the Encroachment Permit Application Package.
d. Permittee provides written approval for vegetation removal from the local agency responsible for the ODSH corridor protection plan.
e. A complete application package is circulated to the DLA for review.
f. Any environmental commitments that are required to comply with CEQA, are included as a condition in the approved permit. Long-term plant establishment work for replacement tree planting must be provided by the permittee, as specified by the DLA.

602.7 Utility Encroachments on Structures

Caltrans allows utility encroachments on structures within conventional State highway right-of-way, subject to conditions that ensure safety and allow for highway improvements.

602.7A Utilities within or on Bridges and Other Structures

Permit Code UB

A UB Permit Code is used when utilities are placed or maintained within or on a bridge and other structures. Utility encroachments on structures should be

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avoided where feasible and alternatives to locate utilities elsewhere must be analyzed.

When a utility pipeline or encasement for a pipeline crosses a bridge or other structures and has cathodic protection, that installation must be electrically isolated from the bridge or other structures. Any cathodic protection anode bed or deep anode well must not be placed near any bridge or other structures or culvert.

When a utility conduit crosses a bridge or other structures and has voltage conductors of two (2) kV and above, that installation must be evaluated for

induced voltage in the rebar and prestress cables due to the close proximity to the high voltage conductors. The maximum voltage allowed in an electrical installation must never exceed sixty-nine (69) kV regardless of the bridge type.

Installation of individual phase conductors housed in separate conduits or ducts that will pass through steel girder bridges or other structures is prohibited.

Specific induced voltage in rebar and prestress cables, stray current and cathodic protection mitigation issues must be directed to Headquarters (HQ) Office of Electrical, Mechanical, Water and Wastewater Engineering.

Utility facilities on bridges or other structures must meet both the standard utility requirements and the additional requirements shown in Table 6.4 and Table 6.5

All utility encroachments on new structures must be reviewed and concurred with by the HQ Division of Engineering Services (DES) and all utility encroachments on existing structures must be reviewed and concurred with by HQ Structure Maintenance & Investigations (SM&I). All utility encroachments on structures must be supported by a project specific analysis which shows the utility on the structure will not adversely affect the safety, design, construction, operation, maintenance, stability of the highway or any proposed/existing highway appurtenance or limit the use of the State highway right-of-way or increase the cost of future improvements. and meet the following conditions:

- The proposed utility loads must not downgrade the ability of the structure to safely accommodate legal loads and/or transportation permits.
- Shutoff valves for pressurized facilities must be installed outside State right-of-way, where feasible.
- Utility maintenance is required no more than twice a year.
- The utility is under the California Public Utilities Commission jurisdiction or is publicly owned and provides a dedicated service to the public.

When a proposed encroachment has been reviewed and approved by SM&I,

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one copy of the encroachment permit and completed plans authorizing work on structures is to be sent to the Office of SM&I and one copy is to be sent to HQ Structure Construction. When a proposed encroachment on a new structure has been reviewed and approved by DES, one copy of the encroachment permit and completed plans authorizing work on structures is to be sent to DES and one copy is to be sent to HQ Structure Construction.

For security purposes, high priority utilities (see Section 603.1) should not be allowed on structures identified as most critical by the district.

602.7B Requirements for High Priority Utilities on Bridges or Other Structures

Installations of new high priority utilities and any gas lines, regardless of size and pressure, are rarely allowed on structures and require an encroachment policy exception. If an existing high priority or gas utility is reconstructed, relocated, or modified, it will be treated as a new installation and an approved encroachment exception is required for the utility to remain on the structure. A request for an encroachment policy exception will be evaluated for approval only if HQ Division of Engineering Services (DES) or Structures Maintenance & Investigations (SM&I) concurs with the proposal. High priority utilities and pressurized lines must be encased throughout the length of the structure.

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Table 6.4
Additional Requirements for Utility Facilities Located on Bridges or Other Structures

Utility facilities located on bridges must comply with the standard requirements and the following additional requirements:

1. Location:
    a. Permitted encroachment must be located between girders whenever possible.
    b. Encroachments must be installed out of sight. As a last resort, a utility may be placed on the barrier rail but must be enclosed to look like an integral part of the bridge.
    c. SM&I may approve exceptions for unusual circumstances.
    d. On very wide bridges or other structures having an expansion joint in the median, installation normally can occur between the two interior girders in the median.
2. Encroachment applications must include adequate plans of installation and pertinent details showing:
    a. Bridge number.
    b. Location of encroachment on bridge or other structure.
    c. Method of attachment to bridge or other structure.
    d. Type of material transported.
    e. Weight per foot of facility including load, encasement, etc. Maximum operating pressure.
    f. Maximum flow rate of high-pressure water lines in the event of a full rupture.
    g. Wall thickness of pipe.
3. Gas pipelines require additional information according to CPUC General Orders.
4. Pipelines carrying highly volatile fluids must show the location of the nearest automatic shut-off valves on each side of the bridge or other structure. Shut-off valves are required to be within a reasonable distance of the bridge or other structure.
5. Pipelines conveying water, sewage, and low volatile fluids must include evidence of compliance with corrosion control requirements of the U.S. Department of Transportation and the CPUC.
6. Electrical and communication conduits must indicate maximum voltage and description of carrier conduit. Additional information such as induced

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voltage calculations may be required by Structures (e.g., "Data for High Voltage Cables on Bridges" form DS-M-0080, see Appendix D).

7. Access to utility facilities on undercrossing structures or bridges over waterways is prohibited from the surface of the traveled way of the State highway. Access holes in the shoulder area or sidewalk area may be authorized. Access to utility facilities on overcrossing bridges or other structures, by means of access holes, may be authorized where necessary and feasible.
8. Basic Specifications
    a. Exposed pipes or sleeves must be painted or covered with an approved coating that must match the color of the structure and be maintained to the satisfaction of Caltrans. The permittee must pay the costs of repainting or protecting the encroachment.
    b. High pressure systems:
        1) Must conform to American Petroleum Institute (API) specifications and to American Society for Testing and Materials (ASTM) specifications covering sizes and types not covered by API.
        2) If operating pressures are over two hundred (200) psig:
            - Wall thickness must conform to CPUC General Orders.
            - Maximum allowable hoop stresses for gas must be forty (40) percent of the specified minimum yield strength.
            - Maximum allowable hoop stresses for other high volatile fluids must conform to ANSI, except that the maximum hoop stress under the "test pressure" must not exceed ninety (90) percent of the yield strength.
            - A pressure test at 1.5 times maximum operating pressure must be conducted for twenty-four (24) hours.
            - Radiographic inspection of all field welds must be made.
    c. Sewer lines cannot be steel pipe unless corrosion protective measures are provided.
    d. Other pipelines may be steel, cast iron, ductile iron or approved material.
    e. Electrical and communication conduits must conform to CPUC General Orders. High voltage lines are not permitted where the traveling public could be endangered and/or the integrity of the bridge steel elements, rebar, and prestress cables is compromised due to the presence of excessive induced voltage in them.

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Table 6.5

Additional Encasement Requirements for Utility Facilities Located on Bridges

In addition to the encasement requirements in Section 603.3C, utility facilities located on bridges or other structures must comply with the following:
1. High priority utilities (see Section 603.1) and pressurized facilities must be encased throughout the bridge or other structure in a steel sleeve.
a) The sleeve must have a diameter sufficiently larger than the largest outside diameter of pipe (but not less than four (4) inches) to facilitate removal and replacement of the pipe.
b) The space between the pipe and encasement must be vented effectively at each end of the structure so that no pressure buildup is possible. It is not permissible to vent into the earth or backfill material because of explosion possibilities.
c) In unusual instances, it may be impractical to provide encasement because of curvature, space limitations, etc. The Office of Structures Maintenance and Investigations or DES as appropriate must concur with the proposed and existing encasement of utilities on bridges or other structures, the wall thickness of the carrier pipe must be increased in such instances.
2. Pipelines conveying water, sewage, and low volatile fluids:
a) The pipeline must be encased if it passes over access-controlled right-of- way, primary road, or railroad. Other locations where encasement is required are determined by the Office of SM&I or DES.
b) A box girder cell may be considered as the encasement for water and non-corrosive material if access is available on the structure for the full length of the pipeline and the carrier is metal pipe.
c) The pipeline must be encased to prevent leakage from flowing under or around bridge abutments.
d) It may be impractical to provide encasement in unusual instances because of curvature, space limitations, etc., and other safeguards may be required.
3. Electrical and communication lines must be encased in rigid metallic conduit or other approved material. All electrical conduits must be grounded according to the CPUC General Orders and the Cal/OSHA Electrical Safety Orders
4. When not required, encasement should be considered if clearance is impaired or the utility facility is near such hazards as high-tension power lines, flood channels, subsiding ground, etc.

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602.7C Traffic Tunnels and Tubes

New utilities are not allowed in traffic tunnels. High priority utilities (see Section 603.1) are not allowed in any traffic tunnel under any circumstances (an encroachment policy exception will not be approved).

602.7D Limited Space Highway Facility

A limited space highway facility is defined as a State facility that Caltrans has determined to have a limited amount of space available for the installation of communication facilities, e.g., toll bridges. The determination of which highway facilities are limited capacity must be made by Structures, if a bridge, and HQ Division of Design or district delegate, if a State highway. Once a State highway facility is determined to be a limited space facility the following conditions will apply:

1. The first applicant requesting an encroachment permit for the installation of a communication facility will be required to enter into a Master Agreement for Longitudinal Encroachment on Limited Facilities.
2. The Master Agreement must contain all the conditions that govern the installation, operation, use, and maintenance of said communication facility.
3. Each Master Agreement must be reviewed and approved by Caltrans Legal. Public utilities are not allowed on toll bridges due to existing conduits and openings being used by the State and lack of space to place new conduits. An existing encroachment on a toll bridge that is incorporated in a new highway improvement project should be relocated whenever feasible.

602.7E State Contract Plans

Structures Design must approve installation plans for each utility that encroaches on a new structure before an encroachment permit is issued. This review is coordinated through the District Project Engineer. After award of the contract, utility plans not reviewed previously by Structures Design should be sent to HQ Structure Maintenance & Investigations for review and approval. Installation of utility facilities in new structures is coordinated by the District Permit Engineer through the District Project Engineer and solely by the District Permit Engineer for existing structures. Installation of all relocated utility facilities is coordinated by District Right-of-Way.

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603 UTILITY TYPES AND INSTALLATION REQUIREMENTS

Once the determination has been made that a utility facility can be accommodated within the State right-of-way, the utility facility must meet Caltrans' locating requirements, clearance and offset requirements, encasement requirements, be protected in place, or be relocated. If a utility facility is relocated within the State highway right-of-way, the utility facility must meet the requirements for new installations. Projects must have an approved utility policy exception for utilities that do not meet the requirements in this section. During the development of projects, various constraints may require deviation from these policies in the form of a utility policy exception. See the Project Development Procedures Manual, Chapter 17, Section 4 "Exception Requests," for a summary of the steps to request a utility policy exception.

603.1 High Priority Utilities

High priority utilities include the following primarily derived from the California Government Code, Section 4216:

- Natural gas pipelines greater than six (6) inches in diameter or with normal operating pressures greater than sixty (60) psig
- Petroleum pipelines
- Pressurized sanitary sewer pipelines
- High-voltage electric supply lines, conductors, or cables that have a potential to ground of greater than or equal to sixty (60) kV
- Hazardous materials pipelines that are potentially harmful to workers or the public if damaged

603.2 Communication Facilities

This section is only applicable to wired communication facility installations, including wired broadband facilities. For wireless communication facility installations, see Sections 601.2 and 500.3 (Permit Code AS).

603.2A Telecommunications and Wired Broadband Facilities

Permit Code BB

Permit Code BB must be used for all telecommunications and wired broadband facility permits regardless of scope, size, or method of installation, except for Annual Utility Maintenance Encroachment Permits (UEs).

"Telecommunications" refer to any facility (including conduits and cabling) used to transmit voice, data, and/or video signals that are not transmitted through the air.

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"Wired Broadband Facility" refers to any telecommunications facility (including copper and fiber optic cabling) that uses wide bandwidth to transmit voice, data, and/or video signals.

See Section 603.2A-1 for information related to installing wired broadband facilities through the Stand-alone Encroachment Process and the Planned Transportation Partnering Process.

Requirements:

Accommodation must be in accordance with Federal and State laws and be constructed and maintained so as not to adversely affect the safety, design, construction, operation, maintenance, stability of the highway or any proposed/existing highway appurtenance or limit the use of the State highway right-of-way or increase the cost of future improvements.

Requests submitted for the replacement of telecommunications and wired broadband facilities (regardless of capacity or upgrade issues) must adhere to policy as a new submittal.

Table 6.6A

Requirements for Telecommunication and Wired Broadband Encroachments within all State highway right-of-way

1) Longitudinal installations must be placed as close to the right-of-way line as possible.
2) Installations are not permitted in the median.
3) All above-ground installations and access points must be placed outside the Clear Recovery Zone (CRZ) for discretionary fixed objects (see Highway Design Manual, Topic 309).
4) If any facilities are required to be relocated, all costs must be borne by the permittee.
5) Caltrans may consider accommodation under master agreements, airspace leases, Request for Proposals or any other legally acceptable method.

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Table 6.6B (Rev. 10/2026)
Additional Requirements for Telecommunication and Wired Broadband Facility Encroachments within Access-Controlled right-of-way

1) Please refer to the January 15, 2026, memorandum titled "Accommodation of Telecommunications and Wired Broadband Facilities Within Access-Controlled State highway right of way" available at:

   https://dot.ca.gov/programs/traffic-operations/ep/news-policy

2) Routine maintenance of facilities must be conducted under individual encroachment permits and is not allowed under "blanket permits."
3) FHWA approval may be required.

Dig Smart Policy:

Wired broadband installations through the Encroachment Permit Office Process must comply with the Caltrans Dig Smart policy. The Dig Smart policy presents an opportunity for lowering the capital cost of infrastructure deployment and minimizing disruptions caused by ongoing or duplicative construction, thus incentivizing and expediting new investment. Hence, the Dig Smart policy for wired broadband infrastructure is established to promote opportunities for joint builds of broadband infrastructure. The Dig Smart policy requires the following:

- Wired broadband project applicants must provide public notice for joint-build opportunities if proposed installation exceeds ten (10) miles in longitudinal length within State highway right-of-way or it is determined that future installation of facilities within the project limits will be limited because of physical constraints, limited right-of-way width, safety, or other relevant factors.
    - The notice must be published in at least one (1) newspaper of general circulation in the county/counties where the project is proposed. The notice must also be provided to all broadband service providers (list may be obtained from the California Public Utilities Commission).
    - The notice must provide a response period not less than thirty (30) calendar days from the date of publication.
    - A copy of the notice along with the responses received to the notice must be submitted as part of the Encroachment Permit Application Package (EPAP).
- At locations where the Dig Smart policy applies and was implemented,

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broadband underground construction activities will be limited to once every five (5) years. An exception to the five (5)-year moratorium may be approved with adequate justification described below.

Dig Smart Policy Exception Request Process:

This process is independent of the Encroachment Policy Exception or Utility Policy Exception process described in the Caltrans Project Development Procedures Manual (PDPM), Chapter 17.

Determination of non-compliance with the Dig Smart policy should occur upon receipt of a project proposal or EPAP and before accepting the EPAP as complete:

- If there was a broadband project in the same location within the past five
- (5) years that complied with the Dig Smart policy, the district will notify the project applicant of the five (5)-year moratorium and provide the "Dig Smart Policy Exception Request" form. The project applicant can pursue an exception if they desire.
- The project applicant may request an exception to the policy by submitting the completed "Dig Smart Policy Exception Request" form to the district.
- Upon receipt of the completed "Dig Smart Policy Exception Request" form, the district will review the request, complete the district section of the form, provide concurrence, and submit the signed form to the joint committee in headquarters comprised of the Caltrans Broadband Coordinator (Design), Office Chief of Encroachment and Outdoor Advertising Permits (Traffic Operations), and Office Chief of Radio Communications (Maintenance).
- If the "Dig Smart Policy Exception Request" is approved by the joint committee, the district will notify the project applicant. The project applicant may then proceed with the submittal of the complete EPAP required to demonstrate compliance with applicable Caltrans standards and policies, including the issuance of a public notice.

Approval of the "Dig Smart Policy Exception Request" does not constitute approval of the design plans or approval of the encroachment permit. The project must still be reviewed for completeness and compliance with all applicable laws, regulations, policies, standards, and requirements.

603.2A-1 Wired Broadband Facility Installation Processes

Wired broadband facility installations can be pursued through the Stand-alone Encroachment Permit Process or the Planned Transportation Partnering Process.

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Whichever process is pursued, all installations must comply with all applicable Caltrans policies, standards and requirements in addition to applicable state and federal laws, regulations and requirements.

Stand-alone Encroachment Permit Process:

Wired broadband facility owners must submit the completed and signed encroachment permit application with all required attachments and plans for review and approval to the appropriate District Encroachment Permits Office. Broadband proposals must be processed for a detailed plan review through Environmental Planning, Office of Design, Structures & Engineering Services, and Traffic Operations as applicable. Wired broadband facility installation requests should be prioritized, and all reasonable efforts should be made to complete the review and approve or deny such requests within the statutory timespan outlined in Section 201.5. Permit process milestones such as application date, meeting request date, meeting date, etc. must be logged in Caltrans Encroachment Permit System (CEPS).

Planned Transportation Partnering Process:

Caltrans may provide partnering opportunities in planned transportation projects with Wired Broadband Stakeholders to incorporate wired broadband facilities within the State highway right-of-way.

For a wired broadband facility to be installed as a part of a planned transportation project, the facility planning, design, and construction must follow the Caltrans project development and delivery procedures and design guidance as outlined in the PDPM, Highway Design Manual, Plans Preparation Manual, and other pertinent Caltrans manuals and guidance.

The Administrative Encroachment Permit Process (see Section 500) is used for these types of projects.

After construction of the project is completed, but prior to the final acceptance of the project, stakeholders must apply for and secure an encroachment permit to assume ownership of the facility. Thereafter, separate permits for work such as routine or emergency maintenance must be applied for and secured.

Additional information is available on the "Wired Broadband Facilities on State Highway Right of Way" program website and in the User Guide on

"Incorporating Wired Broadband in State Highway Right of Way" also found on the website below.

https://dot.ca.gov/programs/design/wired-broadband

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603.2A-2 CPUC Mandate - New Telecommunication Wiring within Existing Facilities

In conjunction with the California Public Utilities Commission (CPUC) imposed mandate, existing telecommunications franchises must now share their unused conduits with competitors.

Caltrans may allow new telecommunication franchises to place their **"cabling only"** (fiber optics or wire) into an existing facility that falls under the parameters of "prior rights" or an "exception to policy" belonging to another telecommunications franchise within access-controlled State highway right-of-way.

The requesting telecommunications franchise must submit proof of concurrence from the owning telecommunications franchise by means of an agreement, letter, or contract when submitting their encroachment permit application.

603.2A-3 Preliminary Site Survey Permits (pre-design)

Districts may issue an annual survey, "SV" permit, to each broadband service carrier for all conventional State highways within the District. Survey permit requests for access-controlled State highway right-of-way must be issued on a one-time basis.

Refer to Section 501.14 if contractors will be performing the authorized work on behalf of the permittee.

Work within or from adjacent property owners' land, U.S. Forest Service property, other leased or prescriptive right-of-way are not authorized under a Caltrans encroachment permit. Approval must be obtained from that specific property owner by means of written permission or permit. A copy of that authorization or issued permit must also be included in the submittal to the District Encroachment Permits Office.

603.2B Telephones (coin and credit card operated phones)

As a public convenience, Caltrans allows telephones within the State highway right-of-way. An encroachment permit is required for their installation, operation, and maintenance. They are placed only at locations authorized by statutes.

Districts may permit coin or credit card-operated telephones within the State highway right-of-way only at rest areas, vista points, park-and-ride lots, truck inspection facilities, and in bus passenger waiting shelters that are located on conventional State highways and are equipped to hold the telephones. State statutes and Caltrans policies do not permit coin-operated telephones at other

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State highway right-of-way locations because telephones are a form of vending that is prohibited by Section 731 of the California Streets and Highways Code.

Caltrans, law enforcement, or local agencies may request telephone installations in roadside rest areas, vista points, park-and-ride lots, or truck inspection facilities. Permits are issued to the requesting authority (if not Caltrans) and the installing telephone company at no charge. Local public transit agencies must request permits for telephones in existing and proposed bus passenger waiting shelters.

The maximum number of telephones to be installed at roadside rests, vista points, and park-and-ride lots is determined by the District Landscape Architect in cooperation with Maintenance and Traffic Operations. The California Highway Patrol and Caltrans will agree to the number of telephones needed in truck inspection stations.

Local agencies and law enforcement may request telephones along rural conventional highways when existing facilities and suitable installation locations are not available outside the State highway right-of-way. These telephones must **not** be coin or credit card operated. Encroachment Permits are issued to the local agency, and an additional permit is issued to the installing telephone company for operation and maintenance.

When a telephone owner requests a permit to maintain existing telephones that were installed without a permit, Districts should review the facility for conformance to current policy. When appropriate, the telephones can remain in place and an encroachment permit can be issued.

All telephones must provide telephone company operator assistance.

603.2C Cable Television

Privately-owned cable television systems holding city or county franchises may be granted aerial or underground encroachment privileges that are the same as public utilities, if Sections 682-695 of the California Streets and Highways Code are met.

Other privately-owned cable television system facilities not covered by city or county franchises may only be attached to existing utility poles or placed in existing underground ducts subject to the owner's consent as set forth in California Public Utilities Commission General Orders.

In any case, use of State highway structures is subject to HQ Structure Maintenance & Investigations approval.

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603.3 Installation Requirements

Caltrans has specific requirements for utility installations within State highway right-of-way, aiming to ensure safety and protect the highway's integrity.

603.3A Locating Requirements

All utilities within the State highway right-of-way must be shown on the utility plans. Positive location is required for high priority utilities and approximate location is required for all other utilities in areas of excavation per Project Development Procedures Manual (PDPM), Chapter 17 (Reference Section 3, Article 2) for the entire project limits. Projects must have an approved utility policy exception if they do not comply with the policies for locating the utilities and depicting them on the plans. See PDPM, Chapter 17, Section 3, Article 3 for more details on location and depiction requirements.

Projects that meet the following criteria are exempt from locating and depicting requirements.

Exempt Work:

Works that does not involve any excavation, as defined in PDPM, Chapter 17, Section 1 "Definitions and Laws" is exempt from the locating and depicting requirements. Work that only involves limited excavation is also exempt from the locating and depicting requirements, provided that the limited excavation is in conjunction with:

- Digging less than six (6) inches below existing ground level outside the roadbed within the roadside area (outside the roadway).
- Digging within the existing limits of the pavement structural section. This includes concrete or asphalt pavement driveways, sidewalks, curb ramps, curbs, gutters, dike, and bridge approach slabs. This does not include work that changes the grading plane within the roadbed.

Work is not exempt when it includes:

- Installation of push button assemblies or foundations for lighting
- Transition railing or anchor blocks for guardrail or thrie-beam barrier

Exempt Utilities

The following utilities (not including State-owned utilities) are exempt from these policies and do not need to be plotted on the plans unless the depiction of the utility is needed for interconnectivity with the proposed work:

- Natural gas service lines less than two (2) inches in pipe diameter that have normal operating pressures of sixty (60) psig or less and not on a

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structure
- Service connections (laterals) for water, sewer, electric, and telecommunication including fiber optic and cable service

All State-owned utilities must be plotted on the plans.

603.3B Clearance and Offset Requirements

All installations proposed must comply with Clearance and Offset requirements (including depth of cover) for new and existing utility facilities identified in Project Development Procedures Manual, Chapter 17, Section 3, Article 4.

New installations within streets or frontage roads to be turned over to a local agency may be installed at lesser depths, as allowed by California Public Utilities Commission General Orders or normal procedures.

603.3C Encasements

In accordance with the PDPM, except for gravity flow sewer lines, all utilities crossing the State highway right-of-way or crossing under ramps, roads, and other paved areas within the State right-of-way must be encased.

These installations must comply with the requirements listed in Table 6.7 and Table 6.8. The steel encasement can be either new or used, or of the approved connector system. Used steel casing must be pre-approved by a Caltrans' representative prior to installation.

When the method of horizontal directional drilling is used to install the encasement, the use of High-Density Polyethylene Pipe (HDPE) as the encasement is acceptable.

Reinforced concrete pipe (RCP) in compliance with Caltrans Standard Specifications is an acceptable carrier for storm drain gravity flow or non-pressure flow. RCP when installed by the jack and bore method must have rubber gaskets at the joints and holes for the grouting of voids left by jacking operations (see grouting requirements in Table 6.7.).

Per the Memorandum dated November 9, 1994, "Exception to Policy – Uncased High-pressure Natural Gas Pipelines" (see Appendix H) and Special Provisions TR-0158 (see Appendix K), Caltrans allows an exception to this encasement policy on a case-by-case basis for the utility crossing installation of uncased high pressure natural gas pipelines, provided all requirements listed in the memo and special provisions are met.

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Table 6.7
Encasement and Protection Requirements

Utility facilities must comply with the following encasement and protection requirements:

1. Types of facilities requiring encasement or protection:
   a. New or relocated underground utility crossings must be encased so that future repair or replacement does not require trench excavation in the roadway, facilitates mechanical suction, and protects the roadway and structures from damage caused by soil liquefaction, leaked fluids, or gases.
   b. Consider encasement of carriers that are exempt from encasement when these possibilities exist:
      i. When under embankments of ten (10) feet or more.
      ii. Appreciable settlement of supporting ground.
      iii. When detrimental subsidence of the ground under a fill is anticipated. In such cases, a sleeve six (6) inches larger than the outside diameter of the pipe is recommended.
      iv. Damage to protective pipe coatings during jacking.
      v. A corrosion protective coating and/or cathodic protection may be required due to corrosive environments or when the CPUC requires cathodic protection. (Corrosive environments can deteriorate steel and cement mortar. Check cathodic protection requirements with Division of Engineering Services, Structures and Engineering Services, Office of Electrical, Mechanical, Water and Wastewater.)
      vi. Cracking of mortar coating during jacking or boring operations.
      vii. Corrosion of field-coated joints.
      viii. Existing electrical and communication lines under an embankment of ten (10) feet or more.

2. Types of encasements and their purposes:
   a. A sleeve is an encasement that:
      i. Contains or controls leaks,
      ii. Facilitates carrier pipe maintenance and replacement,
      iii. Protects carrier pipe from crushing or bending stresses and minimizes coating damage during installation,
      iv. Protects the pipe from corrosive elements and aggressive salts,
      v. Protects carrier pipe against highway maintenance and repair

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activities, and
vi. Isolates cathodically protected lines and limits stray currents.

b. A reinforced concrete jacket is an encasement that:
   i. Contains or controls leaks,
   ii. Protects carrier pipe from crushing or bending stresses and minimizes coating damage during installation,
   iii. Provides some protection from corrosive elements and aggressive salts, and
   iv. Protects against highway maintenance and repair activities.
c. A reinforced concrete cradle protects a carrier pipe from crushing or bending stresses. However, it is not to be used with asbestos cement pipe and is not considered an encasement.
d. A reinforced concrete slab is placed over an undisturbed facility to distribute and equalize a superimposed load. (Caution: A slab may interfere with other utilities and rock under a load.)

3. Design requirements for encasement or protection:

   a. The minimum wall thickness required for steel encasements is based on lengths and diameters of pipes. See Table 6.8.
   b. Encasements must extend to the highway right-of-way lines unless Caltrans determines that is impractical.
   c. A sleeve is preferred to a reinforced concrete jacket when practical. Considerations include soil conditions, height of embankment, and economic conditions.
   d. A sleeve under the highway must meet D-Loading, H20-Loading, and culvert requirements regarding strength and service life.
   e. A sleeve should have an inside diameter that is four (4) inches larger than the outside diameter of the carrier pipe. A larger clearance may be required under unusual conditions, such as settlement.
   f. There is a spacing requirement when placement of multiple encasements is requested. The distance between multiple encasements must be the greater of either twenty-four (24) inches or twice that of the diameter of the larger pipe being installed.
   g. Encasement ends must be plugged with ungrouted bricks or other suitable material approved by the Caltrans' representative.
   h. The Caltrans' representative may require the permittee to pressure grout, filling any voids generated in the course of the permitted work. Grouting must be at the permittee's sole expense. Grout holes when placed inside the of the pipe, generally on diameters of thirty-six (36)

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inches or greater, must be on eight (8) feet centers, longitudinally and offset twenty-two (22) degrees from vertical, and staggered to the left and right of the top longitudinal axis of the pipe. Grout pressure must not exceed five (5) psig for a duration sufficient to fill all voids.

i. Wing cutters when used must only add a maximum of one (1) inch in diameter to the outside diameter of the encasement pipe. Voids in excess of the Standard Specifications must be grouted.
j. A band welded to the leading edge of the encasement pipe should be placed square to the alignment and not on the bottom edge of pipe. A flared lead section on bores over one hundred (100) feet must not be permitted.
k. The length of the auger strand must be equal to that of the section of encasement pipe.
l. Highway lighting and signal facilities are exempt from these encasement requirements.
m. See Table 6.5 for additional encasements requirements for utilities on structures.

Note: Conduit for electrical conductors, fiber optics and cables is considered encasement.

Table 6.8
Required Thickness for Steel Pipe Casings

Minimum Wall Thickness		
Casing Diameter	**Up to 150 feet in length**	**Over 150 feet in length**
6 inches to 28 inches	1/4 inch	1/4 inch
30 inches to 38 inches	3/8 inch	1/2 inch
40 inches to 60 inches	1/2 inch	3/4 inch
62 inches to 72 inches	3/4 inch	3/4 inch

603.3D Minimum Carrier Pipeline Specifications

Carrier pipe materials must conform to State, Federal and industry requirements, including but not limited to California Public Utilities Commission (CPUC), Code of Federal Regulations (CFR), and American Petroleum Institute (API), as described in Table 6.9.

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Table 6.9
Minimum Carrier Pipeline Specifications

Pipeline encroachments must comply with these minimum specifications:

1. Metal Pipe
   a. Gas transmission and distribution piping systems must conform to General Order No. 112-F of the California Public Utilities Commission (CPUC) and applicable provisions of Title 49, Code of Federal Regulations (CFR).
   b. Other fluids under pressure must conform to the American Society of Mechanical Engineers (ASME) B31 - Pressure Piping.
   c. Water transmission and distribution piping systems must conform to the American Water Works Association (AWWA) Standards.
2. Concrete Pipe
   a. Must not exceed the manufacturer's recommended pressure.
   b. Requirements for underground culverts stated in the Caltrans Highway Design Manual must apply.
   c. Uncoated sewer pipe that is located under the highway must be designed to flow full to protect against attack from generated acids.
   d. Water transmission and distribution piping systems must conform to AWWA Standards.
3. Plastic Pipe
   a. Specifications must ensure that the type of pipe is adequate for the intended purpose (see CPUC General Orders).
   b. Gas transmission and distribution piping system must conform to Title 49 CFR.
   c. High-Density Polyethylene (HDPE) line pipe for gas and oil production systems must conform to American Society for Testing and Materials (ASTM) F2619 Standard Specification and contingent to CPUC approval.
   d. Water transmission and distribution piping systems must conform to AWWA Standard.
   e. A means for detection of nonmetallic material must be provided.
4. Pipe Joints
   a. Must be watertight under pressure and foreseeable conditions of expansion, contraction, and settlement.
   b. Recommended joint sealants include rubber, neoprene, and similar synthetic products.
   c. Mortar, grout, or other Portland cement materials is not allowed as joint

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sealants.
   d. Steel welding of pipeline joints must conform to Title 49 CFR.
5. Water and wastewater pipelines must be "lead free" and to CPUC General Order 103A.
6. Markers required under the permit provisions should be placed so they do not interfere with vehicle recovery areas.
7. Pipelines carrying hazardous materials can be required to have corrosion control measures as outlined in the appropriate federal or State regulations, included but not limited to Pipeline and Hazardous Materials Safety Administration (PHMSA) and Department of Toxic Substances Control (DTSC). Evidence of compliance must be submitted before issuance of an encroachment permit.
8. Specifications for pipelines on bridges are discussed in the Section 602.7.

603.4 Aerial Crossings

Arial crossing is any overhead structures and utilities crossing over State highway right-of-way. Specifically, installations or removals of overhead conductors crossing State highway right-of-way require traffic control.

603.4A Conventional Aerial

Permit Code UC

UC permits authorize aerial facilities on conventional highways. Utility companies may use conventional highway right-of-way when adjacent utility easements or corridors do not exist on private or public property. Pole line cross-arm members or conductors may not overhang private property without an easement, so pole lines generally must be located on public property.

Pole lines that affect pedestrian facilities must process an ADA certification for design and construction compliance. Please see Section 500A for more information.

Permittee should ensure that aerial cables have the minimum vertical clearance required by the California Public Utilities Commission (CPUC). CPUC Rule 84-4-A6 indicates communication cables installed longitudinally on conventional highways may have a minimum sixteen (16) feet clearance when they do not overhang the thoroughfare, or they are behind established curbs, ditches, or berms. This new clearance applies even when there are connecting driveways but does not affect the eighteen (18) feet minimum clearance required for public connecting roads.

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Supports for overhead lines within conventional highway right-of-way must be as close to the right-of-way line as possible, outside the Clear Recovery Zone (CRZ) (see Topic 309 of Highway Design Manual). On conventional highways with posted speeds less than or equal to thirty-five (35) miles per hour and curbs, clear recovery zone widths do not apply. For these facilities, a minimum horizontal clearance of one (1) foot six (6) inches must be provided beyond the face of curb.

The CPUC General Order 95 provides tables and details showing minimum clearances for aerial utility facilities. The Highway Design Manual, Topic 309 Clearances provides clearance standards on State highways.

603.4B Access-Controlled Aerial

Permit Code UF

UF permits authorize aerial facilities that cross access-controlled State highway right-of-way. Utility facilities affecting access-controlled State highway right-of-way generally are direct crossings, but they may include existing longitudinal installations approved to remain during construction or by prior permit. These aerial utility facilities may be allowed to remain for the remainder of their useful life, but any alterations to the existing longitudinal encroachment requires an encroachment policy exception.

When existing facilities are covered by a Joint Use or Consent to Common Use agreement with a utility company, the agreement specifies the utility's right to remain within the access-controlled State highway right-of-way and fees associated with the permit. A request for new longitudinal encroachments requires an encroachment policy exception and normally is not permitted.

Installation or removal of overhead conductors crossing access-controlled right-of-way require traffic control by the California Highway Patrol (CHP) and usually occur on weekend mornings. The CHP can perform a rolling traffic break on most highways in accordance with Standard Specifications 12-4.02C(7)(d) Traffic Breaks. These breaks are adequate for simple cable installation. Utility personnel carry the conductors across the access-controlled right-of-way lanes and hoist them into place on the opposite side of the access-controlled State highway right-of-way.

On larger conductor crossings such as transmission lines, Districts may determine that safety nets are needed to prevent transmission lines from falling on traffic during cabling installations. Temporary safety-net support poles are placed at protected locations outside shoulders and in medians. If locations for temporary supports are not available, the utility company may use traffic safety systems

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such as crash cushions. After rope-nets are strung during CHP traffic breaks, other work is then allowed to proceed.

Requirements that apply to transmission line supports for overhead lines crossing access-controlled State highway right-of-way are shown in Table 6.10.

Consideration should be given to underground facilities when spanning roadways with aerial facilities is not feasible.

Table 6.10
Requirements for Line Supports for Overhead Lines Crossing in Access-Controlled State highway right-of-way

Line supports for overhead lines crossing in access-controlled State highway right-of-way must comply with these requirements, they:

1) Must be located outside the right-of-way. Any deviations require an approved encroachment policy exception.
2) Should have a minimum lateral clearance of fifty-two (52) feet from the edge of traveled way of a through lane and ramp lane.
3) Should not be permitted in medians.
4) Should not be permitted on cut or fill slopes.
5) Must not impair sight distances.
6) Must be compatible with access requirements.

603.5 Service Connections, Test Holes, Modifications, Joint Pole Work and Miscellaneous Utility Work

Permit Code US

Service Connections:

Utility companies without a UE permit are required to apply for and obtain encroachment permits for service connections. Caltrans does not allow individuals or non-CPUC regulated utility entities that are not authorized by law (except for sewer services per CA Health and Safety Code - Divisions 5 & 6) to own, operate or maintain utility facilities including service connections because of potential liability.

Annual permits do not authorize service connections in access-controlled right-of-way. Separate permits are required for these types of installations.

Utility meters and shut-offs serving State facilities may be located within access-

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controlled right-of-way, provided that the utility company is able to service their equipment from local roads or ramp terminal areas. The utility company must obtain a "No fee Utility Service" (NUS) permit for the connection. A property owner or developer may be required by a city or county to construct service connections that later will be owned, operated, and maintained by the utility company. Permits for the installation of such longitudinal or crossings of public utility facilities within the right-of-way are issued to the developer, private individual or non-public utility-corporation to service their property from the nearest utility distribution line. The permittee's contractor may install the facility under the Encroachment Permit General Provision Number 4.

The developer, private individual, or non-public utility-corporation assumes responsibility to coordinate submission of an application from the public utility or public corporation for a permit to "own and operate the facility." The installation permit must not be issued until this application has been submitted.

The public utility or public corporation is not charged a fee for the permit to "own and operate and maintain the facility" through the NUS permit.

Test Holes:

Utility owners must apply for and obtain individual permits for excavating test holes (also referred to as potholes) when their UE permit does not authorize this work. The excavation method, exact locations with lateral dimensions to right-of-way line and travel lanes, and size and depth of the test hole must be provided in the application and submittal.

Excavating test holes, to determine utility depth before State highway contract work, is handled through a Right-of-Way-issued utility notice and UR permit.

Modifications, Joint Pole Work and Miscellaneous Utility Work:

Permit code US can be used for in-place modifications to existing utility facilities, pole replacements, relocation, or other miscellaneous utility work not covered under the scope of other utility permit codes.

The owner of the pole must be the permittee. If it is joint ownership, the permittee must be one of the owners and obtain authorization from other co-owners, authorizing pole replacement. The permittee must provide authorization letters from co-owners, if requested by the State representative. The owner or entity (in case of joint ownership) to whom the permit is issued is responsible for coordinating utility relocation with other utilities (co-owners or tenants) sharing the pole. Coordination must happen before installing the new pole, and the transfer of all utilities to the new pole must be scheduled to be completed within

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fifteen (15) calendar days from installation of the new pole. A schedule/timeline of new pole installation, all utility transfers and removal of the old pole must be submitted to the Caltrans Permit Inspector at the pre-construction meeting. The utility will be considered non-compliant if permit requirements are not complied with, resulting in corrective action including but not limited to requiring bonds, revoking annual permits, or rescinding deferred billing privileges, until the compliance issues are rectified to the satisfaction of the District Permit Engineer.

603.6 Installation Methods (Rev. 10/2026)

Reference Information

This section refers to information found in Standard Specifications Section 19-16 for Trenchless Construction that was developed by the HQ Division of Engineering Services, Geotechnical Services.

General

Within State highway right-of-way, underground utilities must be installed by trenchless construction. Open trenching is not allowed except when the applicant can demonstrate that all trenchless methods have been considered and no other options are feasible.

Installation of underground utilities must comply with Section 203.5 (Cal/OSHA Safety Requirements) of this manual.

State Highways Located on or Crossing a Levee

The Central Valley Flood Protection Board (CVFPB) (previously known as Reclamation Board) has authority over the levee underlining the highway structural section. For installations of utility or service lines within the levee prism, applicants must obtain a permit from the CVFPB.

The CVFPB and Caltrans have jointly developed procedures for regulating the installation of underground facilities where a State highway is on or crosses a levee. To eliminate unknown and unexpected conditions that may be caused by trenchless construction on the levee, the CVFPB prefers open trenching. Caltrans issues encroachment permits that conform to the CVFPB's requirements. Caltrans also issues encroachment permits that conform to the requirements of the U.S. Army Corps of Engineers or others who manage the levees.

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603.6A Trenchless Construction

Trenchless construction methods include but not limited to jack and bore, horizontal directional drilling, microtunneling, pipe ramming, and pipe bursting. For more information, refer to the Caltrans Geotechnical Manual, Earthwork - Trenchless Construction section at the following website:

https://dot.ca.gov/programs/engineering-services/manuals/geotechnical-manual

603.6A-1 Trenchless Construction Procedure

Trenchless construction must be prepared, installed, monitored, and maintained in the following sequence.

- Perform geotechnical investigation (see Section 603.6A-2)
- Produce Geotechnical Design Report (see Section 603.6A-3)
- Select trenchless construction method
- Produce Structure Design Package (see Section 603.6A-4)
- Submit Encroachment Permit Application Package (see Section 603.6A-5)
- Perform trenchless construction
- Monitor and control trenchless construction
- Monitor and control ground surface movement and subsurface ground loss
- Submit as-built plans

603.6A-2 Geotechnical Investigation

Applicants must perform a geotechnical investigation suitable for the proposed complexity of the trenchless construction. The geotechnical investigation must obtain sufficient subsurface information, at the extent and depth of the proposed installation, to select a trenchless construction method and develop a construction plan.

603.6A-3 Geotechnical Design Report

A Geotechnical Design Report documents geotechnical findings, interpretation of the site, and selection of the construction method. A Geotechnical Design Report must be submitted if:

1. Bore diameter is greater than ten (10) inches, and
2. Minimum vertical distance between the pavement/ground/sidewalk surface and the top of bore is less than eight (8) times the bore diameter.

A Geotechnical Design Report is recommended regardless of whether the proposed project meets the above-listed criteria, and Caltrans may require a

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Geotechnical Design Report for any project as deemed necessary.

The Geotechnical Design Report must comply with the Caltrans Geotechnical Manual – Reporting Standards, Geotechnical Design Reports section at the following website:

https://dot.ca.gov/programs/engineering-services/manuals/geotechnical-manual

603.6A-4 Structure Design Package

A Structure Design Package must be submitted with the Encroachment Permit Application Package if either the outside diameter or the equivalent outside diameter of the proposed utility sleeve (or casing) or conduit, is greater than thirty (30) inches.

The Structure Design Package must be stamped and signed by a California Registered Civil Engineer who has at least five (5) years of experience in structural design, and include the following:

1. Plans – showing structure details, shoring, and falsework
2. Specifications – if applicable
3. Calculations
4. "Certification of Structural Experience" (form TR-0133)

The District Encroachment Permits Office must send the Structure Design Package to the Structure Maintenance & Investigations or the HQ Division of Engineering Services (DES) Culvert Specialist for review.

603.6A-5 Encroachment Permit Application Package

A complete Encroachment Permit Application Package must be submitted. Following are the trenchless construction submittal requirements:

1. General Submittal (see Section 603.6A-5A below)
2. Geotechnical Design Report – if applicable (see Section 603.6A-3 above)
3. Structure Design Package – if applicable (see Section 603.6A-4 above)
4. Supporting Documents (see Section 603.6A-5B below)

603.6A-5A General Submittal

General Submittal is required for all trenchless installations regardless of trenchless methods, and must include:

1. "Standard Encroachment Permit Application" (form TR-0100)
2. Plans showing the following information in addition to the Plan Set Requirements available on the Applications webpage:

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https://dot.ca.gov/programs/traffic-operations/ep/applications

a. Proposed alignment in relation to the State highway right-of-way
b. Elevation view of the utility line in geotechnical subsurface profiles
c. Cross sections of casing and utility line
d. Materials of pipe and casing
e. Existing utility lines in close proximity of the proposed installation
f. Proposed trenchless construction method
g. Surrounding Caltrans facilities that may be impacted by the construction

603.6A-5B Supporting Documents

Supporting Documents are required when the following criteria are met:

1. Bore diameter is greater than ten (10) inches, and
2. Minimum vertical distance between the pavement and sidewalk surface and the top of bore is less than eight (8) times the bore diameter.

Supporting Documents include:

1. Notice of Materials to be used (CEM 1301), if it is a culvert or conduit that will become part of the state highway infrastructure which will be owned by Caltrans after installation.
2. Shop drawings which include:

    a. Your name, address, telephone number, and email address
    b. Description of the trenchless construction method, sequence of operations, type of excavated face support, and spoil removal
    c. Manufacturer and type of construction equipment for excavation, boring, spoil removal, lubrication, jacking, and grouting, related operating system proposed, and capability of equipment chosen
    d. Plans showing work site layout, cross sections and profile of construction equipment, shield cut, overcut, pipes, and construction operation and sequence
    e. Excavation safety plan,
    f. Details of automated electronic excavation and alignment monitoring and recording system that can produce continuous record of construction activities
    g. Details of pipe and pipe joints that can carry and uniformly distribute the thrust of jacking forces, if applicable, and other construction loads in addition to overburden, earth and hydrostatic pressures
    h. Dewatering system, and plan to divert, control, and dispose of

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surface water and groundwater

i. Contingency plan for: failed excavated face, damaged pipe, excessive ground surface movement and subsurface movement, deviation of alignment exceeding tolerance, and flooding
j. Methods for inspecting and grouting voids immediately outside of the completed conduit
k. Mitigation Plan for restoring the pavement and ground surface
l. Calculations of:
    i. Bracing, shoring, and thrust block design
    ii. Thrust forces and distribution of the forces for applicable trenchless methods
    iii. Groundwater and surface water flow, and placement and capacity of the dewatering system
    iv. Estimated movement magnitude, profile, and contour on highway pavement and in the subsurface, and preventive measures that control the estimated movement to be less than the maximum allowed ground surface movement and subsurface movement described in Sections 603.6A-9B and 603.6A-9C below.
    v. Anticipated quantity of spoils by volume

m. Monitoring Plan:
    i. Conduit grade and alignment control, including monitoring instruments, layout of instrumentation points, construction details, and monitoring frequency
    ii. Ground surface movement, including generating a digital surface model, survey method, survey data processing and analysis method, must be submitted. Digital surface file, in either Civil 3D or Land XML format must be submitted if requested by a Caltrans representative. The District Encroachment Permits Office must send the digital surface file to the District Survey for review.
    iii. Subsurface movement, including monitoring instruments, layout of monitoring alignment, points, method, and frequency of the monitoring
    iv. Stability of excavated face, logging of excavated materials, including anticipated volume of excavation and measured volume of removed spoil
    v. Critical operations of applicable trenchless methods,

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including excavation, boring, spoil removal, lubrication, jacking, and grouting

Submittals must include any additional documents needed beyond those listed above to comply with the monitoring requirements.

Shop drawings and calculations must be stamped and signed by a California Registered Civil Engineer.

The District Encroachment Permits Office must send the Supporting Documents to the HQ DES Culvert Specialist and the HQ Office of Geotechnical Design for review.

Ground Surface Monitoring Requirements

Monitoring plans can be submitted during design reviews if available. If not, they can be submitted prior to the pre-construction meeting. The "Survey Grid Line" should be in accordance with TR-0151 in Appendix E. Requirements for trenchless technologies may be increased or modified as needed by the District Permit Engineer or delegate at his or her discretion.

See Utility Underground Provisions (UG) in Appendix K for more information and requirements on ground surface movement monitoring during construction.

See the Caltrans Surveys Manual for more information on various survey methods and requirements, available at:

https://dot.ca.gov/programs/right-of-way/surveys-manual-and-interim-guidelines

603.6A-6 Contractor Qualifications

The trenchless construction contractor should:

1. Comply with Section 202.5B Contractor's License
2. Have successfully completed at least five (5) projects in the past five (5) years using similar trenchless construction in similar ground and groundwater conditions with similar drive lengths and diameter range.
3. Provide a superintendent, who has successfully completed at least five (5) projects using similar construction methods for trenchless construction in similar ground and groundwater conditions with similar drive lengths and diameter range. The superintendent must be at the site at all times when work is being conducted.

603.6A-7 Pre-Construction Meeting

Contact the Department's representative to schedule and have a pre-

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construction meeting at least seven (7) business days before the start of trenchless construction or as identified in the permit.

Attendees should include:

1. The Department's representative
2. Your project manager
3. Your project superintendent
4. The contractor for trenchless construction

In the pre-construction meeting, the applicant or its contractor must present and discuss:

1. Trenchless construction shop drawings if applicable (see Section 603.6A-5B)
2. Mitigation plans for both during and after construction
3. Construction timeline and critical path activities
4. Safety requirements, including Cal/OSHA and Tunnel Safety Orders
5. All applicable permits from other agencies and associated requirements from those permits for construction

603.6A-8 Submittals During and After Construction

Submit the following reports during and after construction per the Utility Underground Special Provisions (UG) TR-0163:

1. Ground Surface Movement Monitoring Report if:
    a. Bore diameter is greater than ten (10) inches, and
    b. Minimum vertical distance between the pavement and sidewalk surface and the top of bore is less than eight (8) times the bore diameter
2. Subsurface Movement Monitoring Report if:
    a. Bore diameter is equal to or greater than forty-eight (48) inches, and
    b. Minimum vertical distance between the pavement and sidewalk surface and the top of bore is less than eight (8) times the bore diameter
3. Utility line, grade, and shape Survey
4. Daily Construction Record upon request
5. Contact Grouting Record upon request

Caltrans may require any of the above monitoring/reporting if deemed necessary, even if the proposed installation does not meet the criteria established above for monitoring/reporting.

The District Encroachment Permits Office must send the ground surface movement and the subsurface movement monitoring reports to the HQ DES

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Culvert Specialist and the HQ Office of Geotechnical Design.

603.6A-9 Suspend Work

Work must be suspended if monitored values during construction are greater than the allowable values for ground surface movement and subsurface movement. The movement requirements are listed in Table 6.11 and Table 6.12. Caltrans must be notified of the monitored values and the suspension of work. Revised Supporting Documents must be submitted to include:

1. Alternative construction method, and
2. Mitigation plan that includes methods to fill the voids created under the highway pavement/sidewalk or ground.

Table 6.11
Ground Surface Movement

Quality Characteristic	Requirement
Critical Structure Monitoring Points - Horizontal or Vertical (max, feet)	0.02
Highway Surface (max, feet)	0.04
Highway Embankment (max, feet)	0.2

Table 6.12
Subsurface Movement

Quality Characteristic	Requirement
Subsurface Movement (max, inches)	0.2

603.6A-10 Post-Construction Requirements

After completion of trenchless construction, restore the highway pavement to the same condition prior to the beginning of construction activities or better. Restore asphalt concrete pavement using mill and fill. Repair or replace concrete pavement with dowels for any cracks and spalling caused by construction.

603.6A-11 Summary of Submittal Requirements

Table 6.13 provides a summary of the submittal requirements for trenchless construction based on the bore diameter, outside diameter of the utility, and the minimum vertical distance between pavement/ground/sidewalk surface and top of the bore.

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Table 6.13
Summary of Submittal Requirements for Trenchless Construction

Required Submittals	D > 10 inches and $H_{min}/D < 8$	D ≤ 10 inches or $H_{min}/D \geq 8$	$D_U > 30$ inches	$D_U \leq 30$ inches
Geotechnical Design Report	Yes	No		
Structure Design Package			Yes	No
General Submittal	Yes			
Supporting Documents	Yes	No		
Submittals During and After Construction	Refer to Section 603.6A-8			
Post-Construction Inspection Record and As-built Plans	Yes			

D = Bore diameter
H_{min} = Minimum vertical distance between pavement/ground/sidewalk surface and top of the bore
D_U = Outside diameter or equivalent outside diameter of the utility or utility casing, whichever is greater

603.6B Open Trenching

Permit Code UT

Underground installations within highway right-of-way must be performed using a trenchless technology method (jack and bore, horizontal directional drilling, microtunneling, pipe bursting or pipe ramming), unless specified otherwise by permit. Open trenching is authorized only when the applicant demonstrates that all alternatives have been investigated and that installation by a trenchless technology is not feasible. Procedures that must be followed in evaluating applications for open trenching are shown in Table 6.14.

Authorized open trenching must be noted clearly in the encroachment permit or permit rider. Traffic controls must conform to State standards and recommendations of Highway Operations or Permits. Unless otherwise specified in the permit, work must be accomplished one lane -width at a time on conventional two-lane highways. If determined acceptable, two lanes of a multi-lane highway may be used for the work when one full lane width in each direction is available for traffic. Trenching, backfilling, and paving operations must conform to Caltrans' standards.

Trenching of crossings is not authorized within access-controlled State highway right-of-way.

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603.6B-1 Backfill of Excavations and Trenches

Backfilling of excavations and trenches must comply with Caltrans Standard Specifications. The specification for controlled low strength material (CLSM) is shown in Appendix H, unless otherwise specified by Caltrans' Material Engineer.

603.6B-2 Trenching and Shoring

Trenching and shoring must be in conformance to the requirements of the California Department of Safety and Health, Title 8 of the California Administration Code (Construction Safety Orders).

The Caltrans "Trenching and Shoring Manual" is available at the following website:

https://dot.ca.gov/programs/engineering-services/manuals

The contractor may elect to use the Construction Safety Order Details. It is not required that a California Registered Engineer prepares the plan. However, a plan is still required. This plan can be a letter to the State representative containing the information outlined in Section 2.0 "Shoring Plan Submittal" in Chapter 2 of the Caltrans Trenching and Shoring Manual (second paragraph of Section 1.6, page 1-9).

Shoring that does not meet the California Department of Safety and Health, Title 8 of the California Administration Code (Construction Safety Orders) must be designed by a California Registered Civil or Structural Engineer, and they must sign the shoring plan.

Technical Data

The technical engineering information below can be used by an Engineer when reviewing shoring plans.

The design or engineering analysis, of a shoring system is accomplished in the following sequence:

1. The soil or earth that is to be retained and its engineering properties are determined.
2. Soil properties are then used in geotechnical mechanics or procedures to determine the earth pressure force acting on the shoring system. An equivalent fluid, Kw, may be determined.
3. The design lateral force is then distributed, in the form of a pressure diagram. The distribution, or shape, of the diagram is a function of type of shoring system and the soil interaction with the system.
4. Lateral loads due to surcharges and from sources other than basic soil

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pressure (e.g., groundwater) are determined and may be combined with the basic soil pressure diagram, modified for practicability, the resulting lateral pressures become the design, lateral pressure diagram.

5. The design lateral pressure diagram is applied to the system, and a structural analysis is made. Again, there is a range from simplified to refined or complex procedures that can be used.

In general, engineered drawings may be accompanied by the engineer's calculations. If railroads are involved, a minimum of three sets of calculations and seven sets of plans must be submitted.

The railroads require a minimum of one set of calculations each from the designer and reviewer and four sets of shoring plans. One additional complete set of calculations and drawings will be needed for the Office of Structure Construction Sacramento Office.

Table 6.14
Procedures for Evaluating Proposals for Open Trenching

Follow these procedures to evaluate applications for open trenching:

1) The applicant must supply these items for consideration by the District Permit Engineer:
   - Profile plans or cross sections showing the locations of all existing utilities, culverts, or other permanent installations that restrict the bore.
   - Soils information showing that trenchless technologies, such as jack and bore or HDD are not feasible.
   - Detail plan showing detailed restrictions. Any other information indicating that trenchless technologies are not allowable methods in the area.
2) A design change is mandatory when the crossing location can be changed to allow jacking and boring and not affect the function of a facility.
3) Trenched crossings of connecting local streets and public roads where traffic is not adversely affected is acceptable with concurrence of the local agency that owns the public connection.
4) Casing in open trenches may be required for future maintenance or added facilities.
5) The District Permit Engineer will review submitted materials to determine if the request is reasonable. Reviewing units may include: Environmental, Field Inspection, Highway Operations, Traffic Operations, Maintenance Materials Engineering, Project

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Development, and Right-of-Way Utilities.

604 ANNUAL UTILITY MAINTENANCE ENCROACHMENT PERMITS

Permit Code UE

Annual Utility Maintenance Encroachment Permits (UE permits) authorize utility companies that lawfully maintain a utility facility within State's conventional highway right-of-way to inspect, maintain, and repair utility facilities, to install service connections under specified conditions, pole maintenance and chemical treatment, and to make emergency repairs to remedy hazardous conditions or any interruption of service to a customer. Utility work on freeways and expressways, tree trimming, aerial capacity increases on designated "Scenic Highways", planned pole replacement or relocation require a separate permit.

An ***emergency*** is defined in the California Public Resources Code as "[…] a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public service. 'Emergency' includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage." UE permits may be issued to public and private utility owners. UE permits are valid for one calendar year, no extensions of the permits are allowed.

Only those maintenance activities that can be performed using Caltrans Standard Plans for Temporary Traffic Control Systems and Temporary Pedestrian

Access Routes are authorized under an UE. Otherwise, a separate permit application for the work, along with a traffic control plan designed and signed by a California Registered Civil or Traffic Engineer must be submitted for review and approval.

UE permits authorize communication utility companies to install additional capacity in existing ducts by placing additional cable or replacing an existing cable with a greater cable pair or fiber optics. Authorized work also includes interconnect splicing of existing cable pairs, placement of air flow monitoring transducers and air piping facilities in existing conduits, replacing pull boxes, handholes or vaults with the same size or smaller, and reconnection of existing service. Increasing the capacity of existing aerial facilities is also allowed along conventional highways. Utility owners may place new cable or replace existing

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cable provided the highway is not part of the State Scenic Highway System.

Communication utility owners are not authorized under an UE, to place conduit or utility vaults within highway right-of-way, or to make any excavations other than for test holes or service connections under specified conditions.

Routine or planned pole replacement/relocation are not allowed under the scope of UE permits. A separate encroachment permit (US) must be obtained for pole replacement and relocation (see Section 603.5 for details). Poles that are knocked down by vehicles, accidental causes, or natural disasters are authorized to be replaced by UE permits. The entire length of poles and stubs must be removed from the ground and the replacement pole must be placed at the exact location.

Encroachment permits are also required for utility companies, to operate and maintain services to State-owned facilities (Safety Roadside Rest Areas, etc.) within the right-of-way. Service connections to State-owned facilities installed within a conventional highway must comply with the utility company's UE. A no fee Utility Service (NUS) permit must be obtained by the utility company if the service connection does not qualify under the UE. Service connections such as service disconnects, meters, shut-off valves or switches within the access control lines require the utility owner to obtain a NUS permit for the connections (see Section 603.5 for details).

Maintenance work on utility facilities within the right-of-way must be authorized under an encroachment permit, and a copy present at the work site. All

maintenance work must be performed in compliance with the Encroachment Permit General Provisions (TR-0045) and applicable Special Provisions.

A developer may be required by a city or county to construct service connections that later will be maintained by the utility company. Utility owners must apply for an encroachment permit to identify their ownership and establish maintenance responsibilities of a utility service within the State right-of-way. The utility company should apply before the property owner is issued an encroachment permit for the installation.

Caltrans' policy for developer installed public utility facilities is discussed in Section 603.5.

Permit inspectors should use "Encroachment Permit Report (Diary)" (form TR-0130) to record work performed under an UE (see Section 206.1 for details).

Requirements for Pole Maintenance by Chemical Treatment:

Utility companies must submit copies of the Safety Data Sheets (SDS) for all

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chemical compounds to be used in their pole treatment maintenance operations, along with the permit application submittal.

Prior to any application or use of Tree Growth Regulators (TGR), prior approval must be obtained from the District Landscape Specialist or their designee.

Utility companies are to notify the District Landscape Specialist or their designee and the District Encroachment Permits Office when there is any change or modification in the type(s) of chemical(s) used in their pole treatment maintenance operations.

After each treatment utility companies are to record a list with the pole identification, location(s), type of chemical(s) and quantities used for their pole treatment maintenance operations. This information must be provided to the District Encroachment Permits Office upon expiration of their UE and upon request of Caltrans during the life of the UE.

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